

*Landscape &  
Turf Division  
Product  
Catalog*



 **NETAFIM**<sup>TM</sup>

(888) 638-2346

[www.netafimusa.com](http://www.netafimusa.com)

# MISSION

 **NETAFIM™** *Leading the way in drip irrigation since 1965.*



Our Mission is to create a global paradigm shift in the application and use of water within the Green industry. We will do this by providing technologically advanced and environmentally sound solutions to modern irrigation challenges, and by supporting our customers with education, training and insight into the intelligent use of water.



This year we are pleased to again advance the science of irrigation with an expanded line of precision drip irrigation products. For more details about Netafim landscape and turf irrigation products or to request design or installation information, call our Customer Service department at (888) 638-2346 or visit our web site at [www.netafimusa.com](http://www.netafimusa.com).



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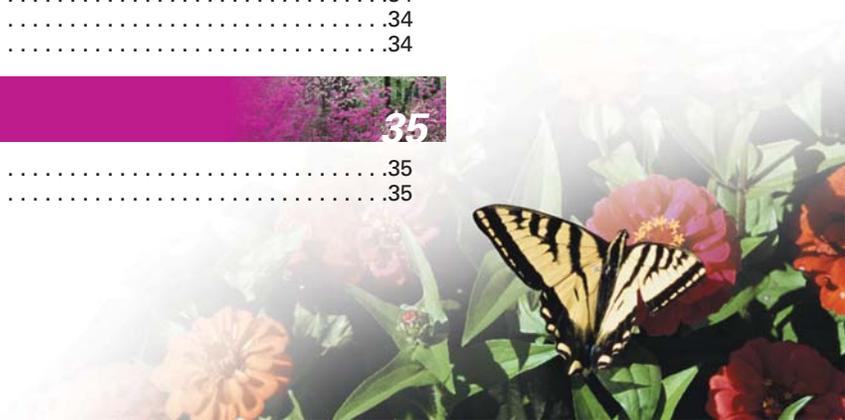
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# INTRODUCTION

## Succeed with the Leader in Drip Irrigation!

With more than 39 years of experience in drip irrigation for demanding *agricultural applications*, Netafim has also been pioneering innovations in drip irrigation for the *landscape industry* over the past decade.

This catalog presents our latest in drip irrigation technology for landscape and turf. No matter what your projects require, our comprehensive product line delivers the solutions you need for successful project completion and maintenance. From pressure compensating dripperline, like our revolutionary new Techline® CV with built-in check valves, to non-compensated dripperline such as Techlite®, we've got what you need.



## Our Landscape Product Offering

- Subsurface irrigation for turf and shrub bed applications
- On-surface irrigation for shrub bed applications
- Point source drippers for wide spaced plants and container plantings
- Controllers and valves for automatic irrigation control (residential and commercial applications) including DC controls
- Tools and accessories

Beyond the depth of our product offerings, Netafim is the authority you can trust for unparalleled technical and customer support. **We are here to help you succeed!** We also offer some of the best warranties (see below) in the industry, so you can rest assured knowing your projects will continue to please even your toughest customers for the long haul.

We have included charts in each section that simplify the ordering and specifying process, but should you ever have any questions, just call Customer Service at 888.638.2346 and we will be delighted to assist you.

## Warranty Information

### Basic Manufacturer's Limited Warranty

Netafim products are warranted to be free from defects in material and workmanship for a period of one (1) year from the date of delivery.

### Limited Warranty for Drippers

Drippers are warranted to be free from defects in materials and workmanship for two (2) years from the date of shipment from Netafim.

### Limited Warranty for Dripperlines

Netafim warrants any polyethylene tubing and dripperlines (Techline CV, Techline® and Techlite) sold to be free from environmental stress cracking for a period of seven (7) years from the date of original delivery.

A complete copy of Netafim's warranty is available by contacting Netafim customer service at 888.638.2346.

## DRIPPERLINE CALCULATIONS

### DRIPPERLINE Design

$$\text{ESTIMATING TOTAL LENGTH of Dripperline (ft.)} = \frac{\text{Irrigated Area (square ft.)} \times 12}{\text{Minimum Recommended Row Spacing (in.)}}$$

$$\text{ESTIMATING TOTAL ZONE FLOW (GPM)} = \left[ \frac{\text{Irrigated Area (square ft.)} \times 144}{\text{Dripper Spacing (in.)} \times \text{Dripperline Spacing (in.)}} \times \text{Dripper Flow (GPH)} \right] \div 60$$

$$\text{NUMBER OF DRIPPERS} = \frac{\text{Total Dripperline Length (ft.)} \times 12}{\text{Dripper Spacing (in.)}}$$

$$\text{FLOW PER ZONE (GPM)} = \frac{\text{Total Drippers} \times \text{Flow Per Dripper (GPH)}}{60}$$

$$\text{APPLICATION RATE (in./hr.)} = \frac{231.1 \times \text{Dripper Flow (GPH)}}{\text{Dripper Spacing (in.)} \times \text{Dripperline Spacing (in.)}}$$

## FIRST-TIME USERS

### KIT FOR TECHLINE® DRIPPERLINE



#### Techline Kit

Includes everything you need to tryout a complete system.

#### TECHLINE KIT Ordering Information

Dripper Flow (GPH)	Spacing	Length	Model Number
.9	12"	250'	TLK9-12-250
.6	12"	250'	TLK6-12-250
.6	18"	250'	TLK6-18-250
.4	18"	250'	TLK4-18-250

### Applications

- First-time users – everything you need to get started

### Features/Benefits

- Includes all of the basic components
- Helps first-time users design and install a complete system – all components, video and instructions are included
- Excellent choice for contractors or homeowners new to dripperline irrigation technology

### Each Kit Contains

- 250' Techline
- 25 TLTEE Tees
- 25 TLELL Elbows
- 10 TL075MA Male Adapters
- 10 TLCOUP Couplings
- 10 TL075FTEE Combination Tees
- 100 TLS6 Staples
- Flush Valve TLFV-1
- Air/Vacuum Relief Valve TLAVRV
- **NEW** Low Volume Control Zone LVCZ10075-LF includes 1" 24 VAC Valve, 3/4" 140 Mesh Filter and 3/4" PRV075LF45 Pressure Regulator
- Instructions and "Design, Installation and Maintenance" Video

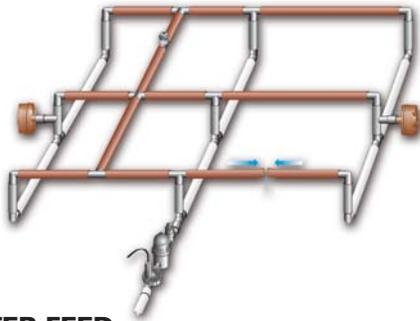
# DRIPPERLINE

## DESIGN LAYOUTS

### For Techline® CV, Techline® and Techlite® Dripperline Systems

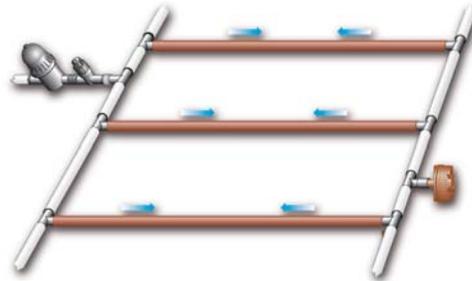
Netafim offers comprehensive design information for Irrigation Specifiers and Contractors, as well as design and installation videos and design details on disk for CAD and PC. For more information, call 888-NETAFIM (888-638-2346) or visit our website at [www.netafimusa.com](http://www.netafimusa.com).

## SAMPLE DESIGN LAYOUTS



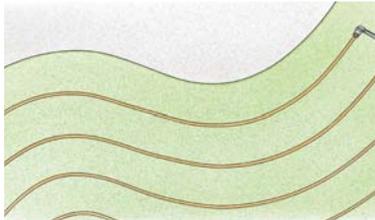
### CENTER FEED

For applications in medians or islands, use center feed configuration for long narrow areas.



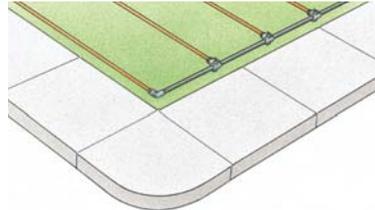
### END FEED

End feed configurations are generally used for short or medium length installations.



### CONTOURS

Dripperlines provide a flexible solution for irrigating around contoured areas and around confined planters or shrubs.



### LATERAL PLACEMENT

Place laterals 2" from any hardscape or 4" from the outside of uncontained landscapes. Place laterals perpendicular to (across) slopes, if any.

## TECHLINE®, TECHLINE® CV AND TECHLITE® ON-SURFACE LAYOUT

### Staples

Use 1 TLS6 staple for:

- Every 3' of dripperline in sand, every 4' in loam and every 5' in clay.

- Use 2-staples over each tee, elbow or cross.

**Caution** – Landscape fabric staples and other non-stainless steel staples rust quickly and are not recommended.

### Line Flushing Valve

Use one Line Flushing Valve for every 15 GPM of zone flow.

- TLSOV or TFIG8 may be substituted.
- Position as near as possible to the half-way point of the loop.
- Install in an area where flushing about one gallon of water will not cause flooding.

### Pressure Regulating Valve (PRV)

Install *after* the zone valve and filter.

With Techline, use:

- PRV075LF45V2K from .25 to 4.4 GPM
- PRV075HF45V2K from 3.5 to 20 GPM

With Techlite, refer to the appropriate *Average Flow Rate* chart to match the PRV with the desired dripper flow rate.

### Filter

Placed before or after the zone valve.

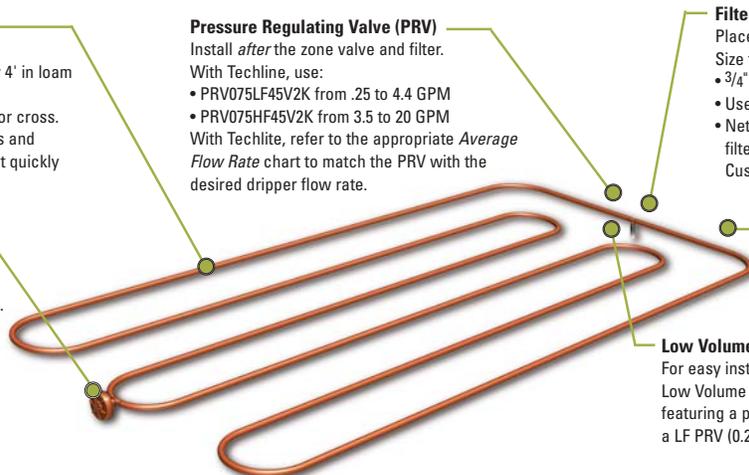
Size the filter based on zone flow:

- 3/4" filter – up to 17 GPM
- Use 120 or 140 mesh
- Netafim sells a large variety of filters – up to 6,500 GPM – Call Netafim Customer Service for more information.

