IS: 15778

CM/L : 2892477

Unit of Trust

Aquatouch®

INDUSTRIES PVT. LTD.

An ISO 9001:2008 Certified Company

EXCELLENCE IN HOT AND COLD WATER PLUMBING SYSTEMS

About us

AQUATOUCH INDUSTRIES PVT. LTD. is a pivotal name in the CPVC and uPVC Pipes & Fittings revolution. With a strong network of dealers and distributors, **Aquatouch** has been established to change the industry altogether with thought leadership and unmatched quality. We are proud to launch our CHLORINATED POLYVINYL CHLORIDE (CPVC) and uPVC Pipes & Fittings, made after intense research and development. With an **eye on future**, **Aquatouch** brings state-of-the-art plumbing systems which can withstand hot and cold water with unmatched efficiency.

The legacy started under the banner of JANKI POLY PLAST with the manufacturing and exporting of sanitary items like taps, D-joints, service saddles, NRV valves, repair saddles etc. under the brand names of SWAN and APPU in 1999. It only grew to transform into another bigger firm named GALAXY INDUSTRIES in the year 2013 with many new products and a higher manufacturing capacity.

Our **Aquatouch** piping systems are not just products but a step towards a future of effortless plumbing solutions. All our CPVC/uPVC Pipes & Fittings are made from specially formulated compounds in accordance with Standards IS 15778, ASTM D2846 & for fittings ASTM D2468. uPVC Pipe as per ASTM D1785 & uPVC Fittings as per ASTM D2467. As expected, all **Aquatouch** products provide an unmatched combination of Quality & Trust which is second to none.

Our CPVC pipes come in ½" to 2" Copper Tube Size (CTS) dimensions along with two different standard dimensions–SDR-11 and SDR-13.5 & uPVC Pipes come in ½" to 2" dimensions along with two different standard dimensions–SCH-40 and SCH-80. All our fittings are manufactured as per SDR-11, making them ideal for all applications and usage.

We move ahead to lead the industry with thought leadership along with market leadership. Welcome to a life full of free flowing possibilities. We are **Aquatouch**!

Core Value

GOAL : Provide the society with products which will create a more sustainable future ensuring no harm to the environment and ecosystem.

INNOVATION: **Aquatouch** has brought together a team of the most experienced along with the brightest new minds to create products that are not just perfect for the present but also designed for the future.

CUSTOMERS : Everything we do at **Aquatouch** centres around the goal of making the life of our customers the best in every way through all our products and offerings. The customer's trust is our motivation.

Quality Policy

Aquatouch Industries Pvt. Ltd. commits its each and every resource to the manufacturing of world class plastic products with the highest quality standards as the benchmark. We look to bring comfort and serenity in our customers' lives by continuous investment in innovation and futuristic solutions for hot and cold water plumbing systems.

APPLICATION

Water is the lifeline of every life on this planet and hence, wherever we are; **Aquatouch** products find their application right there. Our CPVC & UPVC Pipes & Fittings are employed in homes, schools, hotels, hospitals, industries, resorts, high rise buildings, commercial complexes, independent villas and everywhere else where there is a need of potable hot and cold water.

PLUMBING SYSTEMS EXPERTLY DESIGNED FOR THE FUTURE

CPVC & uPVC Pipes & Fittings find application almost everywhere in modern lifestyle, be it our homes, schools, offices, hospitals, hotels and other institutions. Technically they are thermoplastic materials made from CPVC compound especially formulated as per the application and requirement.

The efficiency and durability mostly depend on various factors like the choice of raw materials, strict and well defined quality control systems and the structural accuracy of each and every product manufactured. **Aquatouch** does each of them with authority and hence all our products have high degree of reliability.

Owing to this, **Aquatouch** CPVC and uPVC Pipes & Fittings find applications in various walks of our lives along with providing easy, suitable and cost effective solutions for transportation and distribution of potable water, both hot and cold. This superiority achieved through discipline and constant innovation makes **Aquatouch** a formidable name in the CPVC & uPVC Pipes & Fittings industry even thought being a considerably new entrant.

