Pumping happiness across the Globe

Tormac PUMPS

uPVC RISER PIPES & ACCESSORIES

Product from an ISO 9001 COMPANY

INDEX

uPVC RISER PIPES

Introduction, Applications, Features, Specifications & Comparative Chart — 2

Measurement Details for Coupler Model uPVC Pipe — 3-5

Load & Pressure Ability Chart for Coupler Model uPVC Pipe — 6-7

Measurement Details for Bell Mouth Model uPVC Pipe — 8

Load & Pressure Ability Chart for Bell Mouth Model uPVC Pipe — 9

Pipe Selection, General Instruction & Installation Procedure — 10

Pump Delivery Pressure — 11

Accessories & Available Size — 12

uPVC WELL CASING & SCREEN PIPES

Introduction, Features & Benefits — 13

Dimensional Details For Casing Pipe — 14

Dimensional Details For Screen Pipe — 15

Installation Procedure — 16

ABOUT TORMAC uPVC RISER PIPES

uPVC riser pipes are yet-another quality product from Tormac. To overcome the disadvantages of traditional Galvanized iron pipes we at Tormac introduced new version of riser pipes in PVC specially designed for borehole submersible pumps. Besides making the installations hassle free the smooth surface of these pipes help greatly to reduce the friction loss. The locking system used while fixing couplers with pipes and the square threads at both the ends ensure better load withstanding capacity and rigidity.

Using suitable adopters, these pipes can be fixed with pumps having both BSP & NPT standard outlets. These pipes are available in different classes which can be selected based on the installation depth and recommended head and load withstanding capacities. As these pipes are anti corrosive in nature and formulated with edible grade materials, highly recommended for installations, where the interest of hygiene is more.

SALIENT FEATURES

- Anti Corrosive
- Light Weight and Longer life span.
- No Electrolytic deposition & prevents scale formation.
- Specially designed square threads, capable of withstanding heavy loads.
- Water Discharge is more by 10 to 30% when compared to steel pipes, due to smooth inner surface.
- Low installation cost and maintenance free.
- Withstands well with the vagaries of wheather conditions.
- Special rubber seal is provided at the end of threads to ensure 100% leak proof even at high pressure.

MAJOR APPLICATIONS

- Borehole Submersible Pumps.
- Sewage and Drainage disposal.
- Chilled Water plumbing services.
- Sanitation.
- Industrial effluent disposal.
- Horticulture and green house irrigation system.

SPECIFICATIONS

PROPERTY	STANDARD TEST METHOD	SPECIFICATION
Specific Gravity	ASTMD 792	1.43 gms/cm^3
Tensile Strength	as per ASTM D 638	627 kg/cm^2
Flexural Strength	as per ASTM D 638	647 kg/cm^2
Izod Impact Strength	as per ASTM D 256	15 kg - cm/cm^2
Charpy Impact Strength	as per ASTM D 256	17 kg - cm/cm^2
Impact Strength	as per IS 12818:2010	No Fracture
Vicat Softening Temperature	as per ASTM D 1525	87.3°C

COMPARATIVE CHART (TORMAC uPVC PIPES VS MILD STEEL / G.I. PIPES)

TORMAC UPVC PIPES	MILD STEEL / GALVANIZED STEEL PIPES
Specially designed square threads ensure high load holding capacity. Threads do not corrode even for years together operations.	Threads are prone to corrosion and threads do not have layer of Galvanization, and cannot not be used for more than 2 years.
Rubber seals are provided with the thread to ensure 100% leak proof even at high pressure.	These threads do not have any seal ring system and cannot withstand even at recommended hydrostatic pressure.
Smooth internal surface the head loss friction is very low.	Internal surface is rough and head loss is high.
Water discharge is more by 15 - 35%.	Discharge is less.
Pipes are 3mtr length, light weight and easy to handle and install.	Pipes are very heavy and installation is difficult.
Long life & corrosion resistant.	Life span is very less (2 years maximum) and prone to corrosion.

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

MEASUREMENT DETAILS FOR COUPLER MODEL uPVC PIPE

A part of the column pipe, called coupler, which is thicker and forms the female portion of a column pipe is produced separately. It is used with the uPVC column pipe using PALS technology. This process assures that the attached coupler stays in the same position as per TORMAC standards and won't get tightened or loosened either during the installation or during the removal of the pipes.

TYPES :

CLASS SPL (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 70-125M DEPTH)
CLASS A (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 90-150M DEPTH)
CLASS A+ (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 100-210M DEPTH)
CLASS B (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 160-300M DEPTH)
CLASS B+ (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS UP TO 210M DEPTH)
CLASS C (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 260-350M DEPTH)
CLASS C+ (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS UP TO 350M DEPTH)

OUTER DIAMETER 1" 33 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	32.80	33.10	3.40	3.60	1.70	2.00	3010	25	125 / 410
CLASS A	32.80	33.10	3.60	3.90	1.70	2.00	3010	25	150 / 492
CLASS A+	32.80	33.10	4.00	4.30	2.00	2.30	3010	25	210 / 690
CLASS B	32.80	33.10	5.20	5.50	3.10	3.60	3010	25	300 / 984

OUTER DIAMETER 1.25" 42 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	41.80	42.10	3.70	4.00	2.00	2.30	3010	25	125 / 410
CLASS A	41.80	42.10	4.50	4.80	2.40	2.70	3010	25	150 / 492
CLASS A+	41.80	42.10	5.00	5.30	2.90	3.20	3010	20	210 / 690
CLASS B	41.80	42.10	5.50	5.80	3.40	3.70	3010	20	260 / 853
CLASS C	41.80	42.10	7.60	7.90	4.50	4.80	3010	15	350 / 1148
CLASS C+	41.80	42.10	7.80	8.10	5.30	5.60	3010	12	400 / 1312