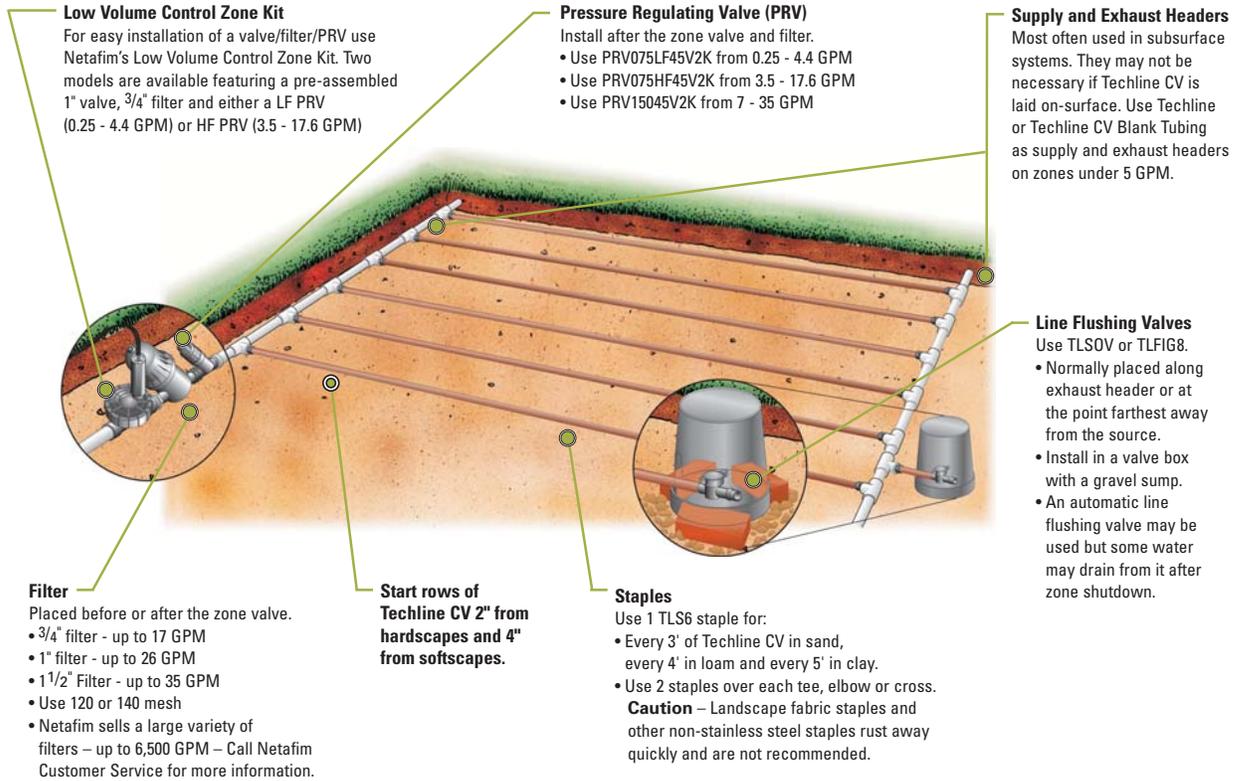
Start rows 2" from hardscapes and 4" from softscapes.

### Low Volume Control Zone Kit

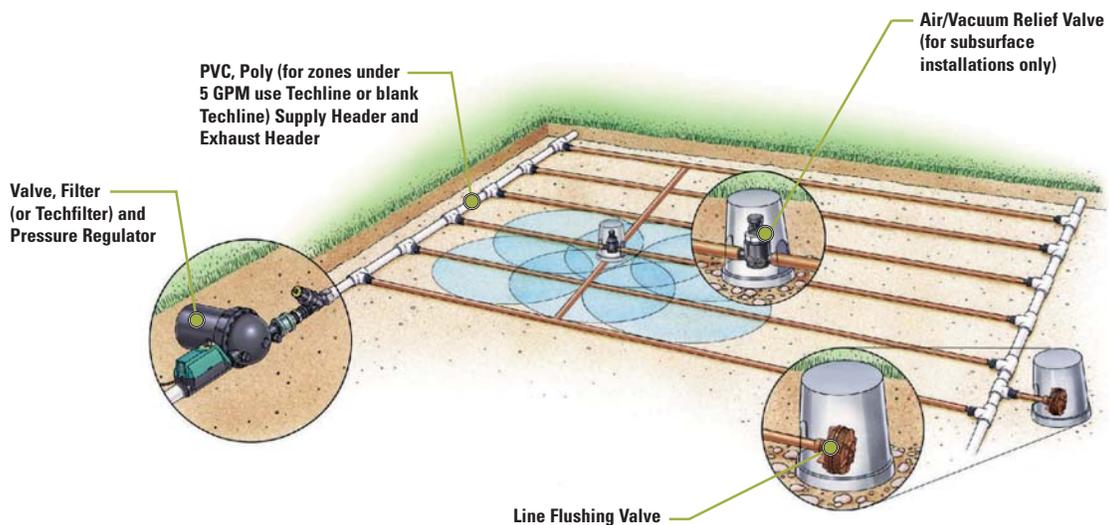
For easy installation of a valve/filter/PRV use Netafim's Low Volume Control Zone Kit. Two models are available featuring a pre-assembled 1" valve, 3/4" filter and either a LF PRV (0.25 - 4.4 GPM) or HF PRV (3.5 - 17.6 GPM).



## TECHLINE® CV SUBSURFACE LAYOUT



## TECHLINE® SUBSURFACE LAYOUT



# TECHLINE® CV

## SUBSURFACE OR ON-SURFACE DRIPPERLINE

**Combines the best of Techline and adds a check valve (CV). The most important breakthrough in low-volume irrigation since the introduction of drip.**



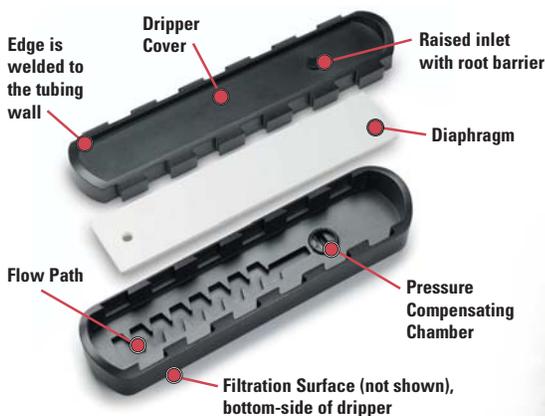
### Applications

- Subsurface or on-surface installations
- Slopes
- Curved, angular or narrow planting areas
- High traffic/high liability areas
- Areas subject to vandalism
- High wind areas
- Turf, shrubs, trees and flowers
- At-grade windows
- Sports turf
- Tennis courts

### Specifications

- Broadest choice of dripper flow rates: 0.26, 0.4, 0.6 and 0.9 GPH
- Dripper spacings: 12", 18" and 24"
- Pressure compensation range: 14.7 to 70 psi (stainless steel clamps recommended above 50 psi)
- Maximum recommended system pressure: 50 psi
- Minimum pressure required: 14.7 psi
- Tubing diameter: 0.66" OD; 0.56" ID
- Coil length: 100', 250', 1,000'
- Recommended filtration: 120 mesh

### EXPLODED VIEW OF TECHLINE CV DRIPPER



### Features/Benefits

- Each dripper has a 2 psi check valve – all drippers turn on and off at the same time
  - Minimizes water loss
  - Holds back up to 4½' of water (elevation change)
  - No low drainage, great on slopes
  - More precise watering
- Built-in physical root barrier – drippers are protected from root intrusion without chemical reliance
- Pressure compensation – all drippers deliver equal flow
- Unique flow path – Turbonet technology allows more control of water flow and less chance for clogging
- Continuous self-flushing dripper design – flushes debris as it is detected – throughout operation, not just at the beginning or end of a cycle and ensures uninterrupted dripper operation
- Extremely large filter area – provides uninterrupted water flow
- Single hole dripper outlet from tubing
  - Better protection against root intrusion
  - Allows the dripperline to be used in subsurface applications without chemical protection
- Easy to design in slope and berm applications – water does not drain out of low drippers
- No air/vacuum relief valves required – installations are faster and less expensive
- Techline compatible
- Techfilter compatible – provides a limited lifetime warranty against root intrusion



## TECHLINE CV General Guidelines

	TURF			SHRUB & GROUND COVER		
	Clay Soil	Loam Soil	Sandy Soil	Clay Soil	Loam Soil	Sandy Soil
Dripper Flow	0.26 GPH	0.4 GPH	0.6 GPH	0.26 GPH	0.4 GPH	0.6 GPH
Dripper Interval	18"	12"	12"	18"	18"	12"
Lateral (Row) Spacing	18" - 22"	18" - 22"	12" - 16"	18" - 24"	18" - 24"	16" - 20"
Burial Depth	On-surface or bury evenly throughout the zone to a maximum of 6"					
Application Rate (inch/hour)	.19 - .15	.43 - .35	.96 - .72	.19 - .14	.29 - .21	.72 - .58
Time to Apply 1/4" of Water (minutes)	79 - 100	35 - 43	16 - 21	79 - 107	52 - 71	21 - 26

Following these maximum spacing guidelines, dripper flow selection can be increased if desired by the designer.

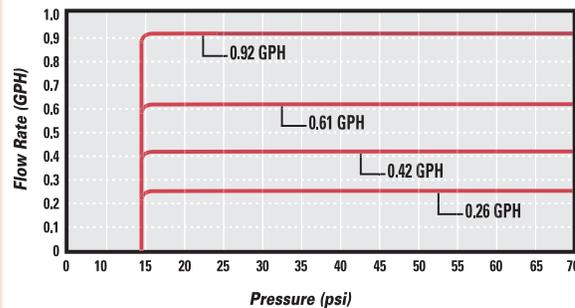
## TECHLINE CV Maximum Length of a Single Lateral (feet)

Dripper Spacing	12"				18"				24"		
Dripper Flow Rate (GPH)	0.26	0.4	0.6	0.9	0.26	0.4	0.6	0.9	0.6	0.9	
Inlet Pressure (psi)	15	127	109	86	65	177	151	120	91	152	116
	25	427	325	256	194	604	459	361	274	458	348
	35	539	409	322	244	763	579	456	346	580	440
	45	618	469	369	280	877	664	523	397	666	506

## TECHLINE CV Flow Per 100 Feet

Dripper Spacing	0.26 GPH Dripper		0.4 GPH Dripper		0.6 GPH Dripper		0.9 GPH Dripper	
	GPH	GPM	GPH	GPM	GPH	GPM	GPH	GPM
12"	26.40	0.44	40.00	0.67	61.00	1.02	92.00	1.53
18"	17.58	0.29	26.67	0.44	41.00	0.68	61.00	1.02
24"	Not Available		Not Available		31.00	0.51	46.00	0.77

## TECHLINE CV Dripper Flow Rate vs. Pressure



## TECHLINE CV Specifying Information

### Reference for Ordering Information Chart

A Techline CV Dripperline = TLCV

SAMPLE MODEL NUMBER

1 2  
**TLCV4-1210**  
A 3

1 **Dripper Flow Rate**  
0.26 GPH = 26  
0.4 GPH = 4  
0.6 GPH = 6  
0.9 GPH = 9

2 **Dripper Spacing**  
12" = 12  
18" = 18  
24" = 24

3 **Coil Length**  
100' = 01  
250' = 025  
1,000' = 10

BLANK Tubing Model Numbers:

1,000' = TLCV010    250' = TLCV0025    100' = TLCV001

## TECHLINE CV Ordering Information

Flow Rate	Dripper Spacing	Coil Length	Model Number
0.26 GPH	12"	1,000'	TLCV26-1210
		250'	TLCV26-12025
		100'	TLCV26-1201
0.26 GPH	18"	1,000'	TLCV26-1810
		250'	TLCV26-18025
		100'	TLCV26-1801
0.4 GPH	12"	1,000'	TLCV4-1210
		250'	TLDL4-12025
		100'	TLCV4-1201
0.4 GPH	18"	1,000'	TLCV4-1810
		250'	TLCV4-18025
		100'	TLCV4-1801
0.6 GPH	12"	1,000'	TLCV6-1210
		250'	TLCV6-12025
		100'	TLCV6-1201
0.6 GPH	18"	1,000'	TLCV6-1810
		250'	TLCV6-18025
		100'	TLCV6-1801
0.6 GPH	24"	1,000'	TLCV6-2410
		250'	TLCV6-24025
		100'	TLCV6-2401
0.9 GPH	12"	1,000'	TLCV9-1210
		250'	TLCV9-12025
		100'	TLCV9-1201
0.9 GPH	18"	1,000'	TLCV9-1810
		250'	TLCV9-18025
		100'	TLCV9-1801
0.9 GPH	24"	1,000'	TLCV9-2410
		250'	TLCV9-24025
		100'	TLCV9-2401
Blank Tubing 17mm		1,000'	TLCV010
		250'	TLCV0025
		100'	TLCV001

# TECHLINE®

## SUBSURFACE OR ON-SURFACE DRIPPERLINE

*The world's most advanced continuous self-cleaning, pressure-compensating dripperline.*



### Applications

- Subsurface or on-surface installations
- Curved, angular or narrow planting areas
- High traffic/high liability areas
- Areas subject to vandalism
- High wind areas
- Turf, shrubs, trees
- Slopes
- At-grade windows
- Sports turf

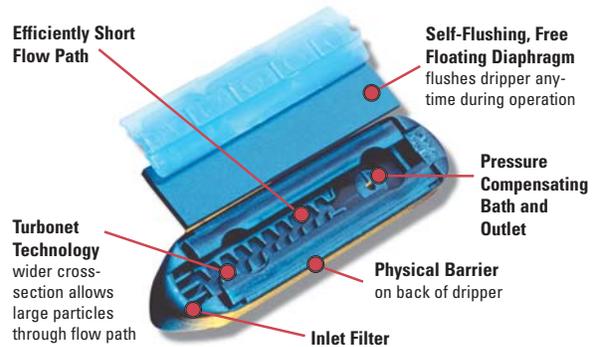
### Features/Benefits

- Pressure compensating
- Efficient, short flow path
- Continuous self-cleaning design resists clogging
- Self-flushing/cleaning, elastomer diaphragm
- Unique design with physical root barrier helps prevent root intrusion
- Self-contained, one-piece construction assures reliability, easy installation
- 12", 18" or 24" dripper spacing and blank tubing available
- Flexible tubing adapts to any planting area shape
- UV resistant
- Labels on rolls denote flow rate and spacing
- Tubing indelibly marked with flow rate

### Specifications

- Dripper flow rates: 0.4, 0.6 or 0.9 GPH
- Pressure compensation range: 7 to 70 psi (stainless steel clamps recommended above 50 psi)
- Maximum recommended system pressure: 50 psi
- Tubing diameter: 0.66" OD; 0.56" ID
- Coil Length: 100', 250', 1,000'
- Recommended filtration: 120 mesh
- Bending radius: 7"
- Tubing material: Linear low-density polyethylene

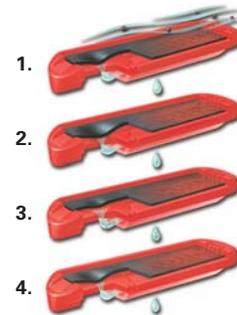
### EXPLODED VIEW OF TECHLINE DRIPPER



### TECHLINE DRIPPER OPERATION

Techline's Self-Cleaning, Pressure Compensating Dripper is a fully self-contained unit molded to the interior wall of the dripper tubing itself. Both tubing and dripper housing are manufactured from high-quality synthetic elastomers to withstand chemicals and fertilizers.

