

ACT WATER FILTRATION SYSTEMS™

Advanced Cleaning Technology



Round Riser Filtration System for Wastewater Drip Dispersal

Product Advantages

- Self-cleaning filter for low flow applications
- Corrosion-free plastic filter and manifold
- Over tank or remote mounting available
- Pump can be removed with filter in place
- Freeze protection available
- Uses proven **RING DISC FILTRATION TECHNOLOGY**.
- Filtration level easily changed by replacing disc rings with desired mesh size.
- Wrap around compact design
- Uses internal water supply for backflush
- Low back flushing flow rates (12-15 gpm)
- Up to two internally controlled irrigation zones

Applications

- Ideally suited for Residential, Light Industrial and Commercial Subsurface Drip Dispersal of Treated Effluent

Water Sources

- Primary and secondary treated wastewater

Specifications

Inlet: 1 1/4"

Outlet: 1"

Flush Return: 1"

Maximum Operating Pressure: 100 psi

Minimum Pressure for Back flush: 40 psi

Minimum Flow for Back flush: 12 GPM

ACT DISTRIBUTOR:

JNM TECHNOLOGIES, INC.

PO Box 5667

Bryan, TX 77805

979-779-6500

979-779-6505fax

jnm@jnmtechnologies.com

Materials of Construction

Valves:

Nuts, bolts and washers: 304 Stainless Steel

Valve Body: Glass Reinforced Polyamide

Spring: Stainless Steel AISI 302

Diaphragm: Natural Rubber

Solenoids: 24 VAC (other voltages available upon request)

Filter:

Modified 1" Standard Manual Filter

Filter Body and Disc Spine: Reinforced Polyamide, PVC and Polycarbonate

Disc Rings: Polypropylene and Polyethylene (upon request)

O-Rings: EPDM Rubber

Options:

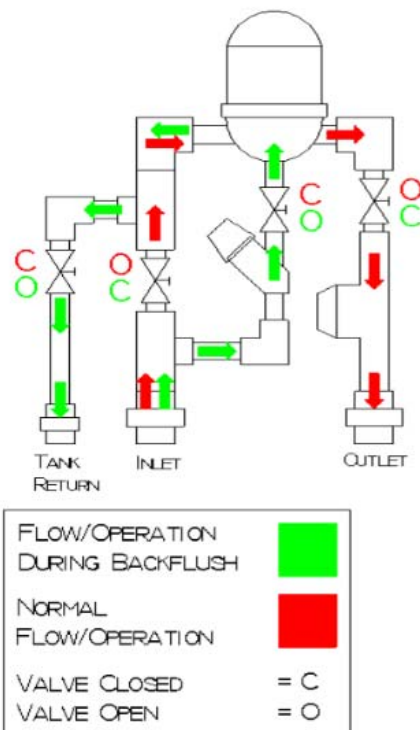
Over tank mounting

Pulsed Reed Switch output Flowmeter

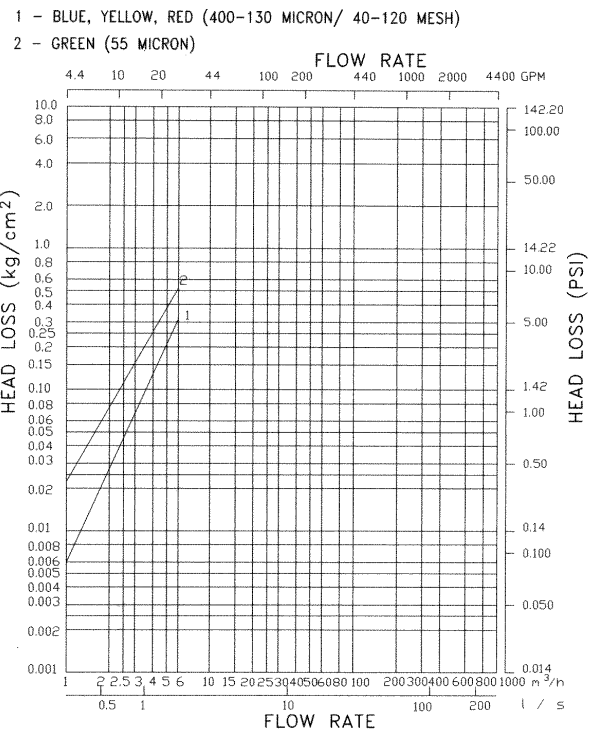
Manual or Automatic Field Flush

Freeze Protection

Flow Diagram



Filter Pressure Losses



ACT WATER FILTRATION SYSTEMS™

Advanced Cleaning Technology



ACT 100S Vault Enclosure for Wastewater Drip Dispersal

Product Advantages

- Self-cleaning filter for low flow applications
- Corrosion-free plastic filter and manifold
- Above ground or buried installation on self supporting base
- Freeze protection available
- Uses proven **RING DISC FILTRATION TECHNOLOGY**.
- Filtration level easily changed by replacing disc rings with desired mesh size.
- Wrap around compact design
- Uses internal water supply for backflush
- Low back flushing flow rates (12-15 gpm)
- Up to three internally controlled irrigation zones

Applications

- Ideally suited for Residential, Light Industrial and Commercial Subsurface Drip Dispersal of Treated Effluent

Water Sources

- Primary and secondary treated domestic strength wastewater

Specifications

Inlet: 1 1/4"

Outlet: 1"

Flush Return: 1"

Maximum Operating Pressure: 100 psi

Minimum Pressure for Back flush: 40 psi

Minimum Flow for Back flush: 12 GPM

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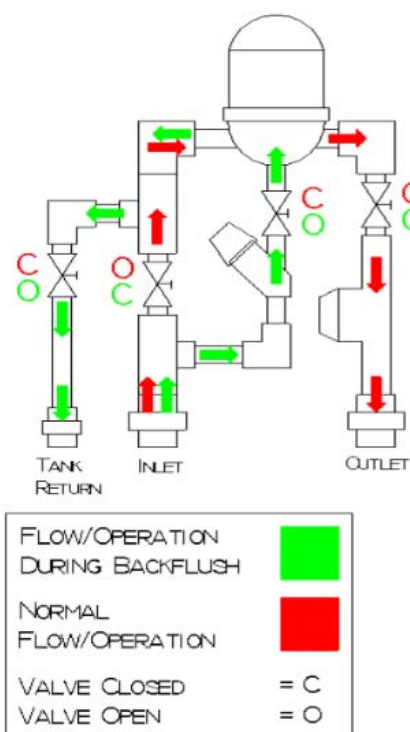
Options:

Pulsed Reed Switch output Flowmeter

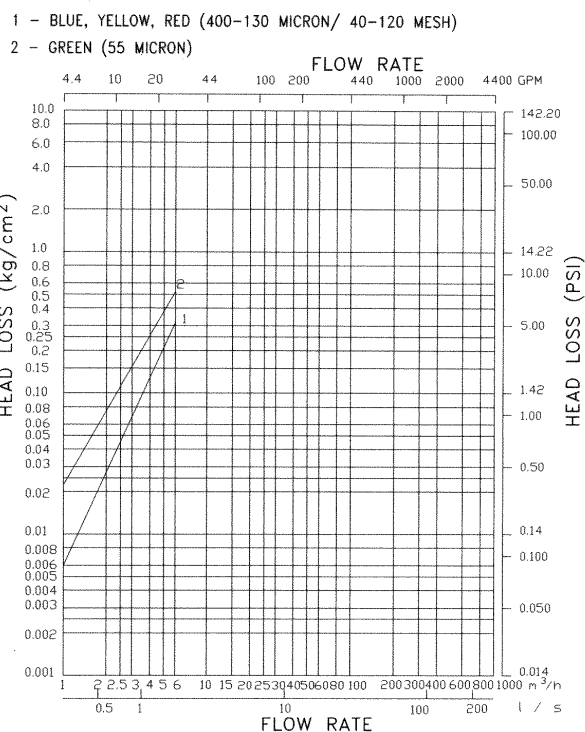
Manual or Automatic Field Flush

Freeze Protection

Flow Diagram



Filter Pressure Losses



Use for materials and flow data. Filter in ACT100S is auto-flush with patented ring release.



Manual Disc Filters

**Reliable, Efficient Plastic Discs
Create Superior Filtration**



Product Advantages

- Engineered for efficient operation - year after year with practically zero maintenance.
- Flat, grooved plastic rings stack together to form a cylindrical filter element.
- Easy cleaning - no scrubbing is necessary.
- Greater holding capacity - filters through the entire ring depth - not just the surface.
- During filtration, pressure increases and compresses the rings increasing efficiency and protecting the system from clogging.
- Constructed of the highest quality UV protected reinforced polymer plastic.
- Degree of filtration is easily changed - replace disc rings with desired mesh size.
- Available in a range of sizes, degrees of filtration and flow capacities.
- Works well as stand-alone units or combined to form modular filter batteries.

