PRINCE®
PIPING SYSTEMS

AN EVERGREEN SOLUTION

AQUAFIT®

Agri Pressure & Non Pressure Piping Systems

SAFEFIT®

Borewell Systems

www.princepipes.com

Manufacturing Units

State-of-the-art manufacturing units producing piping systems

Athal
(Silvassa) Year of Est.1995

Dadra
(Silvassa) Year of Est. 2000

Haridwar
(Uttarakhand) Year of Est. 2008

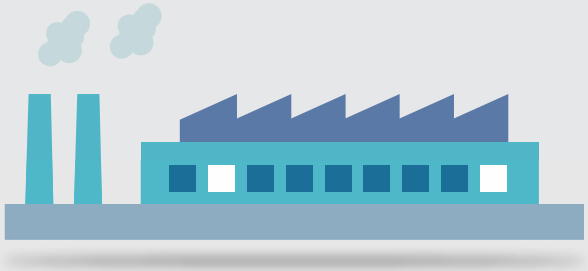
Chennai
(Tamil Nadu) Year of Est. 2012

Kolhapur
(Maharashtra) Year of Est. 2012

Jaipur
(Rajasthan) Year of Est. 2019

Upcoming Plant

Sangareddy
(Telangana)



AQUAFIT®

Pressure & Non Pressure Agri Pipes & fittings

OVERVIEW

Pressure & Non-Pressure Pipes are manufactured in accordance with IS:4985 covering a complete range from 20 mm to 400 mm. They are available in pressure rating 2.5 Kg/cm², 4 Kg/cm², 6 Kg/cm², 8 Kg/cm², 10 Kg/cm², 12.5 Kg/cm² & 16 Kg/cm² as defined in IS:4985. The pipes are provided with plain socket and suitable for solvent cement jointing.

Their main application is in agriculture for water supply, drip irrigation & sprinkler lines etc. as well as for drinking water distribution. However, these can also be used in cable ducting, ventilation pipe lines & slurry lines etc.

They are available in light grey colour and nominal length of 6 mtrs.

• **Pipes:** 20 to 400 mm • **Fittings:** 20 to 250 mm

Pipes				Fittings			
Size (mm)	Working Pressure (Kg/cm²)	Standard	End Connection	Size (mm)	Working Pressure (Kg/cm²)	Standard	End Connection
20 to 400	2.5, 4, 6, 8, & 12.5	IS 4985	Solvent Joint	20 to 250	4, 6, 10 & 16	IS 7834	Solvent Joint, Threads (For transition fittings)

