



# DIVERSE RANGE OF PRODUCTS FOR DRAINAGE & SEWERAGE APPLICATIONS

## PRODUCT CATALOGUE

**ASTRAL DRAINMASTER**  
SUPERIOR SWR DRAINAGE SYSTEM

**Foamcore**  
PVC PIPE  
FOR DWV & UNDERGROUND SYSTEMS

**ASTRAL SILENCIO**  
High Density Low Noise System

**D-REX**

**UNDERGROUND**  
DRAINAGE SYSTEMS

**ASTRAL DRAIN HULK**

**hauraton**



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ASTRAL TOLL FREE  
**1800 233 7957**  
Please get in touch with us  
between 10 a.m. to 6 p.m.

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**1<sup>st</sup> TO  
INTRODUCE  
CPVC  
IN INDIA**

**1<sup>st</sup> TO  
INTRODUCE  
UPVC LEAD  
FREE PIPES  
IN INDIA**

**1<sup>st</sup> TO  
INTRODUCE  
LOW NOISE  
PP DRAINAGE  
PIPES IN INDIA**

**1<sup>st</sup> TO  
INTRODUCE  
FOAMED PVC  
DRAINAGE  
PIPES IN INDIA**



**1<sup>st</sup> TO  
INTRODUCE  
LEAD FREE  
COLUMN PIPES  
IN INDIA**

**1<sup>st</sup> TO  
INTRODUCE  
POLYMER BASED  
INDUSTRIAL  
PIPING SYSTEM  
IN INDIA**

**1<sup>st</sup> TO  
INTRODUCE  
NSF APPROVED  
SOLVENT  
CEMENT  
IN INDIA**

**1<sup>st</sup> TO  
INTRODUCE  
CPVC PIPING FOR  
AUTOMATIC  
FIRE SPRINKLER  
SYSTEM IN INDIA**

# ASTRAL, INDIA'S PROGRESSIVE PIPE COMPANY

Established in 1996 with the aim to manufacture best-in-globe plastic piping systems, Astral Pipes fulfils emerging piping needs of millions of houses and adds extra mileage to India's developing real estate fraternity with the hallmark of unbeaten quality and innovative piping solutions. Keeping itself ahead of the technology curve, Astral has always been a front runner in the piping category by bringing innovation and getting rid of old, primitive and ineffective plumbing methods. Bringing CPVC in India, and pioneering in this technology, have set Astral apart and its highest quality enabled it to obtain NSF approval for its CPVC pipes and fittings. Astral went beyond the category codes by launching many industry firsts, like launching India's first lead-free uPVC pipes for plumbing as well as for stream water, just to name a few.

Astral Pipes offers the widest product range across this category when it comes to product applications. Astral Pipes is equipped with production facilities at Santej and Dholka in Gujarat, Hosur in Tamil Nadu, Ghiloth in Rajasthan and Sangli in Maharashtra to manufacture plumbing systems, drainage systems, agriculture systems, fire sprinkler piping systems, industrial piping and electrical conduit pipes with all kinds of necessary fittings.

Astral Pipes has recently acquired Rex Polyextrusion Pvt. Ltd., which further enables it to expand its product range in terms of offerings like corrugated piping for drainage and cables, polyolefin cable channels, sewage treatment plants, plastic sheathing ducts, suction hoses, and sub-surface drainage systems. This range helps Astral to establish a strong foothold in infrastructure and agriculture sector in the constantly evolving business of piping.

In 2014, Astral forayed into the adhesives category by acquiring UK-based Seal It Services Ltd. and Kanpur based Resinova Chemie Ltd., which manufacture adhesives, sealants and construction chemicals. With five manufacturing facilities now in this business segment, Astral has strengthened its presence in the category and made rapid inroads.

## PIPING

**ADHESIVES**

ANAEROBIC ADHESIVES  
**SILICONE SEALANTS**  
 CONSTRUCTION CHEMICALS  
 PVA **CYANOACRYLATE**  
 SOLVENT CEMENTS TAPES  
 POLYMERIC FILLING COMPOUND  
**EPOXY ADHESIVES  
& PUTTY**  
 INDUSTRIAL ADHESIVES

**AGRICULTURE  
DRAINAGE INDUSTRIAL  
PLUMBING  
FIRE PROTECTION  
CONDUIT  
ANCILLARY**



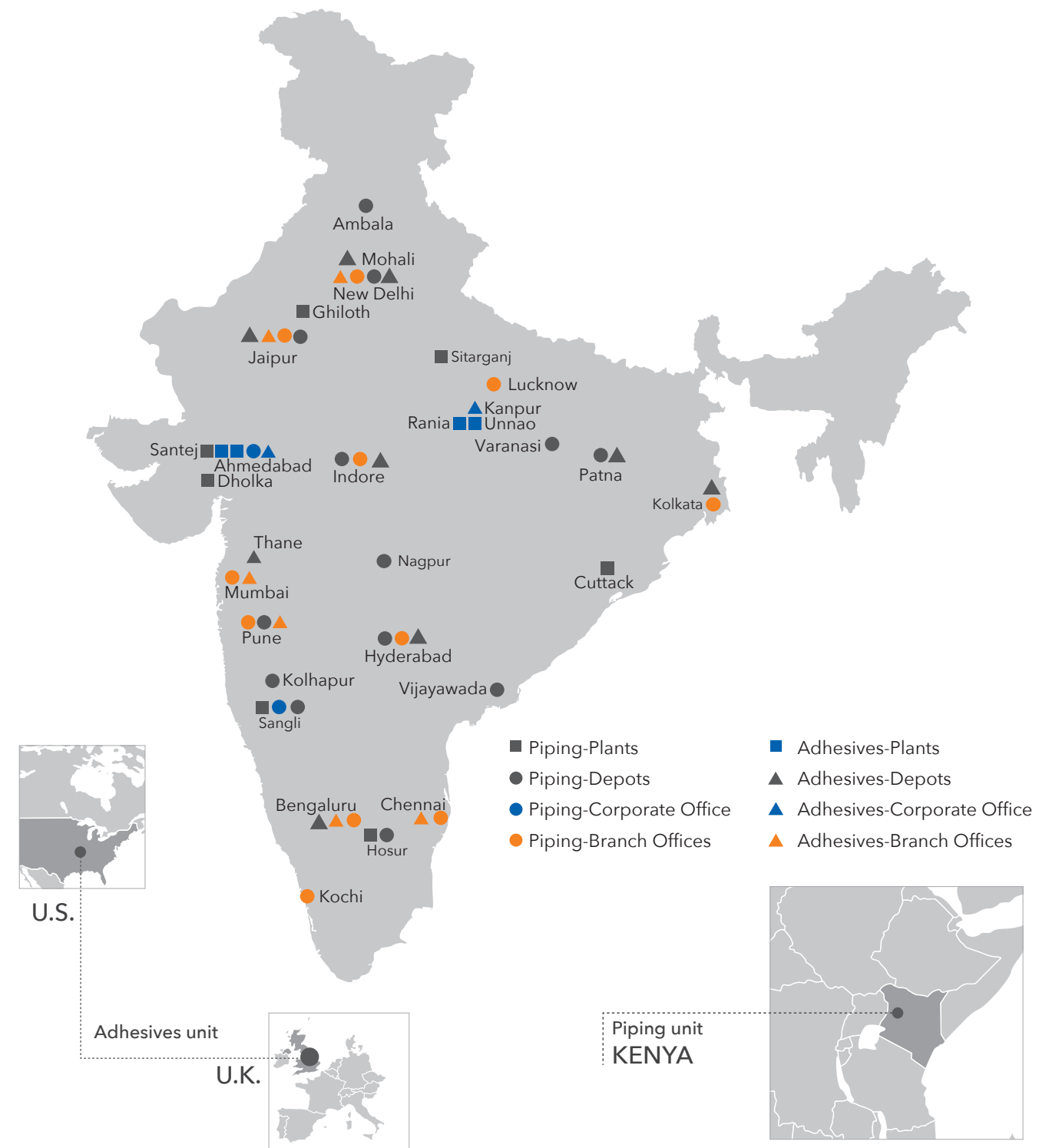
## INNOVATION & RECOGNITIONS

- First to introduce CPVC piping system in India (1999)
- First to launch lead free uPVC piping system in India (2004)
- Corp Excel- National SME Excellence Award (2006)
- First to get NSF Certification for CPVC piping system in India (2007)
- First to launch lead-free uPVC column pipes in India (2012)
- Enterprising Entrepreneur of the year (2012-13)
- Business Standard Star SME of the year (2013)
- Inc. India Innovative 100 for Smart Innovation under category of 'Technology'(2013)
- India's Most Promising Brand Award (2014)
- Value Creator Award during the first ever Fortune India Next 500 (2015)
- India's Most Trusted Brand Award (2015)
- India's Most Trusted Pipe Brand Award (2016)
- ET Inspiring Business Leaders of India Award (2016)
- India's Most Attractive Pipe Brand Award (2016)
- Fortune India 500 Company (2016)
- Consumer Validated Superbrands India (2017)

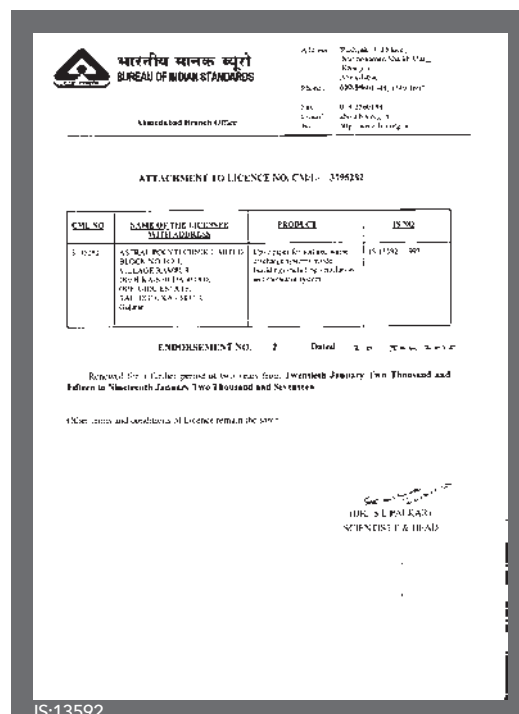


## MARKETING NETWORK

ASTRAL has a marketing network of more than 800 distributors and 30,000 dealers spread all over India with branch offices at Mumbai, Pune, Delhi, Bengaluru, Chennai, Hyderabad, Jaipur, Lucknow and Kochi. Apart from that ASTRAL has its own warehouses at Bengaluru, Vijaywada, Hyderabad, Delhi, Ghaziabad, Kolhapur, Pune, Nagpur, Indore, Varanasi, Jaipur & Hosur to deliver the material as quick as possible. More than 400 techno marketing professionals and administrative personnel are on the board to coordinate with architects, plumbing contractors and plumbers to utilize the best plumbing techniques and to get the best from the products.



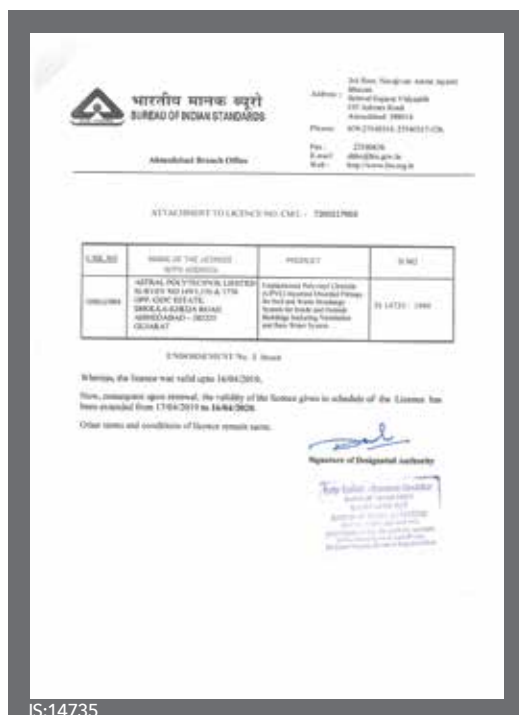
# QUALITY APPROVALS & CERTIFICATIONS



IS:13592



IS:16098 (Pt-1)



IS:14735

Astral regularly tests the finished products by checking its resistance to impact and pressure as well as other ASTM or DIN tests. In addition, we regularly test pipes, randomly selected from the market place. Various testing methods like OD/ID (Dimension) checking, Flattening, Burst pressure, Drop Impact, Heat Reversion etc. are carried out at regular intervals to keep quality very high. In order to deliver consistent high quality pipes and fittings to end users, Astral has a Quality Assurance Program. This Quality Assurance Program intends quality levels to exceed the requirements of ASTM and other industrial standards. The program also includes regular visits of partners from USA to upgrade and to implement Quality Assurance Plan effectively.



## ABOUT **ASTRAL** **DRAINMASTER**<sup>®</sup> SUPERIOR SWR DRAINAGE SYSTEM

Astral Drainmaster offers two separate joining systems: Push-fit and Selfit joining methods, where using Push-fit system, pipe and fittings are joined together by simple pushing the spigot into socket end. The spigot end is held firmly in the socket by reinforced pre-fitted rubber ring provided in the groove. Thus it ensures leak-proof joints which can withstand high pressure and it also prevent choking. Since the joints are not fixed by the usage of solvent cements, it can be reopened later for the purpose of realignment or adjustment of pipes / fittings.

Selfit system operates on pipes socketed on automatic socketed machines with self socket length. Such pipes are to be joined with solvent cements.

Astral DrainMaster<sup>®</sup> pipes and fittings are manufactured from virgin raw material and they are tested for correct thickness and dimensional accuracy, randomly and batch wise in our most modern quality assurance laboratory.

# ABOUT DRAINMASTER

## PROFILE

Astral DrainMaster® is a uPVC conventional drainage system for soil, waste and rain water. This system enables fast and efficient removal of waste without blockage and leakage. Its high impact strength, chemical and corrosion resistance. Long life and virtually zero maintenance have made Astral DrainMaster system a preferred drainage and rain water system among architects, builders and plumbing contractors. Astral DrainMaster is manufactured using state of the art equipments and virgin raw material used to produced Astral DrainMaster SWR system. The system is available from 75mm to 160mm. the entire range is manufactured as per internationally accepted quality standards and specifications.

## APPLICATIONS

Astral DrainMaster drainage system can be used in houses, offices, hotels, commercial complex, industries, hospitals as well as at airports, railway stations, stadiums, theaters etc. for waste discharge, ventilation and rain water management.

## ADVANTAGES

Specially designed Astral DrainMaster drainage system offers numerous advantages over conventional drainage systems. A large supply chain of of dealers, distributors and field staff of Astral Pipes ensures all-round support and supply.

## AVAILABLE SIZE

75mm, 90mm, 110mm & 160mm



# KEY PROPERTIES

## **STRONGER, RESILIENT & LIGHT WEIGHT**

Astral DrainMaster system is highly resilient and tough with good mechanical strength and high impact resistance. At the same time this system is very light in weight which provides benefits like easy transportation, installation and long service life.

## **CORROSION RESISTANCE**

The inert nature of Astral DrainMaster uPVC drainage system provides complete corrosion resistance and renders wrapping, coating and lining unnecessary. It also ensures that uPVC sewer and drainage pipes have long operational life compared to conventional asbestos or cast iron systems.

## **NON CONDUCTIVE**

Astral DrainMaster uPVC drainage system is a non-conductor of electricity, and is therefore not subject to galvanic or electrolytic action.

## **CHEMICAL RESISTANCE**

Astral DrainMaster uPVC drainage system is inert to most of the acids, alkalis, effluents, salts, minerals and aggressive soils. The system remains unaffected by transportation of such type of substances and gives longer life with trouble free service.

## **FLAMMABILITY**

Astral DrainMaster uPVC drainage system does not support combustion and is inherently difficult to ignite. It also stops burning once the source of heat is removed.

## **UV STABILIZED**

Astral DrainMaster uPVC drainage system is UV stabilized which gives protection to the system while being operational in direct sun light.

# KEY PROPERTIES

## HIGH FLOW RATES

Extremely smooth bores, precision joints and lack of internal projections ensure unrivaled hydraulic capacity over the total life of the system.

## QUICK & EASY INSTALLATIONS

Astral DrainMaster pipes and fittings can be joined together with rubber ring or solvent weld system. These techniques are very simple and ensure 100% leak proof system at a reduced installation time with lower maintenance.

## VERSATILE AND ELEGANT

The physical properties of PVC allow designers a high degree of freedom while designing with superb finished pipes and fittings.

## ECONOMICAL

Astral DrainMaster uPVC drainage system is more cost effective than any other conventional drainage systems available in market.

## ENVIRONMENTAL IMPACT

uPVC has a lower feedstock energy especially compared to other polymers and common building materials. It is the least energy intensive of all thermoplastics. In life cycle analysis and independent studies, PVC's environmental impact has been found most favorable, so the more usage of PVC will greatly help to keep our global natural resources intake for longer period of time. It does not pollute air, water or land during manufacturing or service life and can be recycled after prolonged service life.

# PIPES & FITTINGS

## DRAINMASTER PIPES

ASTRAL DRAINMASTER® ISI marked pipes are available in ringfit pipe with two different classes named as "TYPE A" & "TYPE B". TYPE A pipes are recommended for use in ventilation and rain water applications while TYPE B pipes are recommended for soil and waste discharge applications. Pipes are available in all sizes and in different lengths with single socket and double socket.

