

## TECHNICAL DATA

### Techline Selection Charts

The following charts are guidelines to determine which Techline products to choose for different plantings and applications.

#### Trees, Shrub Beds and Ground Cover Applications

	Clay Soil	Loamy Soil	Sandy Soil
<b>Dripper Flow</b>	0.4 GPH	0.6 GPH	0.9 GPH
<b>Dripper Interval</b>	18"	18"	12"
<b>Techline Lateral Spacing</b>	18" - 24"	18" - 24"	16" - 20"
<b>Burial Depth</b>	On-Surface, or bury evenly throughout the zone to a maximum 6"		
<b>Application Rate (in/hr)</b>	.29 - .21	.42 - .35	1.08 - .87
<b>Time to Apply 1/4" of water (minutes)</b>	52 - 71	36 - 43.	14 - 17

#### Turf Applications

	Clay Soil	Loamy Soil	Sandy Soil
<b>Dripper Flow</b>	0.4 GPH	0.6 GPH	0.9 GPH
<b>Dripper Interval</b>	18"	12"	12"
<b>Techline Lateral Spacing</b>	18" - 22"	18" - 22"	12" - 16"
<b>Burial Depth</b>	Bury evenly throughout the zone to a maximum 6"		
<b>Application Rate (in/hr)</b>	.29 - .23	.64 - .48	1.44 - 1.08
<b>Time to Apply 1/4" of water (minutes)</b>	25 - 65	23 - 31	10 - 14

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### Design Formulas

**Formula 1.1**      *Application Rate (Inches per Hour)* = 
$$\frac{231.1 \times \text{Dripper Flow Rate (GPH)}}{\text{Dripperline Row Spacing (Inches)} \times \text{Dripper Spacing (Inches)}}$$

in which:

Application Rate is = Inches per Hour  
 Dripper Flow Rate = Gallons per Hour flow of one Dripper  
 Dripper Spacing = Spacing in inches of Drippers inside Tubing  
 Dripperline Row Spacing = Inches between Techline laterals

**Formula 1.2**      *Number of Drippers in a Zone* = 
$$\frac{\text{Total Dripperline} \times 12}{\text{Dripper Spacing}}$$

in which:

Number of Drippers = number of drippers  
 Total Dripperline Length = Length of all Dripperline in a Zone in FEET  
 Dripper Spacing = Spacing in inches of Drippers inside Tubing

**Formula 1.3**      *Flow per Zone* = 
$$\frac{\text{Number of Drippers} \times \text{GPH}}{60}$$

in which:

Flow per Zone = Total gallons per minute  
 Number of Drippers = Number of drippers  
 GPH = Gallons per Hour flow of one Dripper

**Formula 1.4**

*Estimated Total Zone Flow (GPM)* = 
$$\left( \frac{\text{Irrigated Area (squarefeet)} \times 144}{\text{Dripper Spacing (inches)} \times \text{Dripperline Spacing (inches)}} \right) \times \text{Dripper Flow (GPM)} \div 60$$

In which:

Estimated Total Zone Flow = Gallons per Minute in Zone  
 Irrigated Area = Total Area in square feet  
 Dripper Spacing = Distance between Drippers in Dripperline in Inches  
 Dripperline Spacing = Distance between Dripperline in Inches  
 Dripper Flow = Flow of one Dripper in Gallons per Hour

**Formula 1.5**

*Estimated Total Length of Dripperline* = 
$$\frac{\text{Irrigated Area} \times 12}{\text{Dripperline Spacing (inches)}}$$

In which:

Estimated Total Length of Dripperline = Total of Dripperline in a Zone  
 Irrigated Area = Total Area in Square Feet  
 Dripperline Spacing = Distance between Dripperline in Inches