MANUAL DISC FILTERS

MESH	FILTER SIZE					
	3/4"	1"	1" Super	1 1/2"	1 1/2" Super	2" Dual
040	0	0	0	0	0	0
080	X	X	X	X	X	X
120	X	X	X	X	X	X
140	X	X	X	X	X	X
200	-	-	-	-	-	0
280	-	0	0	0	0	0

MESH	2" Super	3" Twin	3" Angle	4" Twin	6" Twin
040	0	0	0	0	0
080	X	X	X	X	X
120	X	X	X	X	X
140	X	X	X	X	X
200	0	0	-	-	-
280	0	0	0	0	0

X = Standard, 0 = Optional, - = Not Available



2" Super Filter

Applications

- Protection of irrigation systems from clogging and/or abrasion
- Working conditions of 1 to 350 GPM
- Temperatures from -40° to 160°

Materials

Filter Body and Cover: Reinforced Polyamide
Disc Rings: Polypropylene
O-Rings: EPDM Rubber
Clamps: Stainless Steel

DISC COLOR AND MICRON EQUIVALENT

Disc Color	Mesh Size	Micron Size
Blue	040	400
Yellow	080	200
Red	120	130
Black	140	115
Brown	200	70
Green	280	50



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Manual Disc Filter Specifications



3/4" Filter

Flow range:	1-12 GPM
Maximum pressure:	140 psi
Filtering surface area:	24.8 sq. in.
Filtering volume:	5.8 cu. in.
Length:	8 1/16"
Width:	9 5/8"
Weight:	.8 lbs.
Distance between end connections:	6"
Inlet/outlet diameter:	3/4" male
Part Number:	25A45-XXX



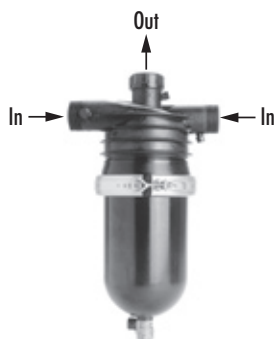
1" Filter

Flow range:	5-26 GPM
Maximum pressure:	140 psi
Filtering surface area:	48.91 sq. in.
Filtering volume:	26.8 cu. in.
Length:	8 7/8"
Width:	5 1/8"
Weight:	2.4 lbs.
Distance between end connections:	6 7/32"
Inlet/outlet diameter:	1" male
Part Number:	25A47-XXX



1" Super Filter

Flow range:	10-35 GPM
Maximum pressure:	140 psi
Filtering surface area:	77.78 sq. in.
Filtering volume:	36.1 cu. in.
Length:	13 11/16"
Width:	5 1/8"
Weight:	3.13 lbs.
Distance between end connections:	6 7/32"
Inlet/outlet diameter:	1" male
Part Number:	25A48-XXX



2" Super Filter

Flow range:	40-120 GPM
Maximum pressure:	140 psi
Filtering surface area:	148 sq. in.
Filtering volume:	75 cu. in.
Length:	19 13/32"
Width:	5 1/8"
Weight:	13.2 lbs.
Distance between end connections:	7 7/8"
Inlet/outlet diameter:	2" male
Part Number:	25A49-XXXSDS



3" Twin Filter - Flanged

Flow range:	80-175 GPM
Maximum pressure:	140 psi
Filtering surface area:	291 sq. in.
Filtering volume:	150 cu. in.
Length:	35.3"
Width:	11 13/16"
Weight:	26.8 lbs.
Distance between end connections:	12 19/32"
Inlet/outlet diameter:	3" flanged
Part Number:	25A50-XXXF

3" Twin Filter - Grooved

Flow range:	80-175 GPM
Maximum pressure:	140 psi
Filtering surface area:	291 sq. in.
Filtering volume:	150 cu. in.
Length:	35.3"
Width:	11 13/16"
Weight:	25.4 lbs.
Distance between end connections:	12 19/32"
Inlet/outlet diameter:	3" grooved
Part Number:	25A50-XXXG

4" Twin Filter

Flow range:	160-450 GPM
Maximum pressure:	140 psi
Filtering surface area:	574 sq. in.
Filtering volume:	108 cu. in.
Weight:	44.7 lbs.
Distance between end connections:	16 9/32"
Inlet/outlet diameter:	4" flanged
Part Number:	25A78-XXXF





1 1/2" Filter

Flow range:	10-35 GPM
Maximum pressure:	140 psi
Filtering surface area:	49 sq. in.
Filtering volume:	26.8 cu. in.
Length:	8 25/32"
Width:	5 1/8"
Weight:	2.9 lbs.
Distance between end connections:	7 7/8"
Inlet/outlet diameter:	1 1/2" male
Part Number:	25A15-XXX



1 1/2" Super Filter

Flow range:	10-52 GPM
Maximum pressure:	140 psi
Filtering surface area:	77.8 sq. in.
Filtering volume:	36.1 cu. in.
Length:	14 1/16"
Width:	5 1/8"
Weight:	3.32 lbs.
Distance between end connections:	7 7/8"
Inlet/outlet diameter:	1 1/2" male
Part Number:	25A17-XXX



2" Dual Filter

Flow range:	40-120 GPM
Maximum pressure:	174 psi
Filtering surface area:	148 sq. in.
Filtering volume:	75 cu. in.
Length:	18 5/16"
Width:	7 7/8"
Weight:	11 lbs.
Distance between end connections:	10 1/4"
Inlet/outlet diameter:	2" male
Part Number:	25A30-XXX

3" Angle Filter - Flanged

Flow range:	80-220 GPM
Maximum pressure:	140 psi
Filtering surface area:	287 sq. in.
Filtering volume:	54 cu. in.
Length:	25 7/32"
Width:	11 13/16"
Weight:	26 lbs.
Inlet/outlet diameter:	3" flanged
Part Number:	25A53-XXXF

3" Angle Filter - Grooved

Flow range:	80-220 GPM
Maximum pressure:	140 psi
Filtering surface area:	287 sq. in.
Filtering volume:	54 cu. in.
Length:	25 7/32"
Width:	11 13/16"
Weight:	26 lbs.
Inlet/outlet diameter:	3" grooved
Part Number:	25A53-XXXG



6" Twin Filter

Flow range:	200-600 GPM
Maximum pressure:	140 psi
Filtering surface area:	574 sq. in.
Filtering volume:	108 cu. in.
Weight:	48 lbs.
Distance between end connections:	16 1/3"
Inlet/outlet diameter:	6" flanged
Part Number:	25A80-XXXF



Manual Disc Filter Technical Information

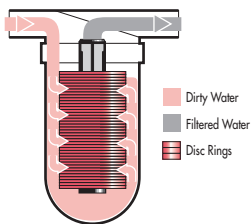
FILTER APPLICATION RECOMMENDATIONS

FLOW RATE (GPM)	HEAD LOSS (psi)										
	3/4"	1"	1" Super	1 1/2"	1 1/2" Super	2" Dual	2" Super	3" Twin	3" Angle	4" Twin*	6" Twin*
5	0.60	0.25									
10	2.50	0.60									
13	3.40	1.34									
17	5.87	2.10									
22		3.24	1.10	1.10							
26			1.50	1.30	1.50						
31			2.10	1.70	2.10						
35			2.50	2.30	2.50						
44					4.20	0.30	0.30				
66						0.63	0.63				
88						1.03	1.03	0.64	0.44		
110						1.47	1.47	0.98	0.58		
132								1.37	0.73		
154								1.80	0.88		
176								2.28	1.03		
198									1.32		
220									1.61		
242											
264											
286											
308										1.40	1.00
330										1.50	1.20
350										1.60	1.30
400										2.00	1.50
500											2.00
600											3.00

Chart Legend

0.00	River, ditch, pond, lake or reservoir water
0.00	Well water containing sand only
0.00	Municipal supply

Description of Operation



As dirty water is pumped into the filter and pressure increases on the outside of the filter element, the water pressure compresses the rings tightly together increasing efficiency. Grooves in the disc rings criss-cross,

forming a network that traps both organic and inorganic contaminants from the water source. This design filters the dirty water thoroughly - not only on the outer surface of the cylindrical disc filter element - but through the entire depth of every ring groove. Clean water exits from the inside of the cylinder.

MANUAL DISC FILTER PARTS

Filter Size	Part Description	Part Number
3/4"	Ring Set with spine	25AP46-XXX
1" & 1 1/2"	Ring Set with spine	25AP47-XXX
1" & 1 1/2" Super	Ring Set with spine	25AP21121-XXX
2" Dual, 2" Super & 3" Twin	Ring Set only	25AP49-XXXS
2" Dual, 2" Super & 3" Twin	Detachable Spine with rings	25AP49-XXXSDS
3" Angle, 4" Twin, 6" Twin	Ring Set with spine	25AP1341-XXX
3" Angle, 4" Twin, 6" Twin	Ring Set only	25AP2341-XXX

Substitute XXX with proper mesh size

Netafim USA – Delivering Total System Solutions for Agriculture

• Dripperlines • Sprinklers • Filters • Valves • Air Vents • Flow Meters • Crop Management Technologies



For more information call your Authorized Netafim USA Distributor or call Netafim USA Customer Service at (888) 638-2346.