ASTRAL DRAINMASTER® Ringfit pipes are socketed on automatic online socketing machine with very high degree of accuracy. The socket has groove inside for yellow co-molded rubber ring. The yellow rubber ring ensures trouble free water tight joint with allowance to thermal expansion /contraction. One end of the pipe is plain and the other is self socketed with an integral groove to hold the rubber gasket. When joined with a yellow rubber ring, the joint formed is a trouble free, water tight one, ready to take care of thermal expansion / contraction.

**SIZES** 75mm, 90mm, 110mm, 160mm

**SELFIT PIPES** - (TYPE A & TYPE B) Selfit pipes are socketed on automatic socketing machine with self socket length (without groove). Such pipes are to be joined with solvent cement. One end of the pipe is plain and the other is self socketed on sophisticated automatic machines for high degree of accurate diameters. The pipes when joined using solvent cement, form a permanent water tight joint.

**SIZES** 75mm, 90mm, 110mm, 160mm

## DRAINMASTER FITTINGS

Astral DrainMaster ISI marked fittings are available in grooved ring type in full range starting from 75mm to 160mm.

**GROOVE D RING TYPE :** Astral DrainMaster Grooved ring type fittings are self socketed with groove to hold the yellow co-molded rubber ring. The grooves are made on highly accurate online socketing machines that give highest quality, performance and satisfaction.

**PASTING TYPE :** Pasting type fittings are self socketed on highly automatic machines. These fittings are to be joined with solvent cement.

IS:13592



\*Only those products bearing the above marks are certified.



IS:14735



\*Only those products bearing the above marks are certified.

NOMINAL DIAMETER		MEAN OUTSIDE DIAMETER (mm)		TYPE A WALL THICKNESS (mm)		TYPE B WALL THICKNESS (mm)	
(cm)	(mm)	Min.	Max	Min.	Max	Min.	Max
7.5	75	75.0	75.3	1.8	2.2	3.2	3.8
9.0	90	90.0	90.3	1.9	2.3	3.2	3.8
11.0	110	110.0	110.4	2.2	2.7	3.2	3.8
16.0	160	160.0	160.5	3.2	3.8	4.0	4.6

# TESTING REQUIREMENTS

Astral DrainMaster uPVC pipes & fittings are manufactured subject to strict and continuous control over raw materials, production, dimensions & identification. The rigorous testing and quality control throughout the entire process ensures that Astral DrainMasterSystem is highly reliable and efficient in working.

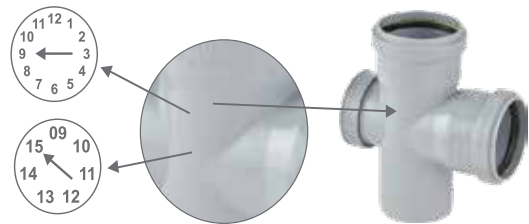


TESTING CONDUCTED			
<input checked="" type="checkbox"/> Raw Material	<input checked="" type="checkbox"/> Impact Strength	<input checked="" type="checkbox"/> Tensile Strength	<input checked="" type="checkbox"/> Resistance to Dichloromethane at Specific Temp.
<input checked="" type="checkbox"/> Dimensional & Visual Appearance	<input checked="" type="checkbox"/> Stress Relief	<input checked="" type="checkbox"/> Reversion	
<input checked="" type="checkbox"/> Axial Shrinkage	<input checked="" type="checkbox"/> Exposure to Sunlight	<input checked="" type="checkbox"/> Vicat Softening Temp.	<input checked="" type="checkbox"/> Access Opening
<input checked="" type="checkbox"/> Titanium Dioxide Content	<input checked="" type="checkbox"/> Resistance to H <sub>2</sub> SO <sub>4</sub>	<input checked="" type="checkbox"/> Water tightness of Joint	

THE ACCEPTANCE CRITERIA FOR TEST RESULTS OBTAINED ARE AS PER WIDELY ACCEPTED INTERNATIONAL AND NATIONAL STANDARDS.

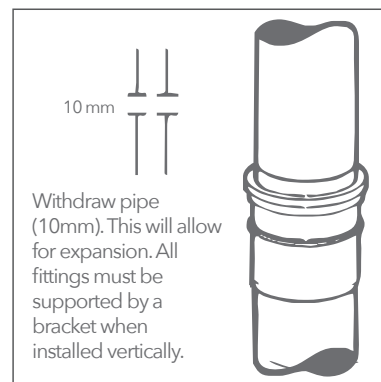
## UNIQUE IDENTIFICATION :

Each fitting is having unique identification known as "Clock". This system ensures 100% traceability to every production lot.



## THERMAL EXPANSION AND CONTRACTION :

Astral DrainMaster piping system will thermally expand & contract like any other thermoplastic material. The thermal expansion & contraction depends on the co-efficient of thermal expansion ( $5.4 \times 10^{-5}$  mm / mm /°C for PVC), length of piping and temperature difference encountered by the piping. Normally for drainage & sewerage system temperature difference of atmosphere will affect more to thermal movements of piping rather than effluent temperatures as full bore discharges are normally not happened for prolong time and also these discharges are periodic in nature. Still expansion & contraction issue needs to be addressed. For ringfit joining systems specially designed yellow co-molded rubber rings and proper joining of pipes and fittings will take care of length change. Please refer joining method section of this catalogue for more details.



# DRAINMASTER - RING FIT PIPE & FITTINGS



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
7.5	3 MTR S/S	M341110307	As Req.
7.5	6 MTR S/S	M341110607	As Req.
7.5	3 MTR D/S	M351110307	As Req.
7.5	6 MTR D/S	M351110607	As Req.
7.5	2 FT D/S	M351112207	As Req.
7.5	3 FT D/S	M351113307	As Req.
7.5	4 FT D/S	M351114407	As Req.
7.5	6 FT D/S	M351116607	As Req.
7.5	12 FT D/S	M351111207#	As Req.
7.5	2 FT S/S	M341112207	As Req.
7.5	3 FT S/S	M341113307	As Req.
7.5	4 FT S/S	M341114407	As Req.
7.5	6 FT S/S	M341116607	As Req.
7.5	12 FT S/S	M341111207#	As Req.



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M341110309	As Req.
11.0	6 MTR S/S	M341110609	As Req.
11.0	3 MTR D/S	M351110309	As Req.
11.0	6 MTR D/S	M351110609	As Req.
11.0	2 FT D/S	M351112209	As Req.
11.0	3 FT D/S	M351113309	As Req.
11.0	4 FT D/S	M351114409	As Req.
11.0	6 FT D/S	M351116609	As Req.
11.0	12 FT D/S	M351111209#	As Req.
11.0	2 FT S/S	M341112209	As Req.
11.0	3 FT S/S	M341113309	As Req.
11.0	4 FT S/S	M341114409	As Req.
11.0	6 FT S/S	M341116609	As Req.
11.0	12 FT S/S	M341111209#	As Req.



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
9.0	3 MTR S/S	M341110308	As Req.
9.0	6 MTR S/S	M341110608	As Req.
9.0	3 MTR D/S	M351110308	As Req.
9.0	6 MTR D/S	M351110608	As Req.
9.0	2 FT D/S	M351112208	As Req.
9.0	3 FT D/S	M351113308	As Req.
9.0	4 FT D/S	M351114408	As Req.
9.0	6 FT D/S	M351116608	As Req.
9.0	2 FT S/S	M341112208	As Req.
9.0	3 FT S/S	M341113308	As Req.
9.0	4 FT S/S	M341114408	As Req.
9.0	6 FT S/S	M341116608	As Req.



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
16.0	3 MTR S/S	M341110312	As Req.
16.0	6 MTR S/S	M341110612	As Req.
16.0	3 MTR D/S	M351110312	As Req.
16.0	6 MTR D/S	M351110612	As Req.
16.0	2 FT D/S	M351112212	As Req.
16.0	3 FT D/S	M351113312	As Req.
16.0	4 FT D/S	M351114412	As Req.
16.0	6 FT D/S	M351116612	As Req.
16.0	2 FT S/S	M341112212	As Req.
16.0	3 FT S/S	M341113312	As Req.
16.0	4 FT S/S	M341114412	As Req.
16.0	6 FT S/S	M341116612	As Req.

#Shortly introducing

# DRAINMASTER - RING FIT PIPE & FITTINGS



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
7.5	3 MTR S/S	M341120307	As Req.
7.5	6 MTR S/S	M341120607	As Req.
7.5	3 MTR D/S	M351120307	As Req.
7.5	6 MTR D/S	M351120607	As Req.
7.5	2 FT D/S	M351122207	As Req.
7.5	3 FT D/S	M351123307	As Req.
7.5	4 FT D/S	M351124407	As Req.
7.5	6 FT D/S	M351126607	As Req.
7.5	12 FT D/S	M351121207#	As Req.
7.5	2 FT S/S	M341122207	As Req.
7.5	3 FT S/S	M341123307	As Req.
7.5	4 FT S/S	M341124407	As Req.
7.5	6 FT S/S	M341126607	As Req.
7.5	12 FT S/S	M341121207#	As Req.



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
9.0	3 MTR S/S	M341120308	As Req.
9.0	6 MTR S/S	M341120608	As Req.
9.0	3 MTR D/S	M351120308	As Req.
9.0	6 MTR D/S	M351120608	As Req.
9.0	2 FT D/S	M351122208	As Req.
9.0	3 FT D/S	M351123308	As Req.
9.0	4 FT D/S	M351124408	As Req.
9.0	6 FT D/S	M351126608	As Req.
9.0	2 FT S/S	M341122208	As Req.
9.0	3 FT S/S	M341123308	As Req.
9.0	4 FT S/S	M341124408	As Req.
9.0	6 FT S/S	M341126608	As Req.



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M341120309	As Req.
11.0	6 MTR S/S	M341120609	As Req.
11.0	3 MTR D/S	M351120309	As Req.
11.0	6 MTR D/S	M351120609	As Req.
11.0	2 FT D/S	M351122209	As Req.
11.0	3 FT D/S	M351123309	As Req.
11.0	4 FT D/S	M351124409	As Req.
11.0	6 FT D/S	M351126609	As Req.
11.0	12 FT D/S	M351121209#	As Req.
11.0	2 FT S/S	M341122209	As Req.
11.0	3 FT S/S	M341123309	As Req.
11.0	4 FT S/S	M341124409	As Req.
11.0	6 FT S/S	M341126609	As Req.
11.0	12 FT S/S	M341121209#	As Req.



Size (cm)	Length Socket	Product Code	Std. Pkg. (Nos.)
16.0	3 MTR S/S	M341120312	As Req.
16.0	6 MTR S/S	M341120612	As Req.
16.0	3 MTR D/S	M351120312	As Req.
16.0	6 MTR D/S	M351120612	As Req.
16.0	2 FT D/S	M351122212	As Req.
16.0	3 FT D/S	M351123312	As Req.
16.0	4 FT D/S	M351124412	As Req.
16.0	6 FT D/S	M351126612	As Req.
16.0	2 FT S/S	M341122212	As Req.
16.0	3 FT S/S	M341123312	As Req.
16.0	4 FT S/S	M341124412	As Req.
16.0	6 FT S/S	M341126612	As Req.

# DRAINMASTER - RING FIT PIPE & FITTINGS



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001107	28
9.0	M342001108	33
11.0	M342001109	18
16.0	M342001112	06



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001207	40
9.0	M342001208	40
11.0	M342001209	24
16.0	M342001212	08



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001307	32
9.0	M342001308	32
11.0	M342001309	18
16.0	M342001312	06



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001407	28
11.0	M342001409	26



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001507	28
11.0	M342001509	26



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001607	42
9.0	M342001608	40
11.0	M342001609	30
16.0	M342001612	14

# DRAINMASTER - RING FIT PIPE & FITTINGS



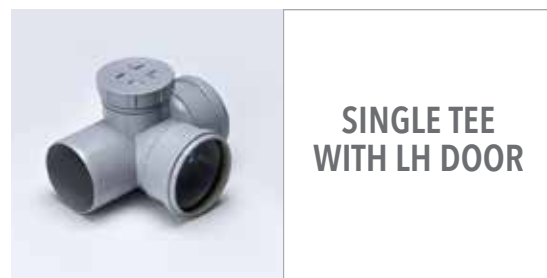
Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001707	42
11.0	M342001709	30



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342000707	30
11.0	M342000709	10



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342000807	19
11.0	M342000809	07



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342000507	30
11.0	M342000509	12



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342000107	40
9.0	M342000108	21
11.0	M342000109	14
16.0	M342000112	04



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342000207	33
9.0	M342000208	30
11.0	M342000209	13
16.0	M342000212	04



Size (cm)	Product Code	Std. Pkg. (Nos.)
9.0 x 7.5	M342000330	25
11.0 x 7.5	M342000329	18
16.0 x 7.5	M342000335	07
16.0 x 11.0	M342000331	06



Size (cm)	Product Code	Std. Pkg. (Nos.)
9.0 x 7.5	M342000430	23
11.0 x 7.5	M342000429	14
16.0 x 7.5	M342000435	06
16.0 x 11.0	M342000431	06



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342000607	30
11.0	M342000609	11



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342000907	35
11.0	M342000909	15



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342002507	28



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001007	30
11.0	M342001009	12



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342001907	32
9.0	M342001908	22
11.0	M342001909	12
16.0	M342001912	04



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342002007	29
9.0	M342002008	18
11.0	M342002009	09
16.0	M342002012	04

# DRAINMASTER - RING FIT PIPE & FITTINGS



**DOUBLE 'Y'**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342002307	24
11.0	M342002309	08



**DOUBLE 'Y' WITH DOOR**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342002407	18
11.0	M342002409	10



**REDUCER**

Size (cm)	Product Code	Std. Pkg. (Nos.)
9.0 x 7.5	M342001830	40
11.0 x 7.5	M342001829	44
11.0 x 9.0	M342001843	24
16.0 x 7.5	M342001835	14
16.0 x 11.0	M342001831	12



**REDUCER 'Y'**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 7.5	M342002129	18
16.0 x 7.5	M342002135	07
16.0 x 11.0	M342002131	05



**REDUCER 'Y' WITH DOOR**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 7.5	M342002229	15
16.0 x 7.5	M342002235	05
16.0 x 11.0	M342002231	05



**CLEANSING PIPE**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M342002607	30
11.0	M342002609	18
16.0	M342002612	07



**PIPE JOINT LUBRICANT**

Qty. (grams)	Product Code	Std. Pkg. (Nos.)
100	S TINS-100	100
250	S TINS-250	40
500	S TINS-500	20

# DRAINMASTER - SELFIT PIPE & FITTINGS



**PIPES TYPE - A**

Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
7.5	3 MTR S/S	M411110307	As Req.
7.5	6 MTR S/S	M411110607	As Req.
7.5	3 MTR D/S	M421110307	As Req.
7.5	6 MTR D/S	M421110607	As Req.
7.5	2 FT D/S	M421112207	As Req.
7.5	3 FT D/S	M421113307	As Req.
7.5	4 FT D/S	M421114407	As Req.
7.5	6 FT D/S	M421116607	As Req.
7.5	12 FT D/S	M421111207#	As Req.
7.5	2 FT S/S	M411112207	As Req.
7.5	3 FT S/S	M411113307	As Req.
7.5	4 FT S/S	M411114407	As Req.
7.5	6 FT S/S	M411116607	As Req.
7.5	12 FT S/S	M411111207#	As Req.



**PIPES TYPE - A**

Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
9.0	3 MTR S/S	M411110308	As Req.
9.0	6 MTR S/S	M411110608	As Req.
9.0	3 MTR D/S	M421110308	As Req.
9.0	6 MTR D/S	M421110608	As Req.
9.0	2 FT D/S	M421112208	As Req.
9.0	3 FT D/S	M421113308	As Req.
9.0	4 FT D/S	M421114408	As Req.
9.0	6 FT D/S	M421116608	As Req.
9.0	2 FT S/S	M411112208	As Req.
9.0	3 FT S/S	M411113308	As Req.
9.0	4 FT S/S	M411114408	As Req.
9.0	6 FT S/S	M411116608	As Req.



**PIPES TYPE - A**

Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M411110309	As Req.
11.0	6 MTR S/S	M411110609	As Req.
11.0	3 MTR D/S	M421110309	As Req.
11.0	6 MTR D/S	M421110609	As Req.
11.0	2 FT D/S	M421112209	As Req.
11.0	3 FT D/S	M421113309	As Req.
11.0	4 FT D/S	M421114409	As Req.
11.0	6 FT D/S	M421116609	As Req.
11.0	12 FT D/S	M421111209#	As Req.
11.0	2 FT S/S	M411112209	As Req.
11.0	3 FT S/S	M411113309	As Req.
11.0	4 FT S/S	M411114409	As Req.
11.0	6 FT S/S	M411116609	As Req.
11.0	12 FT S/S	M411111209#	As Req.



**PIPES TYPE - A**

Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
16.0	3 MTR S/S	M411110312	As Req.
16.0	6 MTR S/S	M411110612	As Req.
16.0	3 MTR D/S	M421110312	As Req.
16.0	6 MTR D/S	M421110612	As Req.
16.0	2 FT D/S	M421112212	As Req.
16.0	3 FT D/S	M421113312	As Req.
16.0	4 FT D/S	M421114412	As Req.
16.0	6 FT D/S	M421116612	As Req.
16.0	2 FT S/S	M411112212	As Req.
16.0	3 FT S/S	M411113312	As Req.
16.0	4 FT S/S	M411114412	As Req.
16.0	6 FT S/S	M411116612	As Req.

