Jain Turbo Cascade® RID

PC, PCAS & PCNL

Innovative way to significantly protect your Dripline against root intrusion

Root intrusion is an issue in subsurface drip irrigation systems mostly happening due to inadequate irrigation leading to water stress due to which crop roots enter and block drip irrigation emitters. Jain Irrigation has developed a proprietary 'Root Intrusion Deterrent' technology to avoid root intrusion. RID technology works in two ways: first prevents root ingress by providing mechanical barriers in the dripper's design and second, by impregnation of a specially developed copper compound in the dripper. Copper with its potent biocidal properties, significantly reduces root intrusion.

Jain Turbo Cascade-RID inhibits root intrusion.

Jain® Drip
More Crop Per Drop®

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Uniformity at its soul

Non-uniform distribution of water in drip irrigation system is due to multiple reasons such as topography, pressure fluctuations, use of aged equipment (old pumpset etc.), improper hydraulic design etc. According to a survey, this non uniformity causes loss of fertiliser about 60 kg/ac per year and water loss of about 12,33,000 litres per year (source: Irrigation Today, January 2019).

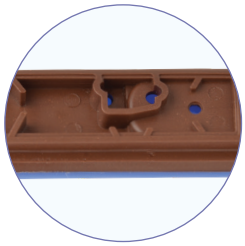
Use of Turbo Cascade PC, PCAS and PCNL is the key to overcome these losses. Despite of all abovementioned variables, Turbo Cascade PC, PCAS and PCNL ensures distribution uniformity over 94%. Jain Turbo Cascade is also available with 'RID' technology which deters the root intrusion to a great extent. That is why, Jain Turbo Cascade is the best and most popular pressure compensating dripline in the world.

Inventor of PC Technology for Integral Dripline

Features & Benefits

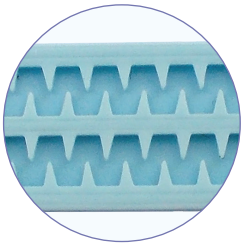
Factory Sealed, Pressure Compensating Emitter

Three models available,
PC - Pressure Compesating
PCAS - Pressure Compensating Anti Siphon
PCNL - Pressure Compensating Non Leakage



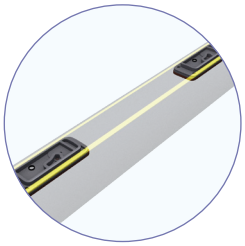
'RID' technology to deter root intrusion

Drippers upper housing is impregnated with proprietary copper compound which significantly inhibits the root intrusion.



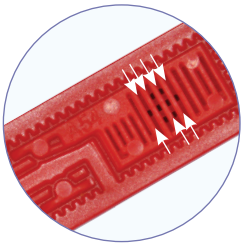
Innovative Cascade Labyrinth

Cascade labyrinth gives strong, self cleaning turbulence, ensures continuous flushing of sediments.



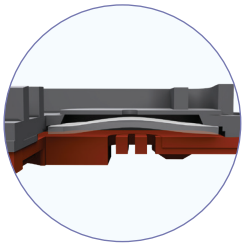
Manufactured with Most Modern, State-Of-the-Art Equipment.

It's computerised continuous online quality control monitors emitter spacing and precision in outlet drilling.



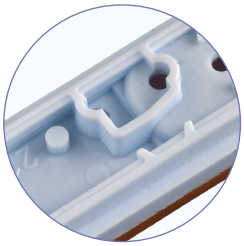
Three Dimensional Inlet Filter

3D water inlet structure to improve clog resistance.



Dynamic Self Cleaning Mechanism

Dynamic movement of diaphragm flushes of debris.



Protection from Intrusion Sand Suction

Weir structure prevents sand suction.

Precision Pressure Compensation

Injection moulded silicone diaphragm helps to maintain high discharge uniformity.

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Features

Quality Comes First

Each batch is tested for stringent quality parameter. Conforming to Indian standard IS 13488:2008 and international standard ISO 9261:2004.

Manufactured from Special Grade Virgin Plastic Material

Makes the tubing durable and gives best environmental stress crack resistance (ESCR).

Excellent CVm, manufacturer's coefficient of variation

Maintains close dimensional tolerances to ensure best field emission uniformity.

Rodent Deterrent option

Can also be supplied with optional rodent dfferent feature which protects tube from rats. (Conditions apply)

Applications

- All purpose versatile product. Suitable for undulating areas.
- Open field application to maintain high field application efficiency.
- PCNL option allows all the drippers to open at a time. Hence it is specially recommended for pulse irrigation for greenhouse/nurseries especially for soilless substrate application. PCNL also works as Anti Siphon.
- PCNL option reduces filling time, saves water and electricity needed to fill up large pipe volume. By virtue of its design it also works as Anti Siphon and hence can also be used for subsurface application.
- PCAS is recommended for subsurface application to prevent soil suction.
- Sutaible for large fields with long rows.

Specifications

- **Nominal Discharges :** Available 1.1, 1.6, 2.0, 2.2 and 3.5 lph
- **Sizes :** Standard sizes
  Thick wall - 16 & 20 mm nominal diameter.
  Thin wall - 16 & 22 mm nominal diameter.
- **Wall Thickness :**
  Thick Wall - 0.5, 0.7, 0.9, 1.0, 1.1 & 1.2 mm
  Thin Wall - 18 mil (0.45mm), 20 mil (0.5 mm)
  Any other wall thickness can be supplied on demand.
- **Emitter Spacing :** Standard emitter spacing of 15, 20, 30, 40, 45, 50, 60, 75, 90, 100, 120 and 150 cm. Any other emitter spacing and group spacing can be supplied on demand.
- **Recommended Filtration :** minimum 150 mesh. Actual filtration requirement is to be decided on the basis of source water quality.