As shown at right, Techline is continuously self-cleaning during operation, not just at the beginning and end of a cycle. The result is dependable, clog-free operation, year after year.



1. Regulating mode
2. Initiation of flushing cycle
3. Flushing cycle
4. Regulating mode

## TECHLINE General Guidelines

	TURF			SHRUB & GROUND COVER		
	Clay Soil	Loam Soil	Sandy Soil	Clay Soil	Loam Soil	Sandy Soil
Dripper Flow	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
Dripper Interval	18"	12"	12"	18"	18"	12"
Lateral (Row) Spacing	18" - 22"	18" - 22"	12" - 16"	18" - 24"	18" - 24"	16" - 20"
Burial Depth	On-surface or bury evenly throughout the zone to a maximum of 6"					
Application Rate (inch/hour)	.29 - .23	.64 - .53	1.44 - 1.08	.29 - .21	.43 - .32	1.08 - .87
Time to Apply 1/4" of Water (minutes)	52 - 65	23 - 28	10 - 14	52 - 71	35 - 47	14 - 17

Following these maximum spacing guidelines, dripper flow selection can be increased if desired by the designer.

## TECHLINE Maximum Length of a Single Lateral (feet)

Dripper Spacing	12"			18"			24"		
	0.4	0.6	0.9	0.4	0.6	0.9	0.6	0.9	
Inlet Pressure (psi)	15	292	233	175	410	322	247	405	308
	25	397	312	238	558	438	335	553	423
	35	486	365	279	656	514	394	649	497
	45	520	407	311	732	574	439	725	555

## TECHLINE Specifying Information

### Reference for Ordering Information Chart

SAMPLE MODEL NUMBER

**A** Techline Dripperline = TLDL

**1** Drripper Flow Rate  
0.4 GPH = 4  
0.6 GPH = 6  
0.9 GPH = 9

**2** Drripper Spacing  
12" = 12  
18" = 18  
24" = 24

**3** Coil Length  
100' = 01  
250' = 025  
1,000' = 10

**TLDL4-1210**

### BLANK Tubing Model Numbers:

1,000' = TLDL010    250' = TLDL0025    100' = TLDL001

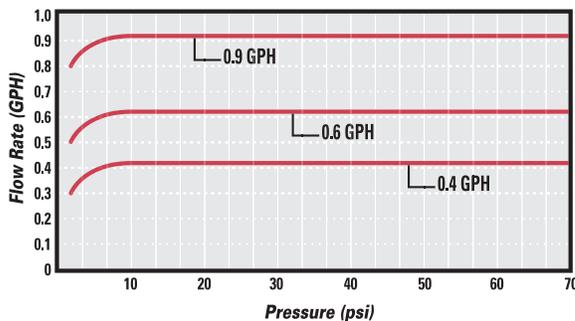
## TECHLINE Flow Per 100 Feet

Dripper Spacing	0.4 GPH Dripper		0.6 GPH Dripper		0.9 GPH Dripper	
	GPH	GPM	GPH	GPM	GPH	GPM
12"	40.00	0.67	61.00	1.02	92.00	1.53
18"	26.67	0.44	41.00	0.68	61.00	1.02
24"	Not Available		31.00	0.51	46.00	0.77

## TECHLINE Ordering Information

Flow Rate	Dripper Spacing	Coil Length	Model Number
0.4 GPH	12"	1,000'	TLDL4-1210
		250'	TLDL4-12025
		100'	TLDL4-1201
0.4 GPH	18"	1,000'	TLDL4-1810
		250'	TLDL4-18025
		100'	TLDL4-1801
0.6 GPH	12"	1,000'	TLDL6-1210
		250'	TLDL6-12025
		100'	TLDL6-1201
0.6 GPH	18"	1,000'	TLDL6-1810
		250'	TLDL6-18025
		100'	TLDL6-1801
0.6 GPH	24"	1,000'	TLDL6-2410
		250'	TLDL6-24025
		100'	TLDL6-2401
0.9 GPH	12"	1,000'	TLDL9-1210
		250'	TLDL9-12025
		100'	TLDL9-1201
0.9 GPH	18"	1,000'	TLDL9-1810
		250'	TLDL9-18025
		100'	TLDL9-1801
0.9 GPH	24"	1,000'	TLDL9-2410
		250'	TLDL9-24025
		100'	TLDL9-2401
Blank Tubing 17mm		1,000'	TLDL010
		250'	TLDL0025
		100'	TLDL001

## TECHLINE Drripper Flow Rate vs. Pressure



Between 0 and 7 psi, the dripper functions as a turbulent flow emitter, ensuring that the nominal design flow is not exceeded at system start-up.

# TECHLINE<sup>®</sup> FOR RECLAIMED WATER

## PRESSURE COMPENSATING DRIPPERLINE

**Purple-colored dripperline warns of the use of non-potable water.**



### Applications

- Reclaimed (recycled) water use

### Specifications

- Manufactured in purple for non-potable water sources
- Dripper flow rates: 0.4, 0.6 and 0.9 GPH
- Pressure compensation range: 7 to 70 psi
- Maximum recommended system pressure: 50 psi
- Tubing diameter: 0.66" OD, 0.56" ID
- Water passage dimensions:
  - 0.4 GPH: .044" depth, .044" width, .760" length
  - 0.6 GPH: .048" depth, .048" width, .610" length
  - 0.9 GPH: .052" depth, .052" width, .610" length
- Recommended filtration: 120 Mesh
- Uses 17mm fittings and accessories
- Coil length: 1,000'

### Features/Benefits

- Utilizes a patented technology based on a unique pressure differential mechanism which provides high emission uniformity and a clog-resistant design
- Provides design flexibility and superior uniformity for irrigation with non-potable/reclaimed water and soil loading
- Patented, continuous self-flushing, free-floating diaphragm allows the dripper to cleanse itself anytime during operation
- Designed with a very large Turbonet flow path, allowing particles to pass freely
- Each emitter is raised .26" from the wall of the dripperline to prevent sediment from entering the dripper when the system is not in operation
- Chemical and wear resistant, maintaining its design flow over many years of use

### TECHLINE FOR RECLAIMED WATER General Guidelines

	TURF			SHRUB & GROUND COVER		
	Clay Soil	Loam Soil	Sandy Soil	Clay Soil	Loam Soil	Sandy Soil
<b>Dripper Flow</b>	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
<b>Dripper Interval</b>	24"	12"	12"	18"	18"	12"
<b>Lateral (Row) Spacing</b>	18" - 22"	18" - 22"	12" - 16"	18" - 24"	18" - 24"	16" - 20"
<b>Burial Depth</b>	On-surface or bury evenly throughout the zone to a maximum of 6"					
<b>Application Rate (inch/hour)</b>	.29 - .23	.64 - .53	1.44 - 1.08	.29 - .21	.43 - .32	1.08 - .87
<b>Time to Apply 1/4" of Water (minutes)</b>	52 - 65	23 - 28	10 - 14	52 - 71	35 - 47	14 - 17

*Following these maximum spacing guidelines, dripper flow selection can be increased if desired by the designer.*

# TECHLINE® FOR RECLAIMED WATER DRIPPERLINE

## TECHLINE FOR RECLAIMED WATER Maximum Length of a Single Lateral (feet)

Dripper Spacing		12"			18"			24"	
Dripper Flow Rate (GPH)		0.4	0.6	0.9	0.4	0.6	0.9	0.6	0.9
Inlet Pressure (psi)	15	292	233	175	410	322	247	405	308
	25	397	312	238	558	438	335	553	423
	35	486	365	279	656	514	394	649	497
	45	520	407	311	732	574	439	725	555

## TECHLINE FOR RECLAIMED WATER Specifying Information

### Reference for Ordering Information Chart

A Techline for Reclaimed Water = TLDLR  
 Dropperline

SAMPLE MODEL NUMBER

TLDLR4-1210

- 1 **Dripper Flow Rate**  
 0.4 GPH = 4  
 0.6 GPH = 6  
 0.9 GPH = 9
- 2 **Dripper Spacing**  
 12" = 12  
 18" = 18  
 24" = 24
- 3 **Coil Length**  
 1,000' = 10

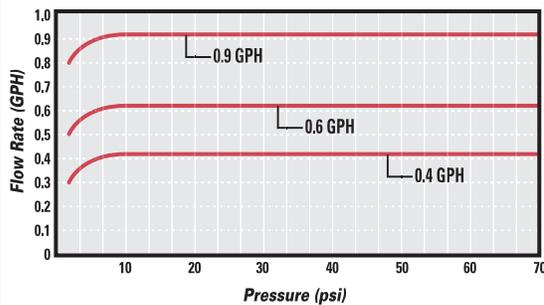
## TECHLINE FOR RECLAIMED WATER Flow Per 100 Feet

Dripper Spacing	0.4 GPH Dropper		0.6 GPH Dropper		0.9 GPH Dropper	
	GPH	GPM	GPH	GPM	GPH	GPM
12"	40.00	0.67	61.00	1.02	92.00	1.53
18"	26.67	0.44	41.00	0.68	61.00	1.02
24"	Not Available		31.00	0.51	46.00	0.77

## TECHLINE FOR RECLAIMED WATER Ordering Information

Flow Rate	Dripper Spacing	Coil Length	Model Number
0.4 GPH	12"	1,000'	TLDLR4-1210
	18"	1,000'	TLDLR4-1810
	24"	1,000'	TLDLR4-2410
0.6 GPH	12"	1,000'	TLDLR6-1210
	18"	1,000'	TLDLR6-1810
	24"	1,000'	TLDLR6-2410
0.9 GPH	12"	1,000'	TLDLR9-1210
	18"	1,000'	TLDLR9-1810
	24"	1,000'	TLDLR9-2410

## TECHLINE FOR RECLAIMED WATER Dripper Flow Rate vs. Pressure



Between 0 and 7 psi, the dropper functions as a turbulent flow emitter, ensuring that the nominal design flow is not exceeded at system start-up.