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.
SPL - Class Special

MEASUREMENT DETAILS FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 1.5" 48 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	47.80	48.10	3.80	4.10	2.30	2.60	3010	20	125 / 410
CLASS A	47.80	48.10	4.90	5.20	2.80	3.10	3010	20	150 / 492
CLASS A+	47.80	48.10	5.40	5.70	3.30	3.60	3010	15	210 / 690
CLASS B	47.80	48.10	6.10	6.40	4.00	4.30	3010	15	260 / 853
CLASS C	47.80	48.10	8.30	8.60	5.20	5.50	3010	12	350 / 1148
CLASS C+	47.80	48.10	8.50	8.80	6.00	6.30	3010	10	400 / 1312

OUTER DIAMETER 2" 60 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	59.80	60.10	3.80	4.10	1.60	1.90	3010	15	70 / 230
CLASS A	59.80	60.10	4.00	4.30	1.80	2.10	3010	15	90 / 295
CLASS A+	59.80	60.10	5.10	5.40	2.60	2.90	3010	15	130 / 426
CLASS B	59.80	60.10	6.40	6.70	3.50	3.80	3010	10	200 / 656
CLASS C	59.80	60.10	7.80	8.10	4.70	5.00	3010	10	270 / 886
CLASS C+	59.80	60.10	9.00	9.30	6.50	6.80	3010	8	350 / 1148

OUTER DIAMETER 2.5" 75 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS A+	74.70	75.20	5.10	5.40	3.20	3.50	3010	10	100/328
CLASS B	74.70	75.20	6.50	6.80	4.60	4.90	3010	8	160/525
CLASS B+	74.70	75.20	7.90	8.20	5.20	5.50	3000	6	210/688
CLASS C	74.70	75.20	9.00	9.30	6.30	6.60	3010	6	260/853
CLASS C+	74.70	75.20	10.80	11.10	8.30	8.60	3010	5	350/1148

OUTER DIAMETER 3" 88 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS A+	87.70	88.20	5.70	6.00	3.20	3.50	3010	8	110/361
CLASS B	87.70	88.20	7.50	7.80	4.60	4.90	3010	5	170/558
CLASS B+	87.70	88.20	8.70	9.00	6.20	6.50	3000	5	210/688
CLASS C	87.70	88.20	9.80	10.10	6.00	6.30	3010	5	260/853
CLASS C+	87.70	88.20	12.40	12.70	9.70	10.00	3010	4	350/1148

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

MEASUREMENT DETAILS FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 4" 113 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS A+	112.30	113.30	6.30	6.60	3.80	4.10	3010	5	100/328
CLASS B	112.30	113.30	8.20	8.50	5.70	6.00	3010	4	150/492
CLASS B+	112.70	113.30	10.40	10.70	7.60	7.90	3000	4	210/688
CLASS C	112.30	113.30	11.90	12.30	7.00	7.30	3010	3	260/853
CLASS C+	112.30	113.30	15.10	15.40	12.60	12.90	3010	2	350/1148

OUTER DIAMETER 5" 140 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS B	139.70	140.20	10.30	10.60	7.60	7.90	3010	2	160/525
CLASS B+	139.70	140.20	13.30	13.60	9.80	10.10	3000	2	210/688
CLASS C	139.70	140.20	15.00	15.60	11.90	12.20	3010	2	260/853
CLASS C+	139.70	140.20	19.00	19.30	15.60	15.90	3010	2	350/1148

OUTER DIAMETER 6" 168 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS B	167.70	168.20	11.8	12.2	8.8	9.2	3010	2	170 / 558
CLASS C	167.70	168.20	15	15.4	10.8	11.2	3010	2	260 / 853
CLASS C+	167.70	168.20	19.8	20.2	15.8	16.2	3010	1	350 / 1148

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

LOAD & PRESSURE ABILITY CHART FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 1" 33 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	45.00	86.00	50.00	50.00	231.00	488	700	125 / 410
CLASS A	59.00	103.00	55.00	70.00	287.00	607	900	150 / 492
CLASS A+	92.00	139.00	60.00	90.00	362.00	803	1200	210 / 690
CLASS B	181.00	169.00	65.00	150.00	539.00	1191	1700	300 / 984

OUTER DIAMETER 1.25" 42 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	62.00	142.00	70.00	50.00	324	685	1000	125 / 410
CLASS A	89.00	163.00	75.00	70.00	397	838	1200	150 / 492
CLASS A+	140.00	217.00	80.00	90.00	527	1112	1600	210 / 690
CLASS B	204.00	254.00	85.00	150.00	694	1462	2100	260 / 853
CLASS C	336.00	293.00	90.00	220.00	945	1990	2900	350 / 1148
CLASS C+	433.00	310.00	130.00	250.00	1123	2364	3400	400 / 1312

OUTER DIAMETER 1.5" 48 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	79.00	185.00	100.00	50.00	414.00	876	1300	125 / 410
CLASS A	113.00	213.00	110.00	70.00	506.00	1069	1500	150 / 492
CLASS A+	177.00	284.00	120.00	90.00	671.00	1416	2000	210 / 690
CLASS B	265.00	328.00	130.00	150.00	873.00	1840	2700	260 / 853
CLASS C	432.00	388.00	140.00	220.00	1180.00	2485	3600	350 / 1148
CLASS C+	537.00	407.00	160.00	250.00	1354.00	1788	2500	400 / 1312