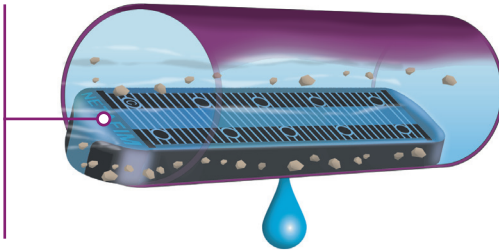
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BIOLINE® DRIPPERLINE

THE WORLD'S MOST ADVANCED CONTINUOUS
SELF-CLEANING, PRESSURE COMPENSATING
DRIPPERLINE SPECIFICALLY DESIGNED FOR WASTEWATER

CROSS SECTION OF BIOLINE DRIPPERLINE

Bioline dripper inlets are positioned in the center of flow where water is the cleanest



PRODUCT ADVANTAGES

- Pressure compensation - all drippers deliver equal flow, even on sloped or rolling terrain.
- Unique flow path - Turbonet technology provides more control of water and a high resistance to clogging.
- Continuous self-flushing dripper design - flushes debris, as it is detected - throughout operation, not just at the beginning or end of a cycle. Ensures uninterrupted dripper operation.
- Single hole dripper outlet from tubing:
 - Better protection against root intrusion
 - Allows the dripperline to be used in subsurface applications without need for chemical protection
- Drippers capture water flow from the center of the tubing - ensures that only the cleanest flow enters the dripper.
- Built-in physical root barrier - drippers are protected from root intrusion without the need for chemical protection. Water exits dripper in one location while exiting the tubing in another.
- Three dripper flow rates - provides the broadest range of flow rates available. Allows the designer to match the dripperline to any soil or slope condition.
- Bioline tubing is completely wrapped in purple - easily identifying it for non-potable use, regardless of how the tubing is installed.
- Anti-bacterial-impregnated drippers - prevents buildup of microbial slime.
- Can be used subsurface - Bioline can be installed on-surface, under cover or subsurface.
- No special storage requirements - does not degrade if stored outdoors.
- Techfilter compatible - an optional level of protection, provides a limited lifetime warranty against root intrusion.

APPLICATIONS

- Typically installed following a treatment process
- Can be used with domestic septic tank effluent with proper design, filtration and operation
- Reuse applications including municipally treated effluent designated for irrigation and other disinfected and non-disinfected water sources.

SPECIFICATIONS

- Dripper flow rates: 0.4, 0.6 or 0.9 GPH
- Dripper spacings: 12", 18" or 24" dripper spacings and blank tubing
- 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, 0.57" ID
- Tubing color: Purple color indicates non-potable
- Coil lengths: 500' or 1,000' (Blank tubing in 250')
- Recommended filtration: 120 mesh
- Bending radius: 7"
- UV resistant
- Tubing material: Linear low-density polyethylene

Additional spacing and pipe sizes available by special order. Please contact Netafim USA Customer Service for details.

BIOLINE DRIPPERLINE

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 3.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.3 GPM REQUIRED PER LATERAL TO ACHIEVE 3 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	102	94	84	136	127	113	161	151	137
	25	151	136	118	203	184	161	245	223	197
	35	193	171	146	260	232	200	315	283	245
	40	211	186	158	286	254	218	347	311	267
	45	228	200	169	310	274	233	377	335	287
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 3 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.0 GPM REQUIRED PER LATERAL TO ACHIEVE 2.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	128	115	100	172	155	136	205	187	165
	25	183	161	137	248	220	188	301	268	231
	35	228	198	166	310	272	229	379	333	283
	40	248	214	178	338	295	247	413	362	305
	45	266	229	190	364	316	263	447	389	327
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.6 GPM REQUIRED PER LATERAL TO ACHIEVE 2.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	161	141	119	217	191	164	263	233	201
	25	221	190	157	302	261	218	369	321	270
	35	269	229	187	370	316	260	455	391	324
	40	290	246	200	399	340	278	493	421	347
	45	310	261	212	427	362	296	527	449	369
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.2 GPM REQUIRED PER LATERAL TO ACHIEVE 1.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	201	171	140	275	235	194	337	289	241
	25	266	222	179	366	308	251	453	383	313
	35	316	262	210	437	365	295	543	455	369
	40	337	280	223	469	391	313	583	487	393
	45	358	296	235	497	413	331	619	517	415
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.8 GPM REQUIRED PER LATERAL TO ACHIEVE 1.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	248	205	163	344	285	228	427	355	285
	25	315	258	203	440	361	286	549	453	359
	35	367	299	234	513	419	331	643	527	417
	40	389	316	248	545	445	350	683	559	441
	45	409	332	260	574	468	367	721	589	463
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 0.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.4 GPM REQUIRED PER LATERAL TO ACHIEVE 0.5 fps

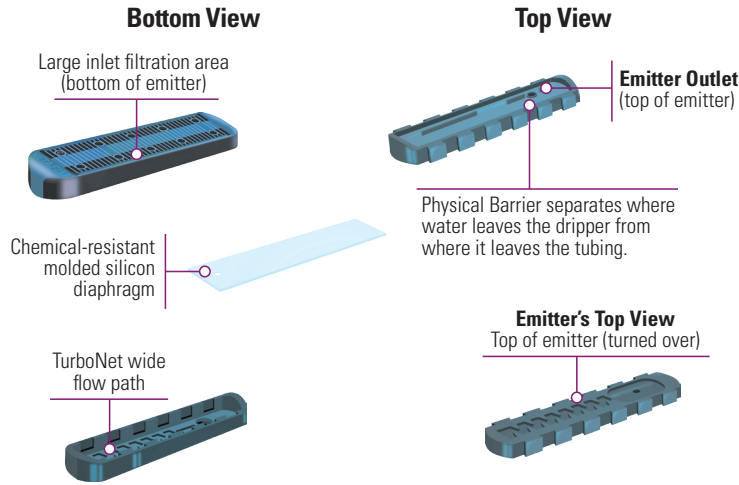
DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	301	242	188	422	341	265	531	429	335
	25	369	296	228	520	418	323	655	527	409
	35	421	337	260	595	476	368	749	603	467
	40	443	354	273	626	501	387	790	635	491
	45	464	371	285	656	524	404	829	665	513
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 0.5 fps flushing/scouring velocity

Netafim recommends flushing velocities capable of breaking free any accumulated bioslimes and debris in the piping network.

- Notes:
1. Refer to local regulations for information on flushing velocities that may be written into codes.
 2. Netafim does not endorse a specific flushing velocity.
 3. Flushing velocities should be determined based on regulations, quality of effluent, and type of flushing control.
 4. Using a flushing velocity less than 1 fps does not provide turbulent flow as defined by Reynolds Number.
 5. Higher flushing velocities provide more aggressive flushing.

EXPLODED VIEW OF BIOLINE EMITTER



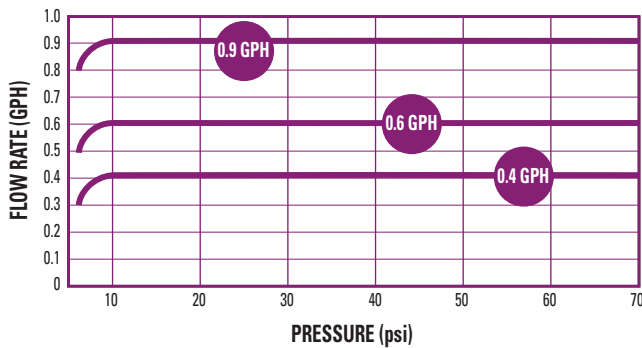
BIOLINE EMITTER OPERATION

Bioline® dripperline emitters are pressure compensating - delivering the water uniformly into the soil for further treatment or for reuse by the landscape. These unique emitters allow the tubing to be installed on flat topography or steep slopes.

Bioline emitters are protected against microbial slime. Each emitter is impregnated with an antimicrobial agent to resist biological build-up.

Netafim emitters are 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.

DRIPPER 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.