#Shortly Introducing  
Note: S/S - Single Socket, D/S - Double Socket (both side socket)

# DRAINMASTER - SELFIT PIPE & FITTINGS



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
7.5	3 MTR S/S	M411120307	As Req.
7.5	6 MTR S/S	M411120607	As Req.
7.5	3 MTR D/S	M421120307	As Req.
7.5	6 MTR D/S	M421120607	As Req.
7.5	2 FT D/S	M421122207	As Req.
7.5	3 FT D/S	M421123307	As Req.
7.5	4 FT D/S	M421124407	As Req.
7.5	6 FT D/S	M421126607	As Req.
7.5	12 FT D/S	M421121207#	As Req.
7.5	2 FT S/S	M411122207	As Req.
7.5	3 FT S/S	M411123307	As Req.
7.5	4 FT S/S	M411124407	As Req.
7.5	6 FT S/S	M411126607	As Req.
7.5	12 FT S/S	M411121207#	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
9.0	3 MTR S/S	M411120308	As Req.
9.0	6 MTR S/S	M411120608	As Req.
9.0	3 MTR D/S	M421120308	As Req.
9.0	6 MTR D/S	M421120608	As Req.
9.0	2 FT D/S	M421122208	As Req.
9.0	3 FT D/S	M421123308	As Req.
9.0	4 FT D/S	M421124408	As Req.
9.0	6 FT D/S	M421126608	As Req.
9.0	2 FT S/S	M411122208	As Req.
9.0	3 FT S/S	M411123308	As Req.
9.0	4 FT S/S	M411124408	As Req.
9.0	6 FT S/S	M411126608	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M411120309	As Req.
11.0	6 MTR S/S	M411120609	As Req.
11.0	3 MTR D/S	M421120309	As Req.
11.0	6 MTR D/S	M421120609	As Req.
11.0	2 FT D/S	M421122209	As Req.
11.0	3 FT D/S	M421123309	As Req.
11.0	4 FT D/S	M421124409	As Req.
11.0	6 FT D/S	M421126609	As Req.
11.0	12 FT D/S	M421121209#	As Req.
11.0	2 FT S/S	M411122209	As Req.
11.0	3 FT S/S	M411123309	As Req.
11.0	4 FT S/S	M411124409	As Req.
11.0	6 FT S/S	M411126609	As Req.
11.0	12 FT S/S	M411121209#	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
16.0	3 MTR S/S	M411120312	As Req.
16.0	6 MTR S/S	M411120612	As Req.
16.0	3 MTR D/S	M421120312	As Req.
16.0	6 MTR D/S	M421120612	As Req.
16.0	2 FT D/S	M421122212	As Req.
16.0	3 FT D/S	M421123312	As Req.
16.0	4 FT D/S	M421124412	As Req.
16.0	6 FT D/S	M421126612	As Req.
16.0	2 FT S/S	M411122212	As Req.
16.0	3 FT S/S	M411123312	As Req.
16.0	4 FT S/S	M411124412	As Req.
16.0	6 FT S/S	M411126612	As Req.

#Shortly Introducing  
Note: S/S - Single Socket, D/S - Double Socket (both side socket)

#Shortly Introducing  
Note: S/S - Single Socket, D/S - Double Socket (both side socket)

# DRAINMASTER - SELFIT PIPE & FITTINGS



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
20.0	3 MTR S/S	M411120314#	As Req.
20.0	6 MTR S/S	M411120614#	As Req.
20.0	3 MTR D/S	M421120314#	As Req.
20.0	6 MTR D/S	M421120614#	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
25.0	3 MTR S/S	M411120316#	As Req.
25.0	6 MTR S/S	M411120616#	As Req.
25.0	3 MTR D/S	M421120316#	As Req.
25.0	6 MTR D/S	M421120616#	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
31.5	3 MTR S/S	M411120318#	As Req.
31.5	6 MTR S/S	M411120618#	As Req.
31.5	3 MTR D/S	M421120318#	As Req.
31.5	6 MTR D/S	M421120618#	As Req.



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001107	30
9.0	M252001108	18
11.0	M252001109	27
16.0	M252001112	10



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001207	38
9.0	M252001208	38
11.0	M252001209	24
16.0	M252001212	08



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001307	20
9.0	M252001308	32
11.0	M252001309	18
16.0	M252001312	07

# DRAINMASTER - SELFIT PIPE & FITTINGS



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001407	24
11.0	M252001409	16



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001507	24
11.0	M252001509	16



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001607	43
9.0	M252001608	27
11.0	M252001609	42
16.0	M252001612	14



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001707	43
11.0	M252001709	42



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252000707	32
11.0	M252000709	09



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252000807	24
11.0	M252000809	08



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252000107	41
9.0	M252000108	26
11.0	M252000109	15
16.0	M252000112	04



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252000207	32
9.0	M252000208	20
11.0	M252000209	12
16.0	M252000212	04



Size (cm)	Product Code	Std. Pkg. (Nos.)
9.0 x 7.5	M252000330	28
11.0 x 7.5	M252000329	19
16.0 x 7.5	M252000335	07
16.0 x 11.0	M252000331	06



Size (cm)	Product Code	Std. Pkg. (Nos.)
9.0 x 7.5	M252000430	24
11.0 x 7.5	M252000429	14
16.0 x 7.5	M252000435	06
16.0 x 11.0	M252000431	05



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252000507	31
11.0	M252000509	11



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252000607	31
11.0	M252000609	11

# DRAINMASTER - SELFIT PIPE & FITTINGS



**SWEPT TEE**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252000907	40
11.0	M252000909	15



**SWEPT TEE WITH DOOR**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252001007	30
11.0	M252001009	12



**SINGLE 'Y'**

Size (cm)	Product Code	Std. Pkg. (Nos.)
4.0	M252001904*	Shrt. Intr.
7.5	M252001907	34
9.0	M252001908	22
11.0	M252001909	12
16.0	M252001912	04



**SINGLE 'Y' WITH DOOR**

Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M092063905	20
6.3	M092063906	10
7.5	M252002007	31
9.0	M252002008	18
11.0	M252002009	09
16.0	M252002012	04



**INVERT 'Y' 45°**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252002507	35



**REDUCER 'Y'**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 5.0	M252002144	18
11.0 x 6.3	M252002132	18
11.0 x 7.5	M252002129	17
16.0 x 7.5	M252002135	08
16.0 x 11.0	M252002131	05

# DRAINMASTER - SELFIT PIPE & FITTINGS



**REDUCER 'Y' WITH DOOR**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 5.0	M252002244	Shrt. Intr.
11.0 x 6.3	M252002232	16
11.0 x 7.5	M252002229	14
16.0 x 7.5	M252002235	06
16.0 x 11.0	M252002231	05



**DOUBLE 'Y'**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252002307	24
11.0	M252002309	06



**DOUBLE 'Y' WITH DOOR**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252002407	18
11.0	M252002409	06



**REDUCER**

Size (cm)	Product Code	Std. Pkg. (Nos.)
9.0 x 7.5	M252001930	36
11.0 x 7.5	M252001929	24
11.0 x 9.0	M252001943	24
16.0 x 7.5	M252001935	08
16.0 x 11.0	M252001931	12



**CLEANSING PIPE**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M252002607	30
11.0	M252002609	18
16.0	M252002612	07



**W.C. CONNECTOR (REDUCER)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 7.5	F182005729	As Req.
12.5 x 11.0	M212003834	40

# DRAINMASTER - SELFIT PIPE & FITTINGS



**SOVENT**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M252003509	3



**TEE 90°  
(ALL SIDE  
SOCKET)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M2520010605#	As Req.
6.3	M2520010606#	50
7.5	M2520010607#	40
9.0	M2520010608#	32
11.0	M2520010609#	18
14.0	M2520010611	08
16.0	M2520010612	05



**DOOR TEE 90°  
(ALL SIDE  
SOCKET)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M2520010505#	As Req.
6.3	M2520010506#	40
7.5	M2520010507#	32
9.0	M2520010508#	24
11.0	M2520010509	15
14.0	M2520010511	08
16.0	M2520010512	04



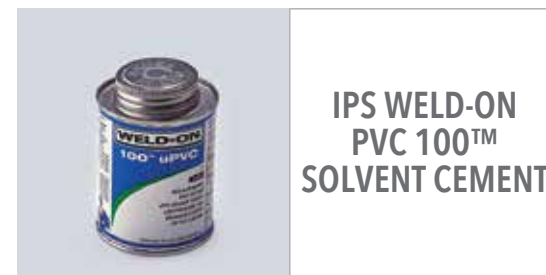
**ELBOW 90°  
(ALL SIDE  
SOCKET)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M2520010705#	As Req.
6.3	M2520010706#	As Req.
7.5	M2520010707#	As Req.
9.0	M2520010708	33
11.0	M2520010709	24
14.0	M2520010711	13
16.0	M2520010712	08



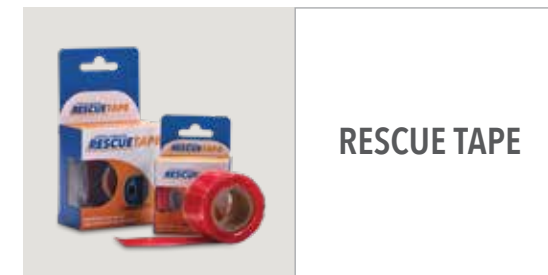
**DOOR  
ELBOW 90°  
(ALL SIDE  
SOCKET)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M2520010405#	48
6.3	M2520010406#	25
7.5	M2520010407#	As Req.
9.0	M2520010408	25
11.0	M2520010409	20
14.0	M2520010411	12
16.0	M2520010412	06



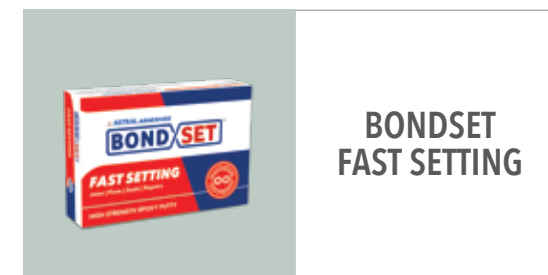
**IPS WELD-ON  
PVC 100™  
SOLVENT CEMENT**

Qty. (ml)	Product Code	Std. Pkg. (Nos.)
237	TMIPS100U237	24
473	TMIPS100U437	12
946	TMIPS100U946	12



**RESCUE TAPE**

Size (Ft.)	Product Code	Std. Pkg. (Nos.)
5	RSCU-TAPE-05-CLR	120
5	RSCU-TAPE-05-RED	120
5	RSCU-TAPE-05-BLK	120
10	RSCU-TAPE-10-CLR	120
10	RSCU-TAPE-10-RED	120
10	RSCU-TAPE-10-BLK	120
15	RSCU-TAPE-15-CLR	120
15	RSCU-TAPE-15-RED	120
15	RSCU-TAPE-15-BLK	120



**BONDSET  
FAST SETTING**

Qty. (gm)	Product Code	Std. Pkg. (Nos.)
50	BONDSETFS-50	As Req.
100	BONDSETFS-100	As Req.



**PTFE TAPE**

Size (Mtr.)	Product Code	Std. Pkg. (Nos.)
5	PTFE-1205	As Req.
10	PTFE-1210	As Req.
20	PTFE-1220	As Req.

# DRAINMASTER - SELFIT PIPE & FITTINGS



**'P' TRAP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5 x 7.5	M252003590	30
11.0 x 7.5	M212004329	11
11.0 x 11.0	M252003533	16
12.5 x 11.0	M212003534	14
*12.5 x 11.0	M252003534	14

\* - With Pan Ring



**'Q' TRAP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 11.0	M252003633	14
12.5 x 11.0	M252003634	14



**'S' TRAP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 11.0	M252003733	12
12.5 x 11.0	M252003734	12



**MULTIFLOOR TRAP WITH JALI**

Size (cm)	Height (inch)	Product Code	Std. Pkg. (Nos.)
7.5 x 6.3	4	M252003236	30
11.0 x 11.0	4	M252003208	30
11.0 x 12.5	5	M252003209	20
11.0 x 17.5	7	M252003210	20



**MULTI FLOOR TRAP WITHOUT JALI**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M252009408	30



**MULTI FLOOR TRAP ADAPTOR (HEIGHT RISER)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 5.0/4.0	M212003344	28



**MULTI FLOOR TRAP SQUARE COVER**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 11.0	M252009508	200



**MULTI FLOOR TRAP PARTITION WITH PLUG**

Size (inch)	Product Code	Std. Pkg. (Nos.)
4	M252009008	500
5	M252009009	300
7	M252009010	150



**PLAIN FLOOR TRAP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 11.0	M252006908	48
11.0 x 12.5	M252006909	32



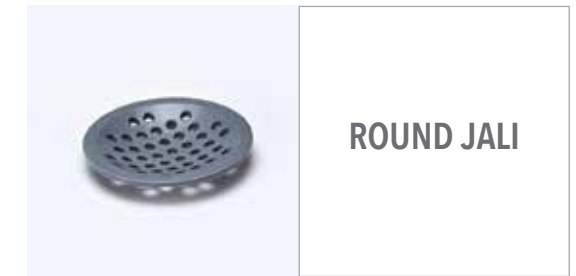
**NAHANI TRAP WITHOUT JALI**

Size (cm)	Product Code	Std. Pkg. (Nos.)
10.0 x 6.3	M252007106	61
11.0 x 6.3	M252003106	40
11.0 x 7.5	M252003107	50
11.0 x 9.0	M252003108	32
11.0 x 11.0	M252003109	24



**NAHANI TRAP WITH JALI**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 6.3	M252007006	61



**ROUND JALI**

Size (cm)	Product Code	Std. Pkg. (Nos.)
6.3	M252008506	500
11.0	M252008509	500

# DRAINMASTER - SELFIT PIPE & FITTINGS



**SQUARE  
GULLY TRAP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M252003409	08



**BOTTLE  
GULLY TRAP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
16.0 x 11.0	M192014131	04



**STEP OVER BEND  
(SOC)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	F172002807	As Req.
11.0	F172002809	As Req.



**W.C. CONNECTOR  
(RED)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 7.5	F182005729	As Req.
12.5 x 11.0	M112003834	40



**VENT COWL**

Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M212002705	270
6.3	M212002706	140
7.5	M212002707	105
9.0	M212002708	162
11.0	M212002709	105
16.0	M212002712	25



**PARTITION PLUG  
WITH RING**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 11.0	M252008808	2000



**LONG RADIUS  
BEND  
(SOC)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	F142114707	13
9.0	F142114708	06
11.0	F142114709	04



**W.C. CONNECTOR  
(BEND)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M172005909	24



**VENT COWL  
WITH  
SS JALI**

Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M212009905	200
6.3	M212009906	161
7.5	M212009907	96
9.0	M212009908	72
11.0	M212009909	81
16.0	M212009912	32



**PIPE CLIP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
4.0	M212002804	385
5.0	M212002805	312
6.3	M212002806	216
7.5	M212002807	132
9.0	M212002808	100
11.0	M212002809	110
16.0	M212002812	156



**SOCKET PLUG**

Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M212002907	92
11.0	M212002909	36



**W.C. CONNECTOR  
(STRAIGHT)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	F172006009	06
11.0	F172006009B	06

# DRAINMASTER - SELFIT PIPE & FITTINGS



Size (cm)	Product Code	Std. Pkg. (Nos.)
12.5 x 11.0	M1420012834	24



Size (cm)	Product Code	Std. Pkg. (Nos.)
12.5 x 11.0	M1420012934	18



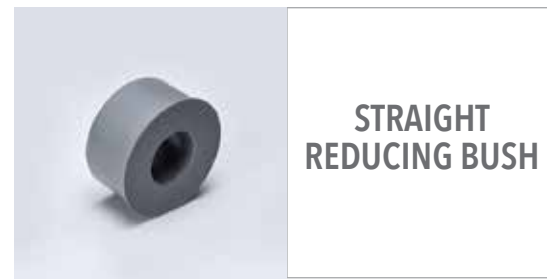
Size (cm)	Product Code	Std. Pkg. (Nos.)
12.5 x 11.0	M1420013034	18



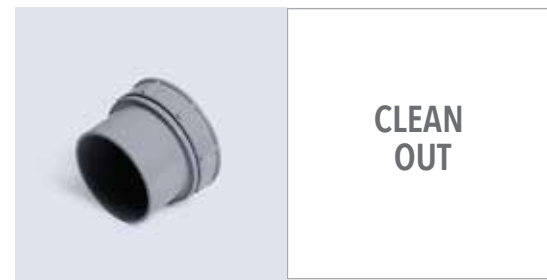
Size (cm)	Product Code	Std. Pkg. (Nos.)
55.0x11.0	CWFL5511	As Req.



Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0 x 6.3	M212003032	38
11.0 x 7.5	M212003029	38
11.0 x 9.0	M212003043	38
16.0 x 11.0	M212003031	09



Size (cm)	Product Code	Std. Pkg. (Nos.)
16.0 x 7.5	M212007535	09
16.0 x 11.0	M212007531	09



Size (cm)	Product Code	Std. Pkg. (Nos.)
6.3	M2520010106	64
7.5	M2520010107	64
9.0	M2520010108	51
11.0	M2520010109	45
16.0	M2520010112	18



Size (cm)	Product Code	Std. Pkg. (Nos.)
7.5	M006500075	1400
9.0	M006500090	960
11.0	M006500110	600
16.0	M006500160	180
20.0	M006500200	75



Size (cm)	Product Code	Std. Pkg. (Nos.)
5.0	M212004005	300
6.3	M212004006	300
7.5	M212004007	300
9.0	M212004008	200
11.0	M212004009	200



Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M112007508	12
11.0	M112007508I	12

I - IVORY COLOUR



Size (cm) LxDxD	Product Code	Std. Pkg. (Nos.)
5.0x7.5x5.0	TAR07550	As Req.



Size (cm) LxDxD	Product Code	Std. Pkg. (Nos.)
12.0x10.0x11.0	RC110100	As Req.



Size (cm)	Product Code	Std. Pkg. (Nos.)
30.0	M144009100	10

# GROOVE RING JOINING METHOD



## 1. CUT PIPE

Cut pipe square. As joints are sealed at the base of the fitting socket, an angled cut may result in joint failure.



## 2. REMOVE BURR AND BEVEL

Remove all burr from inside and outside of pipe with a knife-edge file, or deburring tool. Chamfer (bevel) the end of the pipe at 10° -15°  
CLEAN : Remove surface dirt, grease, or moisture with a clean dry cloth.



## 3. INSERT PIPE

Insert the pipe in to the socket without the seal ring and mark along the pipe, when it is fully inserted. Fix the rubber ring in the groove without twisting it.



## 4. APPLY LUBRICANT

Apply jointing lubricant to the chamfered end of the pipe & on rubber ring up to the mark made on spigot or to the socket end of fitting.



## 5. JOIN PIPE AND FITTINGS

Push the pipe firmly into the socket till the gap between the mark on the spigot and the socket is about 10 mm to allow thermal expansion.

# SOLVENT WELD JOINING METHOD



## 1. CUT PIPE

Cut pipe square. As joints are sealed at the base of the fitting socket, an angled cut may result in joint failure.



## 2. REMOVE BURR AND BEVEL

Remove all burr from inside and outside of pipe with a knife-edge file, or deburring tool. Chamfer (bevel) the end of the pipe at 10° -15°  
CLEAN : Remove surface dirt, grease, or moisture with a clean dry cloth.



## 3. DRY FIT

With light pressure, pipe should go one third to one half of the way into the fitting socket. Pipes and fittings that are too tight or too loose should not be used.



## 4. SOLVENT CEMENT

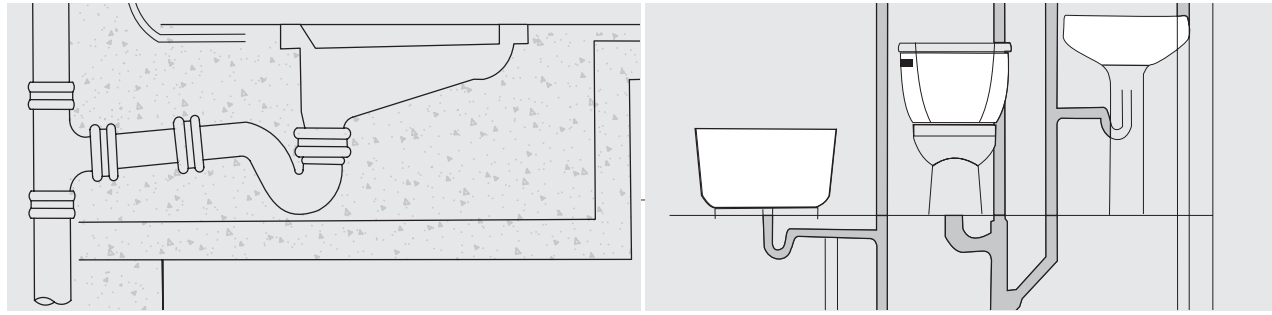
Apply a full even layer of solvent cement to the outside of a pipe and medium layer of cement to the inside of a fitting.



## 5. JOIN PIPE AND FITTINGS

Assemble pipe and fitting socket till it contacts socket bottom. Hold pipe and fitting together until the pipe does not back out. Remove excessive cement from the outer side. A perfectly made joint will show a continuous bead of cement around the perimeter.

# uPVC TRAPS



Traps are very important parts of drainage and sewage system and are most critical to ensure efficient working of the system. Traps prevent foul gases or air to enter back in passage and at a same time allow waste to flow through them.

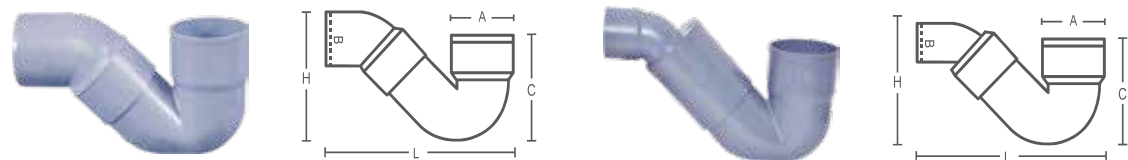
Conventional Cast Iron or cement traps are susceptible to bacterial growth due to its structure and material as they are not able to withstand the attack of salts, acidic or alkaline nature of effluent. This will lead to cracks in masonry and ultimately in inefficient working and unsatisfactory results of the system.

ASTRAL DRAINMASTER uPVC Traps are immune to attack of bacteria and have very good resistance to chemicals which make them most suitable for drainage system. These traps have very smooth inside surface which ensures efficient flushing of system.

Traps are available in 'P', 'Q' & 'S' depending on the outlet angle required.

All traps have water seal well above 50 mm (normally accepted in most of the national, international and municipal guidelines) which ensures best functioning of traps.

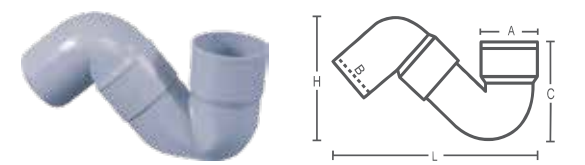
## P-TRAP



SIZE (D)	H	L	C	A	B
75x75	150	250	128	84	75
110x75 (RED)	245	400	193	110	75
110X110	215	355	193	110	110
125X110	215	365	193	125	110

Application: To provide water seal & efficient functioning of the drainage system

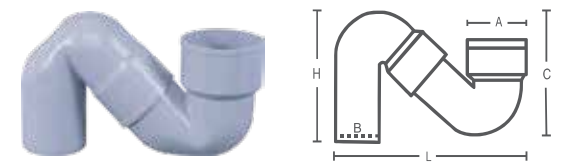
## Q-TRAP



SIZE (D)	H	L	C	A	B
110X110	215	407	192	110	110
125X110	215	414	192	125	110

Application : Where the outlet is at 45° to inlet.

## S-TRAP



SIZE (D)	H	L	C	A	B
110X110	228	395	193	110	110
125X110	230	405	192	125	110

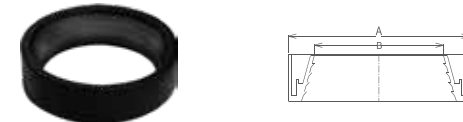
Application : Where inlet and outlet are parallel to each other.

## LIP RING FOR P/Q/S TRAP



SIZE (D)	A	B	C	J	L
125	132	105	96	10	53

## RUBBER RING FOR WC CONNECTOR & BEND



SIZE (D)	A	B	L
110	120	85	30

## W.C. CONNECTOR RING FOR P/Q/S TRAP



SIZE (D)	A	B	L
110	126	85	38
125	412	95	40

Application : Where the outlet is at 45° to inlet.

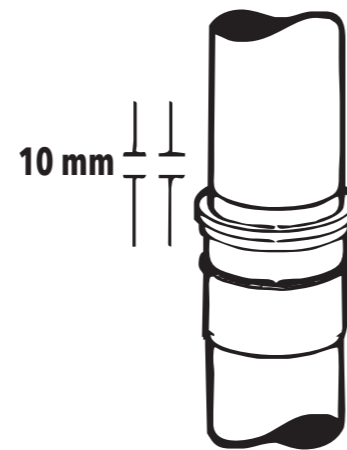
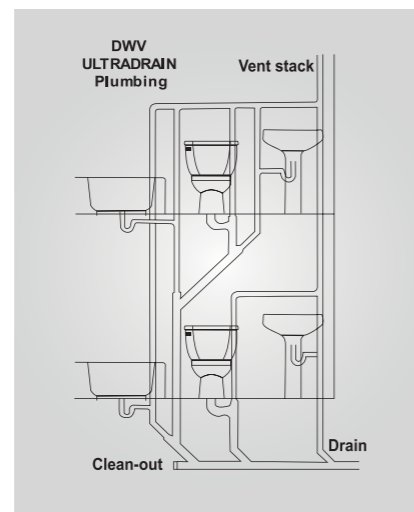
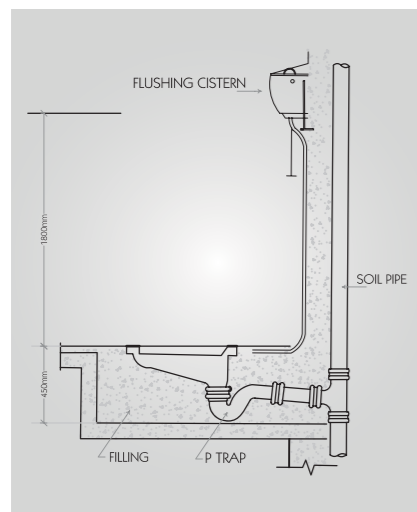
# INSTALLATION OF TRAPS & TESTING THE SYSTEM

## INSTALLATION OF TRAPS

- Select right type of trap from 'P' / 'Q' / 'S' traps as per the outlet angle required. Place the trap on firm base, pour with concrete on a slab and set it relative to the level of finished floor.
- Concrete can be poured around 'P' / 'Q' / 'S' trap but outlet to the trap must be left open clear to concrete.
- Place ASTRAL W.C. connector ring to the socketed end of trap.
- Apply rubber lubricant on W.C. connector ring and on outer side of W.C. pan. Join W.C. pan to trap by pushing W.C. pan to 125 mm socket of trap.
- Solvent cement can be used to make joints when 110x110mm traps are used to join connectors other than W.C. Pan connection.

In such cases, outlet of traps can be inserted in the socketed end of pipe or fittings, which ever is applicable and joint can be solvent cemented.

## TYPE OF COMMON INSTALLATION



WITHDRAW PIPE (10 MM). THIS WILL ALLOW FOR EXPANSION. ALL FITTINGS MUST BE SUPPORTED BY A BRACKET WHEN INSTALLED VERTICALLY.

## THERMAL EXPANSION & CONTRACTION

uPVC has a coefficient of linear expansion of  $5.4 \times 10^{-5} \text{ mm / mm / } ^\circ\text{C}$ . This means that one metre length of uPVC pipe will expand approximately 0.54 mm for each  $10^\circ\text{C}$  rise or fall in temperature. However due to short duration of most effluent flows and the slow temperature response of the material, greater thermal movement take place due to variation in temperature rather than the effect of hot effluent discharge. Successful accommodation of thermal movement is dependent on the controlled direction and distribution of this movement. Specially designed rubber seal rings and gap of 10 mm while joining pipe and fittings will take care of length change in most of the cases. However, expansion loops, change in direction or offsets can also be accommodated in the system to overcome expansion and contraction issue.

## PREPARING THE PIPELINE FOR TEST

- All joints should be inspected to ensure the correct location of the mark or groove to the coupling socket.
- Check that minimum cure time has elapsed since the last concrete thrust block or support was cast.
- Check the tightness of all ties and clamps and correct positioning of piping.

## WATER TEST

Water test is the most recommended test in most plumbing code standards. The purpose of the test is to locate any leaks at the joints and correct them prior to putting system into operation. Since it is important to be able to visually inspect the joints, a water test should be conducted prior to closing in the piping or backfilling underground piping.

To isolate each floor or section being tested, test plugs are inserted through test fittings in the stack. All other opening should be plugged or capped with test plug or test caps. Fill the system to be tested with water at the highest point. As water fills a vertical pipe it creates hydrostatic pressure. The pressure increases as the height of water in the vertical pipe increases. Astral recommends testing at 5m of hydrostatic pressure (0.5 kg/cm<sup>2</sup>) or as per the local authority's guidelines. Filling the system slowly should allow any air in the system to escape as the water rises in the vertical pipe. All entrapped air in the system should be expelled prior to the beginning of the test. Failure to remove entrapped air may give faulty test results.

Once the stack is filled to desired level of water column, a visual inspection of the section being tested should be made to check leaks. If a leak is found, the cause of leak must be found and accordingly repairing/ replacement of the joint should be done. Find the cause of leak and to repair or replace the joint. Fifteen minutes is a suitable time for the water test. Once the system has been successfully tested, it should be drained and the next section should be prepared for testing.

## INSTALLATION OF

### DRAINMASTER SYSTEM IN TRENCH

One of the most significant advantages of ASTRAL DRAINMASTER uPVC pipe system is its light weight. This means that the pipe can be easily handled and longer lengths can be installed without sophisticated lifting machinery and with minimum in-trench labour.

Long pipe lengths increase the speed with which a system can be installed, and also mean that pipelines are less susceptible to misalignment and consequent blockage following possible ground movement, than those made up of short pipe lengths.

Sewer and waste pipelines rely on gravity to ensure adequate flow of fluid. Strict adherence to the designed grade along the entire pipeline is essential and the line must be maintained to specification between inspection or manhole position.

Installation of ASTRAL DRAINMASTER uPVC pipelines should be fast and efficient provided the proper guidelines are followed. The installer should also be familiar with national plumbing code together with the requirements of local authorities or municipal standards wherever applicable.

# HANDLING AND STORAGE

While ASTRAL DRAINMASTER uPVC pipes are light and easy to handle, careless handling can cause unnecessary damage. Pipes and fittings should not be dropped or thrown onto hard surfaces or allowed to come into contact with sharp objects that could inflict deep scratches. Foamcore pipes should not be allowed to slide across sharp edges.

## BOWING

- Pipes can get distorted under high loads in the absence of support or if they are stacked incorrectly or at height. This can be aggravated if the pipes are hot.
- Heat sources should be avoided to reduce the risk of distortion.
- If pipes or fittings are to be stored outdoors for prolonged period they should be protected, by for example, hessian or white PE sheet in a manner that allows ventilation and avoids heat build-up.
- Pipes heated on one side by direct sunlight might tend to bow. This process is reversible and the bow can be eliminated by exposing the other side to the sunlight or otherwise allowing the temperature to become consistent before laying the pipe.

## STORAGE

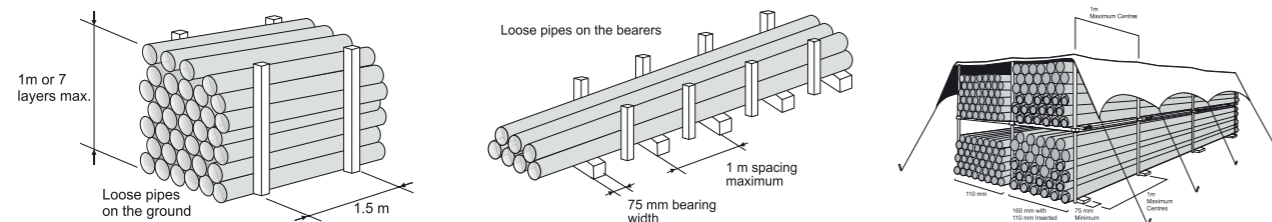
Temporary storage in the fields where racks are not provided, pipes can be in stacked on the ground, provided the surface is leveled and free from loose stones or other sharp objects.

Socketed pipes should be stacked in layers with sockets placed at alternative ends of the rack, and protruding, to avoid uneven stacks and distortion. The sockets should not be bearing the load. Another acceptable approach is to have alternate layers of pipes facing in the same direction.

Racks for long term storage are recommended and should preferably provide continuous support, but if this is not possible then supports of at least 75mm bearing widths at 1m centres (max) should be placed beneath the pipes. Side restraints should be placed at centre not exceeding 1.5m and stacks should not exceed 1m in height.

## ON SITE STORAGE

- Ideally, stacks should contain one diameter pipe size only. Where this is not possible, stack largest diameter pipes at base of stack. Small pipes may be nested inside larger pipes.
- Store all materials in well ventilated, shady conditions.
- Store fittings under cover. Do not remove from cartons or packaging until required.
- Store solvent cement and cleaning fluid in a cool place away from direct sunlight and away from any heat source.



## DO'S & DON'TS

- Always insist to use ASTRAL DRAINMASTER rubber lubricant and solvent cement for making joints.
- Cut the pipe straight, as improper cut may lead to leakage.
- Use test plug / socket plug for testing the lines. Try to avoid smoke test.
- Avoid over tightening of door caps. Make sure that door gaskets are placed properly before tightening.
- Do not insert the pipe into socket of fitting without chamfering. This can leads to misplacing of rubber rings and finally leakage in piping.
- Never mix soil and waste line without putting water seal trap in between.
- Never remove rubber rings from pipes and fittings to make solvent weld joint from the same pipe or fittings. This will lead to heavy leakage or failure of system.
- Do not install pipeline without properly placed pipe clips. This is required to ensure efficient working of the system.