OUTER DIAMETER 2" 60 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	47.00	177.00	150.00	70.00	444	940	1400	70 / 230
CLASS A	70.00	225.00	150.00	70.00	515	1091	1600	90 / 295
CLASS A+	128.00	306.00	160.00	90.00	685	1447	2100	130 / 426
CLASS B	259.00	428.00	170.00	150.00	1007	2124	3100	200 / 656
CLASS C	449.00	517.00	180.00	220.00	1366	2877	4100	270 / 886
CLASS C+	708.00	1056.00	200.00	250.00	2214	4663	6700	350 / 1148

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

SPL - Class Special

LOAD & PRESSURE ABILITY CHART FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 2.5" 75 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS A+	125.00	382.00	270.00	90.00	868	1835	2700	100 / 328
CLASS B	269.00	564.00	290.00	150.00	1273	2686	3900	160 / 525
CLASS B+	428.40	688.10	290.00	150.00	1563	3300	5000	210 / 688
CLASS C	629.00	795.00	310.00	220.00	1954	4116	5900	260 / 853
CLASS C+	1083.00	937.00	350.00	250.00	2620	5517	7900	350 / 1148

OUTER DIAMETER 3" 88 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS A+	189.00	575.00	375.00	90.00	1229	2596	3700	110 / 361
CLASS B	401.00	812.00	400.00	150.00	1763	3717	5300	170 / 558
CLASS B+	581.00	942.00	400.00	150.00	2081	4400	6300	210 / 688
CLASS C	829.00	1100.00	450.00	220.00	2586	5474	7800	260 / 853
CLASS C+	1443.00	1293.00	450.00	280.00	3466	7296	10400	350 / 1148

OUTER DIAMETER 4" 113 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR 76m LENGTH	COLUMN WATER WEIGHT (kg) FOR 76m LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS A+	257.00	872.00	500.00	70.00	1699	3592	5200	100 / 328
CLASS B	517.00	1215.00	500.00	180.00	2412	5090	7300	150 / 492
CLASS B+	906.50	1577.10	500.00	220.00	3215	6800	11000	210 / 688
CLASS C	1359.00	1811.00	550.00	280.00	4000	8426	12000	260 / 853
CLASS C+	2403.00	2118.00	550.00	280.00	5351	11265	16100	350 / 1148

OUTER DIAMETER 5" 140 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR 76m LENGTH	COLUMN WATER WEIGHT (kg) FOR 76m LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS B	888.00	1656.00	600.00	220.00	3664	7726	11000	160 / 525
CLASS B+	1430.80	1689.80	600.00	250.00	4682	10000	15000	210 / 688
CLASS C	2154.00	2756.00	650.00	280.00	5840	12301	17500	260 / 853
CLASS C+	3792.00	3252.00	650.00	300.00	7994	16825	24000	350 / 1148

OUTER DIAMETER 6" 168 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS B	1325.00	3019.00	750.00	350.00	5443	11483	16400	170 / 558
CLASS C	2397.00	4374.00	750.00	450.00	7972	16793	24000	260 / 853
CLASS C+	4002.00	5112.0	800.00	500.00	10413	21931	31500	350 / 1148

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

MEASUREMENT DETAILS FOR BELL MOUTH MODEL uPVC PIPE

In Bell Mouth column pipes, instead of a separate portion on coupler, one end of the column pipe is formed in the shape of a bell mouth, with female threads, to receive the entire length of the male threads of the next column pipe. The weight bearing capacity of this column pipes are lesser compared to that of a coupler type column pipes.

TYPES :

CLASS SPL (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 70-125M DEPTH)
CLASS A (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 90-150M DEPTH)
CLASS A+ (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 100-210M DEPTH)
CLASS B (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 160-300M DEPTH)

OUTER DIAMETER 1" 33 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	32.80	33.10	3.40	3.60	1.70	2.00	3010	25	125 / 410
CLASS A	32.80	33.10	3.60	3.90	1.70	2.00	3010	25	150 / 492
CLASS A+	32.80	33.10	4.00	4.30	2.00	2.30	3010	25	210 / 690
CLASS B	32.80	33.10	5.20	5.50	3.10	3.40	3010	25	300 / 984

OUTER DIAMETER 1.25" 42 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	41.80	42.10	3.70	4.00	2.00	2.30	3010	25	125 / 410
CLASS A	41.80	42.10	4.50	4.80	2.40	2.70	3010	25	150 / 492
CLASS A+	41.80	42.10	5.00	5.30	2.90	3.20	3010	20	210 / 690
CLASS B	41.80	42.10	5.50	5.80	3.40	3.70	3010	20	260 / 853

OUTER DIAMETER 1.5" 48 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	47.80	48.10	3.80	4.10	2.30	2.60	3010	20	125 / 410
CLASS A	47.80	48.10	4.90	5.20	2.80	3.10	3010	20	150 / 492
CLASS A+	47.80	48.10	5.40	5.70	3.30	3.60	3010	15	210 / 690
CLASS B	47.80	48.10	6.10	6.40	4.00	4.30	3010	15	260 / 853

OUTER DIAMETER 2" 60 mm (OD)