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"	40.0	0.67	61.0	1.02	92.0	1.53
18"	26.7	0.44	41.0	0.68	61.0	1.02
24"	20.0	0.34	31.0	0.51	46.0	0.77

SPECIFYING INFORMATION

SAMPLE MODEL NUMBER

08WRAM.6-24 V

A Bioline Dripperline = 08WRAM

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
500' = V500
1,000' = V

BLANK Tubing Model Number: 250' = 08WRAM-250

ORDERING INFORMATION

FLOW RATE	DRIPPER SPACING	COIL LENGTH	MODEL NUMBER
0.4 GPH	12"	1,000' 500'	08WRAM.4-12V 08WRAM.4-12V500
0.4 GPH	18"	1,000' 500'	08WRAM.4-18V 08WRAM.4-18V500
0.4 GPH	24"	1,000' 500'	08WRAM.4-24V 08WRAM.4-24V500
0.6 GPH	12"	1,000' 500'	08WRAM.6-12V 08WRAM.6-12V500
0.6 GPH	18"	1,000' 500'	08WRAM.6-18V 08WRAM.6-18V500
0.6 GPH	24"	1,000' 500'	08WRAM.6-24V 08WRAM.6-24V500
0.9 GPH	12"	1,000' 500'	08WRAM.9-12V 08WRAM.9-12V500
0.9 GPH	18"	1,000' 500'	08WRAM.9-18V 08WRAM.9-18V500
0.9 GPH	24"	1,000' 500'	08WRAM.9-24V 08WRAM.9-24V500
Blank Tubing 17mm		250'	08WRAM-250

BIOLINE FITTINGS

FITTING APPLICATIONS

- Fits Bioline Dripperline

FITTING SPECIFICATIONS

- Barbed fittings for a secure fit
- Easy installation without glue or tools
- Maximum recommended system pressure without clamps: 50 psi
- Allows for easy on-site inspection of proper fitting installation



TLCOUP
Insert Coupling



TLELL
Insert Elbow



TLTEE
Insert Tee



TLCROS
Insert Cross



TL050MA
1/2" Male Adapter



TL075MA
3/4" Male Adapter



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



TL2W075MA
2-Way Insert
3/4" MPT x Insert



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



TLIAPVC-B
Insert Adapter with Grommet
1 1/2" or larger PVC Pipe



TDBIT16.5
Drill Bit for TLIAPVC
Fitting (16.5mm or 21/32")



TLFIG8
Figure 8 Line End



TLS6
6" Soil Staple

FITTING DEFINITIONS

FPT = Female Pipe Thread

MPT = Male Pipe Thread

Ins x Ins = Insert by Insert



TLSOV
Shut-Off Valve
Ins x Ins



TLCV
Inline Check Valve

- Flow Range: 0.9 to 4.4 GPM
- Opening Pressure: 10.2 psi
- Closing Pressure: 5.8 psi
(13.4 Feet Column of Water)



NETAFIM USA
5470 E. Home Ave.
Fresno, CA 93727
CS 888 638 2346
F 800 695 4753
www.netafimusa.com



4" multi-stage submersible pump



This product is Listed to UL Standards for Safety by Underwriters Laboratories Inc. (UL).



The STEP Plus™ D Series 4" submersible pump in 10, 20 and 30 GPM models dominate with superior "DRAW-DOWN" capability.

The STEP Plus™ D Series 4" submersible pump dominates with reduced AMP DRAW.

The STEP Plus™ D Series 4" submersible pump dominates with COOLER and QUIETER operation.

APPLICATIONS

- **Clean and Gray Water...** for residential, commercial, and agricultural use.

SPECIFICATIONS

Motor – Available in 115 or 230 volt versions. Dry-wound, double ball-bearing, double-seal and thermal overload protected, UL and CSA approved.

Shell – Stainless steel (300 grade)

Discharge – Fiberglass-reinforced thermoplastic

Discharge Bearing – Nylatron®

Impellers – Acetel

Diffusers – Polycarbonate

Suction Caps – Polycarbonate with stainless steel wear ring

Thrust Pads – Proprietary spec.

Shaft and Coupling – Stainless steel 300 grade

Intake – Fiberglass-reinforced thermoplastic

Intake Screen – Stainless steel

Jacketed Cord – 600 Volt "SJOW" jacketed 10' leads, 2-wire with ground

Agency Listing – UL, CSA

STEP Plus™ D SERIES

FEATURES

STEP Plus DOMINATES with a...

Patented Stage System – The proven SignaSeal™ staging system utilizes a patented ceramic wear surface. When incorporated with Sta-Rite's "true" independent floating impellers, dominates with 1st-in-class performance, superior sand handling, and a thrust management staging system with industry exclusive "dry-run" capabilities.

Superior "draw-down" capability – The STEP Plus Dominates in this class with the lowest draw-down of 4-1/2" (a standard 4" NEMA submersible only draws-down to 13-1/2").

Reduced amp draw – The STEP Plus Dominates in this class with less energy consumption – over 25% less amp draw (9.5 amps vs. 12.7 amps, 115 volt) than a 4" NEMA submersible, reducing operating costs and extending the service life of float switch contacts.

Cooler and quieter operation – The STEP Plus Dominates by using the pumped liquid to cool the motor as it passes over the motor. The water passing over the motor dampens the motor noise, eliminating expensive "flow-inducer sleeves" required when using a standard 4" NEMA submersible.

Impellers – Precision molded for perfect balance... ultra smooth for the highest performance and efficiency. Allows for .080" solids.

Shaft – Positive drive, hexagonal 7/16" – 300-grade stainless steel shaft offers generous impeller drive surfaces.

Shaft bearing – Exclusive self-lubricating Nylatron® bearing resists wear surface from sand and abrasives.

Shell – Heavy-walled, corrosion resistant 300-grade stainless steel.

ORDERING INFORMATION

Catalog Number	HP	Max. Load Amps	Volts	Phase/Cycles	Cord Length	Pallet Quantity	Weight (Lbs.)
10DOM05221	1/2	5.5	230	1/60	10'	80	16
10DOM05121	1/2	11.0	115	1/60	10'	80	16
20DOM05221	1/2	4.6	230	1/60	10'	80	16
20DOM05121	1/2	9.5	115	1/60	10'	80	16
30DOM05221	1/2	4.6	230	1/60	10'	80	16
30DOM05121	1/2	9.5	115	1/60	10'	80	16
20DOM05221+1	1/2	5.3	230	1/60	10'	80	16
20DOM05121+1	1/2	10.6	115	1/60	10'	80	16

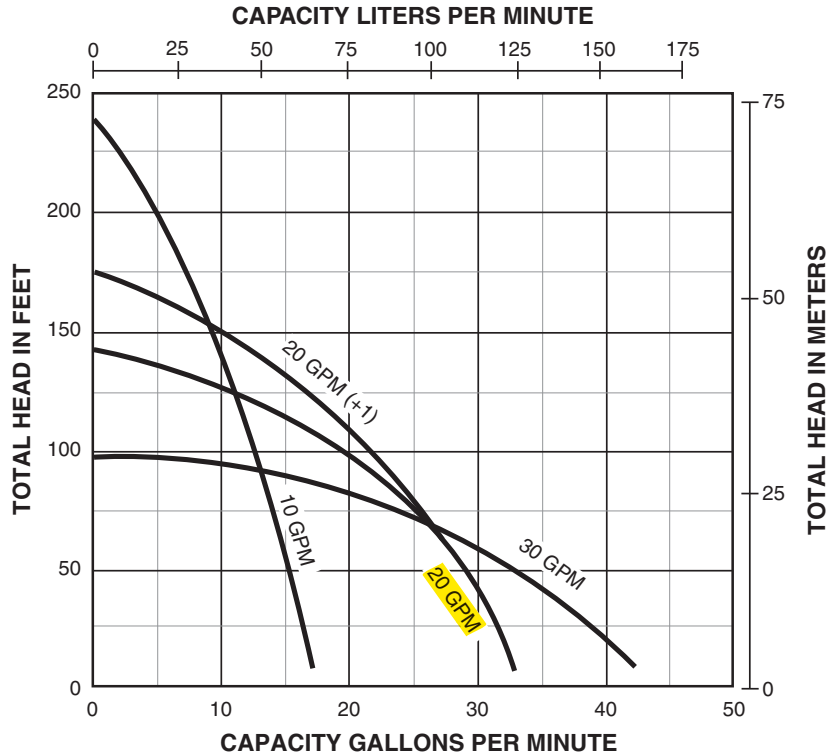
Nylatron® is a registered trademark of Polymer Corp. SignaSeal™ and STEP Plus™ are trademarks of Sta-Rite Industries.

In order to provide the best products possible, specifications are subject to change.



