

# ashirvad

by aliaxis

## WORLD'S LARGEST SELLING uPVC COLUMN PIPES for Submersible Pumps

TECHNICAL MANUAL



**RECOMMENDED**  
TO USE  
**ashirvad** BRAND  
TOP & BOTTOM  
ADAPTOR FOR  
SAFETY OF  
PUMP & PIPES



Design Registered  
Only with Ashirvad

Export

**COLUMN PIPES**  
FOR SUBMERSIBLE PUMPS

# Pioneer in uPVC Column Pipes

Based at Bengaluru, India. Ashirvad Pipes Pvt. Ltd., is the Pioneer to develop the technology in 1995 to manufacture column pipes (also called Drop / Riser pipes) using uPVC. Today Ashirvad is the largest manufacturer and seller in the world for this product.

These pipes are being used successfully all over the world in over 40 countries to erect submersible borehole pumps up-to depths of 1000 feet. More than 3 million borewell pumps have been installed across the globe using Ashirvad Column Pipes.

With its unique patented technology of WIRELOCK™ system, uPVC Column Pipes of Ashirvad offer the best replacement for GI and HDPE Pipes.



Patented  
**WIRELOCK™**  
Technology



Export to over  
40 Countries



Ashirvad has produced  
over 130,000 km of  
uPVC Column Pipes

# WORLD'S LARGEST SELLING uPVC COLUMN PIPES for Submersible Pumps





**ashirvad** by aliaxis **HEAVY**

**ashirvad** by aliaxis **STANDARD**

**ashirvad** by aliaxis **SUPER HEAVY**

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Water - In all its forms,  
a precious gift to life around,  
ever flowing, never stopping,  
always forward bound.

From the sky, from the rivers,  
from the lakes around  
Bringing joy, bringing cheer  
abundant & profound  
Water, water everywhere,  
happiness abound

"Khushiyon ke rang - paani ke sang"

be **water happy**™





**ashirvad** by allaxis **SUPER HEAVY**

**ashirvad** by allaxis **STANDARD**



# About Ashirvad

Ashirvad an Aliaxis group company, setup its Bengaluru unit in 1998 and is a wholly owned company of Aliaxis group. Aliaxis group is a global leading manufacturer and distributor of plastic fluid handling systems used in residential, commercial and industrial buildings. Aliaxis, headquartered in Brussels and is present over 45 countries with more than 100 manufacturing and commercial entities, employs over 16,000 people and generates more than 3 billion Euro ( ₹ 21, 600 crores approx) in annual sales.

Ashirvad has always been relentless in its commitment to quality and services. Ashirvad pipes is a leading manufacturer and supplier of CPVC, uPVC, SWR plumbing systems and also the pioneer in designing and manufacturing of uPVC column pipes, which are used in the erection of submersible borehole pumps. Today Ashirvad Pipes is the world's largest manufacturer of uPVC column pipes and successfully exporting to 40+ countries. The CPVC Hot and Cold plumbing system is manufactured in collaboration with Lubrizol, USA.

Ashirvad is an ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certified company with a constant endeavour towards achieving the highest level of customer satisfaction.

Ashirvad, with a determination to be a one-stop-shop for Plumbing, Agriculture, Sanitary and Fire Safety solutions, has recently expanded its product range and successfully introduced Agri Pipe, Casing Pipe, Blazemaster Fire Sprinklers.

## Capabilities:

- Manufacturing capacity of more than 2,00,000 MT per annum
- Total factory area of 50 acres
- 500+ Strong Sales & marketing staff across India
- Strong team of 205 at corporate office
- Over 4,500 manufacturing workforce
- 18 warehouses, 1,100 distributors, 53,000 dealers across India
- Exporting Column Pipes to more than 40 countries
- 2 factories in Bengaluru and another one in Bhiwadi (Rajasthan) near Delhi



**In 2007, Ashirvad won the National Award for "OUTSTANDING ENTREPRENEURSHIP IN MEDIUM ENTERPRISES"**

The award was presented by the Prime Minister of India.



**WCRC Leaders Summit - 2014**

Ashirvad Pipes

**"One Of The 100 Fastest Growing Marketing Brands In Asia"**

(Evaluated and selected by KPMG)  
The Global Audit Firm



**EXPORT EXCELLENCE - 2015**

"Ashirvad Pipes"  
**"BEST MANUFACTURER EXPORTER AWARD"**

Large Category - Silver



**STATE EXPORT EXCELLENCE 2014-15 & 2015-16**

**"CHEMICALS & PLASTICS"**  
Medium / Large Enterprise

# Certifications



## CERTIFICATE OF REGISTRATION

**This is to certify that the management system of**  
**Ashirvad Pipes Pvt. Ltd.**

Site 1: Plot No. 4-B, 26 & 26 B Attibele Industrial Area, Hosur Road, Bengaluru - 562107, Karnataka, India  
 Site 2: Plot No. 27-P, 28-P, 29 & 30, Bommasandra-Jigani Link Road, Industrial Area, Jigani Hobli, Anekal Taluk, Bangalore - 560105, Karnataka, India  
 Site 3: Plot No. SP1-177 & 178, Kahrani Industrial Area, Bhiwadi Extension, Dis. Alwar - 301019, Rajasthan, India

**has been registered by Intertek as conforming to the requirements of**  
**ISO 45001:2018**

OHSAS 18001:2007 certified from 20 July 2017 to 27 February 2019.

**The management system is applicable to:**  
 Manufacture and Supply of uPVC & cPVC Pipes and Fittings and Solvent Cement for Industrial, Domestic, Agriculture, Sewage Applications.

**Certificate Number:** 0087730  
**Initial Certification Date:** 20 July 2017  
**Date of Certification Decision:** 27 February 2019  
**Issuing Date:** 28 February 2019  
**Valid Until:** 26 February 2022




**Calin Moldovean**  
 President, Business Assurance

Intertek Certification Limited  
 10A Victory Park, Victory Road  
 Derby DE24 8ZF, United Kingdom

Intertek Certification Limited is a UKAS accredited body under schedule of accreditation no. 014.



In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at certificate.validation@intertek.com or by scanning the code to the right with a smartphone.

The certificate remains the property of Intertek, to whom it must be returned upon request.

CT-ISO 45001:2018-UKAS-EN-44-P-13.doc.17




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Site 1: Plot No. 4-B, 26 & 26 B Attibele Industrial Area, Hosur Road, Bengaluru - 562107, Karnataka, India  
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**has been registered by Intertek as conforming to the requirements of:**  
**ISO 14001:2015**

**The management system is applicable to:**  
 Manufacture and Supply of uPVC & cPVC Pipes and Fittings and Solvent Cement for Industrial, Domestic, Agriculture, Sewage Applications.

**Certificate Number:** 0087727  
**Initial Certification Date:** 20 July 2017  
**Date of Certification Decision:** 27 February 2019  
**Issuing Date:** 28 February 2019  
**Valid Until:** 26 February 2022




**Calin Moldovean**  
 President Business Assurance

Intertek Certification Limited, 10A Victory Park, Victory Road, Derby DE24 8ZF, United Kingdom



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**ISO 9001:2015**

**The management system is applicable to:**  
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**Certificate Number:** 0087727  
**Initial Certification Date:** 10 April 2003  
**Date of Certification Decision:** 27 February 2019  
**Issuing Date:** 28 February 2019  
**Valid Until:** 26 February 2022




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ಕರ್ನಾಟಕ ಸರ್ಕಾರದ  
 ಕರ್ನಾಟಕ ವ್ಯಾಪಾರ ಮತ್ತು  
 ಕಾರ್ಮಿಕರ ಕಾಂಗ್ರೆಸ್ಸಿನ  
 ಕಾರ್ಯದರ್ಶಿ

**Export Excellence Award  
 2015**

Best Manufacturer Exporter Award  
 Large Category - 2015  
**Ashirvad Pipes Pvt. Ltd.**  
 10A Victory Park,  
 Derby DE24 8ZF, United Kingdom