AQUAFIT®
Pressure & Non Pressure
Agri Pipes & fittings

APPLICATIONS


In agriculture


Irrigation


Slurry lines


Ventilation pipe line


Cable ducting


Drinking water supply & distribution

DIMENSIONS FOR AQUAFIT PIPES

Nominal Outside Diameter (Nominal Size)	Mean Outside Diameter		Wall Thickness												Mean Socket Internal Diameter of Mid Point of Socket Length	
			Class 1 0.25 MPa 2.5 Kg/cm²		Class 2 0.40 MPa 4.0 Kg/cm²		Class 3 0.60 MPa 6.0 Kg/cm²		Class 4 0.80 MPa 8.0 Kg/cm²		Class 5 1.00 MPa 10.0 Kg/cm²		Class 6 1.25 MPa 12.5 Kg/cm²			
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
20	20.0	20.3	-	-	-	-	-	-	-	-	1.1	1.5	1.4	1.8	20.1	20.3
25	25.0	25.0	-	-	-	-	-	-	1.2	1.6	1.4	1.8	1.7	2.1	25.1	25.3
32	32.0	32.3	-	-	-	-	-	-	1.5	1.9	1.8	2.2	2.2	2.7	32.1	32.3
40	40.0	40.3	-	-	-	-	1.4	1.8	1.8	2.2	2.2	2.7	2.8	3.3	40.1	40.3
50	50.0	50.3	-	-	-	-	1.7	2.1	2.3	2.8	2.8	3.3	3.4	4.0	50.1	50.3
63	63.0	63.3	-	-	1.5	1.9	2.2	2.7	2.8	3.3	3.5	4.1	4.3	5.0	63.1	63.3
75	75.0	75.3	-	-	1.8	2.2	2.6	3.1	3.4	4.0	4.2	4.9	5.1	5.9	75.1	75.3
90	90.0	90.3	1.3	1.7	2.1	2.6	3.1	3.7	4.0	4.6	5.0	5.7	6.1	7.1	90.1	90.3
110	110.0	110.4	1.6	2.0	2.5	3.0	3.7	4.3	4.9	5.6	6.1	7.1	7.5	8.7	110.1	110.4
125	125.0	125.4	1.8	2.2	2.9	3.4	4.3	5.0	5.6	6.4	6.9	8.0	8.5	9.8	125.1	125.4
140	140.0	140.5	2.0	2.4	3.2	3.8	4.8	5.5	6.3	7.3	7.7	8.9	9.5	11.0	140.2	140.5
160	160.0	160.5	2.3	2.8	3.7	4.3	5.4	6.2	7.2	8.3	8.8	10.2	10.9	12.6	160.2	160.5
180	180.0	180.6	2.6	3.1	4.2	4.9	6.1	7.1	8.0	9.2	9.9	11.4	12.2	14.1	180.2	180.5
200	200.0	200.6	2.9	3.4	4.6	5.3	6.8	7.9	8.9	10.3	11.0	12.7	13.6	15.7	200.3	200.6
225	225.0	225.7	3.3	3.9	5.2	6.0	7.6	8.8	10.0	11.5	12.4	14.3	15.3	17.6	225.3	225.7
250	250.0	250.8	3.6	4.2	5.7	6.5	8.5	9.8	11.2	12.9	13.8	15.9	17.0	19.6	250.4	250.8
280	280.0	280.9	4.1	4.8	6.4	7.4	9.5	11.0	12.5	14.4	15.4	17.8	19.0	21.9	280.4	280.9
315	315.0	316.0	4.6	5.3	7.2	8.3	10.7	12.4	14.0	16.1	17.3	19.9	21.4	24.7	315.4	316.0
355	355.0	356.1	5.1	5.9	8.1	9.4	12.0	13.8	15.8	18.2	19.6	22.6	24.1	27.8	355.4	356.0
400	400.0	401.2	5.8	6.7	9.1	10.5	13.5	15.6	17.8	20.5	22.0	25.3	27.2	31.3	400.4	401.0

Note: Pipes available with ISI mark except 400 mm.

FEATURES AND BENEFITS

- Light weight, easy to transport, store, handle and install. Saves labour
- Smooth bore ensures higher flow compared to G.I pipes and fittings of the same size. No clogging. Saves operational cost
- Solvent cement joint therefore quick installation
- Corrosion resistance, UPVC is rustproof material therefore bore diameter remains constant, ensuring constant flow over a lifetime
- Long working life (if operated under normal/ recommended working conditions)

PROPERTIES OF UPVC PIPES

Mechanical

Tensile Strength	:	415 - 525 Kg/cm^2
Compression Strength	:	550 - 910 Kg/cm^2
Flexural Strength	:	680 - 1100 Kg/cm^2
Izod Impact Strength	:	4 - 5 Kg/cm^2
Shore Hardness	:	D 65 - 85

Thermal

Co-efficient of Linear Expansion :
0.08 mm/M°C

Vicat Softening Temperature : >78°C

Max. Operating Temperature : 60°C

HAZEN - WILLIAM'S FLOW CO-EFFICIENT COMPARISON

Pipe Material	PVC	A. C.	G. I.	C. I.
Flow Co-efficient	150	130	110	100

STANDARDS, QUALITY CONTROL AND TESTING

The manufacturing and testing is done for pipes in accordance with IS: 4985

All the above pipes, except non-pressure pipes are tested for potable water supplies in accordance with their relevant standards and as per the test methods given in IS: 12235

PRESSURE RATING VS TEMPERATURE DERATING FACTOR

Temp Deg (C)	0-25	0-25	0-25	0-25	0-25	0-25	0-25	0-25	0-25
Derating factor	27	27	27	27	27	27	27	27	27

As the temperature of fluid flowing through installation increases, the pressure withstanding capacity of installation wall decreases. So to find out the pressure rating of PVC Pipes & Fittings at required temperature, multiply, the pressure rating of Pipes & Fittings by derating factor given in table.