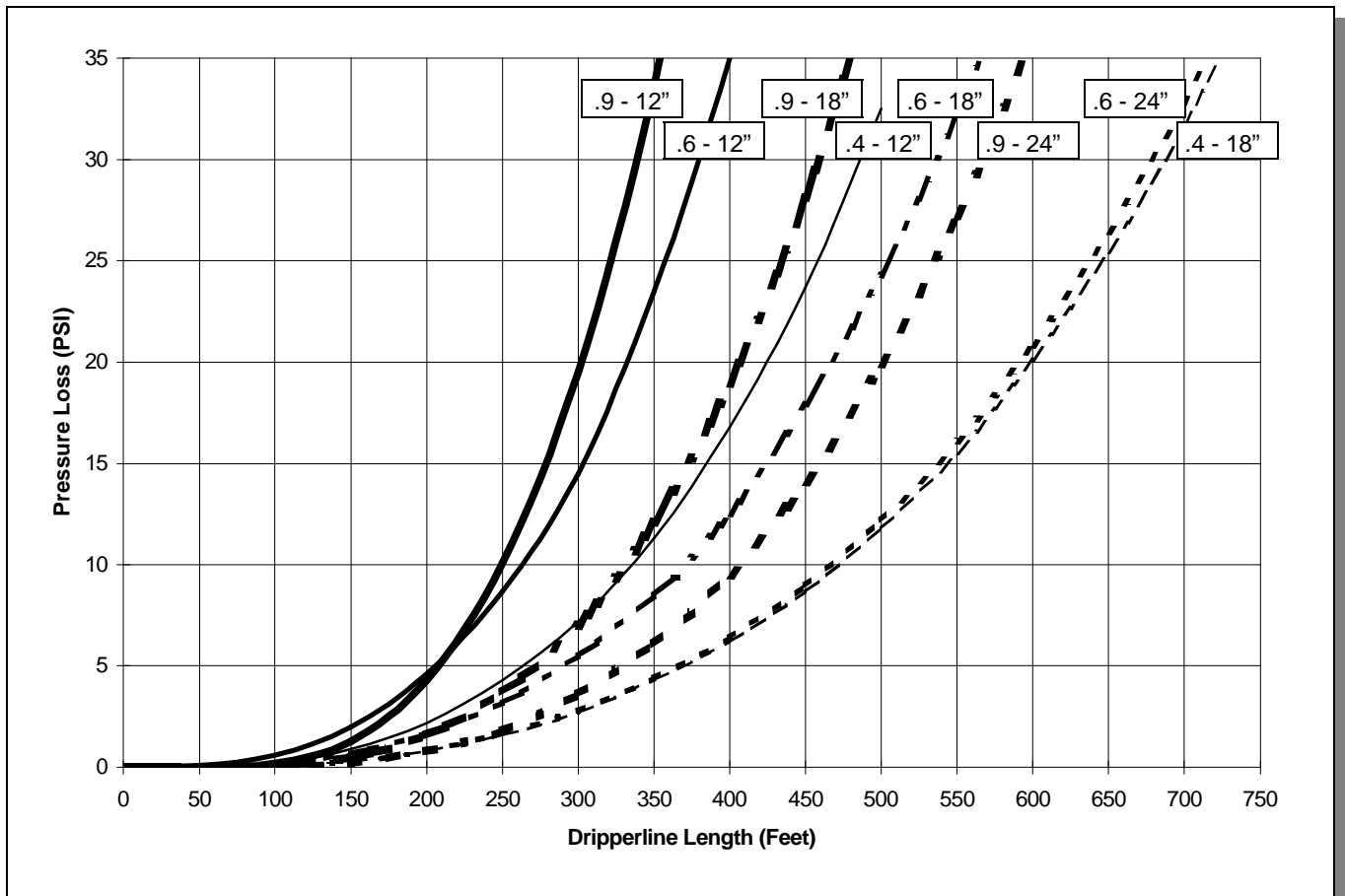
**TECHNICAL  
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Table # 2

**MAXIMUM LENGTH OF A SINGLE TECHLINE LATERAL**

Inlet Pressure	Techline Dripper Spacing							
	12"		18"			24"		
15	292	233	175	410	322	247	405	309
25	397	312	238	558	438	335	553	423
35	466	365	279	656	514	394	649	497
45	520	407	311	732	574	439	725	555
Dripper Flow	0.4	0.6	0.9	0.4	0.6	0.9	0.6	0.9