PIPE TYPE	OUTER DIAMETER (mm)		WALL THICKNESS AT ENDS (mm)		WALL THICKNESS AT CENTER (mm)		EFFECTIVE LENGTH OF PIPE (mm)	NO. OF PIPES PER BUNDLE	Installation Depth in Meter / Feet
	Min	Max	Min	Max	Min	Max			
CLASS SPL	59.80	60.10	3.90	4.20	1.70	2.00	3010	15	70 / 230
CLASS A	59.80	60.10	4.00	4.30	1.80	2.10	3010	15	90 / 295
CLASS A+	59.80	60.10	5.10	5.40	2.60	2.90	3010	10	130 / 427
CLASS B	59.80	60.10	6.40	6.70	3.90	4.20	3010	10	200 / 656

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

LOAD & PRESSURE ABILITY CHART FOR BELL MOUTH MODEL uPVC PIPE

TYPES :

CLASS SPL (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 70-125M DEPTH)

CLASS A (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 90-150M DEPTH)

CLASS A+ (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 130-210M DEPTH)

CLASS B (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 200-300M DEPTH)

OUTER DIAMETER 1" 33 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	40.00	86.00	50.00	50.00	227	455	682	125 / 410
CLASS A	51.00	103.00	55.00	70.00	281	563	844	150 / 492
CLASS A+	82.00	139.00	60.00	90.00	372	745	1117	210 / 689
CLASS B	167.00	169.00	65.00	150.00	553	1107	1660	300 / 984

OUTER DIAMETER 1.25" 42 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	56.00	142.00	20.00	50.00	321	641	962	125 / 410
CLASS A	78.00	163.00	25.00	70.00	388	776	1165	150 / 492
CLASS A+	125.00	217.00	80.00	90.00	515	1029	1544	210 / 689
CLASS B	197.00	254.00	85.00	150.00	689	1378	2066	260 / 853

OUTER DIAMETER 1.5" 48 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	72.00	185.00	100.00	50.00	411	821	962	125 / 410
CLASS A	103.00	213.00	110.00	70.00	498	997	1165	150 / 492
CLASS A+	163.00	284.00	120.00	90.00	660	1321	1544	210 / 689
CLASS B	235.00	328.00	130.00	150.00	847	1694	2066	260 / 853

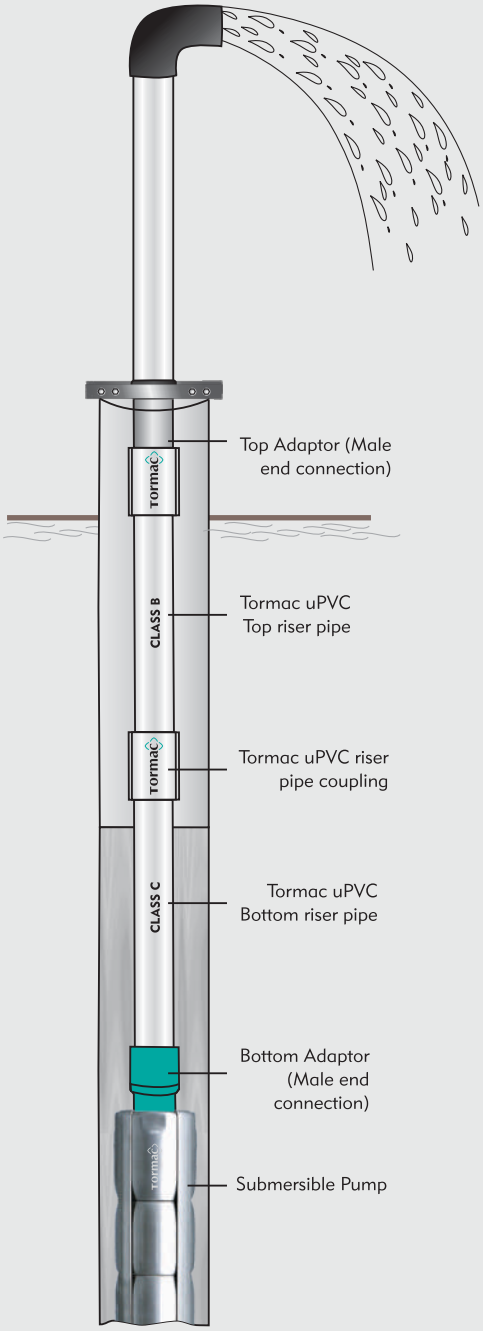
OUTER DIAMETER 2" 60 mm (OD)

PIPE TYPE	PIPE WEIGHT (kg) APPROX FOR LENGTH (M)	COLUMN WATER WEIGHT (kg) FOR LENGTH (M)	WEIGHT OF PUMPSET (kg) APPROX	CABLE WEIGHT (kg) APPROX	TOTAL WEIGHT (kg)	MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE	ULTIMATE BREAKING LOAD (kg)	Installation Depth in Meter / Feet
CLASS SPL	40.00	177.00	150.00	70.00	440	880	1321	70 / 230
CLASS A	57.00	225.00	150.00	70.00	506	1012	1518	90 / 295
CLASS A+	110.00	306.00	160.00	90.00	671	1342	2012	130 / 426
CLASS B	232.00	428.00	160.00	150.00	984	1968	2951	200 / 656

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

PIPE SELECTION

The riser pipes must be selected from the types available, so that the pump delivery pressure does not exceed the permissible hydrostatic pressure. In the column, for every 10m above the pump, there is a pressure drop of 1 kg/cm^2. If the pump delivery pressure is high, two different type pipes of the same size can be used, instead of using same type of pipes alone for the entire depth, to make it cost effective. CLASS C type pipes can be used upto required length starting from pump and CLASS A / CLASS A+ / CLASS B type pipes can be used for the remaining length.