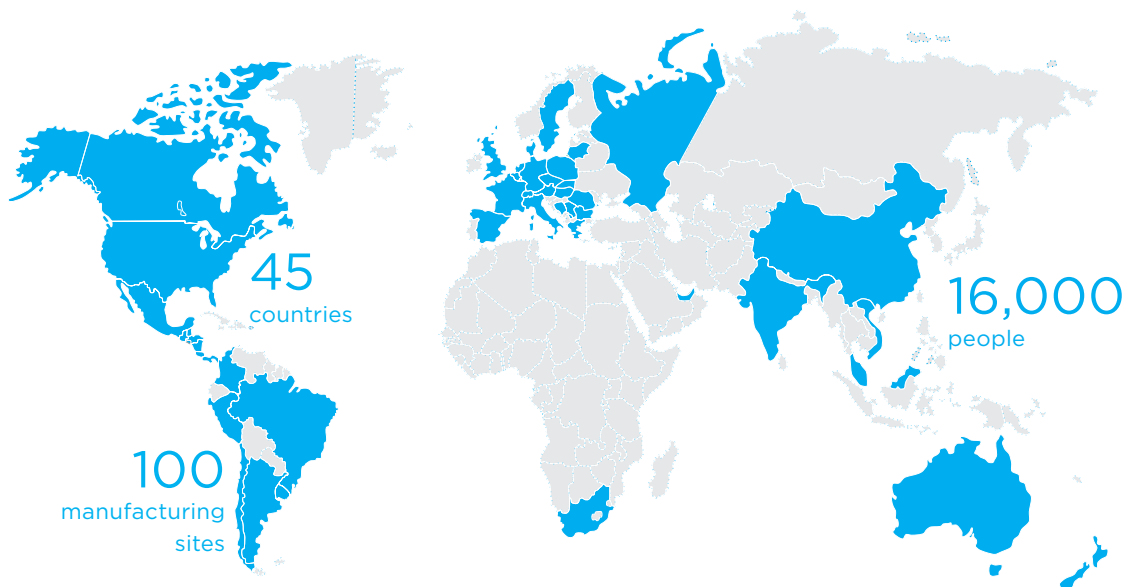


# About Aliaxis

Aliaxis group is a leading global manufacturer and distributor of plastic fluid handling systems used in residential, commercial and industrial buildings.

Head quartered in Brussels, Belgium. Aliaxis is present in over 45 countries, has more than 100 manufacturing and commercial entities and employs over 16,000 people.

Aliaxis leverages local and global knowledge of the industry as well as regulations and building habits to provide consistently excellent customer service through distribution partners to builders, installers, infrastructure contractors and others. The group is in the Indian plumbing and sanitary market through a partnership with Ashirvad Pipes since 2013.







ASHIRVAD PIPES PVT. LTD.  
ASHIRVAD PIPES PVT. LTD.





Automated Raw material storage in Silos



Ashirvad workforce



SS Adaptors for column pipes

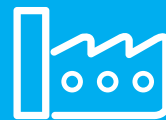


Extrusion Facility

# 10 ASSURANCES

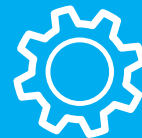
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STATE OF THE ART  
MANUFACTURING FACILITY



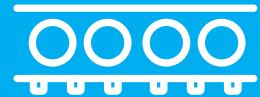
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ADVANCED MACHINERY  
FOR SUPERIOR QUALITY



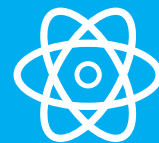
#03

ADVANCED MATERIAL  
HANDLING SYSTEMS



#04

100% INCOMING RAW  
MATERIAL INSPECTION



#05

HIGH DIMENSIONAL ACCURACY  
TO MAINTAIN QUALITY OF  
EACH PIPE, TO ENSURE 100%  
CUSTOMER SATISFACTION

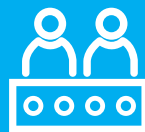




Ashirvad's stringent quality checks ensure premium products and maximum customer satisfaction

#06

STRINGENT QUALITY  
CHECKS AT EVERY LEVEL  
OF PRODUCTION



#07

100% FINISHED GOODS  
INSPECTION



#08

EVERY BATCH OF  
PRODUCTS LAB TESTED



#09

QUALITY PARAMETERS  
ARE SAME FOR DOMESTIC  
AND EXPORT SUPPLIES



#10

REGULAR EXTERNAL LAB  
TESTING OF PRODUCTS  
IN INDIA



# WATER FROM THE SOURCE

Ashirvad Pipes is perhaps the only company in India to provide end to end solutions for Smart Water Management. From manufacturing uPVC Column Pipes for installation of borewell pumps, to providing the best quality SWR pipes (for disposing rain and waste water), today Ashirvad is considered to be the industry leader and a one stop shop for plumbing, drainage and sanitary products across the spectrum.



# Why Ashirvad uPVC Column Pipe is the best choice?

Ashirvad column pipes are available in various sizes starting from 1 inch to 6 inch in diameter. These are made of uPVC and are non-corrosive, Hi-tech, Hi-tensile pipes, having a successful installation track record of over 15 years across the globe.

Thick and thin technology to ensure uniform thickness across the length of the pipe and the square threads for extra strength.

The pipes come in various types like Standard, Heavy and Super Heavy and a quick look at the “Pipe Selection Chart” will clearly indicate the best type to be used for any particular application, depending upon the depth of the bore-well and the type of pump head.



**Pioneer** of  
uPVC Column Pipes



More than 130,000 km  
of Column Pipes sold



**30 lakhs** successful  
installations globally  
since 1995



Patented WIRELOCK™  
for Pump Safety



Biax™ Technology for  
Extra Pipe Strength



Successful maintenance  
free - track record of over  
20 years



Exporting to more than  
**40 Countries**



Recommended for  
installations upto  
**1000\*ft**

# Firsts From Ashirvad



## PVC PIPE JOINT SYSTEM WITH COUPLER AND WIRELOCK™ FOR EXTRA PUMP SAFETY

Design registered and patented in India.  
Patent also registered in Europe, South Africa and Nigeria.

In this unique WIRELOCK™ system developed by Ashirvad Pipes, the coupler is fitted to the pipe and locked with stainless steel wire. It eliminates the chances of coupler loosening and column slipping during dismantling process. It also avoids excessive tightening of coupler with pipe. Ashirvad alone has this unique gripping system.



## uPVC RISER / DROP PIPE

Ashirvad Pipes was the first to develop Column Pipes for submersible pumps using uPVC.



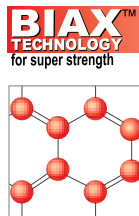
## COUPLING

Installation of pipes becomes very easy due to threaded coupling.  
Ashirvad has the easiest installation system.



## MULTI SEAL RING

The Multi seal ring, sealant and gripping system provides leak proof fitting and also absorbs the vibrations of the pump. This results in extended life of motor and pump bearings. Ashirvad also has a unique gripping system.



## BIAX™ TECHNOLOGY FOR SUPER STRENGTH

This technique has been developed for the first time in India by Ashirvad Pipes, wherein the uPVC molecular chain gets linearly and diametrically oriented during the process of installation. This results in higher impact strength.

## HIGHLIGHTS

Exports to over 40 countries and more than 3 million successful installations across the world.

# Why uPVC Column Pipes?

Sr. No.	Property Requirement For Drop/Riser Pipes	Ashirvad Pipes	Mild Steel Or Galvanized Steel Pipes	HDPE Pipes
1	R i g i d i t y requirement so that Drop / Riser pipes and pump is vertical for proper NRV function.	Pipes are rigid	Pipes are rigid	Pipes are flexible hence not suitable for Drop/Riser application. Pipes are also soft and over long term use with heavy pump set they elongate and lose their shape permanently. In the process of elongation they become thin and break.
2	Strong threaded joints required for holding the column and submersible pump load.	Specially designed square threads have very high load holding capacity and these threads do not corrode or rust or deteriorate.	The threads are prone to corrosion and rusting. Since the threads do not have a layer of Galvanization, after 2-3 years of use the old thread have to be cut out and new threads have to be made on the pipes on lathe machine due to rusting problem. Money and effort is spent in making new threads and the user ends up with a shorter length of pipe.	The threads cannot be formed as these pipes are soft and therefore the jointing of the pipe with the pump or at the top with any fixture is simple push type joint.
3	Leak proof joints required for saving every drop of water.	Special rubber seals are provided with the thread to ensure 100% leak proof at high pump pressure.	These threads are not pressure tight and do not have any rubber sealing system. Therefore not leak proof.	Threads are weak and open up during use.
4	Smooth Internal Surface.	Since the internal surface is very smooth therefore head loss due to friction is low and water discharge is more by 10%-30%	Internal surface is rough and head loss is high.	Internal surface not as smooth as Ashirvad Pipes.
5	Light weight of pipe and ease in installation.	Pipes come in 3 metres standard length and are light weight for easy handling both during pump fitment and also removal.	Pipes are heavy and great effort is required for installation and removal of pumps. In deeper bore wells the column of pipe becomes very heavy and are prone to accidents during handling.	Becomes hard and cannot be rolled back during removal. Pulling with tractor disturbs the crop.
6	Long life	Ashirvad Drop/Riser pipes do not react with acidic or alkaline water and also have a very long life inside the bore well.	Steel pipes are prone to rust, corrosion and ultimately get damaged and have to be replaced very quickly.	Strength of material being very less, very thick pipes are required for high pressure application. This reduces the internal area for water flow considerably. Hence thin pipes are used for high pressure application and the pipes burst in 2-3 yrs.