# 17mm TECHLITE®

**ON-SURFACE, NON-PRESSURE COMPENSATING DRIPPERLINE**



## Applications

- For on-surface installations only
- Under mulch
- Large sized irrigation zones
- Shrub beds
- Narrow planting areas

## Features/Benefits

- Non-pressure compensating
- Large, efficient turbulent flow path
- Self-contained, one piece construction assures reliability and easy installation
- Tubing flexibility adapts to any planting shape
- UV resistant
- 12", 18" dripper spacing and blank tubing available
- On-surface installation – less labor, more profit
- Internal dripper eliminates labor to attach drippers and micro-tubing
- No clamps required below 50 psi

## Specifications

- Dripper flow rates: 0.5 or 1.0 GPH (nominal @ 15 psi)
- Uses 17mm fittings
- Non-pressure compensating range: 12 to 50 psi
- Maximum recommended system pressure: 50 psi
- Recommended filtration: 120 mesh
- Maximum lateral length: (see chart p. 15)
- Tubing diameter: 0.66" O.D., 0.56" I.D.
- Tubing material: Linear low density polyethylene
- Coil Lengths: 100', 250', 1,000'
- Bending radius: 7"



# 17mm TECHLITE® DRIPPERLINE

## 17mm TECHLITE General Guidelines

	ON-SURFACE INSTALLATIONS		
	Clay Soil	Loam Soil	Sandy Soil
Dripper Flow @ 15 psi***	0.5 GPH	0.5 GPH	1.0 GPH
Dripper Interval	18"	18"	12"
Lateral (Row) Spacing	18" - 24"	18" - 24"	16" - 20"
Application Rate (inch/hour)	.36 - .27	.36 - .27	1.32 - 1.06
Time to Apply 1/4" of Water (minutes)	42 - 56	42 - 56	11 - 14

\*\*Maximum spacing recommendations: Following these spacing guidelines, dripper flow selection can be increased if desired by the designer.

\*\*\*Recommended operating pressure: If operated at higher pressures, adjustments to run times and application rates should be calculated using the correct average flow rate (see Dripper Flow Rate vs. Pressure chart).

## 17mm TECHLITE Maximum Length of Laterals<sup>1</sup> on Slopes from +3% to -3%

1% = 1 Foot Elevation Change in 100 Feet								
T1710-12XX	T1710-18XX	T1705-12XX	T1705-18XX	3%	111'	148'	161'	207'
				2%	130'	184'	203'	293'
				1%	133'	192'	214'	310'
125'	176'	195'	274'	0%	137'	199'	222'	324'
130'	184'	203'	293'	-1%				
133'	192'	214'	310'	-2%				
137'	199'	222'	324'	-3%				
					T1710-12XX	T1710-18XX	T1705-12XX	T1705-18XX

<sup>1</sup>Flow Variation = 10%

## 17mm TECHLITE Specifying Information

### Reference for Ordering Information Chart

17mm Techlite Dripperline = T17

SAMPLE MODEL NUMBER

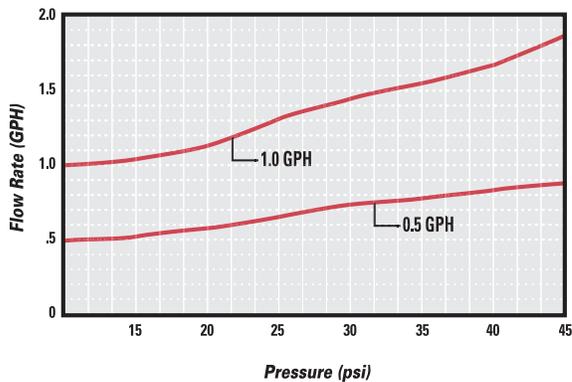
**T1705-18025**

**1** Dripper Flow Rate  
0.5 GPH = 05  
1.0 GPH = 10

**2** Dripper Spacing  
12" = 12  
18" = 18

**3** Coil Length  
100' = 01  
250' = 025  
1,000' = 10

## 17mm TECHLITE Dripper Flow Rate vs. Pressure



## 17mm TECHLITE Ordering Information

Flow Rate	Dripper Spacing	Coil Length	Model Number
0.5 GPH	12"	1,000'	T1705-1210
		250'	T1705-12025
		100'	T1705-1201
0.5 GPH	18"	1,000'	T1705-1810
		250'	T1705-18025
		100'	T1705-1801
1.0 GPH	12"	1,000'	T1710-1210
		250'	T1710-12025
		100'	T1710-1201
1.0 GPH	18"	1,000'	T1710-1810
		250'	T1710-18025
		100'	T1710-1801

# 8mm TECHLITE®

## ON-SURFACE, NON-PRESSURE COMPENSATING DRIPPERLINE



### Applications

- For on-surface installations only
- Under mulch
- Small sized irrigation zones
- Shrub beds
- Narrow planting areas

### Features/Benefits

- Non-pressure compensating
- 6", 12" dripper spacing and blank tubing available
- 60% smaller diameter than 17mm Techlite – less noticeable for on-surface installations
- Large, efficient turbulent flow path dripper
- Self-contained, one piece construction assures reliability and easy installation
- Tubing flexibility adapts to any planting shape
- UV resistant
- On-surface installation – less labor, more profit
- No clamps required below 25 psi

### Specifications

- Dripper flow rate: 0.5 GPH (nominal @ 15 psi)
- Uses 8mm Techlite fittings
- Operating pressure range: 5 to 25 psi
- Maximum recommended system pressure: 25 psi
- Recommended filtration: 120 mesh
- Maximum lateral length: (see chart at right)
- Tubing diameter: 0.26" O.D., 0.24" I.D.
- Tubing material: Linear low density polyethylene
- Coil Length: 100', 1,000'
- Bending radius: 2"

### 8mm TECHLITE General Guidelines<sup>1</sup>

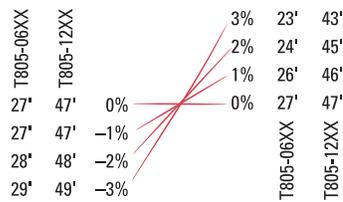
	ON-SURFACE INSTALLATIONS		
	Clay Soil	Loam Soil	Sandy Soil
Dripper Flow @ 15 psi <sup>***</sup>	0.5 GPH	0.5 GPH	0.5 GPH
Dripper Interval	12"	12"	12"
Lateral (Row) Spacing	18" - 24"	18" - 24"	14" - 18"
Application Rate (inch/hour)	.53 - .40	.53 - .40	.69 - .53
Time to Apply 1/4" of Water (minutes)	28 - 38	28 - 38	22 - 28

**\*\*\*Maximum spacing recommendations:** Following these spacing guidelines, dripper flow selection can be increased if desired by the designer.

**\*\*\*Recommended operating pressure:** If operated at higher pressures, adjustments to run times and application rates should be calculated using the correct average flow rate (see Dripper Flow Rate vs. Pressure chart).

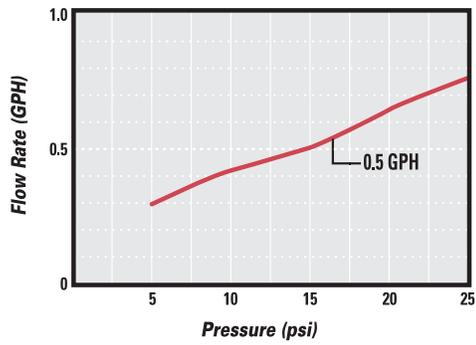
### 8mm TECHLITE Maximum Length of Laterals<sup>1</sup> on Slopes from +3% to -3%

1% = 1 Foot Elevation Change in 100 Feet



<sup>1</sup>Flow Variation = 10%

## 8mm TECHLITE Dripper Flow Rate vs. Pressure



## 8mm TECHLITE Specifying Information

### Reference for Ordering Information Chart

SAMPLE MODEL NUMBER

**A** 8mm Techlite = T8  
**T805-06010**

**1** Dripper Flow Rate  
 0.5 GPH = 05

**2** Dripper Spacing  
 6" = 06  
 12" = 12

**3** Coil Length  
 100' = 010  
 1,000' = 10

**BLANK Tubing Model Numbers:**  
 1,000' = T800-010    100' = T800-001

## 8mm TECHLITE Ordering Information

Flow Rate	Dripper Spacing	Coil Length	Model Number
0.5 GPH	6"	1,000'	T805-0610
		100'	T805-06010
0.5 GPH	12"	1,000'	T805-1210
		100'	T805-12010



# DRIPPERLINE

## FITTINGS AND ACCESSORIES

### Applications

- Fits Techline® CV, Techline® and Techlite® Dripperlines

### Features/Benefits

- Barbed fittings for secure fit and easy installation without glue or tools
- Maximum recommended system pressure: 50 psi; 8mm fittings: 25 psi
- UV resistant
- Durable one-piece construction
- Allows for easy on-site inspection of proper fitting installation

### 8mm TECHLITE FITTINGS



**SLCOUP**  
Insert Coupling



**SL050FTEE**  
1/2" Female  
Combination Tee



**SLTEE**  
Insert Tee



**END CAP\***



**SL050FA**  
1/2" Female  
Adapter



8mm Techlite can be attached to blank Techline tubing.

\*End Cap can be made from Techline CV, Techline or 17mm Techlite Dripperline by folding 8mm Techlite tubing over twice and sliding 1 1/4" cut section over the end.

### TECHLINE CV, TECHLINE and 17mm TECHLITE FITTINGS



**TLCOUP**  
Insert Coupling



**TL2W075MA**  
3/4" MPT  
"V" 2-Way Insert



**TLDPLUG**  
Dripper Plug Ring



**TLELL**  
Insert Elbow



**TLIAPE-B**  
Insert Adapter for  
1" or Larger PE  
(requires 11mm or  
7/16" punch)



**TLMTUBEADP**  
Dripper Micro-Tubing  
Adapter



**TLTEE**  
Insert Tee



**TLCROS**  
Insert Cross



**TLIAPVC-B**  
Insert Adapter  
with Grommet for  
1 1/2" or Larger PVC  
(requires TDBIT16.5)



**TLS6**  
6" Soil Staple  
(Place approximately every  
3" of tubing, plus two on  
each tee, elbow or cross.)



**TL050MA**  
1/2" Male Adapter



**TLSOV**  
Shut-Off Valve  
Ins x Ins



**TL075MA**  
3/4" Male Adapter

**TDBIT16.5**  
Drill bit for PVC –  
TLIAPVC



**TLCV**  
Inline Check Valve  
0.9-4.4 GPM  
Closing Pressure  
5.7 psi  
Opening Pressure  
7.1 psi



**TL075FTEE**  
Combination Tee  
Ins x Ins x 3/4" FPT



**TLFIG8**  
Figure 8 Line End

FPT = Female Pipe Thread  
MPT = Male Pipe Thread  
Ins x Ins = Insert by Insert

# OPERATION/PRESSURE INDICATOR STAKE

For use with Techline® Systems

## Applications

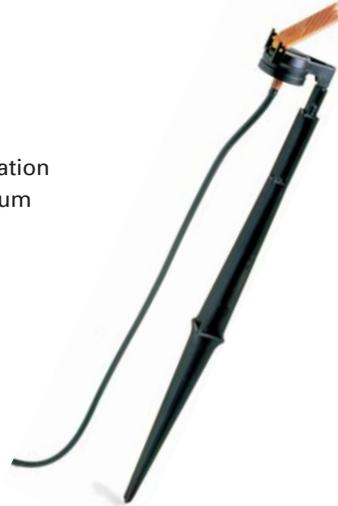
- For Techline systems

## Features/Benefits

- Provides quick visual confirmation of system operation
- Flag rises to indicate system operation and minimum 10 psi system operation
- Answers the question "Is the system working?"

## Specifications

- Flag position:  
Down (closed) position = 4.5 psi or lower  
Halfway position (45°) = 7 psi  
Upright (open) position (90°) = 10 psi or greater



## 10-F-01 OPERATION/PRESSURE INDICATOR STAKE

The set includes: operating/pressure indicator flag, anchoring stake and tubing/adaptor. When the zone is on, pressure causes the flag to rise. At a pressure of 10 psi and higher, it is at a 90° angle. At 7 psi, it is at a 45° angle. When the pressure either drops below 4.5 psi or the system is off, the flag is in a down position.