GENERAL INSTRUCTION & INSTALLATION PROCEDURE

Equipments required for Installation:

- Tri Pod.
- Mild steel chain.
- Pipe wrench.
- Chain Pulley.
- Clamp sets.
- Adjustable Spanner & other required fittings.

Pre-Installation Procedure

- Do not use Oil / grease / Solvent on the pipe threads.
- Clean the threads with plain water before use.
- Check the condition of 'O" ring before use.
- Check the pipe outlet size of the pipe are correct as per your requirements.

Installation Procedure

- Connect the male end of the bottom adaptor firmly to the pump discharge housing using a pipe wrench.
- Connect the pipe to the female end of bottom adaptor.
- Ensure the both end of pipes are cleaned with water.
- Pipe can be tightened with hand by pouring water on pipe threads for lubrication and for better grip pipe wrench can be used to tighten / hold the pipes.
- Submersible pump assembly cable to be tied in regular intervals along with the riser pipes, for securing the cable from getting damaged.
- At the time of lowering the pump assembly into bore hole the C-clamp must be fastened only to the pipe portion marked as "CLAMP HERE".
- While connecting other pipes, ensure pipe wrench should not be used on the pipe to hold / support.
- Ensure the riser pipes should not over tighten. (While tightening & removing the permanent thread lock should not be disturbed).
- Once the top riser pipe reaches the ground level, connect the top adaptor (Male end connection). After installing the riser pipes, regular plumbing accessories can be used to deliver the water to the required delivery level.

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

PUMP DELIVERY PRESSURE

Pump delivery pressure is the maximum delivery head of the pump. In the pump performance curves the value of head at which the flow becomes nil (zero), is the max. head in metres. Hence the max head of the pump must not exceed the recommended permissible hydrostatic pressure of the pipes as mentioned in the following table.

Permissible hydrostatic Pressure for Coupler Model uPVC Pipe (10m = 1kg/cm²)

PIPE TYPE	1" (25mm)	1¼" (32mm)	1½" (40mm)	2" (50mm)	2½" (65mm)	3" (80mm)	4" (100mm)	5" (140mm)	6" (165mm)
CLASS SPL	12.5 kg/cm²	12.5 kg/cm²	12.5 kg/cm²	7 kg/cm²	-	-	-	-	-
CLASS A	15 kg/cm²	15 kg/cm²	15 kg/cm²	9 kg/cm²	-	-	-	-	-
CLASS A+	21 kg/cm²	21 kg/cm²	21 kg/cm²	13 kg/cm²	10 kg/cm²	11 kg/cm²	10 kg/cm²	-	-
CLASS B	30 kg/cm²	26 kg/cm²	26 kg/cm²	20 kg/cm²	16 kg/cm²	17 kg/cm²	15 kg/cm²	16 kg/cm²	17 kg/cm²
CLASS B+	-	-	-	-	21 kg/cm²	21 kg/cm²	21 kg/cm²	21 kg/cm²	-
CLASS C	-	35 kg/cm²	35 kg/cm²	27 kg/cm²	26 kg/cm²	26 kg/cm²	26 kg/cm²	26 kg/cm²	26 kg/cm²
CLASS C+	-	40 kg/cm²	40 kg/cm²	35 kg/cm²	35 kg/cm²	35 kg/cm²	35 kg/cm²	35 kg/cm²	35 kg/cm²

Permissible hydrostatic Pressure for Bell Mouth Model uPVC Pipe (10m = 1kg/cm²)

PIPE TYPE	1" (25mm)	1¼" (32mm)	1½" (40mm)	2" (50mm)
CLASS SPL	12.5 kg/cm²	12.5 kg/cm²	12.5 kg/cm²	7 kg/cm²
CLASS A	15 kg/cm²	15 kg/cm²	15 kg/cm²	9 kg/cm²
CLASS A+	21 kg/cm²	21 kg/cm²	21 kg/cm²	13 kg/cm²
CLASS B	30 kg/cm²	26 kg/cm²	26 kg/cm²	20 kg/cm²

* Installation depth depends on recommended permissible hydrostatic pressure rating of the pipes and refer pump delivery pressure chart for more details.

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

ACCESSORIES

Bottom adaptor : This is a metal accessory which is used to connect the first piece of uPVC column Pipe to the submersible pump. As explained, to enable higher load bearing capacity, Tormac column pipes are equipped with square threads. Whereas, the submersible pumps are generally with V threads. Since, the joint cannot be made due to various threads and a pitch, an adaptor is used.

The female portion of the bottom adaptor is square threaded and the male portion is V threaded. We supply these adaptors in Cast Iron, Mild Steel and Stainless steel 304 grades.

Top adaptor : This is a metal accessory, which is used to connect the last piece of uPVC column pipe to the outlet / discharge bend. As explained, to enable higher load bearing capacity, Tormac column pipes are equipped with square threads. Generally, the outlet / discharge bend, are with V threads. Since, the joint cannot be made due to various threads and a pitch, an adaptor is used.

The male portion of the top adaptor is square threaded and the female portion is V threaded. We supply these adaptors in Cast Iron, Mild Steel and Stainless steel 304 grades.

Expander / Reducer : If the customer has a requirement of usage of an uPVC column pipe higher or lower in size with respect to the pump outlet, an Expander or Reducer is used, respectively. These are a variant of bottom adaptors and are provided according to customer request.