## ABOUT **Foamcore**<sup>®</sup> PVC PIPE FOR DWV & UNDERGROUND SYSTEMS

Astral Foamcore pipes are basically multilayer pipes having outer and inner layers of conventional PVC and middle layer of foamed PVC. Outer and inner layers are designed to take the load and middle layer of foamed PVC gives rigidity and maintains the shape of the pipe under load. It reduces total weight of pipe and makes it light when compared to solid wall PVC pipes. The pipe is typical of solid wall PVC under load and the type of distortion is normally expected.

The Astral Foamcore pipe can distribute the load more evenly and does not show the same amount of distortion, as it has unique "I-Beam" structure. Due to its ability of absorbing the load, Astral Foamcore pipes are most suitable for underground drainage systems, where soil exerts a lot of pressure on pipe surfaces. In solid wall pipes this soil pressure will rupture the pipe after some time where Astral Foamcore pipes give better life as foamed PVC layer will absorb pressure and make pipes "stress free" in working conditions.

# INTRODUCTION

## PRODUCT AVAILABILITY

Astral Foamcore pipes are available in 110 mm to 315 mm with different stiffness classes mainly categorized as SN2, SN4 & SN8. SN2 pipes are recommended for above ground applications while SN4 & SN8 pipes are recommended for below ground applications depending on the level at which these pipes have to be installed.

## PRODUCT STANDARDS

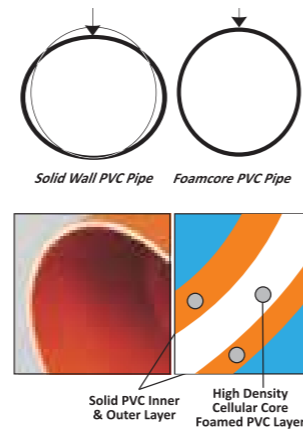
Astral Foamcore pipes are manufactured as per European and International standards published under structure wall pipes for drainage and sewerage and are mainly based on stiffness classes. These specifications are very well adopted at global levels and are in used for more than 25 years.

## AVAILABLE SIZES

110 mm, 160 mm, 200 mm, 250 mm & 315 mm with stiffness class SN2, SN4 & SN8.

## PRODUCT DIMENSIONS

NOMINAL RING STIFFNESS SN (KN/M2)	2	4	8
DIMENSION RATIO (SDR)	51	41	34
NOMINAL DIAMETER DN (mm)	Wall Thickness (mm)		
110	-	2.7 + 0.5	3.2 + 0.5
160	3.2 + 0.5	4.0 + 0.6	4.7 + 0.7
200	3.9 + 0.6	4.9 + 0.7	5.9 + 0.8
250	4.9 + 0.7	6.2 + 0.8	7.3 + 1.0
315	6.2 + 0.8	7.7 + 1.0	9.2 + 1.2



# KEY PROPERTIES AND BENEFITS

Astral Foamcore uPVC pipes are suitable for residential and commercial drain, waste & vent piping systems for both underground and above ground applications made with top quality raw materials and state-of-the art processing technology, Astral Foamcore pipes meet all industrial standards and undergo rigorous quality control standards.

## WHY FOAMCORE PIPES ?

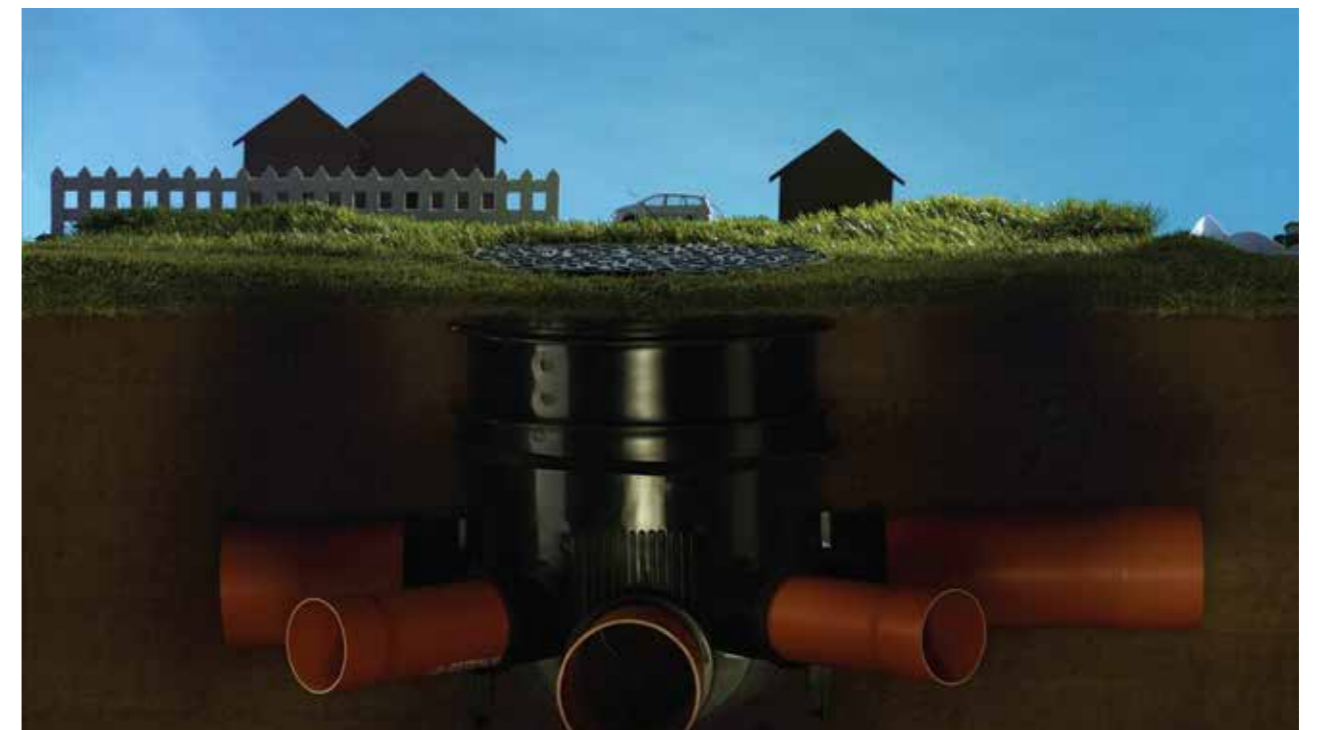
Astral Foamcore uPVC pipes are typical of solid wall PVC under load where distortion normally is expected. The Foamcore pipe is under load, distributes the load more evenly and does not show the same amount of distortion, because of its unique "I-Beam" structure. Due to its ability of absorbing the load, Foamcore pipes are ideal for underground drainage systems, where soil exerts a lot of pressure on pipe surfaces. In solid wall pipes this soil pressure will break/distort the pipe after some time where Foamcore pipes give better life as foamed PVC layer absorbs pressure and makes pipes 'stress free' in working conditions.

## RINGFIT PIPE

Ringfit pipes are socketed on automatic online socketing machine with very high degree of accuracy. The socket has groove inside for rubber ring. The rubber ring ensures trouble free water tight joint with allowance to thermal expansion / contraction. One end of the pipe is plain and other end is self socketed with an integral groove to hold the rubber gasket. When joined with a rubber ring, the joint formed is a trouble free, water tight one, ready to take care of thermal expansion / contraction.

## SELFIT PIPE

Selfit pipes are socketed on automatic socketing machine with self socket length (without groove). Such pipes are to be joined with solvent cement. One end of the pipe is plain and the other end is self socketed on sophisticated automatic machines for high degree of accurate diameters. The pipes when joined using solvent cement, form a permanent water tight joint.



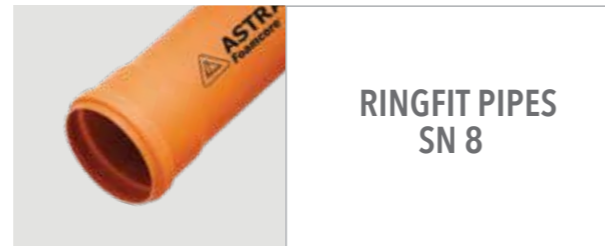
# FOAMCORE PIPES



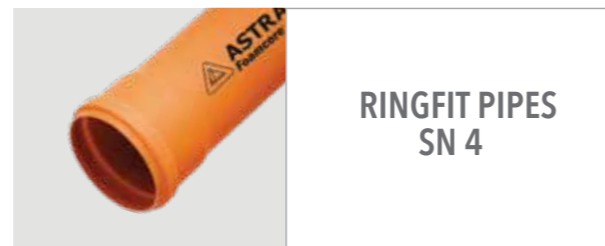
Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M131080309	As Req.
11.0	6 MTR S/S	M131080609	As Req.
16.0	3 MTR S/S	M131080312	As Req.
16.0	6 MTR S/S	M131080612	As Req.
16.0	6 MTR D/S	M311080612	As Req.
20.0	3 MTR S/S	M131080314	As Req.
20.0	6 MTR S/S	M131080614	As Req.
25.0	3 MTR S/S	M131080316	As Req.
25.0	6 MTR S/S	M131080616	As Req.
31.5	3 MTR S/S	M131080318	As Req.
31.5	6 MTR S/S	M131080618	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M131040309	As Req.
11.0	6 MTR S/S	M131040609	As Req.
16.0	3 MTR S/S	M131040312	As Req.
16.0	6 MTR S/S	M131040612	As Req.
20.0	3 MTR S/S	M131040314	As Req.
20.0	6 MTR S/S	M131040614	As Req.
20.0	6 MTR D/S	M311040614	As Req.
25.0	3 MTR S/S	M131040316	As Req.
25.0	6 MTR S/S	M131040616	As Req.
25.0	3 MTR D/S	M311040316	As Req.
31.5	3 MTR S/S	M131040318	As Req.
31.5	6 MTR S/S	M131040618	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M121080309	As Req.
11.0	6 MTR S/S	M121080609	As Req.
16.0	6 MTR S/S	M121080612	As Req.
20.0	6 MTR S/S	M121080614*	As Req.
20.0	6 MTR D/S	M211080614*	As Req.
25.0	6 MTR S/S	M121080616*	As Req.
25.0	6 MTR D/S	M211080616*	As Req.
31.5	6 MTR S/S	M121080618*	As Req.
31.5	6 MTR D/S	M211080618*	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
11.0	3 MTR S/S	M121040309	As Req.
11.0	6 MTR S/S	M121040609	As Req.
16.0	3 MTR S/S	M121040312	As Req.
16.0	6 MTR S/S	M121040612	As Req.
25.0	6 MTR S/S	M121040616*	As Req.
25.0	6 MTR D/S	M211040616*	As Req.
31.5	6 MTR S/S	M121040618*	As Req.
31.5	6 MTR D/S	M211040618*	As Req.



Size (cm)	Length & Socket Type	Product Code	Std. Pkg. (Nos.)
16.0	3 MTR S/S	M131020312	As Req.
16.0	6 MTR S/S	M131020612	As Req.
20.0	3 MTR S/S	M131020314	As Req.
20.0	6 MTR S/S	M131020614	As Req.
25.0	3 MTR S/S	M131020316	As Req.
25.0	6 MTR S/S	M131020616	As Req.
31.5	3 MTR S/S	M131020318	As Req.
31.5	6 MTR S/S	M131020618	As Req.

Note:  
S/S - Single Socket, D/S - Double Socket  
# Shortly Introducing



## ABOUT UNDERGROUND DRAINAGE SYSTEMS

Over the years Astral® is committed to introducing innovative piping products in Indian market to better serve piping industry. Astral® provides next generation integrated drainage solution using latest manufacturing technology, providing a reliable replacement to traditional methods. Astral® offers Underground drainage system with strength and durability, installation speed, long term performance, cost effectiveness and superior quality of a complete drainage system. Astral Underground® drainage products are manufactured using state-of-the-art production technology which provides comprehensive range of robust drainage products with unparalleled long term performance.

# INTRODUCTION

## AVAILABLE SIZE\*

315 mm & 450 mm chamber base with riser and top cover \* shortly introducing 315mm and 355mm chamber in different configuration

## KEY FEATURES

**STRENGTH** Long term stiffness and strength

**DURABLE** Never corrodes and hence meant for life-long performance

**FLEXIBILITY** Various molded and fabricated fittings are available for easy of installation and flexibility

**INSTALLATION** Easy and quick installation compared to traditional drainage system

**COST BENEFITS** Reduced installation cost



## BENEFITS

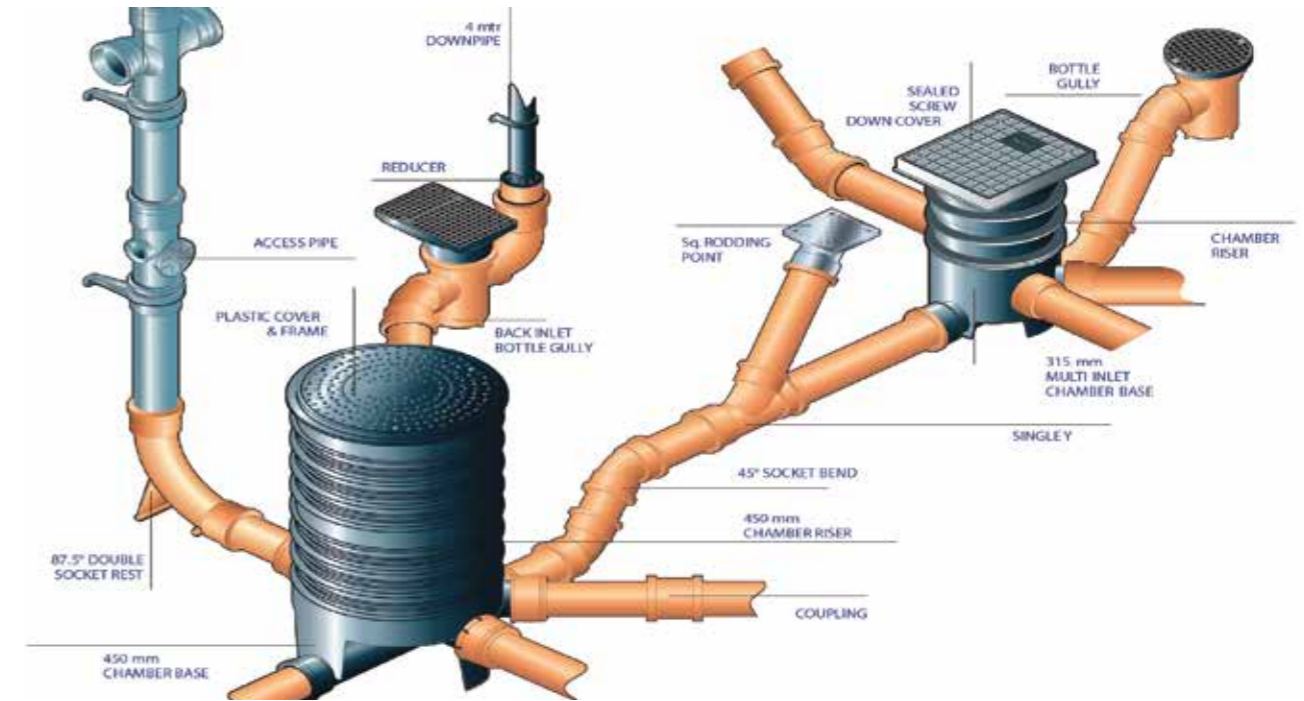
- Push Fit System
- Easy Installation
- Maintenance Free
- Longer Life
- Cost Saving



## APPLICATIONS

Astral Underground® drainage system is ideal for use in single house application to multi floors buildings, hotels, hospitals, shopping malls, academic institutes upto the main lines.

# ASTRAL INSPECTION CHAMBERS



Astral Underground system is completely watertight and intended to carry soil and waste from S.W.R. drainage system to roadside sewers or drains and from there to treatment plant or disposal point. This system is advantageous over traditional drainage products for all drainage and sewerage applications and highly recommended for buildings where hygiene is a prerequisite such as hospital, hotels, etc.

Astral Underground system can also be used for rainwater collection and disposal, including rainwater harvesting. In short, the system provides complete solution for underground drainage and sewerage applications. Unlike conventional drainage products, there is no fear of pollution of underground water, soil or ill effects on building foundations. The installation of this system is quite simple and fast. The choice of the raw material, the structural accuracy and the strict quality control impart high degree of reliability. Astral's Inspection Chambers have been designed to offer easier and more economical alternatives to traditional construction methods. They are made of a tough polypropylene material, are impact resistant, simple and straightforward to install. The chamber raising pieces are designed for simple dry joining, providing an instant watertight joint. They have strengthening ribs and webbing. The raising pieces can be simply built-up to the required overall height between the chamber base and cover. Both Astral 315 & 450 mm preformed units comply with all current regulations. They are designed with a built-in fall for good flow performance.



# KEY PROPERTIES AND BENEFITS

## GREAT FLEXIBILITY

Due to availability of ready made inspection chambers, long lengths of lighter weight pipes and different components, installation of this system is very convenient and fast.

## PERFECT HYDRAULIC PROPERTIES

The chambers are designed with in built slope which increases the hydraulic capabilities of the system.

## WATERTIGHT SYSTEM

Pipe, riser or shaft connection with the chamber base is absolutely watertight and unique. Design of pipe joints with click ring and sealing ring makes the system completely leak proof.

## GREAT STRENGTH

System is sufficiently durable to meet site loading requirements.

## HYGIENIC AND SAFE

Trouble free performance of the joints without blockage and leakage ensures high standards of hygiene.