Example:

Rated pressure of installed system 10 Kg,

Up to 25°C, the system can stand 10 Kg pressure,

If Temperature is 40°C, derating factor is 0.71,

Therefore 10 x 0.71 = 7.1 Kg.

So, the system can withstand 7.1 Kg.

SAFEFIT®

Borewell Systems

OVERVIEW

Designed to be used in borewell applications, these piping systems are made from a high-quality PVC compound that ensures they have high tensile strength, can withstand high impact and have minimum water friction. What makes them even more unique is the CIRCLIP locking system designed specially to withstand pressure during underground water

PRODUCT RANGE

Screen Pipes : 40 to 400 mm (1½" to 16")

Rising Main Pipes : 25 to 100 mm (1" to 4")

STANDARDS

Pipes				
Pipes	**Type**	**Size (mm)**	**Standard**	**End Connection**
Screen Pipes	Ribbed Screen	40 to 400 (1½" to 16")	IS 12818	Threaded Joint
Casing Pipes	Casing Pipe	40 to 300 (1½" to 12")		
Rising Main Pipes	-	25 to 100 (1" to 4")		
Bell Form Pipes	V4	25 & 32 (1" & 1¼")		

APPLICATIONS

To extract ground water for farms & fields

To extract ground water for residential & commercial buildings as well apublic places

FEATURES AND BENEFITS

- Easy to transport, store, handle and install
- Saves labour & installation cost
- Smooth bore ensures no clogging and higher flow compared to G.I. pipeline of the same size
- 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

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

Nominal Diameter (DN)		Mean Outer Diameter of the Pipe (d) (mm)		Medium Well Screen (RMS)			Deep Well Screen (RDS)		
				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	1½	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	4½	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

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

Nominal Diameter (DN)		Mean Outer Diameter of the Pipe (d) (mm)		Plain Medium Well Screen (PMS)			Plain Deep Well Screen (PDS)				
				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	280.0	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	400.0	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

SAFEFIT®
Borewell Systems

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

Nominal Diameter (DN)		Mean Outer Diameter of the Pipe (d) (mm)		Medium Well Casing (CM) Pipes			Shallow Well Casing (CS) Pipes		
				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	1½	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: 32 mm (1¼") Nominal Diameter pipes are available on special request.

DIMENSIONS OF DEEP WELL CASING (CD) PIPES

Nominal Diameter (DN)		Mean Outer Diameter of the 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	4½	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	150.00	450.80	449.10	451.30	490.00	23.50	26.10