THE CPVC EDGE

CPVC Pipes & Fittings surely have their own list of qualities which makes them the best choice in plumbing fittings. Apart from the obvious advantages like easy cutting in cold temperatures, corrosion-free technology, high impact resistance and better durability; there are various other qualities which make CPVC better than its alternatives.

Unmatched Performance: Compared to copper and conventional CPVC, Aquatouch CPVC can withstand a wide range of hot and cold water for a lifetime due to its innovative chemical formula. Besides, its resistance to Low-pH water, coastal salt, air or corrosive soil makes it ideal for almost any climatic region. Other advantages include permanent joining, excellent heat retention, cement fusing and quiet operation.

Better Than Copper: Although copper plumbing has been used since ages, it comes with its share of drawbacks. Copper is prone to corrosion and pitting due to harsh water, has low heat retention, noisy operation, and is also susceptible to permanent damage after installation. CPVC ensures you don't face any of these issues, ever.

Even Better than PEX: PEX or Cross-linked polyethylene is surely better than copper when it comes to piping and fitting but CPVC trumps it on many fronts with ease. Unlike PEX, CPVC isn't affected by processing methods, multiple standards, expensive tools, building-code questions, insert fitting and a few others.

FEATURES & BENEFITS

Resistant to Corrosion: Even under the harshest water conditions, **Aquatouch** CPVC Pipes & Fittings give excellent resistance to corrosion. You don't need to worry about impure water due to corrosion of metal pipes or soldered joints.

Free from Bacterial Growth: Compared to other piping materials like copper, steel and other thermoplastics; CPVC has the lowest possibility of bacterial build up.

Handles Hot and Cold Water: Aquatouch CPVC can work equally efficiently with both extremely hot and cold water. This compatibility is second to none owing to its heat efficiency and lower installation cost.

Low Thermal Expansion: Compared to other plastic pipes, CPVC has a lower coefficient of thermal expansion, thereby avoiding looping of the pipe due to heat expansion.

Easy Welding Process: CPVC employs simple solvent cement along with inexpensive tools. Also electrical source isn't needed as well.

Superior Insulation: Compared to metal pipes, CPVC does not lose heat leading to less heat loss and decreased thermal expansion.

Safe from Fire: These pipes do not support combustion due to Limiting Oxygen Index (LOI) of 60 making it combustion resistant. It doesn't lead to flaming drips, high smoke generation and excess fire load.

Tough, Durable Material: CPVC material is extremely tough and durable, making it possible to achieve same flow rate with a smaller pipe size. Compared to all other thermoplastics, CPVC has a much higher strength and hence has higher pressure bearing capability.

Resistant to Damage by Chlorine: Chlorine is mostly used in India for cleaning potable water but it adversely affects metal pipes. CPVC pipes solve this issue with Chlorine being unable to break its polymer chains, thus avoiding possible leaks.

Resistant of Chemicals: Aquatouch CPVC is highly resistant to many chemicals, even strong mineral acids & bases.

Accepted by World: CPVC Pipes and Fittings are the preferred choice in many countries including UK, USA, Germany, Canada, France, Netherlands, & Middle East etc. It is also the chosen potable water pipe & fitting in India.

Avoids Scale, Pit or Leach Formation: CPVC manages to maintain full water carrying capacity even after years of its installation due to its resistance to low pH water, coastal salt air exposure and corrosive soil.

Cost Effective Choice: CPVC Piping & Fitting is highly cost effective. It saves cost on tools, fittings, anchors, offsets, labour, loops etc. They can last over 50 years, bringing down the overall cost of the entire piping and fitting system as a whole.

Safe Testing of CPVC Pipe Systems

After everything is said and done, testing the CPVC/uPVC Pipes and Fittings is necessary to inspect the system for leaks. There are mainly two methods which are employed for this safe testing of CPVC Piping systems.

Water Testing
As the CPVC/uPVC Pipes & Fittings have been designed to transport water, Water Testing proves to be a safer and more accurate for everyone. The test lets you find out if there is any leakage or seepage and correcting them before laying them out finally for use.