## MINIMUM EXCAVATION COST

Because of simple joining technique, trench width can be kept minimum and smoother bore of the pipe allow high flow rates at relatively flatter gradients.

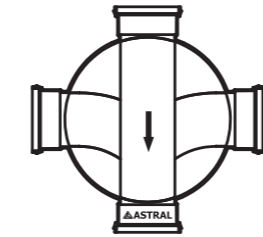
## MINIMAL MAINTENANCE

Optimum functional qualities and good hydraulic properties play an important part in reducing the need for jetting and other forms of maintenance, and therefore operational costs are considerably reduced.

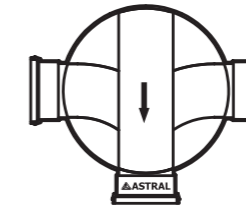
## LONGER LIFE AND OVERALL ECONOMY

It is sufficiently durable, and offers long and trouble free service.

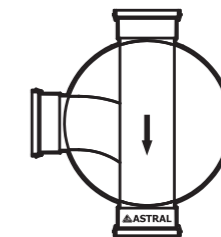
# CONFIGURATION AVAILABLE IN 315 MM & 355 MM



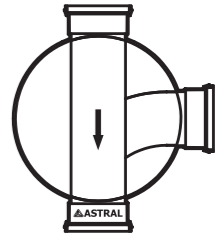
CROSS TEE INLET JUNCTION BASE



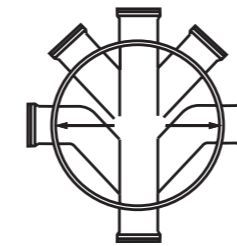
TWO 90° INLET JUNCTION BASE



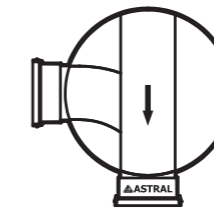
LH TEE JUNCTION BASE



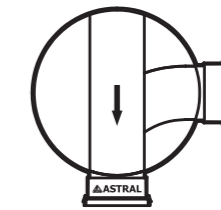
RH TEE JUNCTION BASE



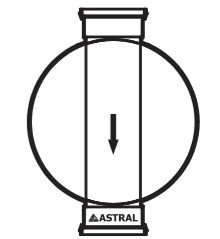
MULIPLE INLET BASE



LH 90° BEND BASE



RH 90° BEND BASE



STRAIGHT BASE

## 315 MM, 355 MM INSPECTION CHAMBER



Astral's innovative design for 315 mm, 355 mm, brings unmatched flexibility to the underground drainage market. The joints & seals are designed in such a way that they can accommodate the movement of connecting piece up to 3° in any direction. This is of great assistance to the installer where the connecting pipes are not perfectly aligned with the chamber inlets. In many instances it will eliminate the need to install an extra bend and provide a saving on the cost of the installation. The chamber base is designed to facilitate the stacking of bases on top of one another to give a space saving storage solution for the merchant stockist. In summary, the Inspection Chamber design and flexibility provides a practical, innovative and cost effective solution for the provision of access in a drainage system.

# 450 MM LARGE DIAMETER INSPECTION CHAMBER

Astral's product innovation is again demonstrated with the introduction of a new 450 mm. diameter large inspection chamber. Significant research and development has gone into the design of this unique product. The Chamber base incorporates two 160 mm & two 110 mm inlets with mainthrough of 160 mm. Also 160 mm inlets can be converted to all 110 mm inlets with reducer which allows 3° of movement in any direction. The plastic cover and frame can take loadings up to a maximum of 35kN.



## INSTALLATION PROCEDURE - 315, 355 & 450 MM CHAMBERS

Installation of the chambers is to be done with the standard practice and as per requirement of local authorities. General installation figures are provided herewith for different type of installation mainly based on traffic loads which are going to affect on system. Fig. 1 is for installation of 450mm chamber base with durable polypropylene cover and frame having wheel load up to 3.5 tonnes. Suits pedestrian areas / domestic driveways. Fig. 2 is for installation of 450 mm chamber base with RCC cover and frame having wheel load up to 20 tonnes. Suits heavy traffic loads. Fig. 3 is for installation of 315 mm chamber base.

Astral® 315 mm chamber is to be used with three risers. Depth are as shown in the chart below.

315 MM CHAMBER	HEIGHT (MM)
Only Body	240
With One Riser	375
With Two Risers	515
With Three Risers	650

Astral® 355 mm chamber is to be used with three risers. Depth are as shown in the chart below.

355 MM CHAMBER	HEIGHT (MM)
Only Body	310
With One Riser	435
With Two Risers	575
With Three Risers	710

Astral® 315 mm is chamber to be used with four risers. Depth are as shown in the chart below.

450 MM CHAMBER	HEIGHT (MM)
Only Body	405
With One Riser	575
With Two Risers	735
With Three Risers	900
With Four Risers	1065



# GENERAL REQUIREMENTS FOR INSTALLATION

Figure 1 :

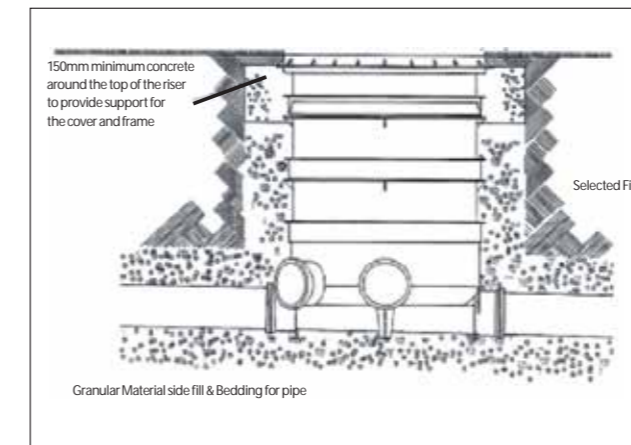


Figure 2 :

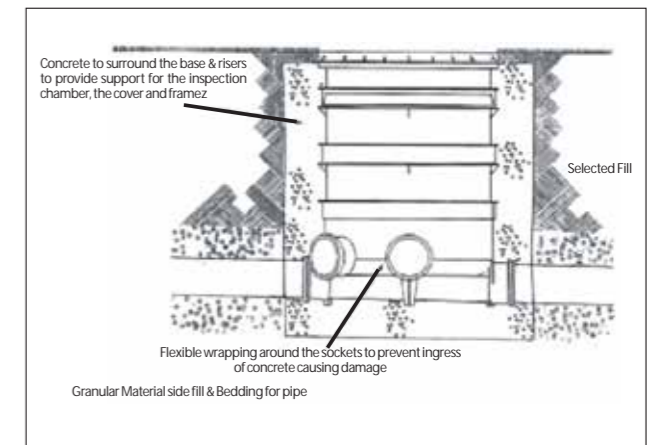
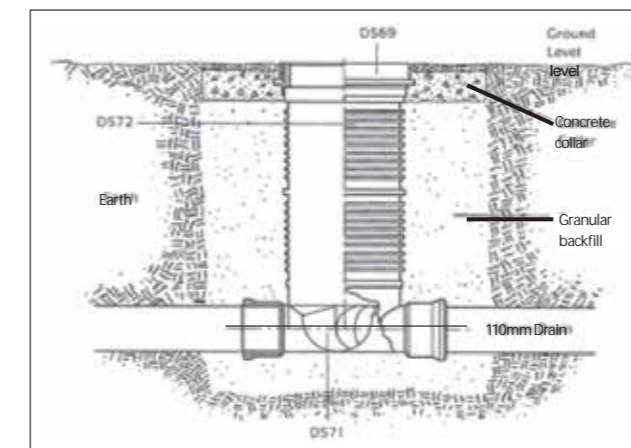
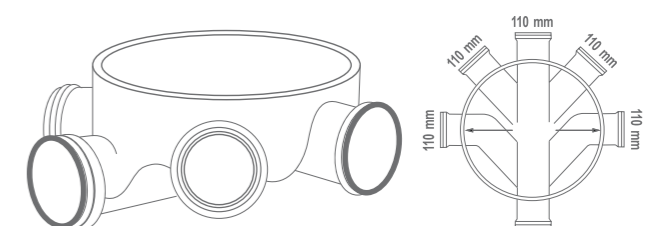


Figure 3 :



Installation of the chambers is to be done with the standard practice and as requirement of local authorities. Installation as per load class requirements General installation figures are provided herewith for different type of installation mainly based on traffic loads which are going to impose on system. Fig. 1 is for installation of 450mm chamber base with durable polypropylene cover and frame having wheel load up to 3.5 tons. Suits pedestrian areas / domestic driveways. Fig. 2 is for installation of 450 mm chamber base with RCC cover and frame having load class up to 20 tons. Suits heavy traffic loads. Fig. 3 is for installation of 315 mm chamber base.

- The chamber base should be bedded with suitable granular material or single size aggregates having no sharp edges on 100 mm bed thickness for light traffic load conditions. For heavy traffic load conditions Fig.2 section has to be followed.
- When Astral® PP cover and frame is used, the cover and frame is to be supported on a concrete base while the chamber is surrounded by granular backfill 150mm wide as recommended. When RCC or other cover is used, the chamber should be fully supported in concrete surround.



# 315 MM, 355 MM INSPECTION CHAMBER INSTALLATION



**1 CHAMBER BASE**



**2 FIX RISER ON  
CHAMBER BASE**



**3 RISER WITH  
CHAMBER BASE**



**4 FIX ANOTHER RISER  
ON CHAMBER BASE**



**5 FIX RUBBER RING  
ON FRAME**



**6 FIX FRAME**



**7 PUT LID ON IT**



**8 TIGHTEN WITH SCREW**



**9 FIX FOAMCORE  
PIPE IN INLET**

# INSTALLATION INSTRUCTION

- Base units are supplied with lubricated blanking plugs. These may be pushed out on site when required and used to secure unused inlets.
- When making joints, the pipe spigot must be well chamfered, de-burred, cleaned and lubricated using Astral's lubricant.
- The pipe is then pushed into the socket allowing a clearing for subsequent expansion i.e., pipes should be pushed home fully and then withdrawn by 10 mm.
- Depending on the depth of invert required, use combination of the chamber base and risers. The riser can be cut for the intermediate depth. Use rubber seal ring between chamber base and riser for 450 mm chamber and for 315 mm use ring to join last riser and cover. For subsequent risers, rubber rings are not required.

If the chamber is to be installed in ground where the water level may rise above the invert level of the chamber, the chamber must be bedded on and surrounded by concrete.

## INSTALLATION PROCEDURE - 315, 355 & 450 mm CHAMBERS

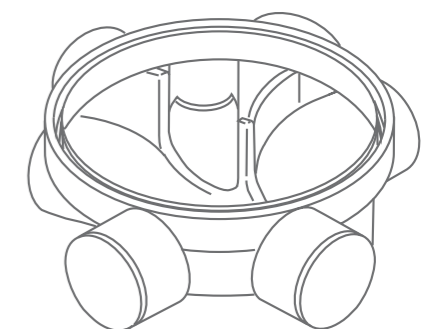
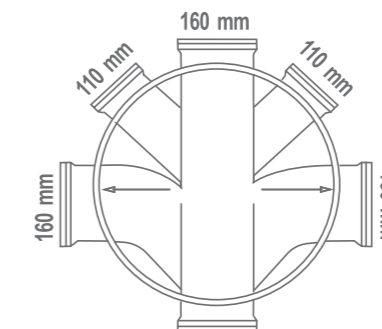
- Connect the pipes with rubber lubricants to the inlet and outlet of chambers and level the chamber.
- Fix the no. of raiser on base as per invert level
- Backfill the pit with granular material with 150 mm width all around. Properly compact the backfill material, in 6"-10" layer. If needed watering can be used.
- 6" PCC / RCC collar at the top is recommended for heavy traffic loads. The frame should be properly embedded in the concrete and then the cover should be placed on it.

## ASTRAL UNDERGROUND - PRODUCT DETAILS:

ASTRAL Underground Chamber	Size of inlet's, outlet of base		Component	Material	Load Capacity
	Main Inlet	Main Outlet			
315	110	110	Base	Polypropylene Impact co-polymer	1.5 ton wheel load
			Raiser	Polypropylene Impact co-polymer	
			Frame & Cover	Polypropylene Impact co-polymer	
355	110/160	110/160	Base	Polypropylene Impact co-polymer	1.5 ton wheel load
			Raiser	Polypropylene Impact co-polymer	
			Frame & Cover	Polypropylene Impact co-polymer	
450	110/160	110/160	Base	Polypropylene Impact co-polymer	3.5 ton wheel load
			Raiser	Polypropylene Impact co-polymer	
			Frame & Cover	Polypropylene Impact co-polymer	

**NOTE:** These chambers can be used for higher load capacities using RCC covers on top of them. Normally load capacities are applied to covers, not to chambers.

## 450 MM INSPECTION CHAMBER SYSTEM



# 450 MM INSPECTION CHAMBER INSTALLATION



**1 CHAMBER  
BASE**



**2 FIX RUBBER RING  
ON RISER**



**3 FIX RISER WITH  
CHAMBER BASE**



**4 FIX ANOTHER RISER  
ON CHAMBER BASE**



**5 FIX LID  
ON ASSEMBLY**



**6 TIGHT LID  
WITH SCREW**



**7 PUT COVER  
ON IT**



**8 TIGHTEN  
WITH SCREW**



**9 FIX FOAMCORE  
PIPE IN INLET**

# ASTRAL GULLIES



## GULLIES

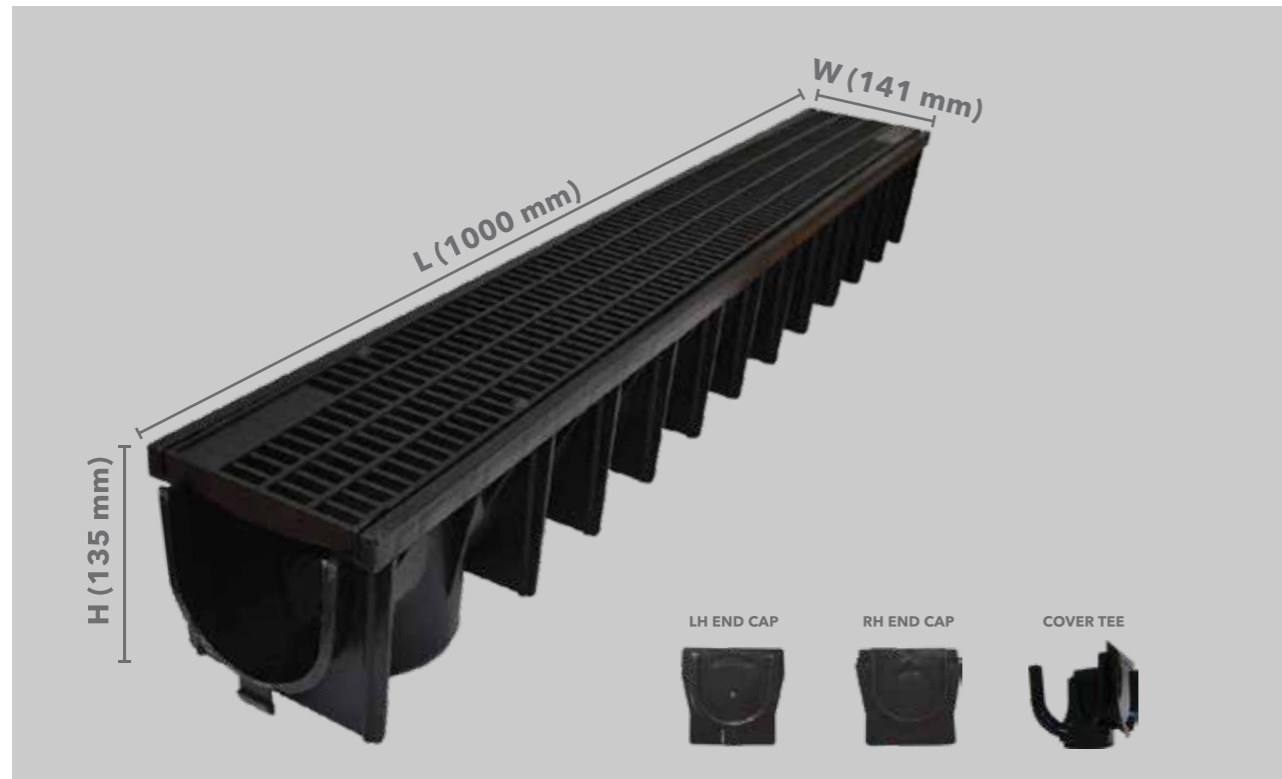
A gully holds water, like a trap, to stop foul air escaping from the foul drainage system. Its purpose is to accept waste water from ground floor bathrooms, kitchens and utility rooms or rainwater from paved areas or roofs.

### ASTRAL BOTTLE GULLY

ASTRAL bottle gullies can be used to remove surface water from paved pedestrian areas. Side and back boss inlets accept waste water from ground floor domestic applications and / or rainwater from roofs. By adding a raising piece the gully grating can be installed where paving is set at varying heights, where a new surface is laid or if deep bedding is required. It can be cut to the desired length to allow the gully to be installed at depths up to 600 mm, reducing the need for additional bends. The Bottle Gully has one 110 mm outlet and three closed inlets for either waste pipe or 110 mm connections. To discharge waste pipes to this gully adapt the smaller closed inlets by drilling them out with a 48 mm hole cutter and use the correct adaptor for the boss to accept the 32mm, 40mm and 50mm waste pipe. Ideal for domestic, industrial and commercial installations. Accepts waste or rainwater pipework from 32mm up to 110mm sizes include sealed rodding access

**SIZE AVAILABLE:** 160mm x 110mm

# ASTRAL SURFACE CHANNEL



The surface channel that are used at present are of cast iron or in concrete and due to their heavy weight it is difficult to handle or store or to install and moreover they are prone to corrosion. ASTRAL offers surface channel made from polypropylene and they are free from above problems caused by traditional surface channel.