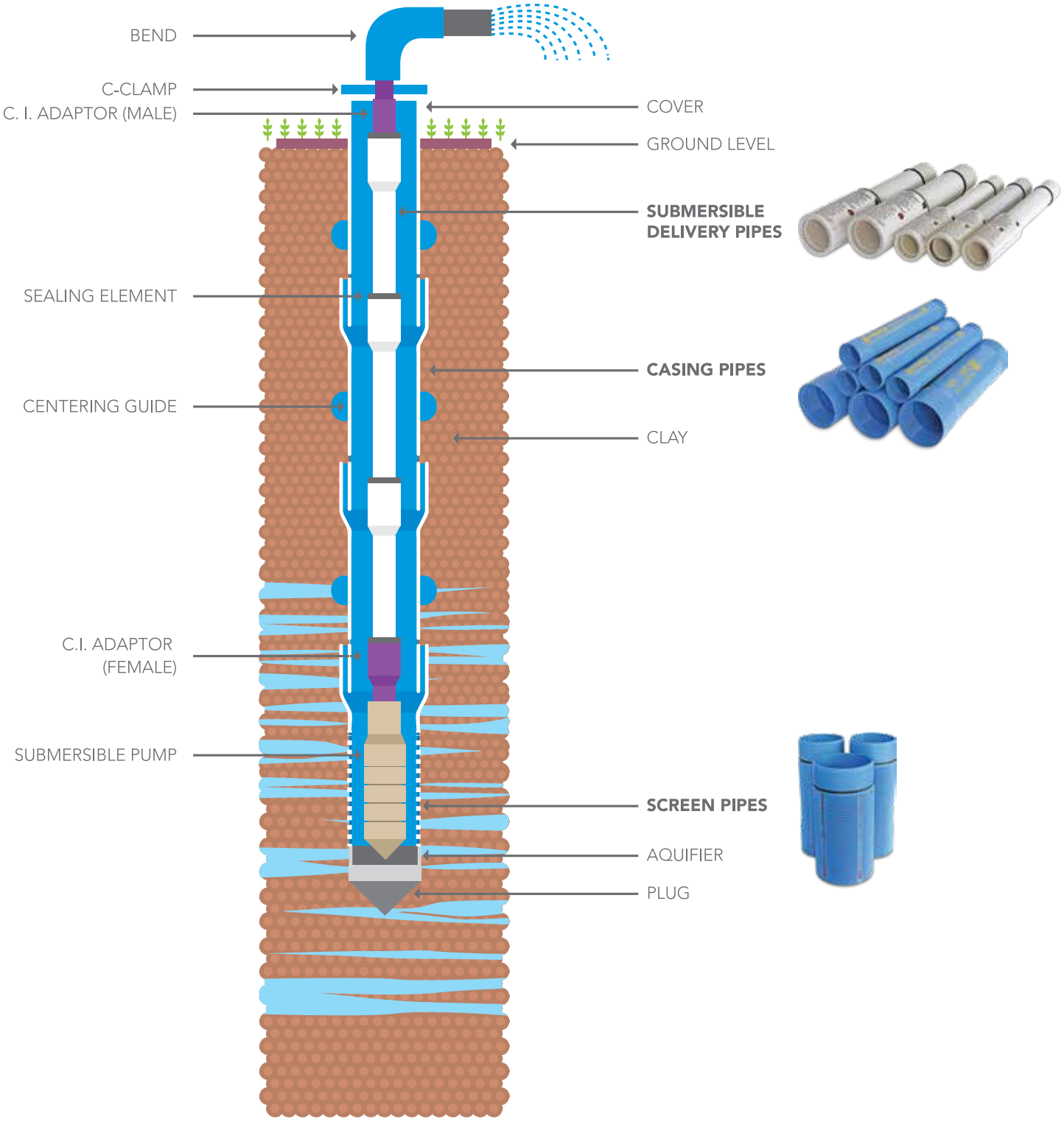
SPECIFICATION OF SAFEFIT SUBMERSIBLE DELIVERY PIPES / RISING MAIN PIPES

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	V4	12.5	125	850	500	Royal Claret	28
		V4	17	170	950	600	Green	
		Medium	22	220	1250	750	Orange	
		Std	38	380	1750	1100	Red	
1¼ OD-42.10 ND-32.00	Coupler	V4	12.5	125	1350	800	Royal Claret	20
		V4	17	170	1500	900	Green	
		Medium	21	210	1725	1000	Orange	
		Std	30	300	2350	1400	Red	
		Heavy	39	390	2900	1750	Blue	
1½ OD-48.20 ND-40.00	Coupler	V4	16	160	1850	1100	Green	16
		Medium	22	220	2400	1450	Orange	
		Std	26	260	2750	1650	Red	
		Heavy	39	390	3700	2250	Blue	
2 OD-60.20 ND-50.00	Coupler	Medium	14	140	2450	1450	Orange	12
		Std	20	200	3500	2100	Red	
		Heavy	27	270	4600	2800	Blue	
2½ OD-75.00 ND-65.00	Coupler	Medium	11	110	3100	1800	Orange	8
		Std	16	160	4500	2700	Red	
		Heavy	26	260	6450	3900	Blue	
3 OD-88.00 ND-80.00	Coupler	Medium	11	110	4100	2450	Orange	6
		Std	17	170	6400	3800	Red	
		Heavy	26	260	8900	5300	Blue	
4 OD-113.00 ND-100.00	Coupler	Medium	10	100	6500	3900	Orange	4
		Std	15	150	9250	5550	Red	
		Heavy	26	260	14450	8700	Blue	

Note: *Submersible Pipes with "Bell Form" available on 1" & 11/4" -V4 category with 12.5 & 17Kg Pressure rating.*