**Dripperline Length vs. PSI Loss**



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## Techline Application Rate Tables

### 0.4 GPH Dropper Flow in Inches per Hour

	Techline Row Spacing										
Dripper Spacing	12"	13"	14"	15"	16"	17"	18"	19"	20"	22"	24"
12"	0.64	0.59	0.55	0.51	0.48	0.45	0.43	0.41	0.39	0.35	0.32
18"	0.43	0.40	0.37	0.34	0.32	0.30	0.29	0.27	0.26	.023	0.21

### 0.6 GPH Dropper Flow in Inches per Hour

	Techline Row Spacing										
Dripper Spacing	12"	13"	14"	15"	16"	17"	18"	19"	20"	22"	24"
12"	0.98	0.90	0.84	0.78	0.73	0.69	0.65	0.62	0.59	0.53	0.49
18"	0.65	0.60	0.56	0.52	0.49	0.46	0.44	0.41	0.39	.036	0.33
24"	0.49	0.45	0.42	0.39	0.37	0.35	0.33	0.31	0.29	0.27	0.24

### 0.9 GPH Dropper Flow in Inches per Hour

	Techline Row Spacing										
Dripper Spacing	12"	13"	14"	15"	16"	17"	18"	19"	20"	22"	24"
12"	1.48	1.36	1.27	1.16	1.11	1.04	0.98	0.93	0.89	0.81	0.74
18"	0.98	0.91	0.84	0.79	0.74	0.69	0.66	0.62	0.59	0.54	0.49
24"	0.74	0.68	0.63	0.59	0.55	0.52	0.49	0.47	0.44	0.40	0.37

## Techline Tubing Chart

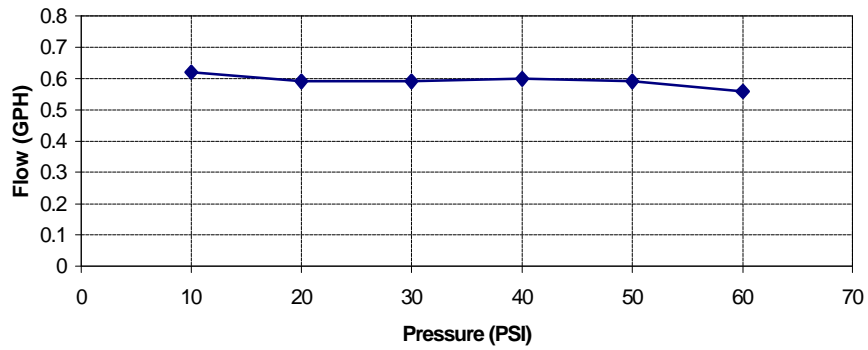
Flow per 100 Feet

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"	26.672	0.44	41.00	0.68	61.00	1.02
24"			31.00	0.51	46.00	0.77

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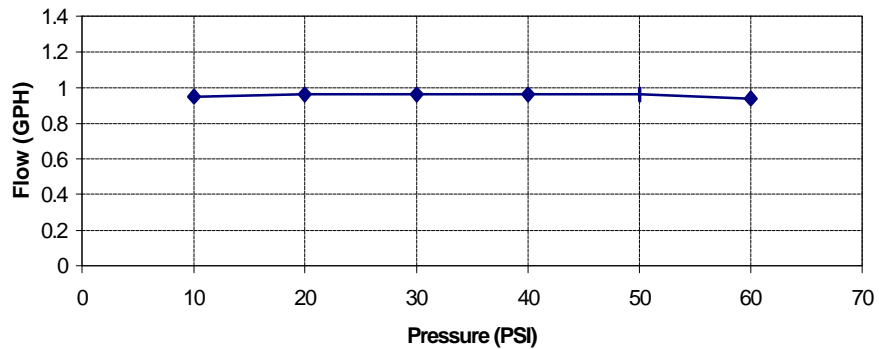
**Techline Dripper Performance**