4" multi-stage submersible pump

PUMP PERFORMANCE



PUMP PERFORMANCE (Capacity in Gallons per Minute)

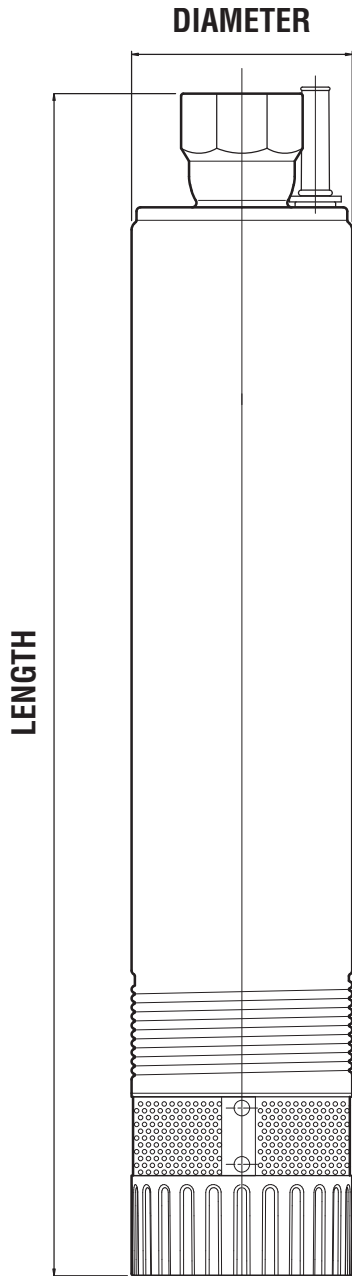
Pump Model	Flow Rate (GPM)	PSI											
		0	10	20	30	40	50	60	70	80	90	100	110
10DOM05221	10			15.0	13.7	12.7	11.5	10.2	8.4	6.5	4.3	1.0	
10DOM05121	10			15.0	13.7	12.7	11.5	10.2	8.4	6.5	4.3	1.0	
20DOM05221	20			30.0	26.0	21.5	14.2	4.4					
20DOM05121	20			30.0	26.0	21.5	14.2	4.4					
30DOM05221	30		38.5	33.3	25.8	16							
30DOM05121	30		38.5	33.3	25.8	16							
20DOM05221+1	20 + 1			30	27.5	24	20	13.5	6				
20DOM05121+1	20 + 1			30	27.5	24	20	13.5	6				

PUMP PERFORMANCE (Capacity in Liters per Minute)

Pump Model	Flow Rate (LPM)	Bar											
		0	.69	1.38	2.07	2.76	3.45	4.13	4.82	5.51	6.20	6.89	7.58
10DOM05221	37.85		56.8	51.9	48.1	43.5	38.6	31.8	24.6	16.3	3.8		
10DOM05121	37.85		56.8	51.9	48.1	43.5	38.6	31.8	24.6	16.3	3.8		
20DOM05221	75.7		113.6	98.4	81.4	53.7	16.7						
20DOM05121	75.7		113.6	98.4	81.4	53.7	16.7						
30DOM05221	113.55	145.7	126.0	97.7	60.6								
30DOM05121	113.55	145.7	126.0	97.7	60.6								
20DOM05221+1	75.7 + 1			113.4	103.9	90.7	75.6	51.0	22.6				
20DOM05121+1	75.7 + 1			113.4	103.9	90.7	75.6	51.0	22.6				

4" multi-stage submersible pump

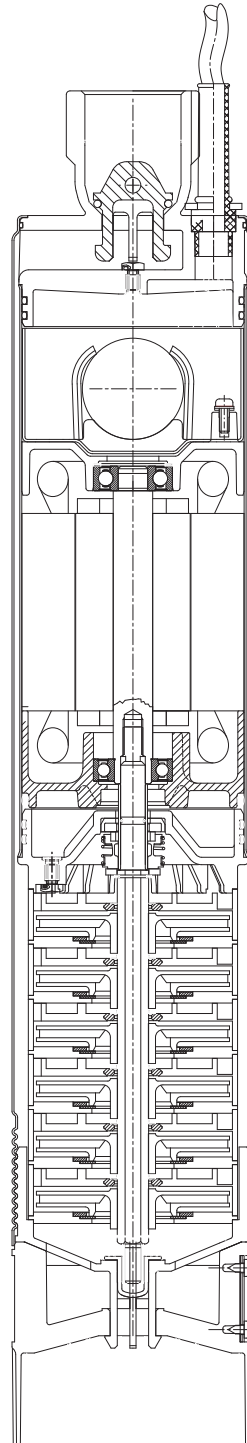
OUTLINE DIMENSIONS



GPM	Length	Diameter
10	21.6" (549 mm)	3.86" (98 mm)
20	20.8" (529 mm)	3.86" (98 mm)
30	20.6" (523 mm)	3.86" (98 mm)
20+1	22.3" (567 mm)	3.86" (98 mm)

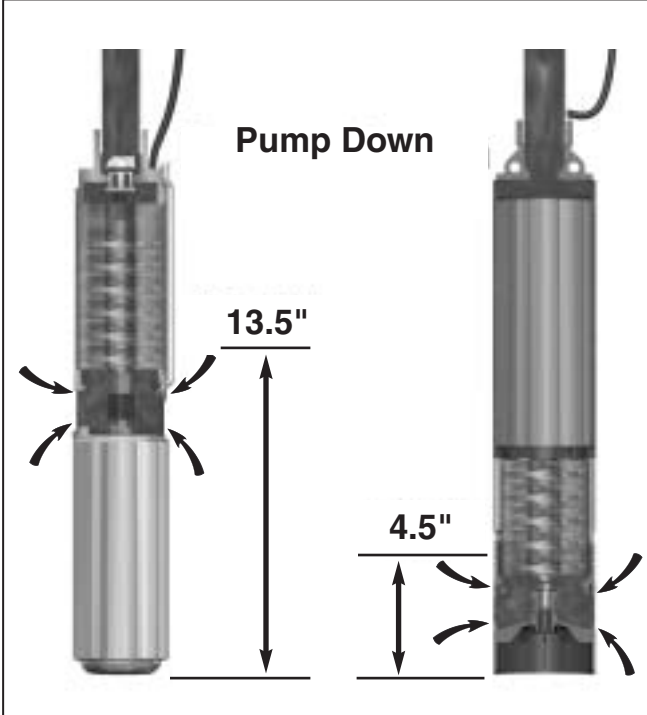
Dimensions are for estimating purposes only.