Pump Guard : In the entire length of the column, the first joint of column pipe with the submersible pump is the weakest one. Tormac uPVC column pipes are produced considering this factor. Even though, as an extra precautionary care, a pump guard is recommended as an accessory.

A Pump guard set consists of a short length pipe of the same size and variant as the other column pipes, along with two stainless steel rods, two flanges, nuts and cotter pins. When a pump guard is used, even if a fracture happens at the first joint, the pump will not slip into the borehole and it would be easy to retrieve the pump.

Available Size

	BOTTOM ADAPTOR	TOP ADAPTOR	EXPANDER / REDUCER	PUMP GUARD
Sizes	1"	1"	1½"x1¼"	1"
	1¼"	1¼"	2"x1½"	1¼"
	1½"	1½"	2½"x2"	1½"
	2"	2"	3"x2½"	2"
	2½"	2½"	4"x3"	2½"
	3"	3"	5"x4"	3"
	4"	4"		4"
	5"	5"		5"

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

uPVC WELL CASING & SCREEN PIPES

CASING PIPES SCREEN PIPES

uPVC WELL CASING AND SCREEN PIPES AS PER IS 12818 - 2010

The foremost component required for any well is its Casing and screening pipes. Right decision in selection and installation of this components prevents the water well / borehole from the unwanted destruction which helps to get perpetual source of pure water.

Earlier, metal pipes and screens were used instead of casing and screening pipes which leads to corrosion, early failure and worsen the condition of screens. Due to this bacterium formation may occur which leads the water source to get polluted and results in well abandonment.

When the depth gets increasing ground water system will be disrupts by sands, gravels or high fractured rocks and weathered bedrock aquifers. In certain case groundwater must refrain from the aquifer strata and eventually the ground water must flow ease into the borehole. This can be achieved by the right and good screen pipe selection.

FEATURES & BENEFITS

- **Chemical properties** - Non corrosive, ensures longer life cycle.
- **Physical properties** - Lighter in weight than conventional metal pipes, easy handling, transportation and installation.
- **Economical** - Lesser in cost than other alternates, cost of transportation, handling and installation is lesser, being lighter in weight no cranes, welding machines or diesel Genset are required for installation.
- **Longer life** - Life cycle more than 30 years, saves replacement and replenishment costs.
- **Anti corrosive & Non-conductive** - Excellent life avoiding electro chemical reactions.
- **Ensuring water quality** - uPVC doesn't impart any colour, odour or taste.
- **Stiffness and strength** - Excellent mechanical properties thus is capable of withstanding the hydraulic pressure the pipes are subjected to during construction of well.
- **Convenient and reliable** - Provides easy and stronger joints. Tormac uPVC Casing pipes have traphezoidal threads which provides easy and strong joints. uPVC Screen pipes facilitate optimum performance & safety by keeping the the gravel pack & other foreign substances out of the well uPVC Screen pipes has horizontal slots which enables laminar flow into the well ensuring higher permeability & reducing well entrance losses, thus saving pumping energy and offer higher yields.

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

DIMENSIONAL DETAILS FOR CASING PIPE

Dimensions of Shallow Well Casing Pipes (CS) - for Well Depth upto 80 Meters

Pipe Size in Inches / mm (DN)	Mean Outside Diameter of Pipe mm		Outside diameter of pipe at any point mm		Mean outside diameter over connection mm	Wall Thickness mm	
	Min.	Max.	Min.	Max.	Max.	Min.	Max.
4 / 100	113.00	113.30	112.90	113.40	119.00	3.90	4.60
4.5 / 115	125.00	125.30	124.90	125.40	Non ISI	4.20	4.80
5 / 125	140.00	140.40	139.90	140.50	Non ISI	5.20	6.00
6 / 150	165.00	165.40	164.60	165.60	174.00	5.70	6.50
6.5 / 180	180.00	180.50	179.80	180.60	Non ISI	7.00	7.80
7 / 175	200.00	200.50	199.60	200.60	211.00	7.00	7.80
8 / 200	225.00	225.50	224.50	225.80	238.00	7.60	8.80
10 / 250	280.00	280.50	279.40	280.80	292.00	9.60	11.00
12 / 300	330.00	330.60	329.30	331.00	346.00	11.20	13.30

Dimensions of Medium Well Casing Pipes (CM) - for Well Depth between 80-250 Meters

Pipe Size in Inches / mm (DN)	Mean Outside Diameter of Pipe mm		Outside diameter of pipe at any point mm		Mean outside diameter over connection mm	Wall Thickness mm	
	Min.	Max.	Min.	Max.	Max.	Min.	Max.
1.25 / 35	42.00	42.20	41.90	42.30	46.00	3.50	4.00
1.5 / 40	48.00	48.20	48.00	48.30	52.00	3.50	4.00
2 / 50	60.00	60.20	59.90	60.30	65.00	4.00	4.60
3 / 80	88.00	88.30	88.00	88.40	94.00	4.00	4.60
4 / 100	113.00	113.30	112.90	113.40	120.00	5.00	5.70
4.5 / 115	125.00	125.30	124.90	125.40	132.00	5.00	5.70
5 / 125	140.00	140.40	139.90	140.50	150.00	6.50	7.30
6 / 150	165.00	165.40	164.80	165.60	178.00	7.50	8.50
6.5 / 180	180.00	180.50	179.80	180.60	Non ISI	8.00	8.80
7 / 175	200.00	200.50	199.80	200.60	215.00	8.80	9.80
8 / 200	225.00	225.50	224.80	225.80	243.00	10.00	11.20
8.5 / 240	240.00	240.50	239.50	240.80	252.00	10.40	11.50
10 / 250	280.00	280.50	279.60	280.80	298.00	12.50	14.00
12 / 300	330.00	330.60	329.30	331.00	352.00	14.50	14.20