**Techline 0.61 GPH Dripper Performance**



Reprinted from California Agricultural Technology Institute (CIT) test 12/05/90

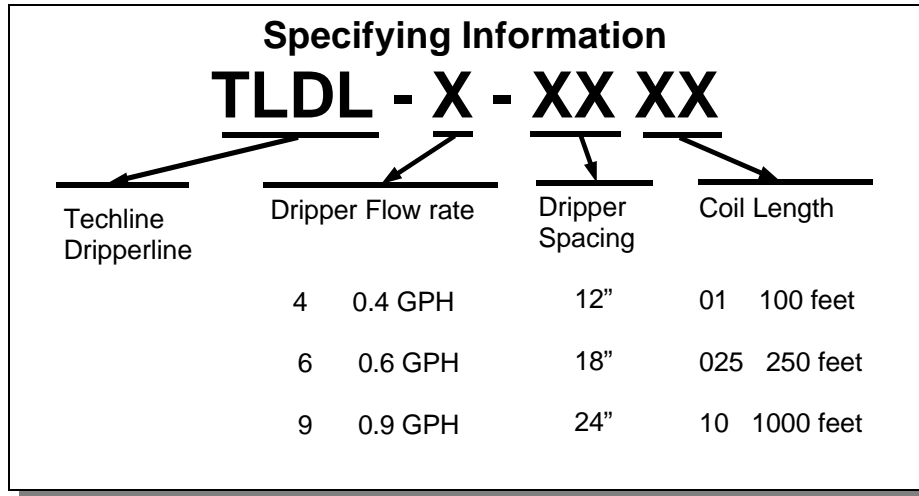
**Techline 0.92 GPH Dripper Performance**



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**Techline Model Number Designation**



	0.4 GPH			0.6 GPH			0.9 GPH		
	100 Feet	250 Feet	1000 Feet	100 Feet	300 Feet	1000 Feet	100 Feet	300 Feet	1000 Feet
Dripper Spacing									
12"	TLDL4-1201	TLDL4-12025	TLDL4-1210	TLDL6-1201	TLDL6-12025	TLDL6-1210	TLDL9-1201	TLDL9-12025	TLDL9-1210
18"	TLDL4-1801	TLDL4-18025	TLDL4-1810	TLDL6-1801	TLDL6-18025	TLDL6-1810	TLDL9-1801	TLDL9-18025	TLDL9-1810
24"	Not Available	Not Available	Not Available	TLDL6-2401	TLDL6-24025	TLDL6-2410	TLDL9-2401	TLDL9-24025	TLDL9-2410
Blank	TLDL001	TLDL0025	TLDL010						

**Techline Dripper Flow Passage and Filtration Recommendation**

Dripper Flow	Depth	Width	Length	Minimum Filtration
<b>0.4 GPH</b>	0.044"	0.044"	0.760"	120 Mesh
<b>0.6 GPH</b>	0.048"	0.048"	0.610"	120 Mesh
<b>0.9 GPH</b>	0.052"	0.052"	0.610"	80 Mesh

**Techline Tubing Dimension**

Inside Diameter	Outside Diameter	Wall Thickness
0.570 Inches	0.660 Inches	0.045 Inches

**Techline Minimum Bending Radius**

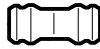
**Bending Radius = 7 Inches**

Detail E. 01



Techline TLELL  
Elbow

Detail E. 02



Techline TLCOUP  
Coupling

Detail E. 03



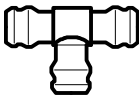
Techline TL075MA  
Male Adapter

Detail E. 04



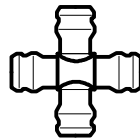
Techline TL075FTEE  
Two-way Adapter Tee

Detail E. 05



Techline TLTEE  
Tee

Detail E. 06



Techline TLCROSS  
Cross

Detail E. 07



Techline TLW075MA  
"V" 2-way Adapter

Detail E. 08



Techline TLPLUG  
Dripper Plug Ring

Detail E. 09



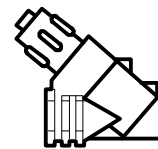
Techline TLFIG8  
Line End

Detail E. 10



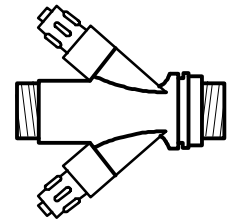
Techline TLTUBEADP  
Micro-Tubing Adapter