The above demonstrates the advantages of Ashirvad high tensile, high impact uPVC Riser / Drop Pipe over the conventional galvanized steel pipes and HDPE pipes.

# Features of Ashirvad uPVC Column Pipes



## PVC PIPE JOINT SYSTEM WITH COUPLER AND WIRELOCK™ FOR EXTRA PUMP SAFETY

**Design Registered - Patent registered in India. Also patent registered in USA, Europe, South Africa, Australia and Nigeria**

Wirelock coupler design: (WIRELOCK™ : For your Pump Safety) The couplers are fitted on the pipe sizes from 33 mm OD (1") up to 165 mm OD (6"). The couplers are locked with a special stainless steel wire to ensure that during installation and removal of pumps, the coupler does not come out, resulting in pipes slippage. The wirelock system with the unique design made only by Ashirvad Pipes is a new development adding value to the product.

## MANUFACTURING PROCESS

Ashirvad uses the latest extrusion technology and quality control procedures and has a fully equipped laboratory, ensuring the best quality of pipes and perfect inner/outer dimensions. The WIRELOCK™ mechanism is an in-house development by Ashirvad R and D team, which is a constant endeavour to always be first and best.

## SPECIAL FORMULATION

Ashirvad pipes are made with specially designed formulation so that pipes are capable of handling both internal hydro static pressure as well as vertical tensile load due to the column water and pump weight. The special formulation ensures that the threads do not get brittle and break or chip even after loosening and tightening several times during its life span. Special raw materials are processed and used in combination with the latest extrusion technology to make these pipes.

## DUAL FUNCTION OF ASHIRVAD DROP / RISER PIPE

Ashirvad Drop / Riser pipes have a dual function to perform. On one hand it has to withstand the pump delivery hydro static pressure, which is maximum in the first pipe connected to the pump and may be as high as 35 Kg/cm<sup>2</sup> and on the other hand, the top most pipe bears the load of the entire column filled with water and pump which may range up to 2 tons. This dual type of loading application makes this product unique and requires special manufacturing techniques which is available only with Ashirvad.

### ADVANTAGES OF ASHIRVAD uPVC RISER / DROP PIPE

- Long life
- Power saver
- Light in weight
- 10 to 30% extra water\*
- Easy installation
- No electrolytic deposition
- Cost saver
- No rusting or corrosion

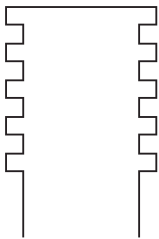


### THICK AND THIN

Unique thick and thin construction of pipes: This innovative technique for making pipes thicker in the threading end to compensate for material removal due to threads is an innovation by Ashirvad.

As depicted the residual thickness in the end part after removal of thread is the same as barrel thickness. Therefore, the pipe strength remains the same.

This technique saves on the raw material consumption and at the same time, provides higher strength to the pipes.



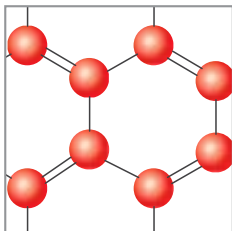
### SQUARE TYPE THREADS

The joints at the pipes have been specially designed with square threads to ensure proper gripping and nullify the chance of slipping. These threads are high friction threads, which do not open even on constant forward and reverse torque generated by starting and stopping of the pump. These threads are made on special CNC machines, with high accuracy tools, to ensure perfect dimensions and good and easy fitment. All threads are checked thoroughly with fitment gauges to ensure 100% accuracy.



### MULTI SEAL RING (Design Registered)

Inner and outer multi seal rings are provided in the permanent and temporary sides of the pipe, which ensures 100% leak proof joint. The multi seal ring is visually appealing in size & shape. This design is registered by Ashirvad. It can also withstand higher pressure uses.



### BI-AXIAL ORIENTATION

Ashirvad has developed a unique Bi-axial orientation technique used during pipe extrusion, which gives higher drop impact and notch impact strength to the pipes. This orientation technique is a result of constant Research and Development at Ashirvad.



Franklin

SW  
YEA





Measurement of column pipes



## Typical Load Technical Chart

Technical comparison for total load on the top pipe and ultimate breakage load of Ashirvad standard pipes. This is just an indication of the loads to explain that in the design of the pipes adequate factor of safety has been considered.

Size	Weight of 500 ft. of Pipe (kg)	Weight of Water Column in 500 ft Pipe (kg)	Maximum Weight of Pump (kg)	Total Weight (kg)	Ultimate Breaking Load of Ashirvad Riser / Drop Pipes (kgf)
	(a)	(b)	(c)	(a+b+c)	
33 mm OD (1")	105	85	100	290	1900
42 mm OD (1¼")	129	147	100	376	2550
48 mm OD (1½")	154	189	125	468	2950
60 mm OD (2")	199	321	150	670	3600
75 mm OD (2½")	254	529	200	983	4650
88 mm OD (3")	350	717	250	1317	6800
113 mm OD (4")	527	1216	300	2043	10000
140 mm OD (5")	865	1835	500	3200	16400
165 mm OD (6")	1850	2224	1000	5074	40000

Chart: 2

**NOTE:** The total weight of assembly is considerably reduced due to buoyancy when immersed in bore well water. This is not considered above.

### SERVICE CONDITION

These pipes give the best service in bore wells which have full casing, or bore wells which are free from loose boulders and stones. In such areas, where loose boulders and stones are prevalent then full casing or slightly larger bore should be made so that the pump does not get stuck.

Bore collapse problem occurs in some areas and it can also be tackled by giving full casing pipes. This happens in areas with loose soil and silt. Care should also be taken during drilling of the bore wells that it is vertical without any bend.