A Water Test is vital in visually inspecting the joints before closing in the piping or even back filling underground piping. If there is any leakage, you can easily spot it when testing with water. Air Testing makes it difficult to spot leakages. The system pressure changes with temperature in Air Testing, making it inherently flawed. Water pressure is not as much sensitive to temperature variations and hence provides more accurate results.

Insert plugs through test tees for proper water test. Plug all other openings or cap them with test plugs/ test caps. Fill the system being tested to its highest point. As the water fills the vertical pipe, hydrostatic pressure is created and the water height increases. In order avoid air bubbles, fill the system slowly and remove the trapped air from the pipes. If the entrapped air is no removed properly, it might lead to faulty results.

If in case a leak if found, cut out the joint and discard it. Using couplings, install a new section. Once a system is tested successfully, drain it completely and move on to the next system with the same procedure.

Water Testing surely is a safer and more thorough method compared to Air Testing. Investing proper time in these tests ensures error-proof installation and a lifelong application.

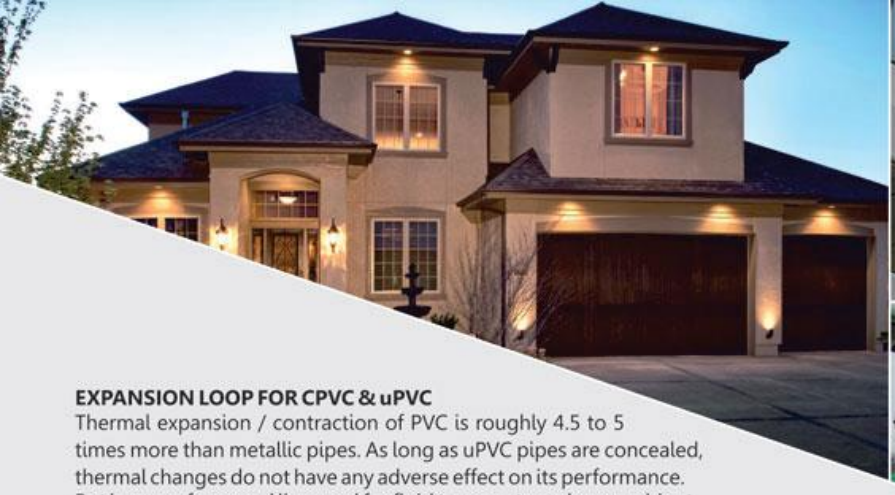
DIMENSIONS FOR CPVC PIPE

Nominal Bore Inch (mm)	Outside Dia. (mm)	SDR-11 Wall Thickness (mm)	SDR-13.5 Wall Thickness (mm)
½" (15)	15.90 (±0.08)	1.73 (+0.51)	1.40 (+0.51)
¾" (20)	22.20 (±0.08)	2.03 (+0.51)	1.65 (+0.51)
1" (25)	28.60 (±0.08)	2.59 (+0.51)	2.12 (+0.51)
1½" (32)	34.90 (±0.08)	3.18 (+0.51)	2.59 (+0.51)
1¼" (40)	41.30 (±0.10)	3.76 (+0.51)	3.06 (+0.51)
2" (50)	54.00 (±0.10)	4.90 (+0.58)	4.00 (+0.58)

PRESSURE RATING & TEMP. DERATING OF CPVC PIPE

	PIPE TEMPERATURE	PRESSURE RATING	
SDR 11	23	400	28.10
	82	100	7.00
SDR 13.5	23	320	22.50
	82	80	5.60

CPVC TEMPERATURE DERATING FACTORS								
Cont. Service Temp(°C)	23-25	32	38	49	60	71	82	93
% Of Working Pressure	100	91	82	65	50	40	25	20



EXPANSION LOOP FOR CPVC & uPVC

Thermal expansion / contraction of PVC is roughly 4.5 to 5 times more than metallic pipes. As long as uPVC pipes are concealed, thermal changes do not have any adverse effect on its performance. But in case of exposed lines and for fluid temperature above ambient, effect of thermal expansion & contraction needs to be considered.