CROSS-SECTION

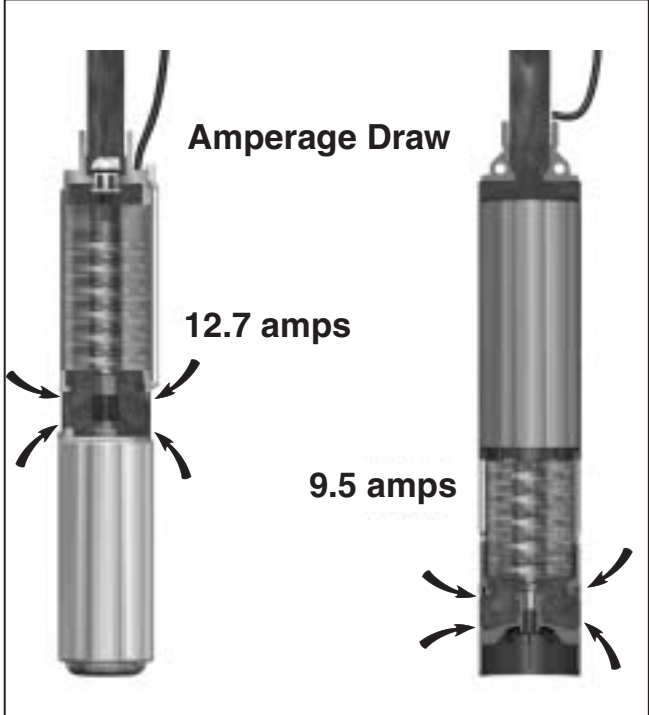


4" multi-stage submersible pump

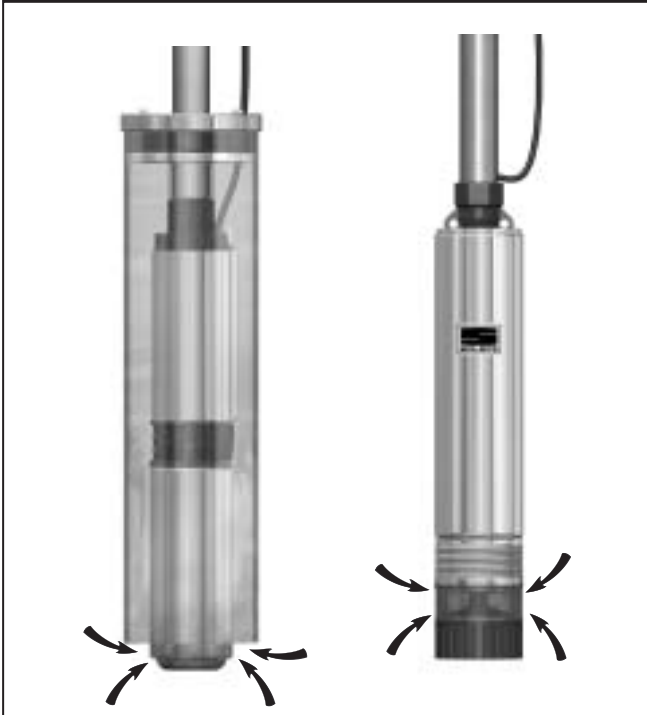
INCREASED DRAW-DOWN



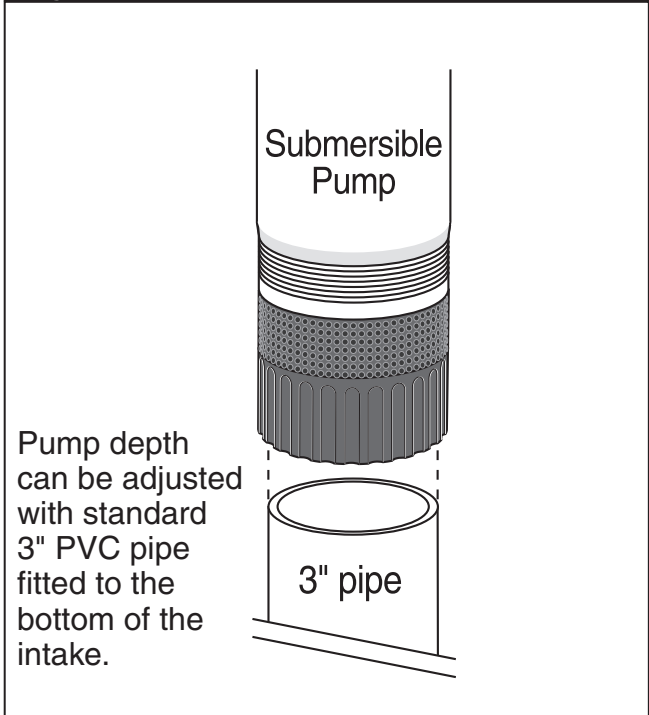
REDUCED AMP-DRAW



ELIMINATES FLOW-INDUCER



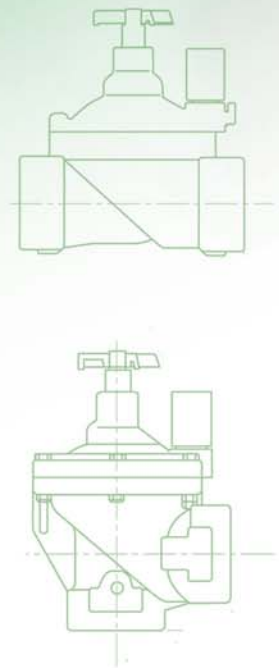
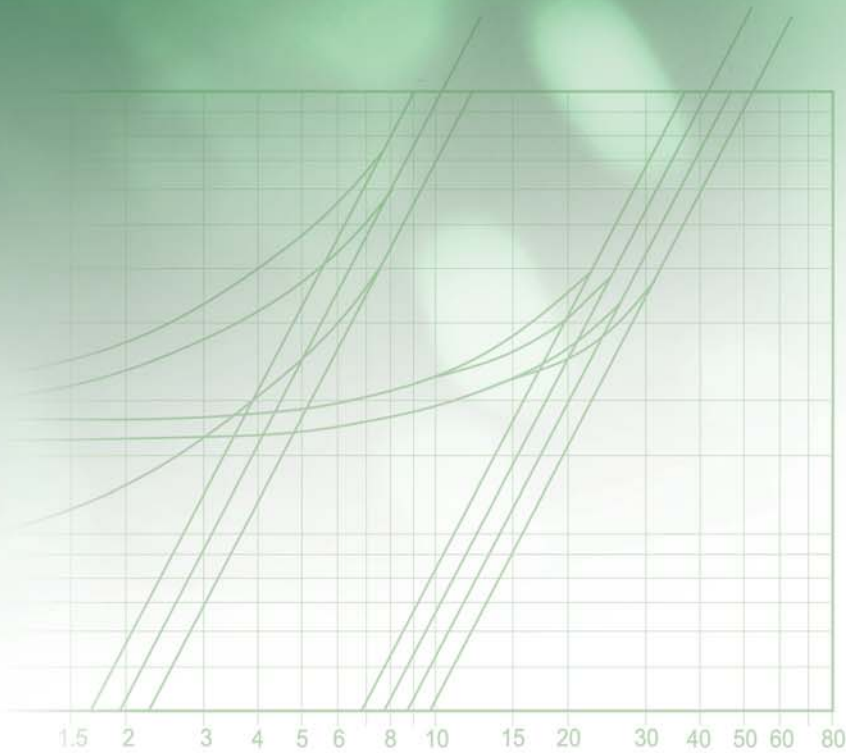
ADJUSTABLE DEPTH SETTING

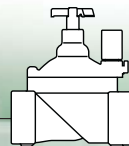


Irrigation for Agriculture

Engineering Data

IR-200 Series





Product Parts Features, Hydraulic Valve

[1] Fastening Bolts & Nuts

6 Stainless Steel bolts and nuts (1½-2"; DN40-50 valves) fasten valve cover to body, ensuring quick in-line inspection and service.

[2] Valve Cover (Hydraulic Type)

Simple and light construction enables quick in-line inspection and service.

[2.1] Flow Stem (Optional)

[3] Auxiliary Closing Spring

One single spring fully meets valve requirements for operating pressure range, ensuring low opening pressure and secured closing.

[4] Seal Disk Assembly (Hydraulic Type)

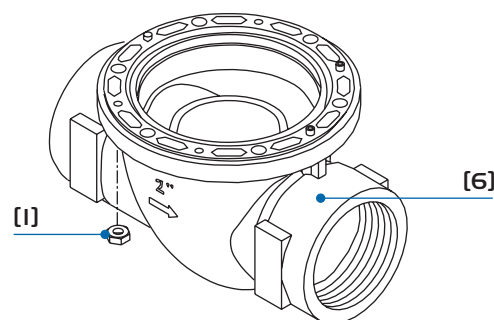
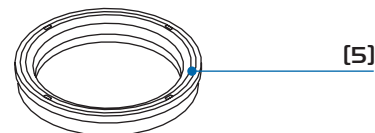
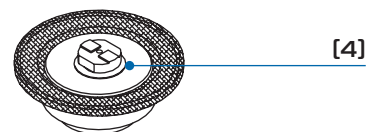
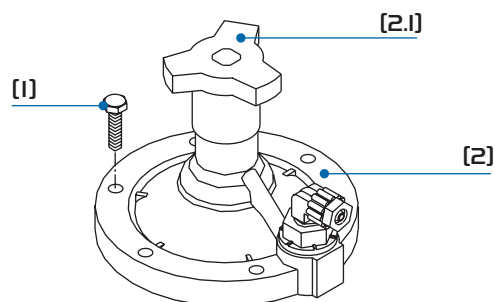
The seal disk assembly includes a flexible, carefully balanced, and peripherally supported diaphragm and a rugged guided plug with elastomeric sealing surface. This internal design enables:

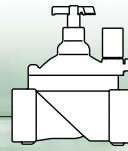
- High flow rate with low head loss
- Smooth valve opening and closing
- Accurate and stable regulation
- Low opening and actuation pressure
- No diaphragm erosion and distortion
- Same diaphragm and spring fully meet the valve's operating pressure range requirements

[5] Diaphragm Supporting Ring

[6] Valve Body (Hydraulic Type)

Glass-Filled Nylon to meet rough service conditions obtaining high chemical and cavitation resistance. Full bore seat with unobstructed flow path, free of any in-line ribs, supporting cage, or shafts.





Product Parts Features, Electric Valve

[1] **Fastening Bolts & Nuts**

6 Stainless Steel bolts and nuts (1 1/2-2"; DN40-50 valves) fasten valve cover to body, ensuring quick in-line inspection and service.

[2] **Valve Cover (Electric Type)**

Simple and light construction enables quick in-line inspection and service.

[2.1] 2-Way Solenoid Actuator

[2.2] Manuale Override Handle

[2.3] Needle - Restricts inlet flow & eliminates internal restriction clogging.

[2.4] Flow Stem (optional)

[3] **Auxiliary Closing Spring**

One single spring fully meets valve requirements for operating pressure range, ensuring low opening pressure and secured closing.

[4] **Seal Disk Assembly (Electric Type)**

The seal disk assembly includes a flexible, carefully balanced, and peripherally supported diaphragm and a rugged guided plug with elastomeric sealing surface. This internal design enables:

- High flow rate with low head loss
- Smooth valve opening and closing
- Accurate and stable regulation
- Low opening and actuation pressure
- No diaphragm erosion and distortion
- Same diaphragm and spring fully meet the valve's operating pressure range requirements