**NOTE:** Any Design and Specifications are subject to change without any prior notice.

# Specifications of Ashirvad uPVC Column Pipes

Size and Type	Wall Thickness in mm		Outer Thickness OD in mm Min/Max	Nominal Effective Length in mm	Thick Portion of Both Side in mm
	End Min/Max	Barrel Min/Max			
<b>1 inch (OD: 33 mm, DN: 25 mm)</b>					
Standard (Socket Type)	5.20/6.10	3.10/3.95	32.6/33.2	2998±3 mm	200-200
<b>1¼ inch (OD:42 mm, DN: 32 mm)</b>					
Standard (Socket Type)	5.45/6.45	3.35/4.15	41.5/42.2	2998±3 mm	200-200
Heavy (Socket Type)	6.65/7.45	4.55/5.45	41.5/42.2	2998±3 mm	200-200
Super Heavy - 40 (Socket Type)	7.80/8.50	5.30/5.55	41.5/42.2	2998±3 mm	250-250
Super Heavy - 45 (Socket Type)	8.50/9.00	6.00/6.50	41.5/42.2	2998±3 mm	250-250
<b>1½ inch (OD:48 mm, DN: 40 mm)</b>					
Standard (Socket Type)	6.05/7.25	3.95/4.85	47.5/48.2	2998±3 mm	200-200
Heavy (Socket Type)	7.30/8.60	5.20/6.10	47.5/48.2	2998±3 mm	200-200
Super heavy	8.50/8.85	6.00/6.25	47.50/48.2	2998±3 mm	250-250
<b>2 inch (OD: 60 mm, DN: 50 mm)</b>					
Standard (Socket Type)	6.40/7.90	3.90/5.00	59.5/60.2	2998±3 mm	200-200
Heavy (Socket Type)	7.80/9.70	5.30/6.60	59.5/60.2	2998±3 mm	200-200
Super Heavy (Socket Type)	9.00/10.60	6.50/7.80	59.5/60.2	2998±3 mm	200-200
<b>2¼ inch (OD: 63 mm, DN: 50 mm)</b>					
Heavy Plus (Socket Type)	8.70/9.10	6.20/6.50	62.7/63.0	2998±3 mm	250-250
<b>2½ inch (OD: 75 mm, DN: 65 mm)</b>					
Standard (Socket Type)	6.50/8.00	4.00/5.10	74.5/75.2	2998±3 mm	200-200
Standard Plus (Socket Type)	7.90/9.20	5.20/6.20	74.5/75.2	2998±3 mm	200-200
Heavy (Socket Type)	9.00/10.70	6.30/7.60	74.5/75.2	2998±3 mm	200-200
Super Heavy - 35 (Socket Type)	10.80/12.70	8.30/9.80	74.5/75.2	2998±3 mm	200-200
Super Heavy - 40 (Socket Type)	12.30/14.40	9.70/11.40	74.5/75.2	2998±3 mm	200-200
<b>3 inch (OD: 88 mm, DN: 80 mm)</b>					
Standard (Socket Type)	7.50/9.00	5.00/6.40	87.5/88.2	2998±3 mm	200-200
Standard Plus (Socket Type)	8.70/10.30	6.20/7.30	87.5/88.2	2998±3 mm	200-200
Heavy (Socket Type)	9.80/11.90	7.30/9.00	87.5/88.2	2998±3 mm	200-200
Super Heavy (Socket Type)	12.40/14.80	9.70/11.70	87.5/88.2	2998±3 mm	200-200
<b>3½ inch (OD: 100 mm, DN: 89 mm)</b>					
Heavy Plus (Socket Type)	13.00/15.10	10.00/11.70	99.5/100.2	2998±3 mm	250-250
<b>4 inch (OD: 113 mm, DN: 100 mm)</b>					
Standard (Socket Type)	8.20/9.80	5.70/7.20	112.5/113.2	2998±3 mm	200-200
Standard plus (Socket Type)	10.40/12.20	7.60/9.10	112.5/113.2	2998±3 mm	200-200
Heavy (Socket Type)	12.20/14.30	9.40/11.50	112.5/113.2	2998±3 mm	200-200
Super Heavy (Socket Type)	15.10/17.80	12.60/15.00	112.5/113.2	2998±3 mm	200-200
<b>5 inch (OD: 140 mm, DN: 125 mm)</b>					
Standard (Socket Type)	10.30/12.60	7.60/9.10	139.5/140.2	2998±3 mm	250-250
Standard plus (Socket Type)	13.30/15.70	9.80/11.70	139.5/140.2	2998±3 mm	250-250
Heavy (Socket Type)	15.32/18.10	11.90/14.20	139.5/140.2	2998±3 mm	250-250
Super Heavy (Socket Type)	19.00/22.60	15.60/18.80	139.5/140.2	2998±3 mm	250-250
<b>6 inch (OD: 165 mm, DN: 150 mm)</b>					
Heavy (Socket Type)	16.50/17.00	13.80/14.50	164.7/165.5	2998 ±3 mm	250-250

# Frictional Head Loss Calculation

The height to which the water is to be pumped has to be precisely estimated. This is most important specially on long inclined terrains. The length of the pipeline and the height to which the water is to be pumped together with the depth to low water level and frictional head loss in pipes, decide the total head of the pumpset.

## Approximate frictional head loss in Ashirvad uPVC column pipes in metre/100 m

Size Type (inch)		Discharge of pump in lpm												
		40	60	80	100	120	150	180	240	300	360	400	500	
1	Standard	5.1657	10.9458	18.6481	28.1911	39.5145	59.7356	83.7292	142.6473	215.6458	302.2627	367.3901	555.3987	
1¼	Standard	1.2706	2.6924	4.5869	6.9342	9.7194	14.6932	20.5949	35.0871	53.0426	74.3478	90.3672	136.6118	
	Heavy	1.8136	3.8430	6.5472	9.8976	13.8732	20.9726	29.3966	50.0822	75.7113	106.1217	128.9873	194.9954	
	Super Heavy (40 Kg) (optional)	2.4011	5.0877	8.6678	13.1035	18.3667	27.7657	38.9182	66.3039	100.2343	140.4948	170.7667	258.1549	
1½	Standard	3.0397	6.4409	10.9732	16.5886	23.2516	35.1504	49.2690	83.9383	126.8929	177.8612	216.1842	326.8145	
	Standard	0.6694	1.4185	2.4167	3.6534	5.1208	7.7413	10.8507	18.4861	27.9461	39.1711	47.6111	71.9757	
	Heavy	0.9247	1.9594	3.3382	5.0465	7.0734	10.6932	14.9883	25.5351	38.6025	54.1077	65.7660	99.4212	
2	Super Heavy (40 Kg) (optional)	1.1916	2.5248	4.3015	6.5028	9.1147	13.7790	19.3135	32.9040	49.7423	69.7220	84.7447	128.1120	
	Standard	0.1833	0.3884	0.6618	1.0005	1.4023	2.1199	2.9714	5.0623	7.6529	10.7268	13.0380	19.7101	
	Heavy	0.2415	0.5117	0.8717	1.3178	1.8472	2.7924	3.9140	6.6682	10.0807	14.1297	17.1742	25.9629	
2	Super Heavy	0.3099	0.6566	1.1187	1.6912	2.3705	3.5836	5.0230	8.5575	12.9367	18.1329	22.0399	33.3186	
	2¼	Heavy Plus	0.2142	0.4538	0.7731	1.1688	1.6382	2.4766	3.4714	5.9140	8.9404	12.5316	15.2317	23.0264
	2½	Standard	0.0530	0.1123	0.1913	0.2892	0.4054	0.6128	0.8590	1.4635	2.2124	3.1010	3.7691	5.6980
Standard Plus		0.0640	0.1356	0.2310	0.3492	0.4894	0.7399	1.0371	1.7668	2.6710	3.7438	4.5505	6.8791	
Heavy		0.0760	0.1611	0.2744	0.4148	0.5814	0.8790	1.2320	2.0990	3.1731	4.4477	5.4060	8.1724	
Super Heavy 35 kg/cm <sup>2</sup>		0.1048	0.2221	0.3783	0.5719	0.8017	1.2119	1.6987	2.8940	4.3749	6.1322	7.4535	11.2677	
Super Heavy 40 kg/cm <sup>2</sup>		0.1345	0.2849	0.4854	0.7338	1.0285	1.5549	2.1794	3.7130	5.6130	7.8676	9.5628	14.4564	
3	Standard	0.0250	0.0529	0.0902	0.1364	0.1911	0.2890	0.4050	0.6900	1.0432	1.4622	1.7772	2.6867	
	Standard Plus	0.0292	0.0618	0.1053	0.1591	0.2231	0.3372	0.4726	0.8052	1.2173	1.7062	2.0739	3.1351	
	Heavy	0.0337	0.0715	0.1218	0.1841	0.2581	0.3902	0.5469	0.9318	1.4086	1.9743	2.3998	3.6278	
	Super Heavy	0.0475	0.1006	0.1714	0.2591	0.3632	0.5491	0.7696	1.3111	1.9821	2.7782	3.3768	5.1049	
3½	Heavy Plus	0.0224	0.0474	0.0808	0.1221	0.1711	0.2587	0.3626	0.6178	0.9340	1.3091	1.5912	2.4054	
4	Standard	0.0068	0.0144	0.0245	0.0371	0.0520	0.0786	0.1101	0.1876	0.2837	0.3976	0.4833	0.7306	
	Standard Plus	0.0082	0.0175	0.0298	0.0450	0.0631	0.0954	0.1337	0.2278	0.3444	0.4827	0.5867	0.8870	
	Heavy	0.0099	0.0210	0.0358	0.0542	0.0759	0.1148	0.1609	0.2741	0.4143	0.5808	0.7059	1.0671	
	Super Heavy	0.0139	0.0295	0.0503	0.0761	0.1066	0.1612	0.2259	0.3849	0.5819	0.8156	0.9913	1.4987	
5	Standard	0.0025	0.0053	0.0090	0.0135	0.0190	0.0287	0.0402	0.0686	0.1036	0.1453	0.1766	0.2669	
	Standard Plus	0.0030	0.0064	0.0108	0.0164	0.0230	0.0347	0.0487	0.0829	0.1254	0.1757	0.2136	0.3229	
	Heavy	0.0036	0.0076	0.0129	0.0195	0.0273	0.0413	0.0579	0.0986	0.1491	0.2090	0.2541	0.3841	
	Super Heavy	0.0049	0.0105	0.0178	0.0270	0.0378	0.0571	0.0801	0.1364	0.2062	0.2891	0.3513	0.5311	
6	Heavy	0.0015	0.0033	0.0056	0.0085	0.0118	0.0179	0.0251	0.0428	0.0647	0.0906	0.1101	0.1665	