# LOW VOLUME CONTROL ZONE KITS

LOW FLOW AND HIGH FLOW

## Applications

- Designed for all dripperline, drip and micro-spray zones
- Use on zones between 0.25 and 17.6 GPM

## Features/Benefits

- Valve, filter and pressure regulator are completely assembled, saving installation and labor costs
- Compact design allows easier access into valve box
- Wide range of flow
- Disc filter design provides 25 square inches of filtering surface

## Specifications

- **Regulator:** Low Flow: 0.25 to 4.4 GPM  
High Flow: 3.5 to 17.6 GPM  
Pressure Rating: 145 psi
- **Filter:** 140 mesh  
Flow Range: 0 to 17 GPM
- **Valve:** Low Flow Range: 30 GPM  
High Flow Range: 0.1 to 30 GPM  
Pressure Rating: 150 psi

Pre-Assembled Valve, Filter and Pressure Regulator In One Convenient Kit



**LOW VOLUME CONTROL ZONE KIT - LOW FLOW**  
**LVCZ10075-LF**  
**0.25 - 4.4 GPM**



**LOW VOLUME CONTROL ZONE KIT - HIGH FLOW**  
**LVCZ10075-HF**  
**3.5 - 17.6 GPM**

# TECHFILTER®

## TECHLINE CV® AND TECHLINE® DRIPPERLINE

### The Guaranteed Root Intrusion Terminator™



**TECHFILTER SYSTEM**

### Applications

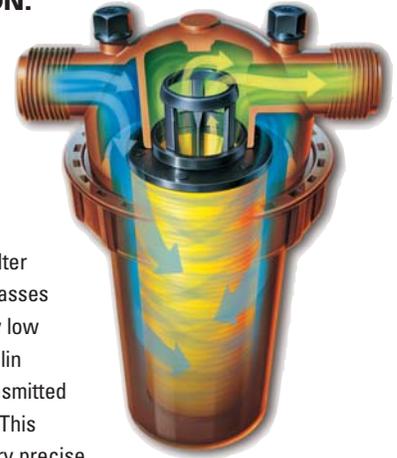
- Recommended for use with all new Techline CV and Techline subsurface installations

### Features/Benefits

- Helps eliminate root intrusion
- Replaceable Techfilter cartridge allows for renewal of protection
- Evenly delivers a low concentration of trifluralin to all drippers throughout the system
- Sealed packaging dramatically extends shelf life and adds to filter replacement convenience
- Easy, no-touch installation and replacement of trifluralin disc rings
- Provides ultra-efficient water filtration with performance far superior to screen-type filters
- Renewable warranty, activated when filter cartridges are installed and registered, gives the opportunity for a lifetime of protection
- Recommended filtration: 120 mesh
- Maximum pressure: 140 psi

### INSURANCE AGAINST ROOT INTRUSION.

Our revolutionary Techfilter protects against roots invading the system. Here's how it works: Trifluralin is incorporated into the replacement disc ring assemblies inside the filter housing. When water passes through the filter, a very low concentration of trifluralin (parts per billion) is transmitted throughout the system. This technology provides very precise and even distribution of trifluralin throughout the piping network and effectively inhibits root growth into the dripper outlets.



### Exclusive Netafim USA Techfilter Limited Lifetime Extended Warranty.

Every Netafim Techfilter carries a 2-Year-to-Lifetime Warranty. Proper use and timely replacement of the cartridge will keep the Lifetime Extended Warranty in force.



Replaceable Techfilter disc cartridges come in conveniently sealed packages which have two benefits: extended shelf life and simple, clean replacement of the complete cartridge without having to touch the rings.

NOTE: Techfilter with Techline CV or Techline Dripperline is sold together for use on a new installation. Techfilter is sold as part of a system and cannot be sold without the proper amount of dripperline.

### TECHFILTER Minimum & Maximum Dripperline Feet

MODEL	Flow GPM	0.4 GPH		0.6 GPH		0.9 GPH	
		12"	18"	12"	18"	12"	18"
3/4"	Minimum 1	143	213	98	114	65	98
	Maximum 7	1,000	1,489	686	795	458	686
1"	Minimum 3	429	638	294	341	196	294
	Maximum 22	3,143	4,681	2,157	2,500	1,438	2,157
1" Long or 1 1/2" Long	Minimum 8	1,143	1,702	784	909	523	784
	Maximum 40	5,714	8,511	3,922	4,545	2,614	3,922
2"	Minimum 14	2,000	2,979	1,373	1,591	915	1,373
	Maximum 90	12,857	19,149	8,824	10,227	5,882	8,824

### TECHFILTER Specifying Information

#### Reference for Ordering Information Chart

SAMPLE MODEL NUMBER

**A** Techfilter = TF

**1** **2** **TF075912-100CV**

**A** **3** **4** **5**

**1** **Filter Size**

3/4" = 075  
1" = 10  
1" Long = 10L  
1 1/2" Long = 15L  
2" = 20

**2** **Dripper Flow**

0.4 GPH = 4  
0.6 GPH = 6  
0.9 GPH = 9

**3** **Dripper Spacing**

12" = 12  
18" = 18

**4** **Quantity of Techline CV or Techline**

The length of Techline CV or Techline is supplied with each filter ordered. See Minimum and Maximum Dripperline Feet Chart.

**5** Add CV to end of part number to indicate Techline CV.

## TECHFILTER Ordering Information



3/4"



1"



1" LONG



1 1/2" LONG



2"

Techfilter Model # for Techline CV	Techfilter Model # for Techline	Filter Size					Techline CV & Techline Dripper Flow (GPH)				Dripper Spacing		Techline CV & Techline Rolls Supplied		
		3/4"	1"	1" Long	1 1/2" Long	2"	.26	0,4	0,6	0,9	12"	18"	100'	250'	1,000'
TF075912-100CV	TF075912-100	X							X	X		1			
TF075912-1000CV	TF075912-1000	X							X	X				1	
TF075918-100CV	TF075918-100	X							X		X	1			
TF075918-1000CV	TF075918-1000	X							X		X			1	
TF075612-100CV	TF075612-100	X							X		X	1			
TF075612-1000CV	TF075612-1000	X							X		X			1	
TF075618-200CV	TF075618-200	X							X		X	2			
TF075618-1000CV	TF075618-1000	X							X		X			1	
TF075412-100CV	TF075412-100	X						X		X		1			
TF075412-1000CV	TF075412-1000	X						X		X				1	
TF075418-200CV	TF075418-200	X							X		X	2			
TF075418-1000CV	TF075418-1000	X							X		X			1	
TF0752612-100CV	*****	X						X			X	1			
TF0752612-1000CV	*****	X						X			X			1	
TF0752618-200CV	*****	X						X			X	2			
TF0752618-1000CV	*****	X						X			X			1	
TF10912-200CV	TF10912-200		X						X	X		2			
TF10912-1000CV	TF10912-1000		X						X	X				1	
TF10918-300CV	TF10918-300		X						X		X	3			
TF10918-1000CV	TF10918-1000		X						X		X			1	
TF10612-300CV	TF10612-300		X						X		X	3			
TF10612-1000CV	TF10612-1000		X						X		X			1	
TF10618-350CV	TF10618-350		X						X		X	1	1		
TF10618-1000CV	TF10618-1000		X						X		X			1	
TF10412-400CV	TF10412-400		X						X		X	4			
TF10412-1000CV	TF10412-1000		X						X		X			1	
TF10418-600CV	TF10418-600		X						X		X	1	2		
TF10418-1000CV	TF10418-1000		X						X		X			1	
TF102612-400CV	*****		X						X		X	4			
TF102612-1000CV	*****		X						X		X			1	
TF102618-600CV	*****		X						X		X	1	2		
TF102618-1000CV	*****		X						X		X			1	
*****	TF10L912-500			X					X	X			2		
*****	TF10L912-1000			X					X	X				1	
*****	TF10L918-800			X					X		X	3	2		
TF10L918-1000CV	TF10L918-1000			X					X		X			1	
TF10L612-800CV	TF10L612-800			X					X		X	3	2		
TF10L612-1000CV	TF10L612-1000			X					X		X			1	
TF10L618-900CV	TF10L618-900			X					X		X	4	2		
TF10L618-1000CV	TF10L618-1000			X					X		X			1	
TF10L412-1000CV	TF10L412-1000			X					X		X			1	
TF10L412-1100CV	TF10L412-1100			X					X		X	1		1	
TF10L418-1000CV	TF10L418-1000			X					X		X			1	
TF10L418-1700CV	TF10L418-1700			X					X		X	2	2	1	
TF10L2612-1000CV	*****			X					X		X			1	
TF10L2618-1000CV	*****			X					X		X			1	
TF15L912-500CV	TF15L912-500				X				X	X			2		
TF15L912-1000CV	TF15L912-1000				X				X	X				1	
TF15L918-800CV	TF15L918-800				X				X		X	3	2		
TF15L918-1000CV	TF15L918-1000				X				X		X			1	
TF15L612-800CV	TF15L612-800				X				X		X	3	2		
TF15L612-1000CV	TF15L612-1000				X				X		X			1	
TF15L618-900CV	TF15L618-900				X				X		X	4	2		
TF15L618-1000CV	TF15L618-1000				X				X		X			1	
TF15L412-1100CV	TF15L412-1100				X				X		X	1		1	
TF15L418-1000CV	TF15L418-1000				X				X		X			1	
TF15L418-1700CV	TF15L418-1700				X				X		X	2	2	1	
TF15L418-1000CV	TF15L418-1000				X				X		X			1	
TF15L2612-1000CV	*****				X				X		X			1	
TF15L2618-1000CV	*****				X				X		X			1	
TF20912-1000CV	TF20912-1000					X				X	X			1	
TF20918-1000CV	TF20918-1000					X				X	X			1	
TF20918-1400CV	TF20918-1400					X				X	X	4		1	
TF20612-1000CV	TF20612-1000					X				X	X			1	
TF20612-1400CV	TF20612-1400					X				X	X	4		1	
TF20618-1000CV	TF20618-1000					X				X	X			1	
TF20618-1600CV	TF20618-1600					X				X	X	1	2	1	
TF20412-1000CV	TF20412-1000					X			X		X			1	
TF20412-2000CV	TF20412-2000					X			X		X			2	
TF20418-1000CV	TF20418-1000					X			X		X			1	
TF20418-3000CV	TF20418-3000					X			X		X			3	

# DISC FILTERS

## WITH REPLACEMENT FILTER RINGS

### Applications

- Residential
- Commercial
- Municipal
- Institutional

### Features/Benefits

- Highly effective multiple disc filter design
- Simple, easy and thorough filter cleaning
- Low friction loss
- 3/4" model available with or without manual shut-off valve
- 100% thermoplastic discs provide extremely high corrosion resistance
- Color-coded replacement filter rings available
- Extra large filtration capacity means less frequent cleaning
- Maximum pressure: 140 psi



2"



1 1/2"  
LONG



1 1/2"



1"



3/4" WITH  
SHUT-OFF VALVE



3/4"

### DISC FILTER Sizes

3/4" to 17 GPM
1" to 22 GPM
1 1/2" to 35 GPM
1 1/2" Long to 44 GPM
2" to 132 GPM

Netafim offers filters up to 6,500 GPM.



### DF SERIES DISC FILTER RINGS

80 Mesh (Yellow), 120 Mesh (Red),  
140 Mesh (Black), 200 Mesh (Green)



### 2" COMPACT DISC-KLEEN AUTOMATIC FILTER

With a built-in controller (automatically senses when the filter needs to be cleaned). Can be mounted anywhere and requires no electrical hook-up. Standard Model: 30-80 GPM Low Flow Model: 20-40 GPM

### 2" COMPACT STAND-ALONE DISC FILTER Maximum Flow Rates

Water Type	STANDARD MODEL		LOW FLOW MODEL	
	Maximum Flow (GPM)		Maximum Flow (GPM)	
	120 MESH	140 MESH	120 MESH	140 MESH
Potable and Clean Well Water	100	90	60	50
Reservoir Water	80	65	55	30
River and Canal Water	60	50	30	20
Minimum Backflush Flow at 40 psi	35	35	20	20

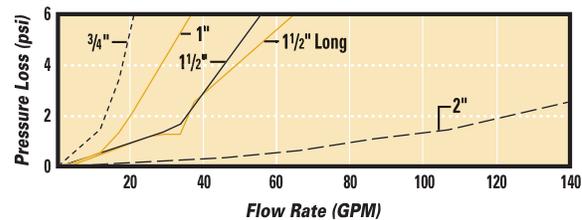
## DISC FILTERS Filter Sizing – Pressure Loss (psi)

Filter Size	Filter Volume (cu. in.)	Filtration Area (sq. in.)	Flow Rate (GPM)															
			4.40	8.80	13.00	17.00	22.00	26.00	31.00	35.00	44.00	66.00	88.00	110.00	132.00			
3/4"	5.8	24.8	0.40	1.46	3.40	5.62												
1"	26.8	48.9	1.14	0.54	1.34	2.10	3.24											
1 1/2"	26.8	49.0					1.10	1.30	1.70	2.30								
1 1/2" Long	36.1	77.8					1.10	1.20	1.20	2.50	4.20							
2"	75.0	148.0									0.30	0.63	1.03	1.47	2.13			