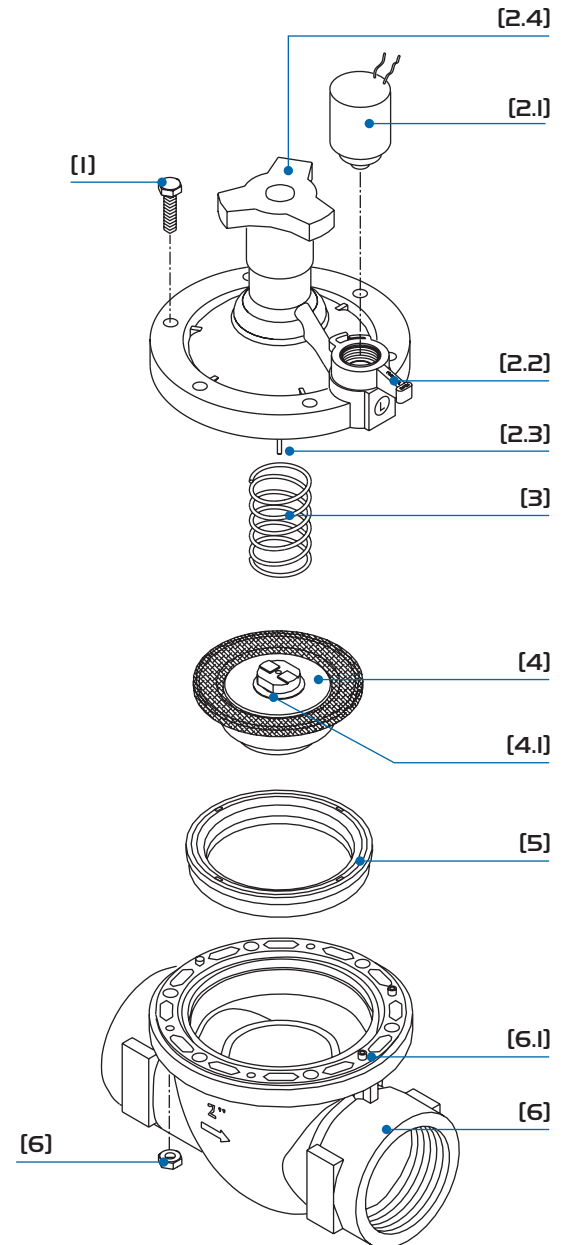
[4.1] Internal Restriction

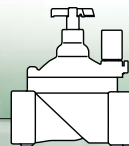
[5] **Diaphragm Supporting Ring**

[6] **Valve Body (Electric Type)**

Glass-Filled Nylon to meet rough service conditions obtaining high chemical and cavitation resistance. Full bore seat with unobstructed flow path, free of any in-line ribs, supporting cage, or shafts.

[6.1] Internal Control Circuit Outlet

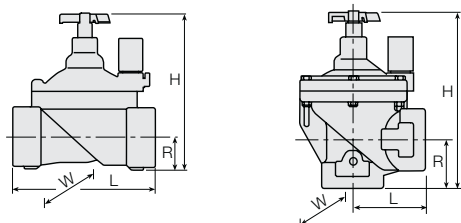




Technical Data



Dimensions & Weights



Pattern	Globe				Angle	
Size	DN20	DN25	DN40	DN50	DN40	DN50
L (mm)	110	110	160	170	80	85
H (mm)	115	115	180	190	190	210
R (mm)	22	22	35	38	40	60
W (mm)	78	78	125	125	125	125
Weight*(kg)	0.35	0.33	1.0	1.1	0.95	0.91
CCDV** (lit)	0.015	0.015	0.072	0.072	0.072	0.072

* Without flow control handle

**Control Chamber Displacement Volume (liter)

Technical Specifications

Available Patterns & Sizes:

Globe: DN: 20, 25, 40 & 50

Angle: DN: 40 & 50

Available End Connections:

BSP-T; NPT female threads

Pressure Rating: 10 bar

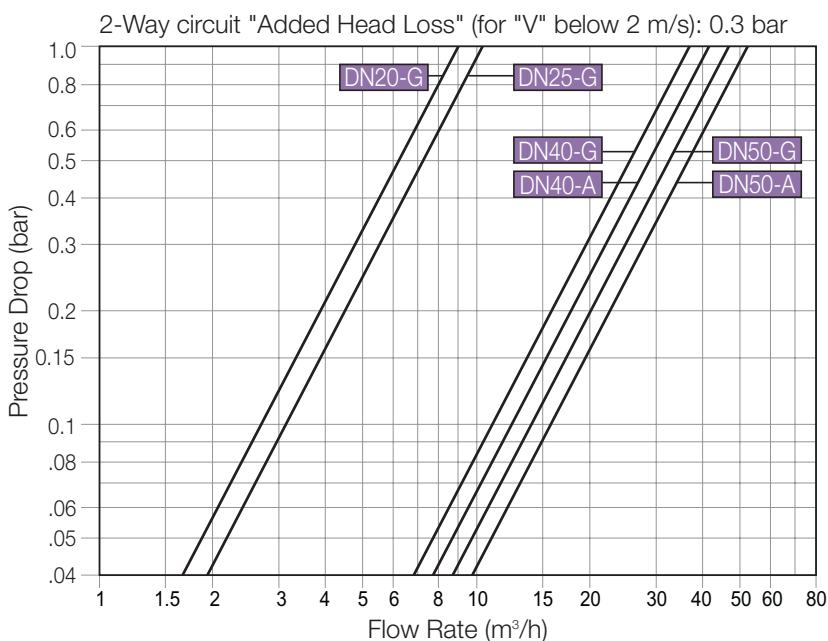
Operating Pressure Range: 0.7-10 bar

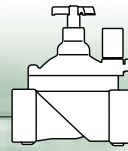
Temperature: Water up to 60°C

Standard Materials:

- Body & Cover: Nylon Reinforced
- Metal Parts: Stainless Steel
- Diaphragm: Natural Rubber
- Seals: NBR [Buna-N]
- Spring: Stainless Steel
- Cover bolts: Stainless Steel

Flow Chart

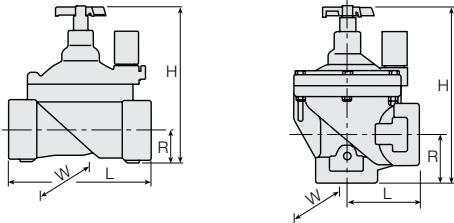




Technical Data



Dimensions & Weights



Pattern	Globe				Angle	
Size	1/2"	1"	1 1/2"	2"	1 1/2"	2"
L (inch)	45/16	45/16	65/16	6 11/16	33/16	33/8
H (inch)	4 1/2	4 1/2	7 1/8	7 1/2	7 1/2	8 1/4
R (inch)	7/8	7/8	13/8	1 1/2	19/16	23/8
W (inch)	3 1/16	3 1/16	4 15/16	4 15/16	45/16	4 15/16
Weight* (lb)	0.77	0.73	2.2	2.4	2.1	2.0
CCDV** (gal)	0.004	0.004	0.02	0.02	0.02	0.02

* Without flow control handle

**Control Chamber Displacement Volume (gallons)

Technical Specifications

Available Patterns & Sizes:

Globe: 3/4", 1", 1 1/2", 2"

Angle: 1 1/2", 2"

Available End Connections:

BSP-T; NPT female threads

Pressure Rating: 150 psi

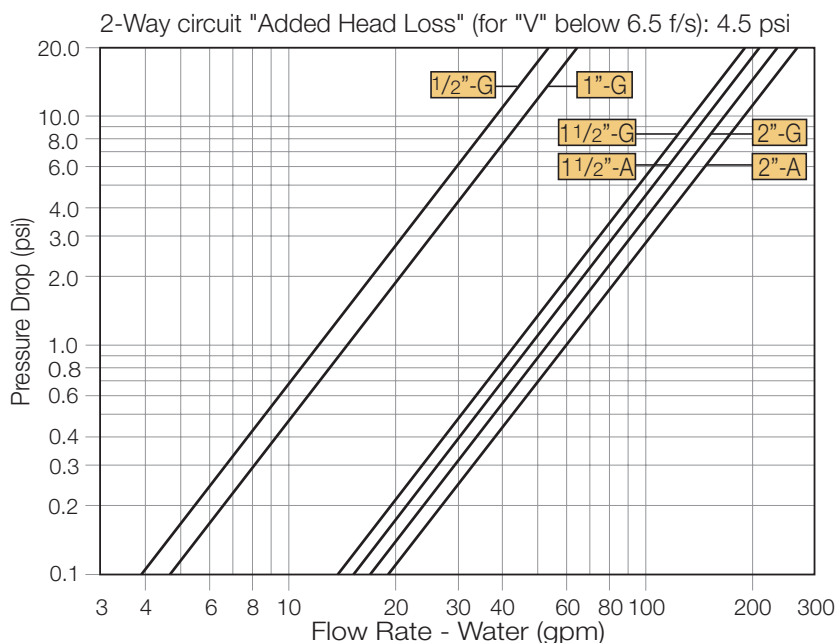
Operating Pressure Range: 10-150 psi

Temperature: Water up to 140°F

Standard Materials:

- Body & Cover: Nylon Reinforced
- Metal Parts: Stainless Steel
- Diaphragm: Natural Rubber
- Seals: NBR [Buna-N]
- Spring: Stainless Steel
- Cover bolts: Stainless Steel

Flow Chart



DLJ Epoxy Coated Bronze Water Meters

Models DLJ 50, DLJ 75, DLJ 7575, DLJ 100



Description

Operation The DLJ 50, 75, 7575 and 100 are multijet (inferential) impeller meters. The impeller and magnet are the only moving parts in the measuring chamber. The chamber is located in a strainer basket, which allows for high amounts of impurities to be passed through the meter without affecting operation. The impeller movement is transferred by a magnetic coupling to the hermetically sealed register.

Compliance The DLJ line of multijets complies with AWWA C708 and ISO 4064 Class B standards.