Chart 4

## Approximate frictional head loss in steel pipe - head loss in metre per / 100 meter

### Pipe Nominal Bore

Q Imp (nominal dia mm)	Discharge in lpm				
	40	50	65	80	100
40	1.15	0.38	0.10	0.03	0.01
60	2.57	0.84	0.22	0.08	0.03
80	4.58	1.50	0.40	0.14	0.05
100	7.16	2.36	0.63	0.22	0.07
120	10.30	3.38	0.91	0.32	0.11
150	16.10	5.30	1.42	0.50	0.17
180	23.20	7.60	2.05	0.72	0.24
240	41.25	13.52	3.64	1.29	0.42
300	64.45	21.12	5.69	2.01	0.66
360		30.41	8.19	2.90	0.95
400		37.55	10.11	3.58	1.17
500			15.80	5.59	1.83

Chart: 5

Technical chart - 4 gives friction losses per 100 metre of pipeline for Ashirvad Riser / Drop Pipes and Technical chart - 5 give frictional head loss for steel pipes. From table it can be seen that higher diameter pipes have lower frictional head loss. This helps to reduce load on pump and thus increase its life. Following examples will help you to calculate friction head for different length.

## Calculation

- Head Loss and discharge comparison for 2" (60 mm OD) Ashirvad Standard column pipes and GI pipe for installation at 450 ft (137 metres) depth.

Considering that water will not be lifted higher than the ground level.

- Head Loss due to depth of pump = 137 meters (450 ft) both in case of Ashirvad column pipes and steel pipes.
- Head Loss due to friction in Ashirvad column pipes as per Chart: 4

taking working range of discharge as  $18 \text{ m}^3/\text{hr} = 300 \text{ lpm}$ .

As per Chart: 4 frictional head loss is 7.71 meters /100 meters of depth for 2"(60 mm Ashirvad Standard Pipes)

For 137 meters frictional Head loss  $137/100 \times 7.71 = 10.56 \text{ meters}$

Total head load on pump with Ashirvad column pipe =  $137+10.56 = 147.56 \text{ meters}$

- Head loss due to friction in steel pipes

As per Chart: 5, friction loss = 21.12 mtrs /100 mtrs. For 137 meters, frictional head loss =  $137/100 \times 21.12 = 28.93 \text{ mtrs}$ . Total head loss on pump with steel pipes =  $137 + 28.93 = 165.93 \text{ mtrs}$ .

In the same working condition the head load on pump is different than in the case of Ashirvad column pipes and steel pipes. As per pump chart 10% to 30% extra water discharge is available with Ashirvad Column Pipe in comparison to steel pipes depending upon depth and discharge of pump. This means great power saving and less pumping time.

- It has been debated that Ashirvad heavy pipes have lesser Internal diameter because of more thickness and therefore water discharge will be less in comparison with steel pipe.

Comparison of Chart: 4 and 5 shows that Ashirvad Super Heavy Pipes also have lesser frictional loss compared to steel pipes. Even 2" super heavy pipe has almost 33% lesser frictional loss than 2" steel pipe.

# Quality Control Procedures At Ashirvad

The pipes and couplers manufactured at Ashirvad, follow a stringent quality control process before being rolled out to the market, in order to supply a defect free system to its users.

Test	Standard
Short Term Hydrostatic Pressure Test	As per IS 4985-1988
Impact Strength	As per IS 4985-2000 Testing done at 6 to 20 times greater than specifications
Tensile Strength	As per IS 12818-1992
Joint Pressure Test	As per IS 12235-2004 Should be one or two times of working pressure (depending on size)
Specific Gravity	As per IS 12818-1992 Between 1.40 - 1.43 g/cm <sup>3</sup>

Chart: 6

## Colour coding of pipes

The colour with which the specification of the pipe is printed (on the pipe) varies with different pipe classes. The colour coding for different classes is given below.










Class of Pipe	Printing Colour	
V4-12.5	Orange	
V4-15	Purple	
Medium	Orange	
Crystal	Green	
Standard	Red	
Standard Plus	Purple	
Heavy	Blue	
Heavy Plus	Blue	
Super Heavy	Black	

Chart: 7

# Handling, Storage and Bundling of Pipes

## No. of pipes packed in each Ashirvad bundle

Size (inch)	Type	Number of pipes in each bundle	Size (inch)	Type	Number of pipes in each bundle
1	Standard	20 / 25	3	Standard	05
1¼	Standard	20 / 25	3½	Standard Plus	05
	Heavy	15 / 15		Heavy	05
	Super Heavy (optional)	15		Super Heavy	05
1½	Standard	20 / 25		4	Standard
	Heavy	15 / 15	4	Standard Plus	03
	Super Heavy (optional)	15		Heavy	03
2	Crystal	15		5	Super Heavy
	Standard	15	Standard		03
	Heavy	10	Standard Plus		01
	Super Heavy	10	Heavy		01
2¼	Heavy Plus	07	6	Standard Plus	01
2½	Standard	10		Heavy	01
	Standard Plus	07		Super Heavy	01
	Heavy	07		Heavy	01
	Super Heavy	05			

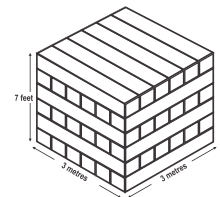
Chart: 8

## Proper handling of pipes

On receiving the pipes please check and inspect for any forms of transport damage due to shift in loads or improper handling/treatment. Visually examine the ends of pipes for any cracks or damage. Do not throw or drop the pipes to the floor. Do not drag or push the pipes from the truck bed. Contact of the pipes from any sharp object should be totally avoided.

## Storage of pipes

- The pipes should preferably be stored indoors. When this is not possible please ensure that the bundles are covered to prevent exposure to sunlight, and to reduce the effect of UV rays.
- Maximum stacking height of pipes should be 7 feet.
- Place alternate layers of pipes at an angle of 90 degrees/perpendicular to each other, with the first layer in a square shape.
- The pipes are stored on level ground-free of any sharp objects
- If pipes of same diameter but different classes are being stacked together, place the thicker pipes below, i.e. Stack heavy pipes below standard pipes.
- The surface should be dry.



## Container details

Each length of bundle is 3.3 m. Therefore a maximum of three stacks of bundles can be laid out in a 40 feet container as depicted in the image. The remaining spaces is used to keep the various accessories (top/bottom adaptor, pump guard, jigs etc).

### 40 Feet high cube container

Container details	In metre	In feet
Length	11.765	38.6
Width	2.35	7.7
Height	2.4	7.9







# Important Tips

## PIPE AND PUMP SAFEGUARD AGAINST DRY RUNNING

- In places where the yield of water from the bore well is less, the pump starts running dry after sometime. It may lead to heating the connected Ashirvad Riser / Drop pipe. A correct assessment of bore yield should be done and a timer switch should be used so that pump shuts off automatically after a certain amount of preset time, and again starts automatically as per the setting of the timer. This will ensure that water is always present in the bore well and pump does not run in dry condition.
- During pump dry running the submersible pump gets heated up, and may damage the first connected Ashirvad Riser / Drop Pipe. Another way of handling pump dry running, is to use 3 metres of steel pipe in the bottom connected to the pump so that the heated pump is in contact with steel pipe, which in turn will dissipate the heat.
- The dry running condition may also be tackled by installing a hand-operated valve at the top of the bore well, and keeping it partially open, so as to limit the water flow.

**Note:** Whenever there is a dry running and pump over heating problem, there is a chance of deformation in the first pipe which is connected to the pump.

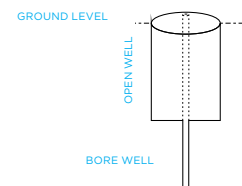
- In case any other pipe other than the first pipe bulges or deforms then it is clearly a case of wrong selection of pipes for the pump.
- In extreme cases, where pump is in dry running condition resulting in excess heat in the bottom most pipe and also in cases, where water is to be pumped at an elevated temperature, specific solutions may be obtained from the company.

## PREVENTION OF WATER HAMMER

- It is suggested out of experience to make a 3 mm hole in the pump NRV for deep bore wells of 500 feet and above. Due to this, water hammering will not take place in the bottom pipe at the time of pump stoppage and all the pipes will remain safe.
- A non return valve can also be installed at the Top pipe to prevent the water hammer. But when the non return valve is installed the hole in the pump NRV should not be made.