Dimensions of Deep Well Casing Pipes (CD) - for Well Depth upto 400 Meters

Pipe Size in Inches / mm (DN)	Mean Outside Diameter of Pipe mm		Outside diameter of pipe at any point mm		Mean outside diameter over connection mm	Wall Thickness mm	
	Min.	Max.	Min.	Max.	Max.	Min.	Max.
4 / 100	113.00	113.30	112.80	113.40	125.00	7.00	7.90
4.5 / 115	125.00	125.30	124.90	125.40	137.00	7.50	8.50
5 / 125	140.00	140.40	139.70	140.50	152.00	8.00	9.00
6 / 150	165.00	165.40	164.60	165.60	180.00	9.50	10.70
6.5 / 180	180.00	180.50	179.80	180.60	Non ISI	10.20	11.40
7 / 175	200.00	200.50	199.60	200.60	217.00	11.80	13.60
8 / 200	225.00	225.50	224.50	225.80	247.00	13.00	14.80
8.5 / 240	240.00	240.50	239.50	240.80	Non ISI	11.50	12.50
10 / 250	280.00	280.50	279.40	280.80	304.00	16.00	17.60
12 / 300	330.00	330.60	329.30	331.00	359.00	19.00	21.00

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

DIMENSIONAL DETAILS FOR SCREEN PIPE

Dimensions of Ribbed Medium Well Screen (RMS) Pipes

Pipe Size Inches / mm (DN)	Mean Outside Diameter of Pipe mm		Outside diameter of pipe at any point mm		Mean outside diameter over connection mm	Wall Thickness mm	
	Min.	Max.	Min.	Max.	Max.	Min.	Max.
1.25 / 35	46	46.2	45.9	46.3	50	3.5	4
1.5 / 40	52	52.2	51.9	52.3	56	3.5	4
2 / 50	64	64.2	63.9	64.3	69	4	4.6
3 / 50	92	92.3	91.8	92.4	98	4	4.6
4 / 100	117	117.3	116.8	117.4	124	5	5.7
4.5 / 115	129	129.3	128.8	129.4	136	5	5.7
5 / 125	144	114.4	143.7	144.5	154	6.5	7.3
6 / 150	169	169.4	168.6	169.6	182	7.5	8.5
7 / 175	204	204.5	203.6	204.6	219	8.8	9.8
8 / 200	229	229.5	228.5	229.8	247	10	11.2
10 / 250	284	284.5	283.4	284.8	302	12.5	14
12 / 300	334	334.6	333.4	335	356	14.5	16.2

Dimensions of Ribbed Deep Well Screen (MSP) Pipes

Pipe Size Inches / mm (DN)	Mean Outside Diameter of Pipe mm		Outside diameter of pipe at any point mm		Mean outside diameter over connection mm	Wall Thickness mm	
	Min.	Max.	Min.	Max.	Max.	Min.	Max.
4 / 100	117	117.3	116.8	117.4	129	7	7.9
4.5 / 115	129	129.3	128.8	129.4	141	7.5	8.5
5 / 125	144	144.4	143.7	144.5	156	8	9
6 / 150	169	169.4	168.6	169.6	184	9.5	10.7
7 / 175	204	204.5	203.6	204.6	221	11.8	13.6
8 / 200	229	229.5	228.5	229.8	251	13	14.8
10 / 250	284	284.5	283.4	284.8	309	16	17.6
12 / 300	334	334.6	333.3	335	363	19	21

Dimensions of Plain Medium Well Screen (DSP) Pipes

Pipe Size Inches / mm (DN)	Mean Outside Diameter of Pipe mm		Outside diameter of pipe at any point mm		Mean outside diameter over connection mm	Wall Thickness mm	
	Min.	Max.	Min.	Max.	Max.	Min.	Max.
8 / 200	225	225.5	224.5	225.8	243	10	11.2
10 / 250	280	280.5	279.4	280.8	298	12.5	14
12 / 300	330	330.6	329.3	331	352	14.5	16.2