The change in length of pipeline can be calculated as:

$l = \S x L x T$ Where l : Change in length in mm

§ : Coefficient of linear thermal expansion / contraction of PVC (6.4×10^{-5} mm/mm/°C)

L : Length of pipe in mm (in ambient temperature)

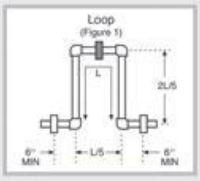
T : Difference between ambient temperature & maximum service temperature

To accommodate this thermal expansion & contraction, following methodology can be applied.

Expansion Loop : The most common method used to compensate for changes in the pipeline.

$x = 1.44 \times d \times l$

Where d : Outside diameter of the pipe l : Change in length in mm



PRESSURE RATING OF CPVC PIPE

CPVC HORIZONTAL & VERTICAL SUPPORT DISTANCES (mtrs.)				
Nominal Bore	**21°C**	**49°C**	**71°C**	**82°C**
½"	1.68	1.37	0.91	0.76
¾"	1.68	1.52	0.91	0.76
1"	1.83	1.68	1.07	0.91
1¼"	1.98	1.83	1.07	1.07
1½"	2.13	1.83	1.07	1.07
2"	2.13	2.13	1.22	1.07

CPVC MECHANICAL PROPERTIES	
Density	1.55 g/cm^3
Ultimate Tensile Strength	58 MPa
Comprehensive Strength	70 MPa
Shear Strength	39 MPa
Hardness (Rockwell)	121 (ASTM D785)
Elongation at Break	50-80%

CPVC THERMAL PROPERTIES	
Max. Continuous Service Temp	93°C
Coeff. of Thermal Expansion	6.3 x 10-5 m/m/°C
Vicat. Softening Temperature	110°C (IS 15778)

CPVC ELECTRICAL PROPERTIES	
Dielectric Constant	3.70 @ 60 Hz
Power Factor	0.007% @1000 ohm

DIMENSIONS FOR uPVC PIPE

Dimensions of ASTM Pressure uPVC Pipes at 23°C as per ASTM D1785							
		Schedule 40			Schedule 80		
Size	Outside Diameter	Wall Thickness	Working Pressure	Burst Pressure	Wall Thickness	Working Pressure	Burst Pressure
Inch	mm	mm	MPa	MPa	mm	MPa	MPa
½	21.34 ± 0.10	2.77+0.51	4.14	13.17	3.73+0.51	5.86	18.76
¾	26.67 ± 0.10	2.87+0.51	3.31	10.62	3.91+0.51	4.76	15.17
1	33.40 ± 0.13	3.38+0.51	3.10	9.93	4.55+0.53	4.34	13.93
1¼	42.16 ± 0.13	3.56+0.51	2.55	8.14	4.85+0.58	3.59	11.45
1½	48.26 ± 0.15	3.68+0.51	2.28	7.31	5.08+0.61	3.24	10.41
2	60.32 ± 0.15	3.91+0.51	1.93	6.14	5.54+0.66	2.76	8.89

Note: 1 MPa = 10 kgf/cm², 1 kgf/cm² = 14.20 psi

RECOMMENDED DISTANCES BETWEEN SUPPORT uPVC Schedule 80°C (mtrs.)					
Size	**23°C**	**30°C**	**40°C**	**50°C**	**60°C**
½"	1.40	1.40	1.20	0.75	0.75
¾"	1.50	1.40	1.20	0.75	0.75
1"	1.70	1.50	1.40	0.90	0.75
1¼"	1.70	1.70	1.50	0.90	0.90
1½"	1.80	1.70	1.50	1.00	0.90
2"	1.80	1.70	1.50	1.00	2.15

uPVC TEMPERATURE DERATING FACTORS								
Cont. Service Temp(°C)	23	30	35	40	45	50	55	60
% Of Working Pressure	100	90	75	62	50	40	30	22

Note: Maximum continuous service temperature for uPVC pipe is 60°C and derating factor needs to be applied for service temperatures above 23°C.