Detail E. 11



Techline 3/4" PRV  
Pressure Regulating Valve

Detail E. 12



Techline 1 1/2" PRV  
Pressure Regulating Valve

Detail E. 13



Techline TLS6  
6" Wire Staple

Detail E. 14



Techline TLISOV  
Shut-Off Valve  
(Barb x Barb)

Detail E. 15



Techline 3/4" Disk Filter

Detail E. 16



Techline TLAVRV  
Air/Vacuum Relief Valve

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**Techfilter™**

Filters are an integral part of every drip system. No system should be designed or assembled without proper filtration. The primary function is to filter out contaminants that could plug the small orifices of the drippers. Netafim's Techfilter serves a secondary purpose of protecting against roots invading the system.

Triflurex® is incorporated into the replaceable disk ring assemblies inside the filter housing. When water passes through the filter, a very low concentration of Trifluralin (parts per billion level) is transmitted throughout the system. The operation of this technology provides very precise and even distribution of Trifluralin through the piping network which will inhibit root growth into the dripper outlets. No other uses or claims are made for the use of this product beyond the protection of the system from root intrusion.



**Techfilter Installation and Mounting Instructions**

The installation of the Techfilter is no different than any other filter. It is advisable to install the filter so the filter rings are easily removed for periodic cleaning of contaminants and replacement of the rings at the end of their effectivity. The filter should be mounted so the cover can be easily disassembled and the ring set, when removed, will not drop dirt or particle contaminants back into the filter body. Do not install the filter in direct sunlight.

**Effective Use and Replacement Guidelines**

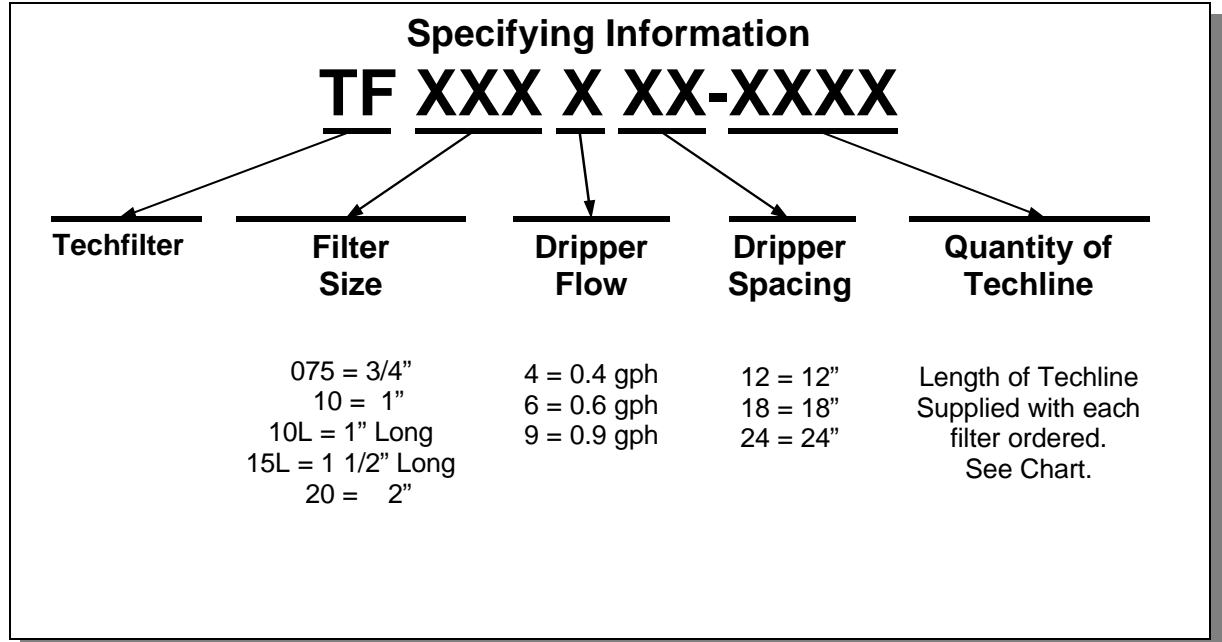
The Techfilter can effectively protect the system from root intrusion for 200 hours of use, but not longer than 2 years of service. We recommend the replacement of the filter cartridge following the above guidelines.