Dripper Selection

- PC Model - Orange Coloured Cap
- PCAS Model - Blue Coloured Cap
- PCNL Model - Red Coloured Cap

Variants of Jain Turbo Cascade

- **PC –** Basic pressure compensating with compensation range from 0.5 kg/cm^2 to 4.5 kg/cm^2.
- **PCAS–** Pressure Compensating Anti Siphon with compensation range from 0.5 kg/cm^2 to 4.5 kg/cm^2.
  - **Anti Siphon function –** In subsurface application of dripline, at the time of system closure, partial vacuum is generated in the lateral tubing. Vacuum causes siphoning due to which outside soil particles get sucked in the dripper and may plug the dripper. Anti-Siphon as the name suggest, prevents siphoning and thus protects the dripper from outside soil particles.
- **PCNL –** Pressure compensating non leakage with compensation range from 0.5 kg/cm^2 to 4.5 kg/cm^2.
  - **Non Leakage function –** Non Leakage assures the all the drippers in the system will opens up at a declared opening pressure and will closes down at declared closing pressure. It prevents uneven distribution of water and low head drainage. By virtue of its design, PCNL also works as PCAS (Anti Siphon) dripper.

For Turbo Cascade PCNL dripper,
Opening pressure – 1.0 kg/cm^2
Closing pressure – 0.2 kg/cm^2

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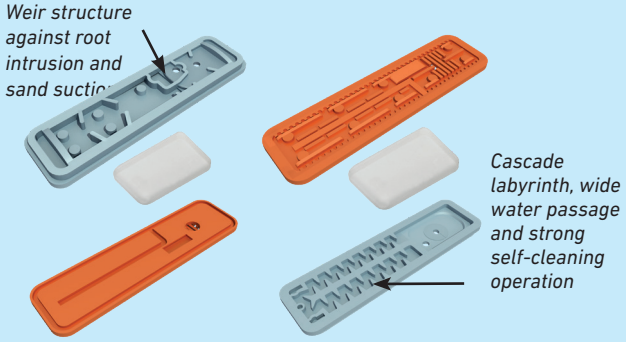
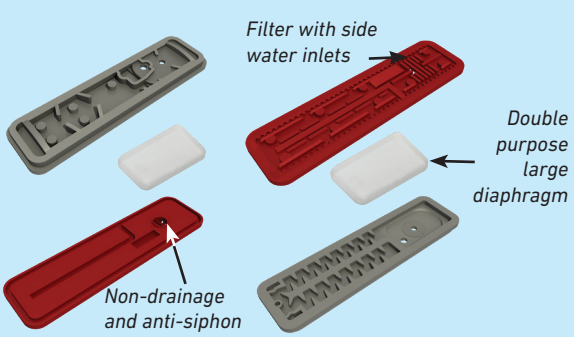
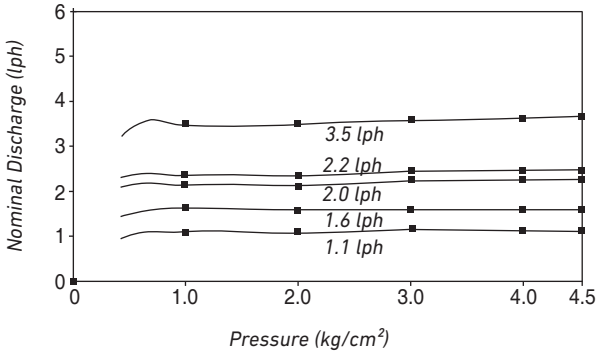
Jain Turbo Cascade PC®



Jain Turbo Cascade PCAS and PCNL ®



Performance Graph



Technical Specifications - Thick wall

Nominal Dia (mm)	Inside Dia (mm)	Minimum Wall Thickness (mm)		
		PN 1.25	PN 2.5	PN 4.5
16	13.8	0.5 - 0.6	0.7 - 0.9	1.0 - 1.2
	14.2	0.5 - 0.6	0.7 - 0.9	1.0 - 1.2
20	18.0	0.7 - 0.8	0.9 - 1.1	1.2 - 1.4

Technical Specifications - Thin wall

Nominal Dia (mm)	Inside Dia (mm)	Minimum Wall Thickness, Mil (mm)	
16	15.9	18 (0.45 mm)	20 (0.5 mm)
20	22.2	18 (0.45 mm)	20 (0.5 mm)

Technical Specifications for Emitter - Metric

Nominal Discharge (lph)	Emitter exponent	Flow coefficient	Coeff. of mfg. variation	Flow path dimensions (mm)			Inlet filter area (mm²)
	x	k	CVm, (%)	Length	Width	Depth	
1.1	0	1.0	1.0	49.6	0.80	0.70	3.54
1.6	0	1.6	1.5	48.5	0.86	0.9	3.22
2.0	0	2.0	1.5	48.8	0.94	1.05	3.33
2.2	0	2.2	3.0	48.8	0.94	1.05	3.33
3.5	0	3.5	2.0	45.0	1.38	1.27	3.21

Flow equation $q = kH^x$, q = nominal discharge, lph, H = Pressure head, kg/cm², x = Emitter exponent

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Jain Irrigation Systems Ltd. *Small Ideas. Big Revolutions.®*

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Jains Mobile App

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