uPVC MECHANICAL PROPERTIES	
Specific Gravity	1.41-1.46 g/cm³
Ultimate Tensile Strength	50 MPa
Compressive Strength	63 MPa
Shear Strength	39 MPa
Hardness (Durometer D)	80 ± 3 (ASTM D2240)
Elongation at Break	50-80%

uPVC THERMAL PROPERTIES	
Max. Continuous Service Temp.	50°C
Coeff. of Thermal Expansion	5.4×10^{-5} (mm/°C)
Vicat Softening Temperature	Min 79°C
Flame Resistance	Self extinguishing uPVC dose not support combustion when the source of ignition is removed

uPVC ELECTRICAL PROPERTIES	
Dielectric Constant	3.7 @ 60Hz, 30°F
Power Factor	1013-1014 Ohm
Surface Resistivity	2000 Volts/mm
Dielectric Strength V/mil	1413@ 60Hz

CPVC PIPE (SDR 11 & SDR 13.5)

IS: 15778
CM/L : 2902477

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

CPVC ELBOW

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50
1"x¾"	25x20

CPVC TEE

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50
1"x¾"	25x20

CPVC COUPLING

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

CPVC 45° BAND

Size	
Inch	mm
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

CPVC END CAP

Size	
Inch	mm
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

CPVC MTA PLAIN

Size	
Inch	mm
¾"x½"	20x15
¾"x¾"	20x20
1"x1"	25x25

CPVC FTA PLAIN

Size	
Inch	mm
¾"x½"	20x15
¾"x¾"	20x20
1"x1"	25x25

CPVC REDUCER BUSH

Size	
Inch	mm
1"x¾"	25x20
1¼"x1"	32x25
1¼"x¾"	32x20
1½"x¾"	40x20
1½"x1"	40x25
1½"x1¼"	40x32
2x¾"	50x20
2"x1"	50x25
2x1¼"	50x32
2x1½"	50x40

CPVC REDUCER COUPLER

Size	
Inch	mm
¾"x½"	20x15
1"x½"	25x15
1"x¾"	25x20
1¼"x1"	32x25

CPVC BRASS FTA

Size	
Inch	mm
¾"x½"	20x15
¾"x¾"	20x20
1"x½"	25x15
1"x¾"	25x20
1"x1"	25x25
1¼"x1¼"	32x32
1½"x1½"	40x40
2"x2"	50x50

CPVC BRASS MTA

Size	
Inch	mm
¾"x½"	20x15
¾"x¾"	20x20
1"x½"	25x15
1"x¾"	25x20
1"x1"	25x25
1¼"x1¼"	32x32
1½"x1½"	40x40
2"x2"	50x50

CPVC BRASS ELBOW

Size	
Inch	mm
¾"x½"	20x15
1"x½"	25x15
1"x¾"	25x20

CPVC BRASS TEE

Size	
Inch	mm
¾"x½"	20x15
1"x½"	25x15
1"x¾"	25x20

CPVC TANK NIPPLE THD/SOC

Size	
Inch	mm
THD	
½"x½"	15x15
¾"x¾"	20x20
1"x1"	25x25
SOC	
¾"x½"	20x15
¾"x¾"	20x20
1¼"x1"	32x25

CPVC UNION

Size	
Inch	mm
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

CPVC END PLUG THD (Long Body)

Size	
Inch	mm
½"	15

CPVC BALL VALVE (Long & Short Handle)

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

CPVC NAIL CLAMP

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

CPVC METAL CLAMP

Size	
Inch	mm
¾"	20
1"	25
1½"	40
1¼"	32
2"	50

CPVC / uPVC SOLVENT CEMENT

Size	Qty.
59 mL	24 Pcs.
118 mL	24 Pcs.
237 mL	12 Pcs.
473 mL	5 Pcs.
946 mL	5 Pcs.

uPVC END PLUG THD (Long Body)

Size	
Inch	mm
½"	15

uPVC NAIL CLAMP

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

uPVC METAL CLAMP

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

uPVC PIPE (SCH 40 & SCH 80)