Triflurex® is manufactured by Agan Chemical Manufactures Ltd.



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### Techfilter Model Number Designation



Min & Max Feet of Techline for Each Filter Size											
				0.4 GPH		.6 GPH			.9GPH		
Model	Flow GPM			12"	18"	12"	18"	24"	12"	18"	24"
3/4" Short	Min	1		143	213	98	114	196	65	98	130
	Max	7		1000	1489	686	795	1373	458	686	909
1" Short	Min	3		429	638	294	341	588	196	294	390
	Max	22		3143	4681	2157	2500	4314	1438	2157	2857
1" Long or 1 1/2" Long	Min	8		1143	1702	784	909	1569	523	784	1039
	Max	40		5714	8511	3922	4545	7843	2614	3922	5195
2" Super	Min	14		2000	2979	1373	1591	2745	915	1373	1818
	Max	90		12857	19149	8824	10227	17647	5882	8824	11688

Example - If your Techline zone has 1125' of .6 GPH - 12" Techline, use 1" short model

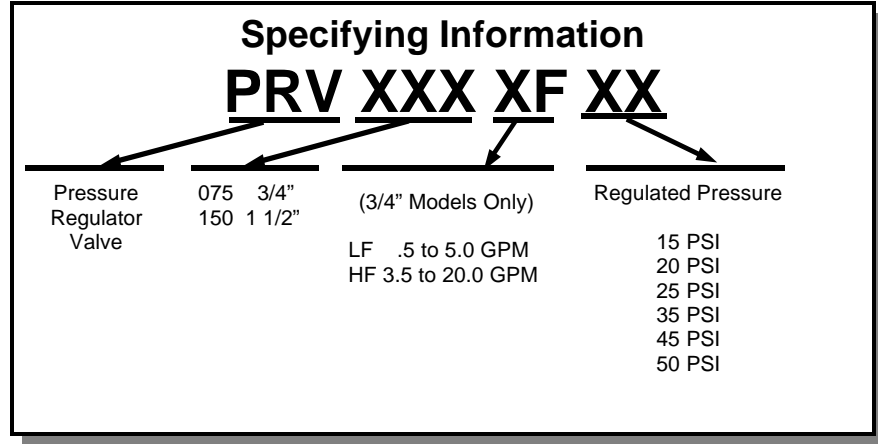
## TECHNICAL DATA

### Techfilter Model Number Descriptions

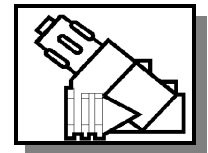
Model Number	Filter Size					Dripper Flow			Dripper Spacing			Techline Rolls Supplied		
	3/4"	1"	1" Long	1 1/2" Long	2"	0.4 gph	0.6 gph	0.9 gph	12"	18"	24"	100 Feet	250 Feet	1000 Feet
TF075912-100	x							x	x			1		
TF075918-100	x							x		x		1		
TF075924-200	x							x			x	2		
TF075612-100	x							x	x			1		
TF075618-200	x							x			x	2		
TF075624-200	x							x			x	2		
TF075412-100	x						x		x			1		
TF075418-200	x						x			x		2		
TF10912-200		x						x	x			2		
TF10918-300		x						x		x		3		
TF10924-400		x						x			x	4		
TF10612-300		x						x	x			3		
TF10618-350		x						x			x	1	1	
TF10624-600		x						x			x	1	2	
TF10412-400		x					x		x			4		
TF10418-600		x					x			x		1	2	
TF10L912-500			x					x	x				2	
TF10L918-800			x					x		x		3	2	
TF10L924-1000			x					x			x			1
TF10L612-800			x					x	x			3	2	
TF10L618-900			x					x		x		4	2	
TF10L624-1600			x					x			x	1	2	1
TF10L412-1100			x				x		x			1		1
TF10L418-1700			x				x			x		2	2	1
TF15L912-500				x				x	x				2	
TF15L918-800				x				x		x		3	2	
TF15L924-1000				x				x			x			1
TF15L612-800				x				x	x			3	2	
TF15L618-900				x				x		x		4	2	
TF15L624-1600				x				x			x	1	2	1
TF15L412-1100				x			x		x			1		1
TF15L418-1700				x			x			x		2	2	1
TF20912-900					x			x	x			4	2	
TF20918-1400					x			x		x		4		1
TF20924-1800					x			x			x	3	2	1
TF20612-1400					x			x	x			4		1
TF20618-1600					x			x		x		1	2	1
TF20624-2800					x			x			x	3	2	1
TF20412-2000					x	x			x					2
TF20418-3000					x	x				x				3