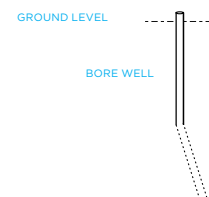
## IN-WELL BORE WELLS

In some cases inwell borewells may be required . Care is to be taken to minimise vibrations. It is suggested to use flexible pipes from the bottom of the open well.



## INCLINED BORE WELLS

Special precautions are to be taken in case of inclined bore wells. uPVC column pipes are generally not recommended for such applications.



# Pipe Selection

Standard	1", 1 - ¼", 1 - ½"	upto	100 mm Sub Pump
	2", 2 - ½" & 3"	upto	150 mm Sub Pump
	3", 4" & 5"	upto	200 mm Sub Pump
	4", 5"	upto	250 mm Sub Pump
Standard Plus	2½"	upto	150 mm Sub Pump
	3", 4" & 5"	upto	200 mm Sub Pump
	4" & 5"	upto	250 mm Sub Pump
Heavy	1 - ¼", 1 - ½", 2", 2 - ½"	upto	100 mm Sub Pump
Heavy Plus	2¼"	upto	150 mm Sub Pump
	3½"	upto	200 mm Sub Pump
Super Heavy	3", 4" & 5"	upto	200 mm Sub Pump
	4" & 5"	upto	250 mm Sub Pump

Chart: 9

## Selection of Pipes

The hydrostatic allowable pressure of the selected pipe should always be greater than pump delivery pressure. For every 33 ft or 10 meters in the column above the pump, there is pressure drop of 1 kg/cm<sup>2</sup>.

## Calculation Example

Pump delivery pressure 25 kg/cm<sup>2</sup>  
 Pipe size (Nominal Bore 50 mm) (2")  
 Standard pipe allowable pressure = 20 kg/cm<sup>2</sup>  
 Heavy pipe allowable pressure = 27 kg/cm<sup>2</sup>  
 (more than 25 kg/cm<sup>2</sup> pump pressure)

As per Technical Chart: 1

Therefore pipe to be selected is heavy pipe, not standard.  
**Note:** The pump delivery pressure will always remain 25 kg/cm<sup>2</sup> at the pump discharge point, irrespective of the depth of installation. Therefore, irrespective of the depth of installation, this pump require heavy pipes.

Pump Delivery Pressure: This is the max. delivery head of the pump. In the pump performance chart, the value of head at which delivery becomes nil (zero) is the max. head in metres. 10 metres of head is equivalent to 1 Kg/cm<sup>2</sup>. Sometimes the delivery head per stage of pump is not mentioned. In this case, the factor is to be multiplied with total stage to arrive at the max. pump delivery head.

# Installation Guide

## Step 1:

Join the bottom adaptor with submersible pump with the help of a chain wrench.

## Step 2:

Before joining the pipes, ensure to clean the threads with clean water.

## Step 3:

Before joining the pipes, ensure that the pump guard is installed properly.

## Step 4:

Before opening or joining the pipe/adaptor ensure to hold the coupling by hand.

## Step 5a/5b:

Tighten pipe with hand till half rubber ring is seen. Finally if required, give a last jerk with a belt wrench.

## Step 6:

At the time of lowering Ashirvad pipes, place the clamp below the coupler. Clamp the top adaptor with the last pipe.

## Step 7:

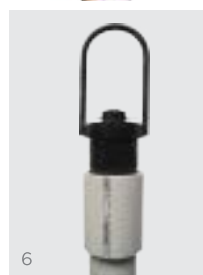
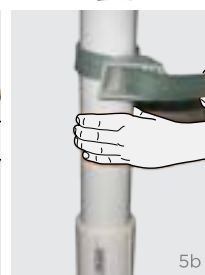
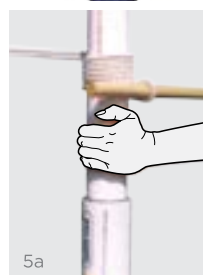
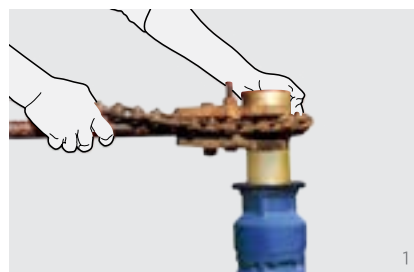
Lower the pipes with the help of chain pulley.

## SAFETY PRECAUTION:-

We strongly recommend our customers not to apply grease on the square thread pipe joints, while fastening two column pipes together. Grease / vegetable oil is not compatible with Ashirvad uPVC column pipe. Grease is a semisolid lubricant. In general grease consists of a soap emulsified with mineral or vegetable oil.

The degree of chemical attack on any material is influenced by a number of variable factors including concentration of the chemical, temperature, aeration, duration of exposure, stability of the fluid and possible chemical reactions with other compounds in the area.

Use pure water or soap water (soaps are called toilet soaps, used for hand washing) for column pipe fastening.





CNC 94



OPERATION INSTRUCTIONS  
CNC 94  
1. Check the workpiece is correctly mounted.  
2. Verify the tool is correctly installed.  
3. Start the machine and check the operation.  
4. Stop the machine if any abnormality occurs.  
5. Do not touch the workpiece or the tool during operation.





# Accessories - Top and Bottom Adaptors/Connectors

Ashirvad Pipes also supplies Ashirvad marked bottom and top adaptors for fitment with Drop / Riser Pipes. Bottom adaptors are available in cast iron and stainless steel for connecting the bottom pipe with the submersible pump. Top adaptors are available in MS, CI and SS. Our threads are in 11 TPI. Bottom thread of the bottom adaptor and Top thread of the Top adaptor are 11 TPI.

However, for customization of these threads, please refer the drawings.

**Note:** Different length accessories is required for 2" to 6" Standard Plus, Heavy and Super Heavy as compared to standard pipes due to longer thread lengths.

## TOP ADAPTORS / CONNECTORS

Top adaptors are available in MS Seamless / Cast iron / Stainless Steel and are used to connect the Riser / Drop top pipe with bend fitting.



**CI top ordinary without flange**  
 Sizes: 1", 1¼", 1½", 2", 2½",  
 3" & 3" long  
 Length: 140 mm - 251 mm



**CI top with flange single clamp**  
 Sizes: 1", 1¼", 1½", 2", 2½",  
 3", 4"  
 Length: 140 mm - 143 mm



**With flange and double coupling length**  
 Sizes: 1", 1¼", 1½", 2", 2½",  
 3", 4", 5"  
 Length: 236 mm - 312 mm



**MS top double clamp 1.5 times**  
 Sizes: 1¼", 1½"  
 Length: 255 mm



**Reducing bottom type**  
 Sizes: 1¼" x 1", 1½" x 1¼",  
 1½" x 1", 2" x 1½",  
 2½" x 2¼", 2½" x 2",  
 3" x 2½", 4" x 3", 5" x 4"  
 Length: 107 mm - 178 mm



**Expander**  
 Sizes: 1" x 1¼", 1¼" x 1 1/2",  
 1½" x 2", 2" x 2 1/2",  
 2½" x 3", 3" x 4", 4" x 5"  
 Length: 158 mm - 213 mm

## BOTTOM ADAPTORS / CONNECTORS

### Without flange

Sizes: 1", 1¼", 1½", 2", 2½",  
 3", 4", 5"  
 Length: 156 mm - 256 mm



### SS Bottom 1.5 times

Sizes: 1¼", 1½"  
 Length: 183 mm



**Note:** During every removal of pump for maintenance, both top and bottom adaptors should be carefully checked for corrosion, rusting etc. and if found unsuitable, should be replaced immediately.

Bottom adaptors are available in Cast Iron / Stainless Steel and are used to connect the bottom pipe with the pump.



# Accessories - Jigs and Fixtures

## JIGS

Inner and outer jigs are used for extraction of pump from bore well incase of bore well collapse or pump jamming due to boulders, small pieces of stones etc. These jigs have been designed by Ashirvad Pipes to help retrieve the pump out of the bore well in difficult conditions.



## INNER JIG

Sizes : 1", 1¼", 1½", 2", 2½", 3", 4"



## OUTER JIG

Sizes: 1¼", 1½", 2", 2½", 3", 4"

## FIXTURES

A lowering fixture has been developed by Ashirvad Pipes for lowering or extracting the Riser / Drop pipes from Borewell. The fixtures are from 1" to 6" size to be tightened on the coupler side.