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

uPVC ELBOW

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

uPVC TEE

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

uPVC COUPLING

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

uPVC BRASS FTA

Size	
Inch	mm
½"x½"	15x15
¾"x½"	20x15
¾"x¾"	20x20
1"x½"	25x15
1"x¾"	25x20
1"x1"	25x25
1¼"x1¼"	32x32
1½"x1½"	40x40
2"x2"	50x50

uPVC BRASS MTA

Size	
Inch	mm
½"x½"	15x15
¾"x½"	20x15
¾"x¾"	20x20
1"x½"	25x15
1"x¾"	25x20
1"x1"	25x25
1¼"x1¼"	32x32
1½"x1½"	40x40
2"x2"	50x50

uPVC BRASS ELBOW

Size	
Inch	mm
½"x½"	15x15
¾"x½"	20x15
¾"x¾"	20x20
1"x½"	25x15
1"x¾"	25x20
1"x1"	25x25

uPVC BRASS TEE

Size	
Inch	mm
½"x½"	15x15
¾"x½"	20x15
¾"x¾"	20x20
1"x½"	25x15
1"x¾"	25x20
1"x1"	25x25

uPVC MTA PLAIN

Size	
Inch	mm
½"x½"	15x15
¾"x½"	20x15
¾"x¾"	20x20
1"x1"	25x25

uPVC FTA PLAIN

Size	
Inch	mm
½"x½"	15x15
¾"x½"	20x15
¾"x¾"	20x20
1"x1"	25x25

uPVC REDUCER COUPLER

Size	
Inch	mm
¾"x½"	20x15
1"x½"	25x15
1"x¾"	25x20
1¼"x1"	32x25

uPVC END CAP

Size	
Inch	mm
½"	15
¾"	20
1"	25

uPVC TANK NIPPLE THD/SOC

Size	
Inch	mm
THD	
½"	15
¾"	20
1"	25
SOC	
½"	15
¾"	20
1"	25

uPVC UNION

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

uPVC REDUCER BUSH

Size	
Inch	mm
¾"x½"	20x15
1"x½"	25x15
1"x¾"	25x20
1¼"x1"	32x25

uPVC BALL VALVE (Long & Short Handle)

Size	
Inch	mm
½"	15
¾"	20
1"	25
1¼"	32
1½"	40
2"	50

Joining Instructions

When it comes to uPVC/CPVC and Pressure Pipes, the cold welding process is the ideal choice.

Cutting The uPVC/CPVC Pipe:
Cut the pipe with instruments like the hand saw with a suitable guide or by a pipe cutter.

Preparing The Joint:
At 10°-15°, chamfer or de-burr the pipe. With a knife, abrasive paper or file, remove the burrs from the inside and outside surfaces of the pipe.

Test The Dry Fit Of The Joint:
In order to ensure there is no leaking, test the dry fit by inserting the pipe into the fitting and check the interference. It should occur at about 1/3rd to 2/3rd of the socket depth.

Cleaning:
Finally, use a clean dry rag to remove the dirt, moisture or grease from the pipe end and fitting sockets.

Solvent Cement Application:
Now apply the cement to the inside of socket and outside of pipe end. The application should be light and uniform. Application should be quick so that it doesn't dry but also ensure that all the jointing surface areas of the pipe and fitting are completely covered by the cement. Excessive application of cement in the bell socket must be avoided.

Assembly Of The Joint:
While the cement is still fluid or wet, bottom the male end of the pipe forcefully in the socket. This must be done immediately after the application of the last coat of cement. To distribute the cement evenly, turn the pipe or fitting to 1/4th (but not after the pipe is bottomed). Remove the excess cement at the end of the fitting socket.

Let The Cement Cure: It is advisable to not disturb the joint immediately after cementing. The recommended curing time is 12 hours minimum and during that time, do not pressurize the system. The cure time depends on the weather conditions too, so decide as per your discretion.

Applications

RESIDENCE

HOSPITAL

MALL

SCHOOL/COLLEGE

CORPORATE HOUSE

Unit of Trust

Aquatouch™

INDUSTRIES PVT. LTD.

An ISO 9001:2008 Certified Company

Mobile : +91 98791 83846
E-mail : info@aquatouchindustries.com
Visit us : www.aquatouchindustries.com

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