## MICRON Conversion

80 Mesh	=	200 Microns
120 Mesh	=	130 Microns
140 Mesh	=	115 Microns
200 Mesh	=	75 Microns

## DISC FILTERS Friction Loss



## 2" COMPACT Ordering Information

Compact Disc Filter Model Number	Mesh	Mesh Color	GPM
26ASK2A1T-120	120	Red	30-80
26ASK2A1T-140	140	Black	30-80
26ASK2A1TLF-120	120	Red	20-40
26ASK2A1TLF-140	140	Black	20-40

## DISC FILTERS Ordering Information

Disc Filter Model Number	Filter Rings Model Number	Filter Size	Mesh	Mesh Color
DF075-080	DFR075080	3/4"	80	Yellow
DF075-120	DFR075120	3/4"	120	Red
DF075-140	DFR075140	3/4"	140	Black
DFV075-080	DFR075080	3/4" with Shut Off Valve	80	Yellow
DFV075-120	DFR075120	3/4" with Shut Off Valve	120	Red
DFV075-140	DFR075140	3/4" with Shut Off Valve	140	Black
DF100-080	DFR150080	1"	80	Yellow
DF100-120	DFR150120	1"	120	Red
DF100-140	DFR150140	1"	140	Black
DF100-200	DFR150200	1"	200	Green
DF150-080	DFR150080	1 1/2"	80	Yellow
DF150-120	DFR150120	1 1/2"	120	Red
DF150-140	DFR150140	1 1/2"	140	Black
DF150-200	DFR150200	1 1/2"	200	Green
DF150S-080	DFR150L080	1 1/2" Long	80	Yellow
DF150S-120	DFR150L120	1 1/2" Long	120	Red
DF150S-140	DFR150L140	1 1/2" Long	140	Black
DF150S-200	DFR150L200	1 1/2" Long	200	Green
DF200-080	DFR200080	2"	80	Yellow
DF200-120	DFR200120	2"	120	Red
DF200-140	DFR200140	2"	140	Black
DF200-200	DFR200200	2"	200	Green

# MIRACLE<sup>®</sup>

## CONTROLLERS

6, 9 and 12 Stations, AC and DC Models

### Applications

- Residential
- Commercial
- Miracle DC: Recommended for areas without available power and for regions prone to lightning strikes or power outages

### Features/Benefits

- Miracle DC: May be either connected to an external AC transformer or battery operated – see Battery Power Consumption chart for battery life
- 3 independent programs
- 4 start times
- Internal circuit board protection eliminates need for fuses or circuit breakers (AC only)
- Battery life (AC only) provides up to 100 hours protection
- Automatic stop at “off” position when scrolling for easier programming
- Self-diagnostic testing of individual stations to detect, skip over and notify you of short circuits
- Station run times: 1 minute to 9 hours, 59 minutes – in 1 minute increments
- 7 day schedule, calendar or interval
- 10%-200% water budgeting
- Rain/Soil Moisture Sensor input
- Up to 99 day rain delay
- Manual start override
- Miracle DC: Power conserving “sleep mode”: 5 minutes from user’s last touch, the display will turn off. Touching any button or turning the dial will reactivate the display
- Miracle DC: Indoor cabinet, standard

### Specifications

- Miracle AC Transformer input: 120 Volt, 12 VAC, 60 Hz
- Miracle DC Internal Battery for operation: 9V Alkaline or 9V Lithium
- Miracle DC: Optional external battery
- Miracle DC: Utilize Netafim Aquanet DC Valves (see page 26) or any other 12 VDC latching solenoid valve
- Rain shut off must be “normally open”



**MIRACLE AC**



**MIRACLE DC**  
Comes standard with indoor cabinet



**25-MRP-PROF-CAB**  
Professional indoor or outdoor cabinet shown with Miracle installed



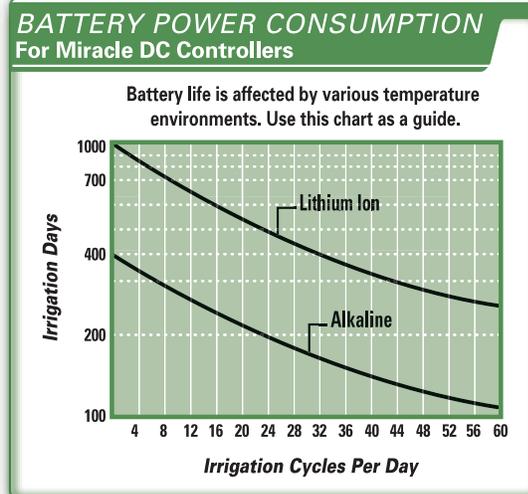
**25-MIRPED**



**MIRACLE DC CONTROLLER**  
on outdoor pedestal. Lockable pedestal cover shown at left.



Motorola Miracle Controllers are manufactured exclusively for Netafim by Motorola, meeting the same stringent standards of quality and reliability as Motorola cellular phones, pager units and highly sophisticated emergency equipment.



### MIRACLE CONTROLLER Ordering Information

Model Number	Description
25-MRAAC-06	6 Station, AC, Indoor with Transformer
25-MRAAC-09	9 Station, AC, Indoor with Transformer
25-MRAAC-12	12 Station, AC, Indoor with Transformer
25-MR-DC-06	6 Station, DC, Sheltered Location/Battery
25-MR-DC-09	9 Station, DC, Sheltered Location/Battery
25-MR-DC-12	12 Station, DC, Sheltered Location/Battery
25-MIRPED	Miracle Outdoor Pedestal with Lockable Cover
25-MRP-PROF-CAB	Outdoor Locking Wall Mount Controller Cabinet

# AQUA PRO

## CONTROLLER

**Single Station Battery Powered Controller for Use  
When an Extra Controller and Valve are Needed**

### Applications

- For applications where power is unavailable
- Single station systems or wherever an extra valve is needed
- Where an extra controller station is needed

### Features/Benefits

- 9 volt battery powered controller and valve serves any application where power is not available or affordable
- Four program modes provide programming flexibility to meet almost any irrigation schedule:
  - One run time, one start time everyday
  - One run time, one start time, up to 7 active days
  - One run time, 3 start times, up to 7 active days
  - Manual operation
- Easy access, four button programming
- Waterproof and vandal proof – mounts inside valve box for added protection
- Remote location operation – up to 300' from valve using #16 wire
- Mounting options include bracket for 3/4" PVC pipe and wall adapter

### Specifications

- Waterproof: IP67
- Five operating modes:
  - once per day
  - once per day with selected days in the week
  - three times per day with selected days in a week
  - manual operation
  - off
- Minimum running time: 1 minute
- Maximum running time: 11 hours, 59 minutes
- 9 volt battery (not included)
- 2 – 1.5 volt LR1130 batteries (included)
- Materials:
  - body: ABS
  - display window: Satoprene
- Electronic:
  - voltage output: 13VDC
  - pulse width: 200 m/sec.
  - capacity: 400µF
- Operating temperature: 32° F to 122° F
- Storage temperature: 14° F to 140° F



**SINGLE STATION  
CONTROLLER**  
Operates DC Solenoid Valves



**AQUA PRO  
CONTROLLER**  
Single Station Controller  
used with 1" or 3/4" Aquanet  
Valve – see page 26 for  
more information about  
Aquanet Valves.

### AQUA PRO CONTROLLER Ordering Information

Model Number	Description
AP075	Aqua Pro Controller with 3/4" Aquanet Valve
AP100	Aqua Pro Controller with 1" Aquanet Valve
AP-CONTROLLER	Aqua Pro Controller

# AQUANET®

## DIRTY WATER VALVES

### Applications

- Recommended for use with the Netafim Miracle DC Controller and Aqua Pro Controller
- Any dirty or clean water application

### Features/Benefits

- Industry's first motorized DC Valve
- 3/4", 1", 1 1/2" and 2" sizes
- Clog-proof non-continuous metering 3-way operation assures trouble-free operation in all water conditions
- Internal bleed keeps valve box dry
- Unique design – glass reinforced nylon body
- Metering orifices are 2mm, making the valve extremely debris-resistant
- Standard with flow control
- 3-position control dial allows automatic (controller activation), manual or closed operation

### Specifications

- Female threaded connection
- Operates with any 9 to 14 volt DC Pulse Signal (latching type solenoid)
- Operating pressure range: 3 to 150 psi
- Flow range:  
0.1 to 28 GPM (3/4" and 1")  
1 to 175 GPM (1 1/2" and 2")
- Black wire = Common  
Red wire = Power
- Controller to Aquanet wire run lengths:  
- 12 gauge: 3,150'      - 18 gauge: 780'  
- 14 gauge: 1,950'      - 20 gauge: 480'  
- 16 gauge: 1,230'



**AQUANET DC VALVES**



### AQUANET PRESSURE REGULATOR KIT

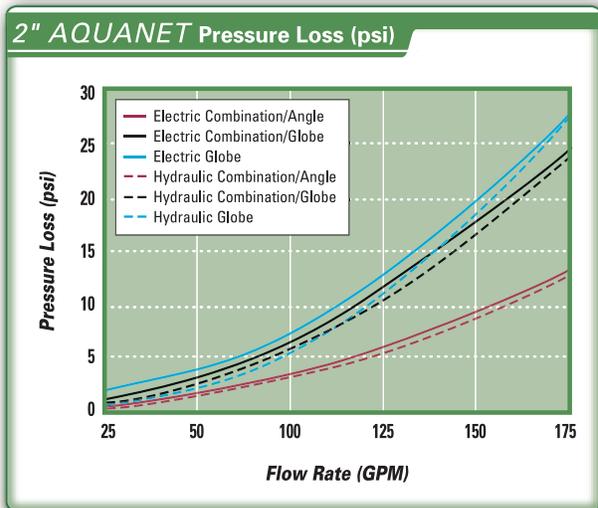
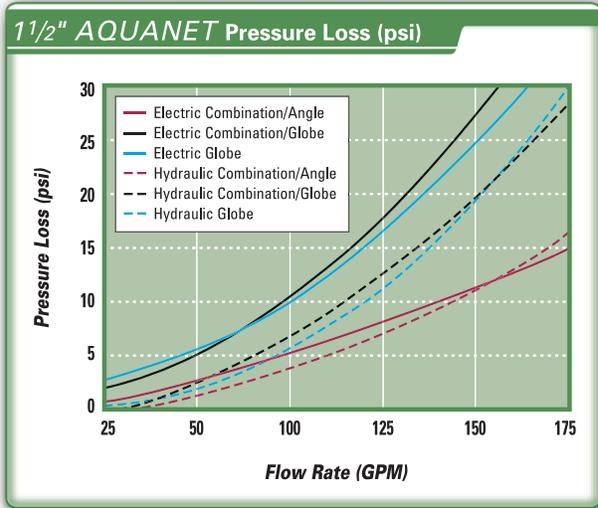
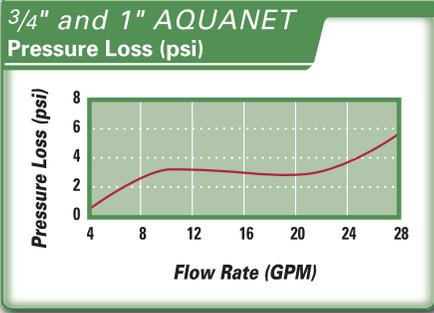
(DC models only) The easy to install kit can be added to any 1 1/2" or 2" Aquanet DC Valve. An easy to set dial allows pressure to be set without gauges or tools.