## AVAILABLE SIZES

110 mm x 1mtr (L x H x W) Long End. LH & RH both end caps are available.

## SALIENT FEATURES

- Tough and durable • Excellent corrosion and chemical resistance • Environment friendly • Light weight • Easy to install • Cost effective. • Saves labour and material cost • Effective substitute to C.I and concrete channels. • Durable design withstands up to 1 tonne wheel load.

## FIELDS OF APPLICATION

In various applications like pavements, road side curbs, cycle ways and car park area, shopping malls, sports grounds, building terrace, corporate houses, hotels, hospitals, academic institutes and many more places where surface drain is necessary.

## INSTALLATION GUIDLINE



Sufficient slope in the paving and channel should always be determined prior to installation to accommodate desired water run-off. Place channel in trench



Always backfill with concrete with the grating fitted Haunch concrete up and around channel without leaving any empty spaces



Engage all modules including bends before backfilling



Simple push-together channel system for ease of installation.

# SPECIALLY DEVELOPED FITTINGS



## ADJUSTABLE BEND :

Adjustable Bends are specially designed by ASTRAL to suit with installation of inspection chambers. As the chamber inlet and outlets have fixed angle & position, adjustable bends can be changed depending on site requirements. These bends are available in two different patterns one with 02 pcs (suitable for 5° to 37.5° movement) & 03 pcs (suitable for 0° to 87.5° movement). These bends eliminate use of extra fittings and pipes to get the angle with pipeline and hence very cost effective. Also it is durable, leakage free and very easy to install at any angle.

## LONG RADIUS REST BEND :

This is specially designed to take the load of vertical shaft and sudden impact of drain & sewer falling down from the vertical lines. The rib on the curve area will strengthen the bend and give adequate support to act as counter force against load due to falling sewer & drain.

## ACCESS AND RODDING POINTS :

Access is very important on all installations for testing, inspection, and removal of any blockage or debris. Rodding in both directions can be achieved by using a 315 mm or 450 mm large inspection chamber in conjunction with access fittings. Rodding points are normally used in storm water drainage systems where the rodding point is located at the head of the drain run connection to a chamber, and being no further than 22 meters away from the chamber. The rodding point should be enclosed in a concrete surround to provide support and to ensure that it does not become mislaid at ground level. Rodding points eliminate the need for majority of conventional manholes. By using various combinations of rodding point with ASTRAL's other standard range of fittings, considerable savings can be achieved on cost of underground drainage system.

# STANDARD FITTINGS

## ASTRAL UNDERGROUND® MOLDED FITTINGS



**Bend 87.5°**



**Bend 45°**



**Single Tee**



**Swept Tee**



**Swept Tee With Door**



**Single "Y"**



**Coupler**



**Blanking Plug**

## ASTRAL UNDERGROUND® FABRICATED FITTINGS



**Equal Tee**



**Reducer Tee**



**Fabricated Coupler**



**Long Radius Bend**



**End Cap**

\*Other Molded / Fabricated fittings are available on request.

# ULTRA MODERN UNDERGROUND FITTINGS



**RODDING POINT**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192014509	10



**ADJUSTABLE BEND 7° TO 87.5°**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192014428	10



**BEND 45°**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192021109	24
16.0	M192020912	12



**REST BEND**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192024609	As Req.



**BEND 87.5°**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192021209	24
16.0	M192021212	10



**BLANKING PLUG**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M142005909	90
16.0	M142005912	38



**ADJUSTABLE BEND 7° TO 37.5°**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192014427	13



**SINGLE TEE**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192020109	18
16.0	M192020112	05

# ULTRA MODERN UNDERGROUND FITTINGS



**COUPLER**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192021609	39
16.0	M192021612	12



**SINGLE 'Y'**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192021909	18
16.0	M192021912	04



**BOTTLE GULLY TRAP UG**

Size (cm)	Product Code	Std. Pkg. (Nos.)
16.0 x 11.0	M192014131	04



**EQUAL TEE SOC**

Size (cm)	Product Code	Std. Pkg. (Nos.)
16.0 x 16.0	F182004912	As Req.
20.0 x 20.0	F182004914	As Req.
25.0 x 25.0	F182004916	As Req.
31.5 x 31.5	F182004918	As Req.



**REDUCER TEE SOC**

Size (cm)	Product Code	Std. Pkg. (Nos.)
16.0 x 11.0	F182005031	As Req.
20.0 x 11.0	F182005046	As Req.
20.0 x 16.0	F182005047	As Req.
25.0 x 11.0	F182005049	As Req.
31.5 x 11.0	F182005051	As Req.
31.5 x 16.0	F182004952	As Req.
31.5 x 20.0	F182005053	As Req.
31.5 x 25.0	F182005054	As Req.



**LONG RADIUS BEND 45° SOC**

Size (cm)	Stiffness Class	Product Code	Std. Pkg. (Nos.)
11.0	SN4	F182004809	As Req.
16.0	SN4	F182004812	As Req.
20.0	SN4	F182004814	As Req.
25.0	SN4	F182004816	As Req.
31.5	SN4	F182004818	As Req.



**LONG RADIUS BEND 90° SOC**

Size (cm)	Stiffness Class	Product Code	Std. Pkg. (Nos.)
16.0	SN4	F182004712	As Req.
20.0	SN4	F182004714	As Req.
25.0	SN4	F182004716	As Req.
31.5	SN4	F182004718	As Req.
11.0	SN8	F182004709	As Req.
16.0	SN8	F182084712#	As Req.
20.0	SN8	F182084714#	As Req.
25.0	SN8	F182084716#	As Req.
31.5	SN8	F182084718#	As Req.



**END CAP SOC**

Size (cm)	Stiffness Class	Product Code	Std. Pkg. (Nos.)
11.0	SN4	F182005109	As Req.
16.0	SN4	F182005112	As Req.
20.0	SN4	F182005114	As Req.
25.0	SN4	F182005116	As Req.
31.5	SN4	F182005118	As Req.
11.0	SN8	F182085109#	As Req.
16.0	SN8	F182085112#	As Req.
20.0	SN8	F182085114#	As Req.
25.0	SN8	F182085116#	As Req.
31.5	SN8	F182085118#	As Req.



**FABRICATED COUPLER SOC**

Size (cm)	Stiffness Class	Product Code	Std. Pkg. (Nos.)
16.0	SN4	F182005212	As Req.
20.0	SN4	F182005214	As Req.
25.0	SN4	F182005216	As Req.
31.5	SN4	F182005218	As Req.
11.0	SN8	F182005209	As Req.
16.0	SN8	F182085212#	As Req.
20.0	SN8	F182085214#	As Req.
25.0	SN8	F182085216#	As Req.
31.5	SN8	F182085218#	As Req.



**EQUAL 'Y' SOC**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	F182005409	As Req.
16.0	F182005412	As Req.
20.0	F182005414	As Req.
25.0	F182005416	As Req.
31.5	F182005418	As Req.



**REDUCER 'Y' SOC**

Size (cm)	Product Code	Std. Pkg. (Nos.)
16.0 x 7.5	F182005535	As Req.
16.0 x 11.0	F182005531	As Req.
20.0 x 11.0	F182005546	As Req.
20.0 x 16.0	F182005547	As Req.
25.0 x 16.0	F182005549	As Req.
25.0 x 20.0	F182005550	As Req.

Fabricated fittings of other sizes, types and stiffness classes are also available upon request

Fabricated fittings of other sizes, types and stiffness classes are also available upon request  
Note: SOC - SOCKET  
# Shortly Introducing



**PIPES FOR NON PRESSURE UNDERGROUND DRAINAGE AND SEWERAGE APPLICATION.**

D-Rex is an innovative product aptly described as structured wall piping system of PE/PP with smooth internal and corrugated (profiled) external surface. The corrugated (profiled) external surface of the D-Rex pipes gives the product excellent ring stiffness (load bearing capacity). Unlike plain pipes, D-Rex pipes do not deform under vehicular traffic load. Further more, since these pipes are moderately flexible, they can be aligned comfortably even in gradually bending paths.

The inner wall, which is fused with the outer wall, is smooth and facilitates laminar flow of liquid. This results in lesser possibilities of pipe clogging, deposition of debris in the pipe path etc.

D-Rex stands high as compared to the conventional options owing to its advantages and cost-economic viability, and is a popular product among the end users and contractors.

**STANDARD LENGTHS:** In 6 mtr. straight bars

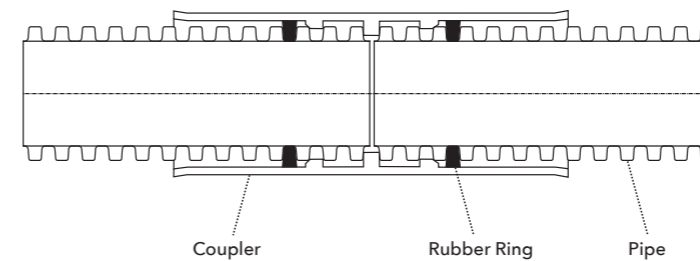
**SPECIFICATION:** As per IS-16098 Part II and ISO 21138 Part III (Stiffness Class - SN4, SN8 and SN16)

**UNIQUE FEATURES:** Rodent Repellancy (on-demand) - To avoid rodent attacks

**STANDARD COLOUR:** Outer Black, Inner Orange

**METHODS OF JOINTING**

- Snap-Fit Coupler with Rubber Ring
- In-line Socket Molded Coupler
- Socket-Spigot Arrangement



**AVAILABLE FITTINGS**

Various types of fabricated / moulded accessories are available on demand such as:

- Tee
- Bends
- Reducers
- End Cap
- Couplers etc.

**APPLICATION**

- Sewerage and Drainage
- Collectors for Sub-Surface Drainage
- Culvert and Highway Drainage
- Effluent / Wastewater Transport Network
- Rainwater / Storm Water Collection Network
- Stormwater Drainage Network
- House Connections



## SALIENT FEATURES

- Excellent load bearing capacity (SN4/8/16)
- Low manning's Roughness Coefficient 'n' - **0.009**
- High hazen William's Coefficient 'c' - **150**
- Chemically inert (Ref. IS-14333-1996)
- Abrasion resistant
- Flexible and fatigue resistant
- Excellent anti-corrosive properties
- Suitable for any aggressive climatic conditions
- Corrugated profile gives excellent soil bonding

## ADVANTAGES OF D-REX

- Light weight and easy to handle
- Telescopic transportation possible
- No need of heavy machinery for installation
- Excellent connectivity with Manholes and Inspection chambers

## AVAILABLE DIAMETER RANGE

### INNER DIAMETERS (mm)

75	100
135	150
170	200
250	300
400	500
600	800



## INLINE SOCKET COUPLER

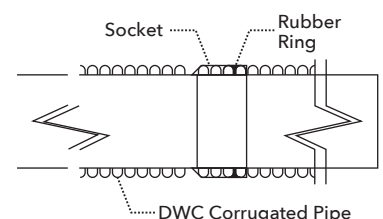
Keeping the limitations of the currently used coupling systems, we have developed an integral non-detachable coupler which provides an ideal alternative for a foolproof sewerage pipe connection with a much higher load bearing capacity which ensures that no deformation occurs during transportation and storage, and results in a perfectly leak - proof joint. These couplers come with an load bearing strength of SN4, and are in the form of an integral part of the pipe. In contrast to the existing systems, In-line sockets provide excellent jointing and leak-proof arrangement alongwith a high strength joint integrity.

### The salient advantages of the Rex In-Line Coupler are:

- Minimum load bearing capacity of 4 KN/m<sup>2</sup>.
- Stiffness parameter conforming to IS-16098 Part II, when tested individually.
- Manufactured using state-of-the-art process.
- Multiple pipe length choice (apart from 6m length) available with socket.
- Separate sockets available on demand with customized length for on-site repairs and laying requirements.

### Already Recommended / Approved / Incorporated in DSRs by:

- Ministry of Urban Development / CPHEEO / AMRUT / Smart Cities
- Town & Country Planners, NHAI / IRC
- Major private Township Developers & Builders throughout the country
- Military Engineering Services (MES)
- All the states / Districts Urban Development Authorities, Municipal Corporation, Development Authorities, Drainage & Sewerage Boards, Smart Cities





## ABOUT **ASTRAL DRAIN HULK**

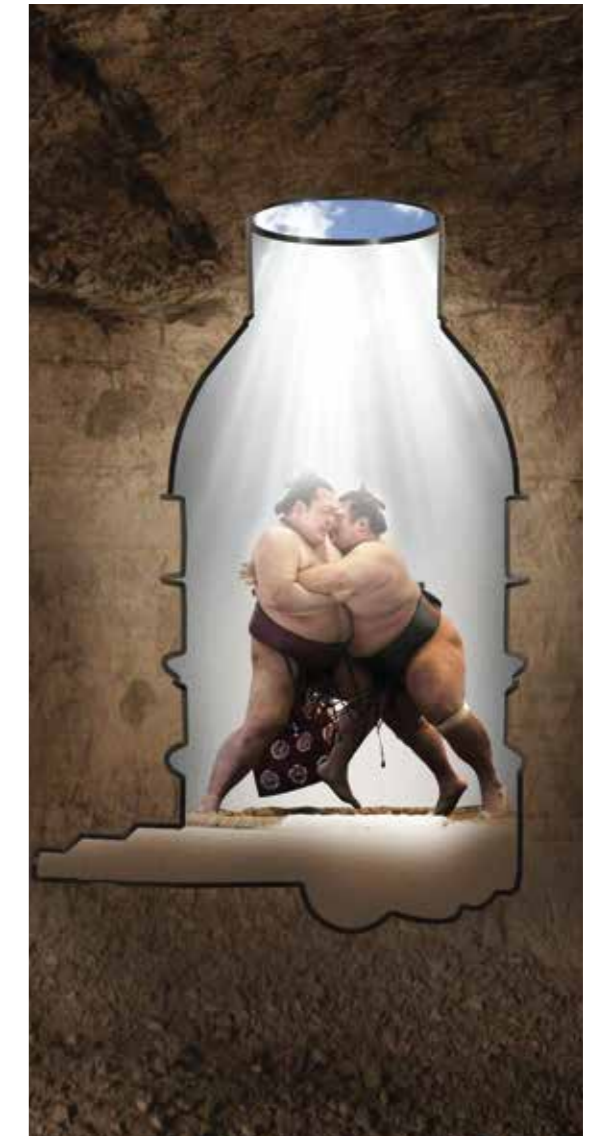
Astral offers ultra modern underground drainage system which connects SWR system to the main drains, public sewer or sewage treatment plant. It's a complete solution for building drainage and sewerage application. Astral has designed and developed this system with a view to cater to highly sophisticated building drainage requirements.

# ASTRAL P.E. MANHOLE & INSPECTION CHAMBERS

### KEY FEATURES

- Pre-fabricated system - complete with benching, shaft, steps and accessories.
- Stream lined design and mirror smooth internal surface finish.
- Multiple configuration options in single piece.
- Multiple inlet options with a variety of inlet and outlet sizes in single piece.
- Fast, easy, flexible and safe installation in hours with leak-proof pipe connections in minutes.
- Completely water tight with no infiltration or ex-filtration.
- Ultra durable and resistant to corrosion.
- Can be very easily installed in heavy traffic or water logged areas.
- High quality as per latest European Standard EN 13598 leading to consistent quality for entire project.
- Maintenance-Free.
- Reduced operating cost - minimal blockages due to hydraulically optimized channels, no Infiltration.
- Environment friendly - watertight preventing pollution / low carbon footprint.
- Top quality accessories - watertight rubber seals for pipe connection (EN 681-1); corrosion resistant steps.

UPTO  
**1000**  
MM DIAMETER



### ASTRAL UNDERGROUND DRAINAGE SYSTEM AVAILABLE SIZES WITH OPTIONS OF INLET AND OUTLET.

SIZES MM	INLET MM	OUTLET MM	COVER MM	PERSON ENTRY
315	110	110	315	NO
355	110-160	110-160	315	NO
450	110-160	110-160	450	NO
500	110-160	110-160	500	NO
600	110-250	110-250	600	NO
800	110-250	110-250	600	YES
1000	110-315	110-315	600	YES

ASTRAL 500, 600, 800 & 1000 MM MANHOLE ARE AVAILABLE IN 5 INLET BASE & 3 INLET BASE OPTIONS.