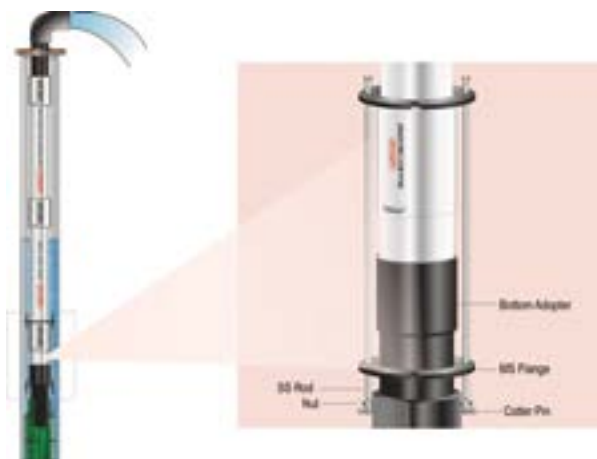
## LOWERING FIXTURE

Sizes: 1", 1¼", 1½", 2", 2½", 3", 4", 5", 6"

## Pump Guard

A pump guard is used between the bottom pipe and bottom adaptors, and is recommended for areas with excessive pump vibration due to sand pumping, sub standard pumps and other local conditions. Photographs of pump guard is shown here below.

ASSEMBLY PHOTO OF BOTTOM ADAPTOR PUMP GUARD AND PIPE.




# ADAPTORS


Medium / Crystal / Standard / Standard Plus / Heavy / Heavy Plus

## TOP ADAPTORS - HSN CODE: 7307


CI Top without Flange

	Size (inch)	Part No.
	1	3811001
	1¼	3811002
	1½	3811003
	2	3811004
	2½	3811005
	3	3811006


CI Top with Flange Single Clamp

	Size (inch)	Part No.
	1	3811101
	1¼	3811102
	1½	3811103
	2	3811104
	2½	3811105
	3	3811106
	4	3811107


CI Top with Flange Double Clamp

	Size (inch)	Part No.
	1	3811201
	1¼	3811202
	1½	3811203
	2	3811204
	2½	3811205
	3	3811206
	4	3811207
	5	3811208


SS Top with Flange Double Clamp

	Size (inch)	Part No. (Manufacturing)	Part No. (Trading)
	1	2192011	3812011
	1¼	2192012	3812012
	1½	2192013	3812013
	2	2192014	3812014
	2½	2192015	3812015
	3	2192016	3812016
	4	2192017	3812017
	5	2192018	3812018


Expander MS Top (Super heavy)

	Size (inch)	Part No.	Part No.
	2¼ - 2½	2193100	3813100
	3½ - 4	2193101	3813101
	-	-	-

CI Bottom Long


	Size (inch)	Part No.
	2	3816104
	2½	3816105
	3	3816106
	4	3816107

CI Bottom


	Size (inch)	Part No.
	1	3816001
	1¼	3816002
	1½	3816003
	2	3816004
	2½	3816005
	3	3816006
	4	3816007
	5	3816008

## BOTTOM ADAPTORS - HSN CODE: 7307


CI Bottom with Flange

	Size (inch)	Part No.
	1	3816201
	1¼	3816202
	1½	3816203
	2	3816204
	2½	3816205


SS Bottom

	Size (inch)	Part No.
	1	2195001
	1¼	2195002
	1½	2195003
	2	2195004
	2½	2195005
	3	2195006
	4	2195007
	5	2194009


Reducer Bottom

	Size (inch)	Part No.
	1¼ - 1	3819001
	1½ - 1	3819002
	1½ - 1¼	3819003
	2 - 1½	3819004
	2½ - 2	3819005
	3 - 2½	3819006
	4 - 3	3819007
	5 - 4	3819008


Expander Bottom

	Size (inch)	Part No.
	1 - 1¼	3819101
	1¼ - 1½	3819102
	1½ - 2	3819103
	2 - 2½	3819104
	2½ - 3	3819105
	3 - 4	3819106
	4 - 5	3819107

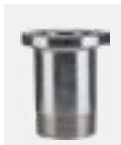
Expander SS Bottom

	Size (inch)	Part No.
	1¼ - 1½	2199112
	1½ - 2	2199113
	2 - 2½	2199114


Expander SS Bottom (Super heavy)

	Size (inch)	Part No. (M)	Part No. (T)
	1¼ - 1½	2194012 (M)	3814100 (T)
	-	-	-
	-	-	-

SS Reducer Bottom (Super heavy)


	Size (inch)	Part No. (M)	Part No. (T)
	2½ - 2¼	2199300 (M)	3819300 (T)
	4 - 3½	2199301 (M)	3819301 (T)
	-	-	-

SS Reducer Bottom


	Size (inch)	Part No.
	1¼ - 1	2195009
	1½ - 1¼	2195010
	2 - 1½	2195011

**ACCESSORIES** - HSN CODE: 7307


Inner Jig

	Size	Part No.
	1	3817001
	1¼	3817002
	1½	3817003
	2	3817004
	2½	3817005
	3	3817006
	4	3817007


Outer Jig

	Size	Part No.
	1¼	3817102
	1½	3817103
	2	3817104
	2½	3817105
	3	3817106


Lowering Jig

	Size	Part No.
	1	3717201
	1¼	3817202
	1½	3817203
	2	3817204
	2½	3817205
	3	3817206
	4	3817207


Belt

	Size	Part No.
	-	3810108
	-	-

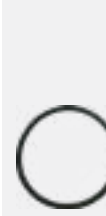
Wrench

	Size	Part No.
	-	3810109
	-	-


Multi Seal Ring / Gaskets - HSN CODE: 4016

	Size (inch)	Part No.	Part No.
		Multi Seal Ring	Gaskets
	1	1410078	3810001
	1¼	1410079	3810002
	1½	1410080	3810003
	2	1410081	3810004
	2¼	1410090	-
	2½	1410082	3810005
	3	1410083	3810006
	4	1410084	3810007
	5	1410085	-
	6	1410095	-


Multi Seal Ring / Gaskets (Super heavy)

	Size (inch)	Part No.
		Multi Seal Ring
	1¼	1410087
	1½	1410088
	2	1410089
	2½	1410091


Pump Guard Set - MS Flange - HSN CODE: 7307

	Size (inch)	Part No.
	1	3818101
	1¼	3818102
	1½	3818103
	2	3818104
	2½	3818105
	3	3818106
	4	3818107
	5	3818108


Pump Guard Set - SS Flange

	Size	Part No.
	1	3818111
	1¼	3818112
	1½	3818113
	2	3818124
	2½	3818125
	3	3818126
	4	3818127
	5	3818128

Pump Guard Set - SS Rod


	Size	Part No.
	1	3810101
	1¼	3810101
	1½	3810101
	2	3810102
	2½	3810102
	3	3810102
	4	3810103
	5	3810113

Pump Guard Set - PVC Small Piece


	Size	Part No.
	1	2110001
	1¼	2110002
	1½	2110003
	2	2110004
	2½	2110005
	3	2110006
	4	2110007
	5	2110008

## SUPER HEAVY ADAPTORS & ACCESSORIES - HSN CODE: 7307


### Super Heavy - MS Top

	Size	Part No.	Part No.
	(inch)	(Manufacturing)	(Trading)
	1/4	2193102	3813102
	1/2	2193103	3813103
	2	2193104	3813104
	2 1/2	2193105	3813105
	3	2193106	3813106
	4	2193207	3813207
	5	2193208	3813208
	6	2193209	3813209


### Super Heavy - SS Top

	Size	Part No.	Part No.
	(inch)	(Manufacturing)	(Trading)
	2	2192104	3812104
	2 1/2	2192105	3812105
	3	2192106	3812106
	4	2192207	3812207
	5	2192208	3812208
	6	2192209	3812209


### Super Heavy - SS Bottom

	Size	Part No.	Part No.
	(inch)	(Manufacturing)	(Trading)
	1/4	2194102	3814102
	1/2	2194103	3814103
	2	2194104	3814104
	2 1/2	2194105	3814105
	3	2194106	3814106
	4	2194207	3814207
	5	2194208	3814208
	6	2194209	3814209

### Super Heavy - SS Rod & SS Flange

	SS Rod		SS Flange	
	Size	Part No.	Part No.	Part No.
	1/4	3810111	3818122	
	1/2	3810112	3818123	
	2	3810104	3818124	
	2 1/4	3810104	3818130	
	2 1/2	3810104	3818125	
	3	3810104	3818126	
	4	3810105	3818127	
	5	3810107	3818128	