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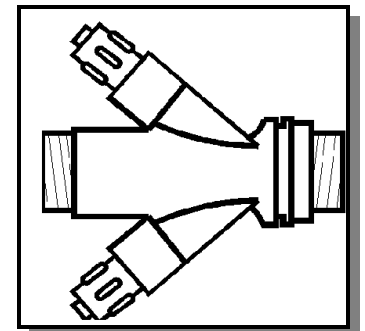
**Pressure Regulators**



Model Number	Description	Cap Color	Spring Color
<b>3/4" LF Series (Red Top)</b>			
PRV075LF15	3/4" Regulator 15 PSI .5 - 5.0 GPM	Red	Blue
PRV075LF20	3/4" Regulator 20 PSI .5 - 5.0 GPM	Red	Steel
<b>3/4" HF Series (Black Top)</b>			
PRV075HF15	3/4" Regulator 15 PSI 3.5 - 20.0 GPM	Black	Blue
PRV075HF20	3/4" Regulator 20 PSI 3.5 - 20.0 GPM	Black	Steel
PRV075HF25	3/4" Regulator 25 PSI 3.5 - 20.0 GPM	Black	Yellow
PRV075HF35	3/4" Regulator 35 PSI 3.5 - 20.0 GPM	Black	Red
PRV075HF45	3/4" Regulator 45 PSI 3.5 - 20.0 GPM	Black	White
<b>1 1/2" Series</b>			
PRV15015	1 1/2" Regulator 15 PSI 7.0 - 40.0 GPM	Black	Blue
PRV15020	1 1/2" Regulator 20 PSI 7.0 - 40.0 GPM	Black	Steel
PRV15025	1 1/2" Regulator 25 PSI 7.0 - 40.0 GPM	Black	Yellow
PRV15035	1 1/2" Regulator 35 PSI 7.0 - 40.0 GPM	Black	Red
PRV15045	1 1/2" Regulator 45 PSI 7.0 - 40.0 GPM	Black	White