### AQUANET VALVES Ordering Information

12 VDC Models	Description
26-EV-DCN-07T	3/4" Globe Valve with Flow Control
26-EV-DCN-10T	1" Globe Valve with Flow Control
26-EV-DCN15TGN	1 1/2" Globe Valve with Flow Control
26-EV-DCN15TAN	1 1/2" Globe/Angle Valve with Flow Control
26-EV-DCN20TGN	2" Globe Valve with Flow Control
26-EV-DCN20TAN	2" Globe/Angle Valve with Flow Control
26-EVPC-PR	Pressure Regulator Kit for 1 1/2" and 2" Valves

24 VAC Models	Description
26-EV-ACN07T	3/4" Globe Valve with Flow Control
26-EV-ACN10T	1" Globe Valve with Flow Control
26-EV-ACN15TGN	1 1/2" Globe Valve with Flow Control
26-EV-ACN15TAN	1 1/2" Globe/Angle Valve with Flow Control
26-EV-ACN20TGN	2" Globe Valve with Flow Control
26-EV-ACN20TAN	2" Globe/Angle Valve with Flow Control

Hydraulic Models	Description
26-HVN15TG	1 1/2" Globe Valve with Flow Control
26-HVN15TA	1 1/2" Globe/Angle Valve with Flow Control
26-HVN20TG	2" Globe Valve with Flow Control
26-HVN20TA	2" Globe/Angle Valve with Flow Control



# AUTOMATIC VALVES

## Structural Simplicity and Superior Hydraulic Performance

### Applications

- Residential, light commercial, commercial, municipal, golf

### Cast Iron and Bronze Valves Features/Benefits

- Cast iron – protective polyester coating is resistant to corrosive elements
- Bronze – designed to resist cavitation where extreme flow velocities exist
- Unique design allows a straight flow pattern with low friction loss
- Equipped with direct sealing diaphragm
- Maximum operating pressure: 230 psi

### Electric Throttling Valves Features/Benefits

- Durable glass reinforced nylon construction with flow control
- No moving parts in the flow path or control loop – no maintenance
- Standard with built-in solenoid for ease of operation and reliability
- Simple to install – vertically or horizontally

### Electric Throttling Valves Specifications

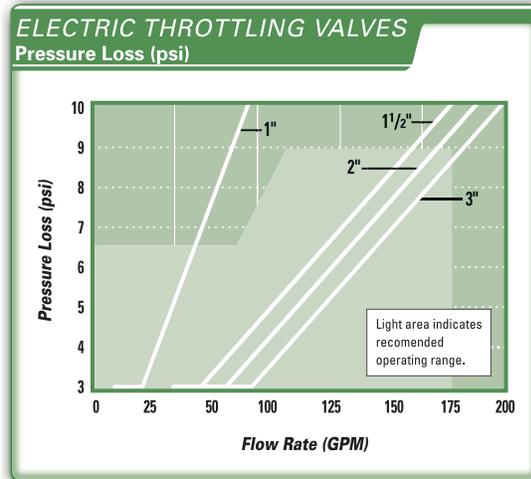
- Available sizes: 1", 1½", 2" and 3"
- Maximum operating pressure: 145 psi
- Maximum water temperature: 140° F
- Female threaded connection
- Electrical specifications:  
Standard – 24 VAC, 60 Hz  
Inrush current – 29mA  
Holding current – 14mA



**CAST IRON AND BRONZE VALVES**



**ELECTRIC THROTTLING VALVES**



### VALVE Ordering Information

Model Number	Description	Size	Maximum Flow
61ET1PBI	Threaded Plastic Valve with 2-Way Solenoid	1"	50 GPM
61ET1.5PBI2		1½"	125 GPM
61ET2PBI2		2"	175 GPM
61ET323PBI2		3"	225 GPM
61EL1B-LP	Threaded Bronze Globe Valve with 3-Way Solenoid	1"	50 GPM
61EL1.5B-LP		1½"	90 GPM
61EL2B-LP		2"	175 GPM
61EL323B-LP		3"	225 GPM
61EL2AN-LP	Threaded Angle Valve with 3-Way Solenoid	2"	175 GPM
61EL3ITAN		3"	350 GPM
61EL3IF-LP	Flanged Cast Iron Globe Valve with 3-Way Solenoid	3"	390 GPM
61EL4IF-LP		4"	600 GPM
61EL6IF-LP		6"	1,300 GPM

# PRESSURE REGULATOR VALVES

## Applications

- All irrigation systems

## Features/Benefits

- Provides constant outlet pressure
- Sealed regulating unit for each pressure option (except 3/4" low flow)
- Easy inline assembly
- Female inlet and outlet on low flow model
- Female inlet, male outlet in 3/4" high flow model
- Built-in indicator on 3/4" high flow and larger models shows when proper outlet pressure is achieved

## Specifications

- 3/4" low flow model: 0.25 to 4.4 GPM
- 3/4" high flow model: 3.5 to 17.6 GPM
- 1 1/2" model: 7 to 35 GPM
- Maximum pressure: 145 psi
- Other models available up to 500 GPM



3/4"  
LOW FLOW



3/4"  
HIGH FLOW

EXPLODED  
VIEW OF  
3/4" HIGH  
FLOW  
VALVE  
with  
Replaceable  
Pressure  
Regulating  
Unit



## PRESSURE REGULATOR VALVES Ordering Information

Model Number	Description	psi	GPM
PRV075LF15V2K PRV075LF20V2K PRV075LF25V2K PRV075LF35V2K PRV075LF42V2K	Low Flow – Inline 3/4" FPT Inlet x FPT Outlet	15 psi 20 psi 25 psi 35 psi 42 psi	0.25 - 4.4
PRV075HF15V2K PRV075HF20V2K PRV075HF25V2K PRV075HF35V2K PRV075HF45V2K	High Flow – 3/4" FPT Inlet x MPT Outlet	15 psi 20 psi 25 psi 35 psi 45 psi	3.5 - 17.6
PRV15015V2K PRV15020V2K PRV15025V2K PRV15035V2K PRV15045V2K	1 1/2" MPT x MPT	15 psi 20 psi 25 psi 35 psi 45 psi	7 - 35
PRVU15V2K PRVU20V2K PRVU25V2K PRVU35V2K PRVU45V2K	Replacement Pressure Regulating Unit	15 psi 20 psi 25 psi 35 psi 45 psi	



1 1/2"

FPT = Female Pipe Thread  
MPT = Male Pipe Thread

# LINE FLUSHING

## VALVES FOR TECHLINE® AND 17mm TECHLITE® SYSTEMS

### Optimize System Performance

#### Applications

- Drip irrigation systems
- Clean or dirty water

#### Features/Benefits

- Flushing reduces sediment build-up
- Automatic cleaning operation at start of each irrigation cycle
- Unique design reacts to flow, not pressure, allowing operation even at full line pressure
- Can be disassembled to allow for winterization "blowout"

#### Specifications

- Flushing water volume: approx. 1 gallon per cycle
- Maximum zone flow rate per Flush Valve: 15 GPM
- Minimum pressure required: 1.5 psi
- Maximum pressure: 57 psi

#### LINE FLUSHING VALVES Ordering Information

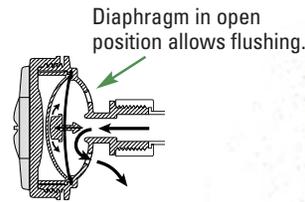
Model Number	Description
TL050MFV-1	Automatic Flush Valve, 1/2" MPT
TLFV-1	Automatic Flush Valve, Insert Inlet

MPT = Male Pipe Thread



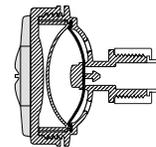
TL050MFV-1

TLFV-1

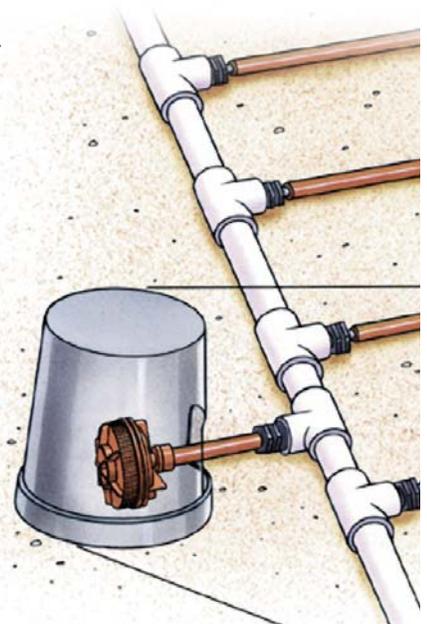


Diaphragm in open position allows flushing.

As irrigation starts, valve flushes out dirt particles in the open position.



After flushing, the valve closes. Normal system operation begins.



# AIR/VACUUM RELIEF VALVE

### Eliminates Negative Pressure in Subsurface Installations

#### Applications

- Install in subsurface Techline zones

#### Features/Benefits

- Eliminates vacuum that could draw contaminants into the piping system
- Non-corrosive

#### Specifications

- Maximum pressure: 140 psi
- 1/2" male threaded connection
- Not required for on-surface installations



TLAVRV

#### AIR/VACUUM RELIEF VALVE Ordering Information

Model Number	Description
TLAVRV	Air/Vacuum Relief Valve, 1/2" MPT

MPT = Male Pipe Thread



# PCDj

## DRIPPERS

### Pressure Compensating Continuous Self-Flushing Drillers with Check Valve (Shown below slightly larger than actual size)

#### Applications

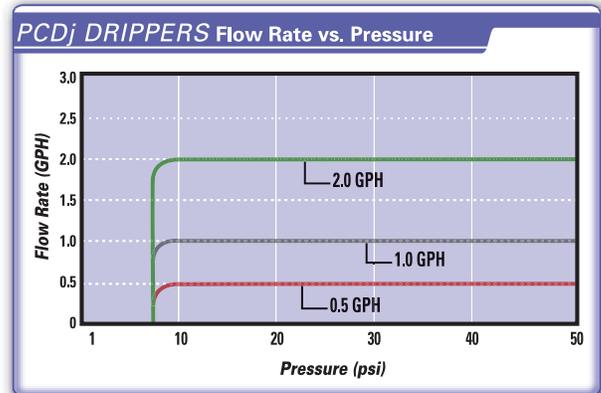
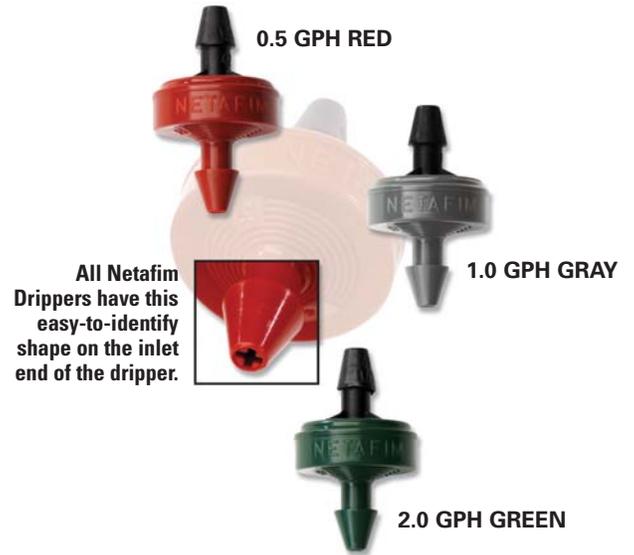
- Can be used with blank polyethylene tubing, Techline® CV, Techline®, Techlite®, other PC and non-PC dripperlines
- Can be used in piping networks with wide pressure variations
- Can be installed on-surface or subsurface
- Wide-spaced plantings
- Trees
- Hanging baskets
- Flower boxes
- Planters or pots

#### Features/Benefits

- Unique Turbonet design regulates flow and provides continuous self-cleaning action during operation
- Delivers the same flow from 7 to 50 psi
- Can be used with Techline CV dripperline without causing dripperline drainage
- 1.5 psi internal check valve helps prevent drainage and holds back up to a 3 1/2' column of water
- Anti-siphon operation prevents contaminants from being drawn into dripper
- Dripper body is color-coded denoting flow
- Small profile

#### Specifications

- Flow rates: 0.5, 1.0 or 2.0 GPH
- Pressure compensation range: 7 to 50 psi
- Maximum pressure: 50 psi
- Barb inlet x .160" barb outlet
- Uses .160" x .220" micro-tubing (Model EDTUBE)
- Recommended filtration: 120 mesh



#### EDTUBE Performance (.160" x .220")

FLOW (GPH)	VELOCITY (FPS)	psi LOSS (per 100 feet)
0.50	0.13	0.04
1.00	0.27	0.16
2.00	0.53	0.58
3.00	0.80	1.24
4.00	1.06	2.11
5.00	1.33	3.19
6.00	1.59	4.46
7.00	1.86	5.94
8.00	2.13	7.61

#### PCDj DRIPPERS Ordering Information

Model Number	Description	Color	Bag Quantity
PCDj05-25	0.5 GPH Barb Inlet x .160" Barb Outlet	Red	25
PCDj05-100	0.5 GPH Barb Inlet x .160" Barb Outlet	Red	100
PCDj05-250	0.5 GPH Barb Inlet x .160" Barb Outlet	Red	250
PCDj05-1000	0.5 GPH Barb Inlet x .160" Barb Outlet	Red	1,000
PCDj10-25	1.0 GPH Barb Inlet x .160" Barb Outlet	Gray	25
PCDj10-100	1.0 GPH Barb Inlet x .160" Barb Outlet	Gray	100
PCDj10-250	1.0 GPH Barb Inlet x .160" Barb Outlet	Gray	250
PCDj10-1000	1.0 GPH Barb Inlet x .160" Barb Outlet	Gray	1,000
PCDj20-25	2.0 GPH Barb Inlet x .160" Barb Outlet	Green	25
PCDj20-100	2.0 GPH Barb Inlet x .160" Barb Outlet	Green	100
PCDj20-250	2.0 GPH Barb Inlet x .160" Barb Outlet	Green	250
PCDj20-1000	2.0 GPH Barb Inlet x .160" Barb Outlet	Green	1,000