Dimensions of Plain Deep Well Screen (PDS) Pipes

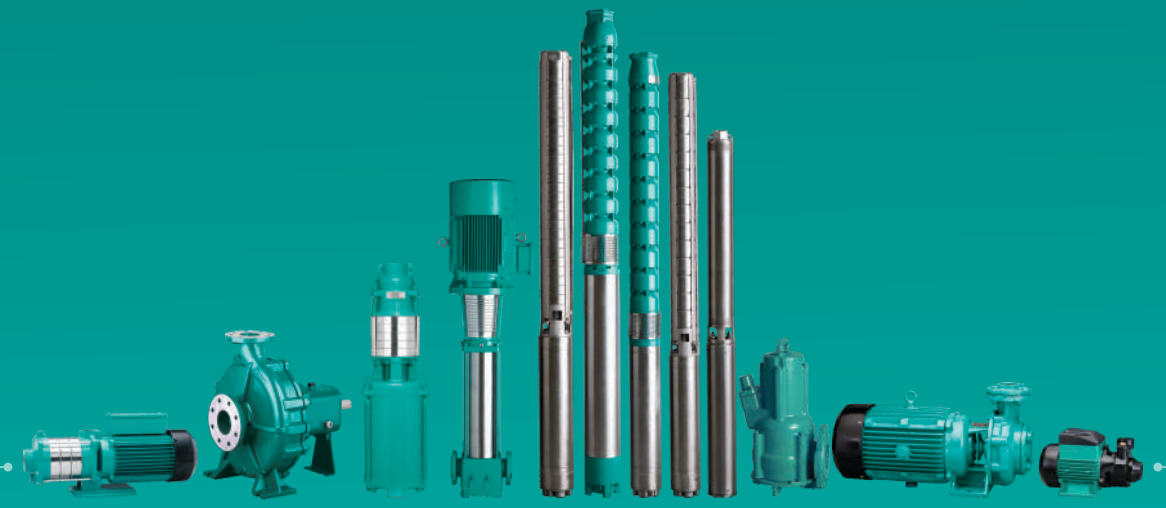
Pipe Size Inches / mm (DN)	Mean Outside Diameter of Pipe mm		Outside diameter of pipe at any point mm		Mean outside diameter over connection mm	Wall Thickness mm	
	Min.	Max.	Min.	Max.	Max.	Min.	Max.
8 / 200	225	225.5	224.5	225.8	247	13	14.8
10 / 250	280	280.5	279.4	280.8	304	16	17.6
12 / 300	330	330.6	329.3	331	359	19	21

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.

INSTALLATION PROCEDURE

- Sort out the pipe assembly on the ground.
- Fix the centring guide on the pipes once in each 15 meters (least), just underneath the neck of the attachment, with the open end of the centering guides confronting upwards while bringing down.
- Always utilize a plain packaging channel (sand trap) for the first pipe to be brought down, with a conical end cap (Bullnose) blanking the nozzle end of the pipe. Fill this pipe with water or penetrating liquid before bringing down into the well.
- Wash the reamed borehole altogether with crisp penetrating liquid (Bentonite Solution) for 40-45 minutes from the base, keeping the particular gravity of the boring liquid to underneath 1.4. This will anticipate overwhelming sedimentation at the base of the borehole and furthermore simple bringing down the assembly.
- To get better outcomes, guarantee that the reamed borehole is something like 15 to 20cms more than the outside measurement of the casing pipe.
- The sand trap is the lowest pipe in a tube well and is the first to be chosen. Fit this pipe with an end plug (cap) and focusing guide.
- Lower the sand trap into the borehole and hold with a split clip with the socketed end confronting upward.
- The following pipe, which is either a screen pipe or a plain pipe (contingent upon lithology of well) is fitted to the sand trap by screwing them together.
- Jointing of pipes should be possible either by belt torque or with manila rope. Never utilize a chain torque. Clean the threads to expel mud or burrs utilizing wire brush. Cleanser might be utilized to lubricate the joints. Evade grease or waste oil.
- Fit the socketed end of the following pipe (which can be a screen/plain casing) with the fitting cap.
- Connect the lifting cap safely with the wire rope of the drilling frame.
- Use winch of drilling machine to lift the threaded pipe string.
- This pipe string is jointed to the pipe effectively brought down into the borehole.
- Centre the assembled pipe string and allow it to slip into the borehole by discharging the split cinch, Fill the pipe with water or mud solution to equalize pressure.
- Repeat the task till every one of the casings and screens are brought down according to the lithology of the well. The time expected to make each joint is under 5 minutes.
- Lowering time can be decreased by jointing the casing and screens on the ground to make extra lengths. Do this effectively according to lithology of well to stay away from wrong arrangement of screens in the bore well.
- Do not set the brought down pipe assembly at the base of the borehole. Guarantee no less than 10 feet of free bore beneath the sand trap. This helps the casing and screen pipes to remain hanging and accomplish a vertical installation.
- Centring guides should be fixed at the very least interim of 1.5 meters to guarantee uniform gravel packing around the casing and screen pipes.

Specifications and illustrations are subject to change without any prior notice for continuos technical improvement.



THE POWER BEHIND THE FORCE

Naargo Industries Private Limited, one of the leading manufacturers of latest state of art, large range of pumps and motors, is managed by veterans who are in the pump industry for almost half a century. The products are employed in various applications like irrigation, domestic, civil construction, de-watering etc; The Company has a strong distribution network in India for sales & service and a strong global presence.

Quality is the key factor in Naargo's products. The expansive infrastructure and environment accredited with ISO 9001 quality certification, latest engineering softwares, high-tech machinery, futuristic pumping technology and high caliber workforce facilitate the production of flawless and efficient products on par with international standards under the brand name of "Tormac". The well equipped R & D wing stays alive to the changing global trends and comes out with viable solutions for innovative product development and upgradation.

The Products currently available include Stainless Steel Submersible Pumps, 4" Thermoplastic Submersible Pumps, 6" & 8" Cast Iron Submersible Pumps, Submersible Motors, Submersible cables, uPVC pipes, and control panels, Centrifugal Pumps, Inline Booster Pumps, Jet Self-priming Pumps Sewage pumps, Induction Pumps and Peripheral Pumps.

The power, performance and endurance of the products backed by the uncompromising teamwork and value systems will certainly propel the company's growth towards new horizons in the pump industry.

IB-UPC-K/19.E3

Naargo Industries Private Limited,
No. 2, Gem Garden, Atthipalayam Juntion, Ganapathy, Coimbatore - 641 006, INDIA.
Tel : +91 978 6522622, Fax : +91 422 2531956
email : tormac@tormacpumps.com web : www.tormacpumps.com

Tormac PUMPS