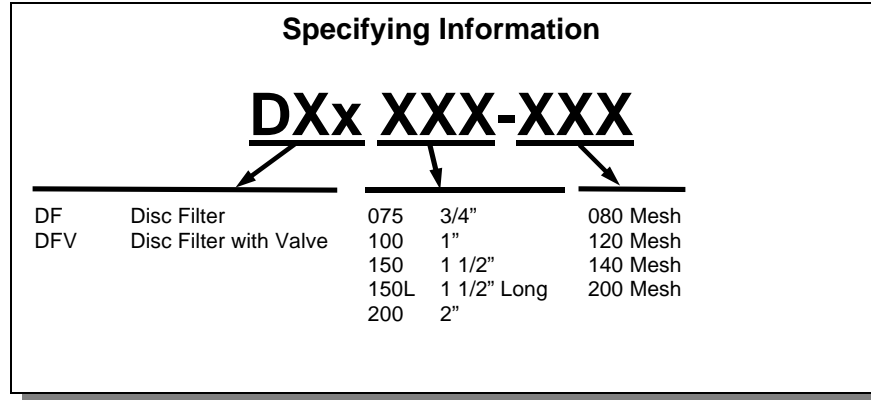
**3/4" Series**



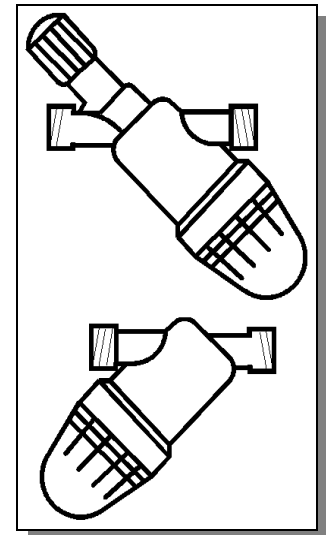
**1 1/2" Series**

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**Disc Filters**



Model Number	Description	Disk Color
<b>3/4" Disc Filters</b>		
DF075-080	3/4" Disc Filter 80 Mesh	Yellow
DF075-120	3/4" Disc Filter 120 Mesh	Red
DF075-140	3/4" Disc Filter 140 Mesh	Black
DFV075-080	3/4" Disc Filter w/Valve 80 Mesh	Yellow
DFV075-120	3/4" Disc Filter w/Valve 120 Mesh	Red
DFV075-140	3/4" Disc Filter w/Valve 140 Mesh	Black
<b>1" Disc Filters</b>		
DF100-080	1" Disc Filter 80 mesh	Yellow
DF100-120	1" Disc Filter 120 Mesh	Red
DF100-140	1" Disc Filter 140 Mesh	Black
<b>1 1/2" Disc Filter</b>		
DF150-080	1 1/2" Disc Filter 80 mesh	Yellow
DF150-120	1 1/2" Disc Filter 120 Mesh	Red
DF150-140	1 1/2' Disc Filter 140 Mesh	Black
<b>1 1/2" Long Disc Filter</b>		
DF150L-080	1 1/2" Long Disc Filter 80 Mesh	Yellow
DF150L-120	1 1/2" Long Disc Filter 120 Mesh	Red
DF150L-140	1 1/2" Long Disc Filter 140 Mesh	Black
<b>2" Disc Filter</b>		
DF200-080	2" Disc Filter 80 mesh	Yellow
DF200-120	2" Disc Filter 120 Mesh	Red
DF200-140	2" Disc Filter 140 Mesh	Black



**3/4" Series**

## TECHNICAL DATA

### Recommended Disc Filter Sizing

Filter Size	3/4"	1" & 1 1/2"	1 1/2" Long	2"
Filter Volume (cubic inches)	5.8	26.8	31.7	75
Filtration Area (square inches)	24.8	49	61.4	148
Flow Rate (GPM )	Friction Loss in P.S.I.			
5	0.56			
10	1.99	0.78		
17	5.62	1.73		
20		2.34	0.69	
30		5.20	1.30	
40		9.53	2.42	0.69
50			3.90	0.87
60				1.17
70				1.56
80				1.99
90				2.51
100				3.03
110				3.68
120				4.33

**Table #4**

Losses shown are for 140 Mesh filtration element tested in potable water.

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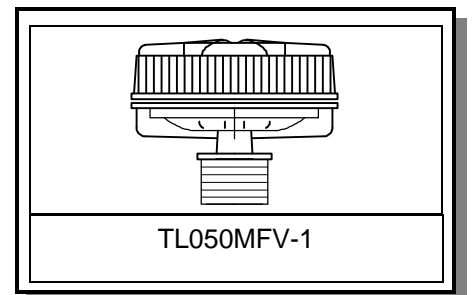
**Pressure Regulator Selection Chart**

Flow Rate (GPM)	Preset Pressure Rating				
	15 PSI	20 PSI	25 PSI	30 PSI	45 PSI
0.5 - 5.0 (LF Series)	3/4"	3/4"			
3.5 - 20.0 (HF Series)	3/4"	3/4"	3/4"	3/4"	3/4"
7.0 - 40.0	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"

**Techline Line Flushing Valves**

**Specifying Information**

Model Number	Description
TLFV-1	Barbed Fitting Inlet
TL050MFV-1	1/2" IPS Inlet



**Air Vacuum Relief Valve**

**Specifying Information**

Model Number	Description
TLAVRV	Air / Vacuum Relief Valve