# TECHFLOW

## DRIPPERS

### Pressure Compensating Continuous Self-Cleaning Drillers with Check Valve

#### Applications

- Can be used in piping networks with a wide range of pressure variations
- Can be used either on-surface or subsurface
- Wide-spaced plantings
- Planters or pots

#### Features/Benefits

- Unique design regulates flow and provides self-cleaning action
- 5.0 psi internal check valve prevents low pressure drainage
- Anti-siphon operation prevents contaminants from being drawn into dripper
- Color-coding denotes flow

#### Specifications

- Flow rates: 0.5, 1.0 or 2.0 GPH: 6.0 GPH on WPCT
- Pressure compensation range: 7 to 60 psi
- Uses .160" x .220" micro-tubing (Model EDTUBE)
- Maximum pressure: 60 psi
- Recommended filtration: 120 mesh



WPCT



WPBC  
BUG CAP



WPBA BARBED  
ADAPTER

#### PC DRIPPERS



2.0 GPH GREEN



1.0 GPH BLACK



0.5 GPH RED



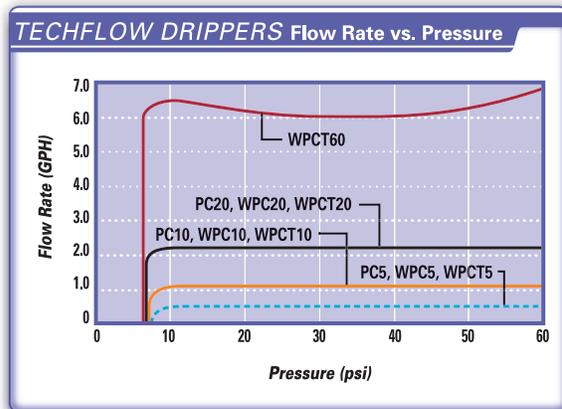
#### WPC DRIPPERS

#### TECHFLOW DRIPPERS

##### Ordering Information

Model Number	Description	Color	Bag Quantity
WPC5	0.5 GPH Barb Inlet x Nipple Outlet	Red	25
WPC5-250	0.5 GPH Barb Inlet x Nipple Outlet	Red	250
WPC10	1.0 GPH Barb Inlet x Nipple Outlet	Black	25
WPC10-250	1.0 GPH Barb Inlet x Nipple Outlet	Black	250
WPC20	2.0 GPH Barb Inlet x Nipple Outlet	Green	25
WPC20-250	2.0 GPH Barb Inlet x Nipple Outlet	Green	250
PC5	0.5 GPH Barb Inlet	Red	25
PC5-250	0.5 GPH Barb Inlet	Red	250
PC10	1.0 GPH Barb Inlet	Black	25
PC10-250	1.0 GPH Barb Inlet	Black	250
PC20	2.0 GPH Barb Inlet	Green	25
PC20-250	2.0 GPH Barb Inlet	Green	250
WPCT5	0.5 GPH 1/2" FPT Inlet x Nipple Outlet	Red	25
WPCT10	1.0 GPH 1/2" FPT Inlet x Nipple Outlet	Black	25
WPCT20	2.0 GPH 1/2" FPT Inlet x Nipple Outlet	Green	25
WPCT60	6.0 GPH 1/2" FPT Inlet x Nipple Outlet	Orange	25
WPBC	Bug Cap for Nipple Outlet		25
WPBA	Barbed Adapter for Nipple Outlet		25

FPT = Female Pipe Thread



# BD & WP

## SERIES DRIPPERS

### Non-Pressure Compensating Drillers

#### Applications

- Use in piping networks with limited pressure variation
- Planters and pots
- Wide-spaced plantings

#### Features/Benefits

- Wide turbulent flow passage resists clogging
- Barb inlet provides for easier installations
- Color-coding denotes flow

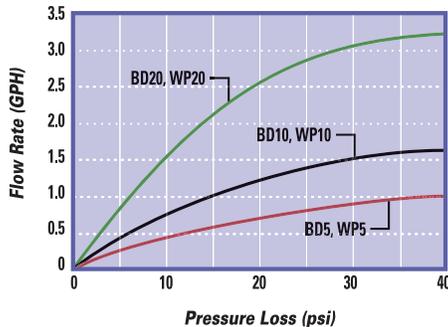
#### Specifications

- Flow rates: 0.5, 1.0 or 2.0 GPH
- BD and WP models use .160" x .220" micro-tubing (Model EDTUBE)
- Maximum pressure: 40 psi
- Recommended filtration: 120 mesh



**BD DRIPPERS**

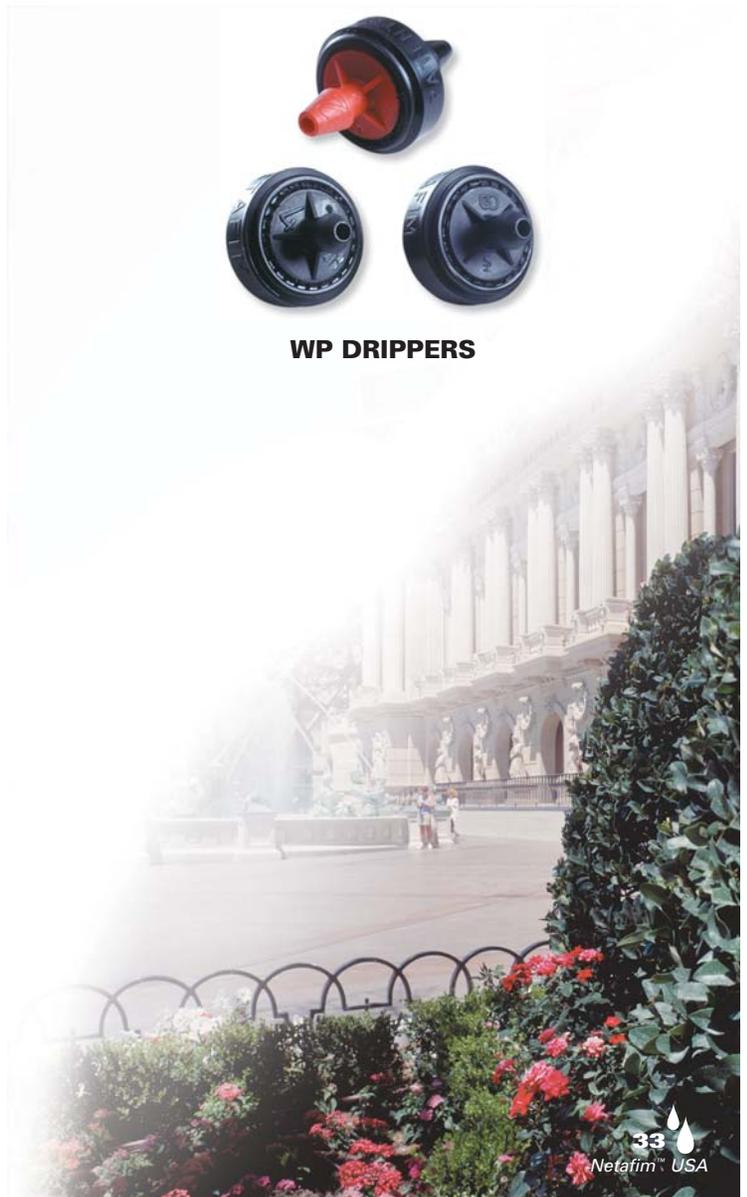
**BD & WP DRIPPERS**  
Flow Rate vs. Pressure



**WP DRIPPERS**

**BD & WP DRIPPERS** Ordering Information

Model Number	Description	Color	Bag Quantity
BD5	0.5 GPH BD Dripper Barb Inlet	Red	25
BD5-250	0.5 GPH BD Dripper Barb Inlet	Red	250
BD10	1.0 GPH BD Dripper Barb Inlet	Black	25
BD10-250	1.0 GPH BD Dripper Barb Inlet	Black	250
BD20	2.0 GPH BD Dripper Barb Inlet	Green	25
BD20-250	2.0 GPH BD Dripper Barb Inlet	Green	250
WP5	0.5 GPH WP Dripper Barb Inlet	Red	25
WP5-250	0.5 GPH WP Dripper Barb Inlet	Red	250
WP10	1.0 GPH WP Dripper Barb Inlet	Black	25
WP10-250	1.0 GPH WP Dripper Barb Inlet	Black	250
WP20	2.0 GPH WP Dripper Barb Inlet	Green	25
WP20-250	2.0 GPH WP Dripper Barb Inlet	Green	250



# POLYETHYLENE TUBING

**Flexible, Thick-walled Polyethylene Pipe Connects Rotors and Sprayheads to Lateral Pipes**

## Applications

- Connects sprayheads and rotors to lateral piping networks
- Provides flexible, durable transition from pipes to sprinklers or drippers and dripperline
- Positions sprinklers in hard-to-reach areas

## Features/Benefits

- Extremely flexible polyethylene formula makes fitting insertion easy in hot or cold weather
- Hatch marks every 6" along the tubing make cutting to length easier (PTW-01FP only)
- Speeds installation of sprinklers by allowing for fast connections and easy setting to grade
- Acts as flexible swing joint, protecting sprinklers and laterals from impact damage

## Specifications

- Maximum working pressure: 100 psi at 110° F
- Wall thickness: .105" (2.7mm)
- Diameter: ID: .490" (12.4mm), OD: .700" (17.8mm)
- Maximum flow: 8 GPM
- Burst pressure: 350 psi minimum

## MICRO-TUBING



### MICRO-TUBING Ordering Information

Model Number	Description	Coil Length
EDTUBE-01	.160" x .220" Polyethylene	100'
EDTUBE-10	Micro-Tubing	1,000'

## NEW POLY SWING PIPE



### POLY SWING PIPE Ordering Information

Model Number	Description	Coil Length
PTW-01FP	Poly Swing Pipe Extra Flexible	100'
PTW2-01	Poly Swing Pipe	100'

## POLYETHYLENE TUBING

**LOW DENSITY, UV RESISTANT**



### POLYETHYLENE TUBING Ordering Information

Model Number	Description	Coil Length
PE40-49-50	.400" X .490", .045" wall (12mm)	500'
PE40-49-25		250'
PE52-62-50	.520" X .620", .050" wall (16mm)	500'
PE52-62-25		250'
PE60-70-50	.600" X .700", .050" wall (1/2")	500'
PE60-70-25		250'
PE82-94-50	.820" X .940", .060" wall (3/4")	500'
PE82-94-25		250'

# ACCESSORIES

## INSTALLATION TOOLS



**GAUGE 30**



**GAUGE 100**



**MTUBESPUN**  
Steel punch for 5mm  
Micro Fittings



**MTUBEPPUN**  
Plastic Punch for 5mm  
Micro Fittings



**WBTD**  
Wheelbarrow Tubing Dispenser



**TDS**  
Wall Mounted Stationary  
Tubing Dispenser

### INSTALLATION TOOLS Ordering Information

Model Number	Description
GAUGE30	0-30 psi Liquid Filled Pressure Gauge
GAUGE100	0-100 psi Liquid Filled Pressure Gauge
MTUBESPUN	Steel Punch for 5mm Micro Fittings
MTUBEPPUN	Plastic Handle Punch for 5mm Micro Fittings
WBTD	Wheelbarrow Tubing Dispenser
TDS	Wall Mounted Tubing Dispenser

## MICRO-TUBE FITTINGS



**EDTUBETEE**



**EDTUBEBA**



**EDTUBESTK**



**GOOFPLUG**



**EDTUBE8XMT**

### MICRO-TUBE FITTINGS Ordering Information

Model Number	Description	Bag Quantity
EDTUBETEE	5mm Barb Tee	25
EDTUBEBA	5mm Barb Adapter	25
EDTUBESTK	5mm Tubing Stake	25
GOOFPLUG	5mm/8mm Goof Plug	25
EDTUBE8XMT	1/2" MPT x 8-Way for EDTUBE	25

MPT = Male Pipe Thread



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