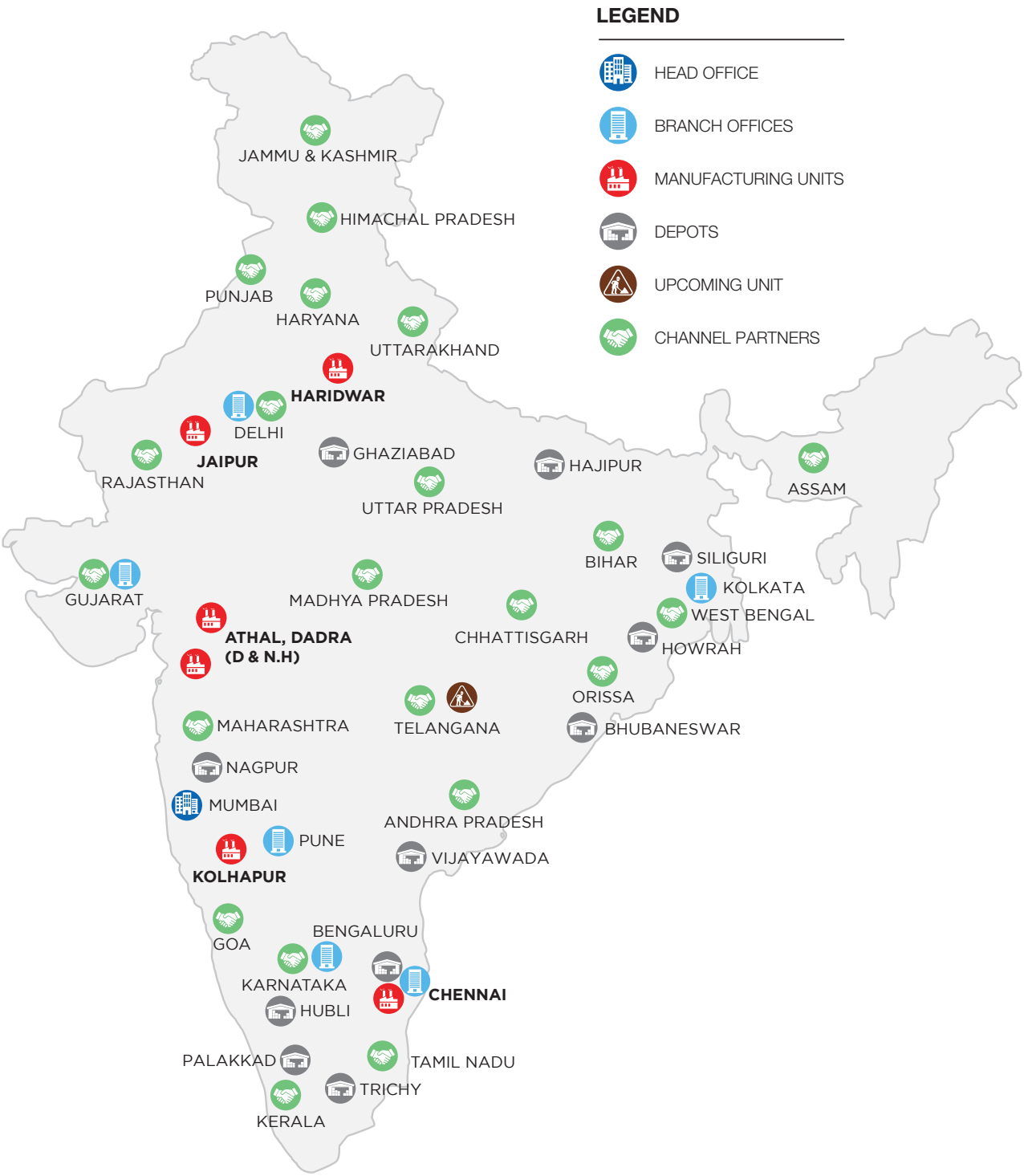
SAFEFIT®
Borewell Systems

TYPICAL LAYOUT OF BOREWELL



Notes

OUR NETWORK OF GLOBAL SUCCESS



PRINCE PIPES AND FITTINGS LIMITED

Mfg. & Exporters of UPVC, CPVC, PPR & HDPE Pipes, Fittings & Valves

Corp. Off.: The Ruby, 8th Floor, 29, Senapati Bapat Marg (Tulsi Pipe Road), Dadar (W), Mumbai - 400028, Maharashtra, India.

F: 022-6602 2220 | E: info@princepipes.com | Web: www.princepipes.com

Branch Off: Ahmedabad: 079-269 34013 | Chennai: 044-2616 1899 | Delhi: 011-4157 9511

Kolkata:+91 75848 08313 | Pune: 020-2553 7339

Toll Free: 1800 267 7555

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