# ASTRAL UNDERGROUND INSPECTION CHAMBER & MANHOLE INVERT DEPTH

SIZE OF CHAMBER & MANHOLE	HEIGHT	Inlet's	Outlet
SINGLE PIECE	500 mm DIA - 5 INLET	110/160	110/160
	600 mm DIA - 5 INLET	110/160	110/160
	600 mm DIA - 3 INLET	160/200/250	160/200/250
	800 mm DIA - 5 INLET	110/160	110/160
	800 mm DIA - 3 INLET	160/200/250	160/200/250
	1000 mm DIA - 5 INLET	110/160/200	110/160/200
	1000 mm DIA - 3 INLET	200/250/315	200/250/315
1000 mm DIA MANHOLE MODULAR			
BASE UNIT - 3 INLET	650MM	200/250/315	200/250/315
BASE UNIT - 5 INLET	650MM	110/160/200	110/160/200
RAISER UNIT	500MM 750MM 1000MM	<u>Invert depth = base + raiser + upper unit</u>	
UPPER UNIT	1100MM 1350MM 1600MM		
FLAT BASE			
FLAT BASE - 500 mm	450MM 700MM 950MM	---	---
FLAT BASE - 600 mm	450MM 700MM 950MM	---	---
Gully Trap			
GULLY TRAP - 110 mm	405MM	---	110 mm

# INSTALLATION PROCEDURE OVERVIEW

Important: Consult ASTRAL for installations where water level is high. All instructions from the engineer and local regulations must be respected. Following is an overview of installation procedure, please consult ASTRAL for detailed instructions.

Rock sand or non-cohesive selected material of size less than 16mm without any sharp objects/rocks should be used as back filling material.

## Fast, easy and safe installation in 5 simple steps:

### A - EXCAVATE

- 1 Excavate 60 cm wide and 15cm deep than the chamber Invert depth.
- 2 A base layer of 15 cm should be filled and compacted to 95%.
- 3 Place the chamber on the compacted layer of 15cm.
- 4 Check the levelling to ensure chamber is horizontally aligned.

### B - CONNECT INLET

- 1 To connect inlet pipe(s), drill hole of appropriate diameter with ASTRAL cup saw on pre-marked inlet positions, insert ASTRAL EN 681-1 inlet rubber seal, push the pipe into the seal for a watertight connection. Soap water may be used as lubricant. There is no need for any glue, silicon.
- 2 ASTRAL seals provide watertight connection and allow for 5° movement in all directions.
- 3 If due to site constraint you cannot connect the inlet at the pre-marked location then you may connect the inlet anywhere on the body of the chamber however direction of the inlet/outlet in benching should be taken into consideration for proper flow.

### C - CONNECT OUTLET

- 1 Connect the outlet pipe by slipping the socket of the pipe onto the outlet spigot of the chamber. If required smaller unnecessary spigot may be cut off at right angle with a saw.

### D - BACKFILL AND COMPACT

- 1 Check levelling of chamber and ensure horizontal alignment.
  - 2 Back filling material should be inserted under the manhole in order to fill-in the gap between the manhole and the compacted layer. Use hand stamper.
  - 3 Back fill around the manhole in layers of 30 cm and compact to 95% with a mechanical vibrating stamper (50 Kg).
  - 4 Place the rubber sealing ring on base to connect the raiser.
  - 5 Place the rubber sealing ring on raiser to connect the Upper unit.
  - 6 Continue to fill-in and compact in layers up to ground, with margin of PCC and cover height.
- note: for greater stability and increase the load bearing capacity use gravel or sand for backfilling as it has the properties like high permeability and absorb the lateral thrust. Also it is easily compactable and non expensive.

### E - ADJUST HEIGHT AND INSTALL COVER

- 1 The height of the chamber can be adjusted on site by cutting the upper edge of the chamber.
- 2 ASTRAL PE covers can be used for installation in the garden or non-traffic areas.
- 3 For installation in traffic areas, a concrete load bearing ring around the neck of the chamber or 15cm PCC is required around the neck. Direct contact of PCC to chamber neck is avoided. On this ring or PCC appropriate class C/D cover with frame should be installed.
- 4 Finish off of with asphalt top layer, around the cover.



# ASTRAL PE MANHOLE & INSPECTION CHAMBERS / SINGLE PIECE



**SINGLE PIECE  
INSPECTION  
CHAMBER/  
MANHOLE**

## WITH 5 INLETS/OUTLETS

Size (D x H)cm	Product Code	Std. Pkg. (Nos.)
50.0 x 50.0	5BC050001611050	As Req.
50.0 x 75.0	5BC050001611075	As Req.
50.0 x 100.0	5BC050001611100	As Req.
60.0 x 50.0	5BC060001611050	As Req.
60.0 x 75.0	5BC060001611075	As Req.
60.0 x 100.0	5BC060001611100	As Req.
60.0 x 125.0	5BC060001611125	As Req.
80.0 x 100.0	5BC080001611100	As Req.
80.0 x 125.0	5BC080001611125	As Req.
80.0 x 150.0	5BC080001611150	As Req.
100.0 x 120.0	5BC100201611125	As Req.
100.0 x 150.0	5BC100201611150	As Req.
100.0 x 175.0	5BC100201611175	As Req.



**SINGLE PIECE  
INSPECTION  
CHAMBER/  
MANHOLE**

## WITH 3 INLETS/OUTLETS

Size (D x H)	Product Code	Std. Pkg. (Nos.)
60.0 x 50.0	3BL060252016050	As Req.
60.0 x 75.0	3BL060252016075	As Req.
60.0 x 100.0	3BL060252016100	As Req.
60.0 x 125.0	3BL060252016125	As Req.
60.0 x 145.0	3BL0602520161450	As Req.
60.0 x 195.0	3BL060252016195	As Req.
80.0 x 125.0	3BL080252016125	As Req.
80.0 x 150.0	3BL080252016150	As Req.
80.0 x 175.0	3BL080252016175	As Req.
100.0 x 125.0	3BL100312520125	As Req.
100.0 x 150.0	3BL100312520150	As Req.



**BASE WITH  
5 INLETS**

Size (D x H) cm	Product Code	Std. Pkg. (Nos.)
100.0 x 65.0	5BC100201611065	As Req.



**BASE WITH  
3 INLETS**

Size (D x H) cm	Product Code	Std. Pkg. (Nos.)
100.0 x 65.0	3BL100312520065	As Req.



**ELEVATION UNIT  
(RAISER)**

Size (D x H) cm	Product Code	Std. Pkg. (Nos.)
100.0 x 50.0	E100050FIBSES	As Req.
100.0 x 75.0	E100075FIBSES	As Req.
100.0 x 100.0	E100100FIBSES	As Req.



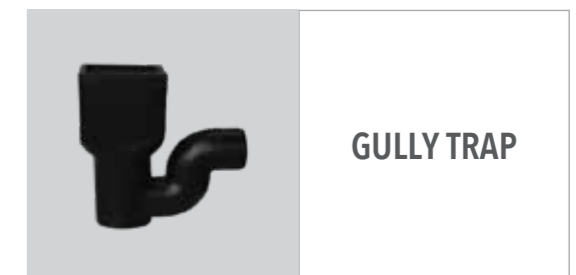
**UPPER UNIT**

Size (D x H) cm	Product Code	Std. Pkg. (Nos.)
100.0 x 110.0	U100060110FIBSES	As Req.
100.0 x 135.0	U100060135FIBSES	As Req.
100.0 x 160.0	U100060160FIBSES	As Req.



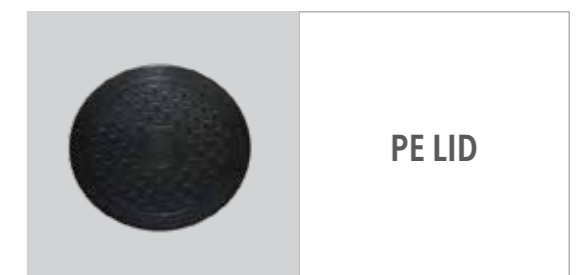
**FLAT BASE  
CHAMBER**

Size (D x H) cm	Product Code	Std. Pkg. (Nos.)
50.0 x 45.0	FB050045	As Req.
50.0 x 70.0	FB050070	As Req.
60.0 x 45.0	FB060045	As Req.
60.0 x 70.0	FB060070	As Req.
60.0 x 95.0	FB060095	As Req.
100.0 x 115.0	FB0100060115	As Req.
100.0 x 140.0	FB0100060140	As Req.
100.0 x 165.0	FB0100060165	As Req.



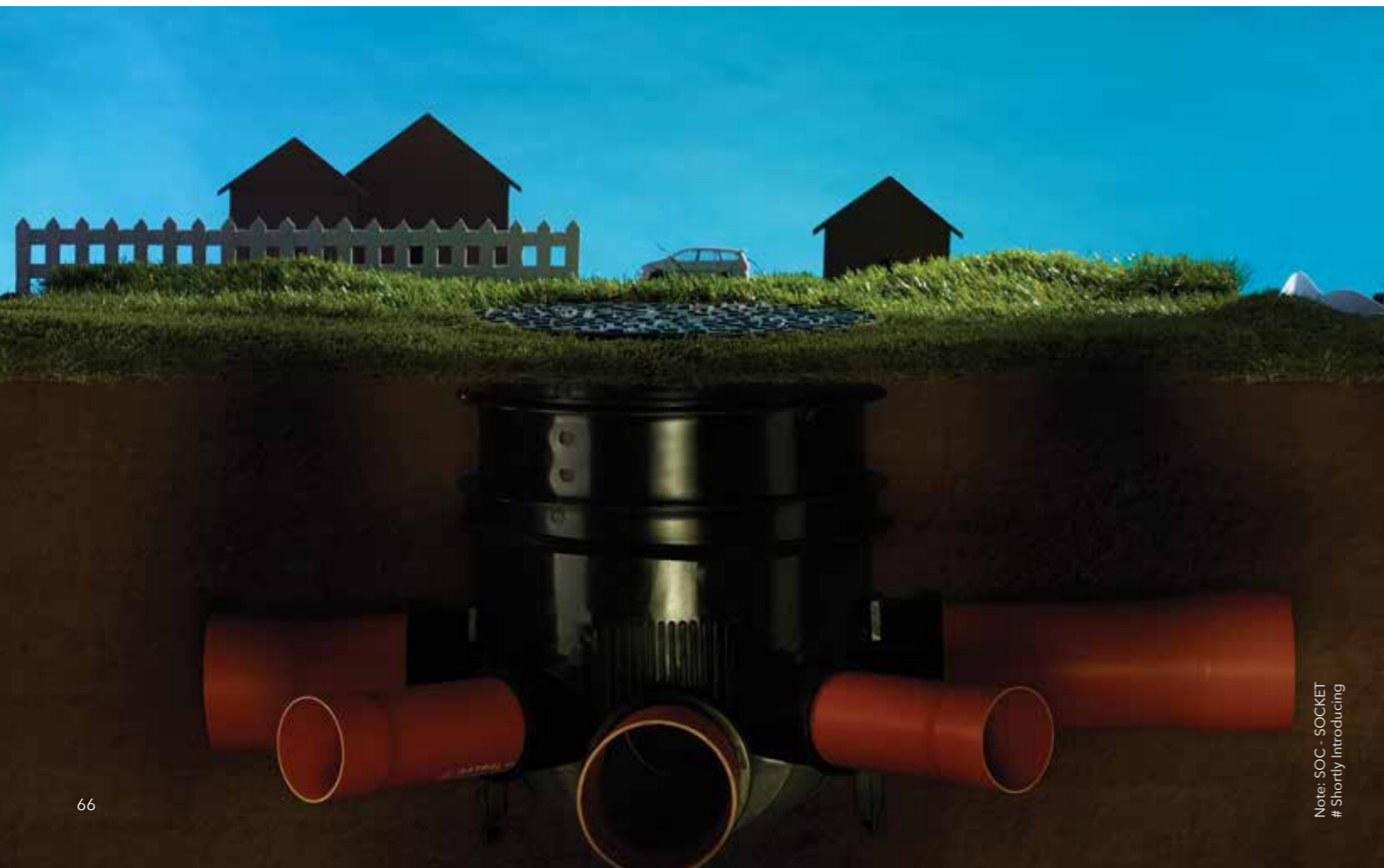
**GULLY TRAP**

Size (D X H) cm	Product Code	Std. Pkg. (Nos.)
11.0 x 40.5	GTZ110GT	As Req.



**PE LID**

Size (D) cm	Product Code	Std. Pkg. (Nos.)
50.0	LID050	As Req.



Note: SOC - SOCKET  
# Shortly introducing

# ASTRAL PE MANHOLE & INSPECTION CHAMBERS | MODULAR



**TRIZ FOR MANHOLE STEPS MOUNTING**

Size D (cm)	Product Code	Std. Pkg. (Nos.)
80.0	M99020007#	As Req.
100.0	M99020006#	As Req.



**FLAT BASE CHAMBER**

Size (D x H) cm	Product Code	Std. Pkg. (Nos.)
100.0 x 50.0	FB0100050FIBSES	As Req.
100.0 x 75.0	FB0100075FIBSES	As Req.
100.0 x 100.0	FB0100100FIBSES	As Req.



**CLIP FOR FIXING MANHOLE STEPS**

Size (cm)	Product Code	Std. Pkg. (Nos.)
-	M99020001#	As Req.



**ELEMENT SEAL**

Size D (cm)	Product Code	Std. Pkg. (Nos.)
100.0	M99020002	As Req.



**FRP MANHOLE STEP**

Size (cm)	Product Code	Std. Pkg. (Nos.)
-	M99020005#	As Req.



**INLET SEAL**

Size (D) cm	Product Code	Std. Pkg. (Nos.)
7.5	IS-75	As Req.
9.0	IS-90	As Req.
11.0	IS-110	As Req.
16.0	IS-160	As Req.
20.0	IS-200	As Req.
25.0	IS-250	As Req.
31.5	IS-315	As Req.
40.0	IS-400	As Req.



**CUP SAW BLADE**

Size (D) cm	Product Code	Std. Pkg. (Nos.)
11.0	CS-110	As Req.
12.0	CS-120	As Req.
16.0	CS-160	As Req.
20.0	CS-200	As Req.
25.0	CS-250	As Req.
31.5	CS-315	As Req.
40.0	CS-400	As Req.
Cup Saw Adp.	CSA	As Req.

# ULTRA MODERN DRAINAGE SYSTEM



**CHAMBER BODY WITH BLANKING PLUG**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5	M142005518	01
45.0	M142005520	01



**CHAMBER BODY WITHOUT BLANKING PLUG**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5	M142005418	01
45.0	M142005420	01



**CHAMBER LH TEE JUNCTION BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5 x 11.0	M1420012118	01
35.5 x 16.0	M1420012191	01



**CHAMBER RH TEE JUNCTION BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5 x 11.0	M1420012018	01
35.5 x 16.0	M1420012091	01



**CHAMBER LH 90° BEND BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5 x 11.0	M1420011918	01
35.5 x 16.0	M1420011991	01



**CHAMBER RH 90° BEND BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5 x 11.0	M1420011818	01
35.5 x 16.0	M1420011891	01



**CHAMBER STRAIGHT BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5 x 11.0	M1420011718	01
35.5 x 16.0	M1420011791	01



**CHAMBER CROSS TEE INLET JUNCTION BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5 x 11.0	M1420012318	01
35.5 x 16.0	M1420012391	01

# Shortly introducing

# ULTRA MODERN DRAINAGE SYSTEM



**CHAMBER  
TWO 90°  
INLET JUNCTION  
BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5 x 11.0	M1420012218	01
35.5 x 16.0	M1420012291	01



**CHAMBER COVER**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5	M142005318	01
45.0	M142005320	01



**CHAMBER FRAME**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5	M142005218	01
45.0	M142005220	01



**CHAMBER  
FRAME  
WITH COVER**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5	M142005718	01
45.0	M142005720	01



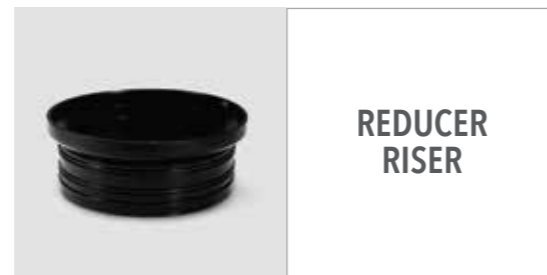
**CHAMBER RISER  
WITHOUT RING**

Size (cm)	Product Code	Std. Pkg. (Nos.)
31.5	M142005118	01
45.0	M142005120	01



**CHAMBER RISER  
WITH RING**

Size (cm)	Product Code	Std. Pkg. (Nos.)
45.0	M142005820	01



**REDUCER  
RISER**

Size (cm)	Product Code	Std. Pkg. (Nos.)
35.5 x 31.5	M1420012492	01

# ULTRA MODERN UNDERGROUND FITTINGS



**CHANNEL  
DRAIN (BODY)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M192014427	01



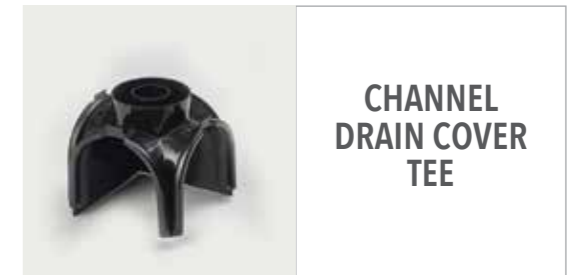
**CHANNEL  
DRAIN COVER  
WITH BODY**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M142006209	01



**CHANNEL  
DRAIN (COVER)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M142004709	01



**CHANNEL  
DRAIN COVER  
TEE**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M142004809	24



**CHANNEL  
BLANKING  
PLUG (RIGHT)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M142005009	12



**CHANNEL  
BLANKING  
PLUG (LEFT)**

Size (cm)	Product Code	Std. Pkg. (Nos.)
11.0	M142004909	24