### Super Heavy - PVC Small Piece - HSN CODE: 3917

	Size	Part No.
	(inch)	(Manufacturing)
	1/4	2110102
	1/2	2110103
	2	2110104
	2 1/4	2110100
	2 1/2	2110105
	3	2110106
	4	2110107
	5	2110108

# Wide Range to Suit Different Pump Delivery Heads

Technical Details	Pipe Size	(1")	(1¼")	(1½")	(2")	(2½")	(3")	(4")	(5")	(6")
		OD: 33mm	OD: 42mm	OD: 48mm	OD: 60mm	OD: 75mm	OD: 88mm	OD: 113mm	OD: 140mm	OD: 165mm
		ND: 25mm	ND: 32mm	ND: 40mm	ND: 50mm	ND: 65mm	ND: 80mm	ND: 100mm	ND: 125mm	ND: 150mm
Safe Total Pump Delivery Head (m)	V4 - 15	150	150	150	-	-	-	-	-	-
	Crystal	210	210	210	170	-	-	-	-	-
	Standard	300	250	260	200	160	170	150	160	-
	Standard Plus	-	-	-	-	210	210	210	210	-
	Heavy	-	350	350	270	260	260	260	260	260
	Super Heavy	-	400	400	350	350	350	350	350	-

Technical Details	Pipe Size	(1")	(1¼")	(1½")	(2")	(2½")	(3")	(4")	(5")	(6")
		OD: 33mm	OD: 42mm	OD: 48mm	OD: 60mm	OD: 75mm	OD: 88mm	OD: 113mm	OD: 140mm	OD: 165mm
		ND: 25mm	ND: 32mm	ND: 40mm	ND: 50mm	ND: 65mm	ND: 80mm	ND: 100mm	ND: 125mm	ND: 150mm
Safe Allowable Hydrostatic Pressure (kg/cm <sup>2</sup> )	V4 - 15	15	15	15	-	-	-	-	-	-
	Crystal	21	21	21	17	-	-	-	-	-
	Standard	30	25	26	20	16	17	15	16	-
	Standard Plus	-	-	-	-	21	21	21	21	-
	Heavy	-	35	35	27	26	26	26	26	26
	Super Heavy	-	40	40	35	35	35	35	35	-

# Frequently Asked Questions

## 1. Why only Ashirvad uPVC Drop / Riser pipes?

Ashirvad Pipes is an ISO 9001-2008 company accredited by a leading quality registrar. It has innovated and developed several new products to suit the customer's requirements and these products are well accepted across the country. Ashirvad has a well developed distributor, dealer and service network in India and in several countries worldwide.

## 2. What are the benefits of uPVC pipes over steel / GI pipes?

Savings on (a) Cost of pipes (b) Handling time (c) Power (d) Water discharge upto 30% higher (e) Working life of pipes is much more (f) Zero maintenance.

## 3. How does it affect on the quantity and quality of water?

Due to smooth internal surface, friction is low and therefore we get more water. Over a period of use, the steel pipes get corroded, rusted and the water quality deteriorates. In Ashirvad uPVC pipes, since there is no corrosion or rust throughout the depth of column pipe, the water quality remains good.

## 4. Can we compare the strength of uPVC pipes with a steel pipe?

The specific gravity of uPVC is 1.4-1.45 gm/cm<sup>3</sup> where as that as steel has 8 gm / cm<sup>3</sup>. Taking the strength of the material into consideration, the pipes are optimally designed to make them light without any compromise in their strength requirements.

## 5. Can uPVC pipes take load of the pump?

Ashirvad Drop / Riser pipes are designed to hold several times the weight of entire column filled with water and pump assembly. All type of pumps of different sizes have been considered and the Ashirvad Drop / Riser pipes are made accordingly in the class of V4-12.5, V4-15, Crystal, Standard, Standard Plus, Heavy and Super Heavy.

## 6. Up to what depth can the pipes be lowered?

The pipes may be used after careful selection based on pump delivery head and maximum allowable pressure in the pipes. The depth of the bore well may differ from place to place depending upon the water level in the bore well. Ashirvad offers a range of pipes to suit the

customer's requirement of various depths and they have been successfully used up till 1200 ft. Proper selection of Ashirvad pipes can be made for various depth application after a careful study of the pump pressure and the technical booklet.

## 7. Does Drop / Riser pipes need full casing in the bore?

These pipes give the best service in borewells which have full casing or borewells which are free from loose boulders and stones. In such areas where loose boulders and stones are prevalent then full casing or slightly larger bore should be made so that the pump does not get stuck. Bore collapse problem occurs in some areas and it can be tackled by giving full casing pipes. This happens in areas with loose soil and silt. Care should be taken during drilling of the borewell so that it is vertically down without any bend.

## 8. What should be the bore size with respect to the outside diameter of the pump?

For bore wells without casing pipe, specially in areas with loose boulders present in the bore, it is suggested that the borewell size should be minimum 2" more than the pump outer diameter. This is to prevent pump getting stuck up due to small boulders. For borewells with casing, a minimum gap of 1½" between the Casing internal diameter and pump outer diameter is required.

## 9. How to choose from a range of pipes offered?

Right selection of pipes can be made after consulting technical leaflets on the basis of pump and pipe discharge pressure.

## 10. Why is there a variation in thickness of the pipes?

The pipe thickness of the barrel has been designed by taking the pump weight, water column weight and pump delivery pressure into consideration. The end of the pipes are made thicker so that even after making the threads and removal of material the same barrel thickness remains under the threads so that the strength of pipe can be maintained equal in end and barrel.

## 11. Are the pipes breakable?

The pipes do not break under normal handling conditions.

**12. What happens if a bore collapses?**

The pump and the pipes can be pulled out only in cases where the pump can be pulled out by applying a force within the ultimate breaking strength of the pipe as mentioned in the chart. Normally the strength is adequate. In case of severe bore collapse and boulder problems even steel pipes cannot be retrieved from the bore.

**13. What about after sales service?**

Specially trained and fully equipped dealers are capable of providing all types of service support at both national and international level.

**14. Is tripod required for lowering?**

Yes, tripod is required specifically with Riser / Drop pipes in the installation of V6 and V8 pump sets, considering the heavy load requirements. However it is important to note that handling of uPVC pipes is much simpler in comparison to steel pipes.

**15. How to tighten the pipes?**

The pipe is tightened on the principle of screw system. Tighten the pipe with hand and rope (holding the coupler) so that the rubber seal fully enters in to the coupling pipe. Pictures of installation appear in page no. 14.

**16. Any adhesives required during joining of pipes?**

No solvent or adhesive required.

**17. Do we need extra rope to hold the pipes?**

No rope is required. Pipe has adequate strength.

**18. Can we cut the pipes?**

No, pipes cannot be cut for short length requirement. Special request has to be made to the company. The company does however stock shorter length of 1.5 M of few standard running sizes, which can be made available on demand.

**19. Can we re-thread the pipes?**

Under normal use, re-threading of pipe will not be required. Special threads cannot be made at site.

**20. Can metal pipe join with uPVC pipe?**

Metal pipe can be connected with the uPVC only with use of Ashirvad marked adaptors due to different threads.

**21. Can we use any other metal adaptors?**

The quality of Ashirvad adaptors are carefully checked in the lab for (a) Value of hardness (b) Quality of casting (c) Blow holes and other casting defects (d) Thickness (e) Properly designed threads.

Hence, it is suggested that only accessories supplied by Ashirvad should be used.

**22. Why to use a pump guard?**

Areas with a excessive sand pumping or defective unbalanced pump results in excessive vibration in the bottom which may lead to pipe breakage near the adaptor. Pump guard has been designed to be used in these type of areas and problems so that even after breakage of Riser / Drop pipes the pumps can be easily retrievable.

**23. How to select a top adaptor?**

Top adaptors with flange are generally used in deep bore wells so that the flange on top may be used as a support to hold the column. With even higher depths and bigger pump assembly, top adaptor flange type with double coupling length may be used so that two pipe clamps may be used on top to support the column load. For low depth bore well top adaptor without flange may also be used.

**24. What makes Ashirvad column pipes the first choice?**

Ashirvad has more than 40 years of expertise in the field of PVC pipe processing. The team of Ashirvad comprises of a fully dedicated engineering department to cater to the technical needs of the product. This product has been conceived, designed, developed and marketed for the first time by Ashirvad in the world. Ashirvad understands the customer requirements and converts them into products, which have proven track record and mass acceptance all over the country.

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