Installation The meter must be installed in a clean pipeline, free of any foreign materials. Install the meter with direction of flow as indicated by the arrow cast into the meter body. You can install the meter vertically or horizontally and with the register facing any direction.

Application The DLJ meter is for use only with cold water up to 122 degrees F (50 degrees C)

Construction The meter consists of an epoxy coated bronze maincase with the size and flow direction cast into it, an integral strainer/measuring chamber, a removable dry hermetically sealed register assembly and a secured calibration port (factory tested and set).

Characteristics	Specifications			
	DLJ 50 5/8" x 1/2"	DLJ 75 5/8" x 3/4"	DLJ 7575 3/4" x 3/4"	DLJ100 1"
Flow Rating (gpm)	20	20	30	50
Continuous Flow (gpm)	15	20	25	30
Normal Flow Range (gpm)	1 - 20	1 - 20	2-30	3 - 50
Low Flow (gpm)	1/4	1/4	1/4	1/2
Maximum Pressure (psi)	150	150	150	150
Maximum Temperature (°F)	122	122	122	122
Sweep Hand Registers (Gallons)	10	10	10	10
Register Capacity (Millions of Gallons)	10	10	10	10

watermeters.com

*the first and still the best online source
for water meters*

DLJ Meter



www.watermeters.com

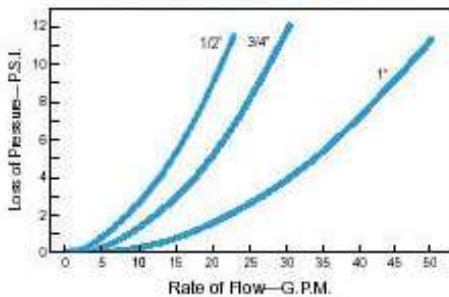
DLJ Epoxy Coated Bronze Water Meters

Models DLJ 50, DLJ 75, DLJ 7575, DLJ 100

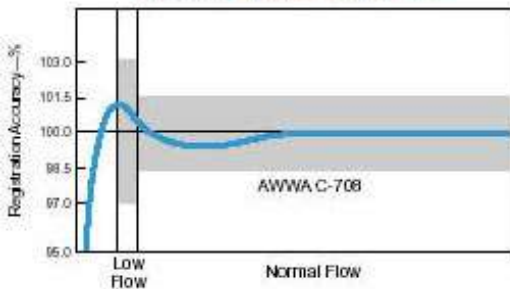
Direct Read Register The register is contained in a hermetically sealed nylon casing with a 5mm tempered glass lens. The totalizer wheels are large and easy to read and the sweep hand is designed not to interfere with the odometer reading. The register's circumference shows individual gallons down to increments of tenths of gallons, for precision reading. The large red spinning trickle indicator is excellent for leak detection. Each register clearly shows its applicable meter size.



Head Loss Curves - 1/2", 3/4", 1"



Accuracy Curves - 1/2", 3/4", 1"



Pulse Output The DLJ line is available with a dry contact reed switch pulse output. This requires external DC power, 4 watts, 30VDC maximum. Contact closure is 1 pulse per gallon.



Maintenance The register assembly is easily removable and replaceable if needed. The integral strainer on the measuring assembly prevents foreign debris damage and can be removed and flushed clean if merited.

Magnetic Drive The magnetic drive design facilitates coupling between the measuring chamber and the register assembly. The coupling will remain unless the flow rates are higher than recommended

Connections Meter casing spuds conform to ANSI B2.1 and have external straight threads (referred to as non-tapered meter threading). All meters come with full bronze meter coupling sets bringing you to Male NPT.

Specifications	Size			
	DLJ 50 5/8" x 1/2"	DLJ 75 5/8" x 3/4"	DLJ 7575 3/4" x 3/4"	DLJ100 1"
Length	7 1/2"	7 1/2"	9"	10 3/4"
Height	4 1/8"	4 1/8"	4 1/8"	3 7/8"
Width	3 3/4"	3 3/4"	3 3/4"	4 1/8"
Weight (lbs.)	4	4	5	5

Daniel L. Jerman Co.

275 Railroad Place
Hackensack, NJ 07601
Phone 800.654.3733
Fax 201.487.3953
International Phone 201.487.7444
email: sales@watermeters.com

DLJ Meter



www.watermeters.com

GEVA 75 1/8" Solenoid Valves

General Description

GEVA 75 1/8" solenoid valves are based on GEVA 75 operators mounted on a plastic base.

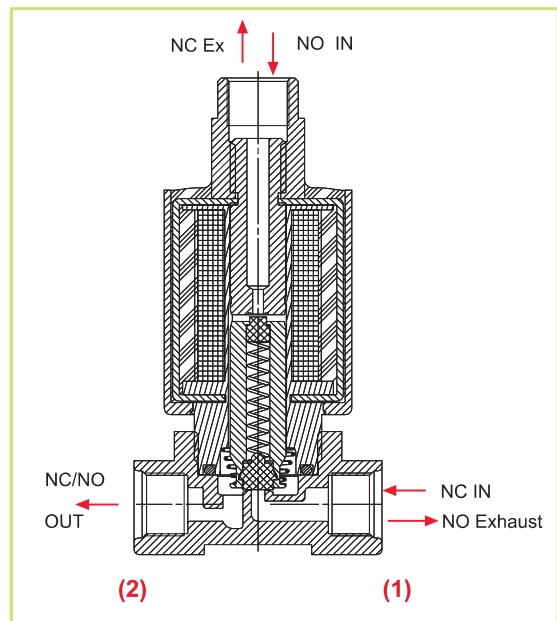
These bases are available with or without flange, manual override as standard.

Applications

They are specially designed for irrigation control systems.

Notes

For other available voltages and to order valves manufactured to your specific requirements, please contact our technical sales department.



How to Order

Example : G75 - A - 11032-1

Is a GEVA 75 with flange, 1/8" BSP 3WNC 1.2 orifice ad 24VAC coil.

G75-A	Type	Port	Function	Orifice	Voltage
	with flange 1	1/8"BSP 10	2WNC 1	1	24 VAC 1
	without flange 2	1/8"NPT 11	3WNC 3	1.2	9-12VDC latch 2
	Brass 3		3WNO 4	1.6	12VAC 3
					12VDC 4
					24VDC 5
					24VDC latch 6
					110VAC 7

Technical Specifications

Ports size: 1/8" BSP or NPT

Materials: **Base & manual override:**

Reinforced Nylon

Seals:

EPDM

Solenoid:

See solenoid specifications

Pressure: See table

Mounting: Flange or by two tapping screws No.6

Voltage: 12, **24**, 110, 230 AC

12, 24 DC

9-12, 24 V Latch

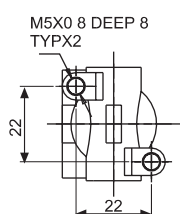
Protection class IP66

Max. Pressure

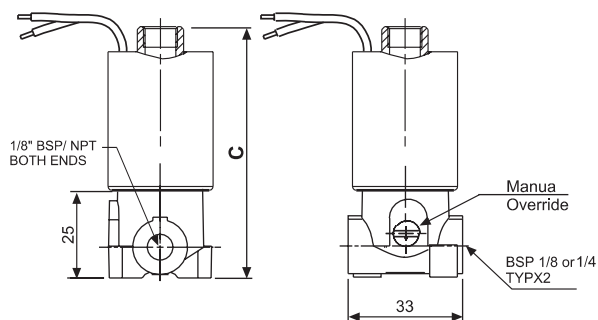
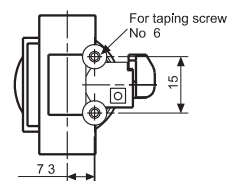
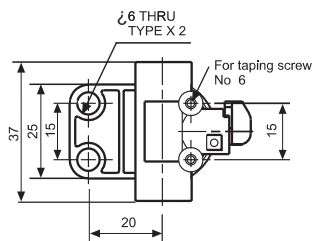
Pressure bar

Function	Orifice	AC	DC latch
2WNC	up to 2.0	12	12
3WNC	1	16	16
	1.2	11	11
	1.6	6	6
3WNO	1	16	16
	1.2	12	12
	1.6	8	8

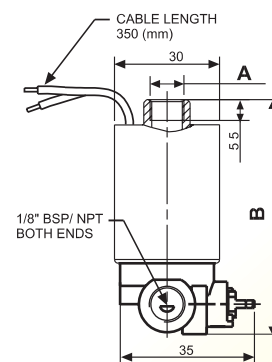
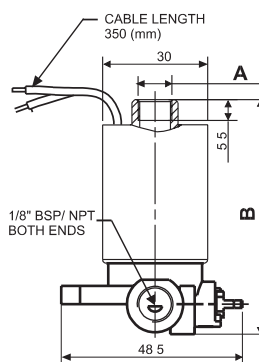
Dimensions



	A	B	C
2WNC	—	60	65
3W	1/8	74	78



BRASS



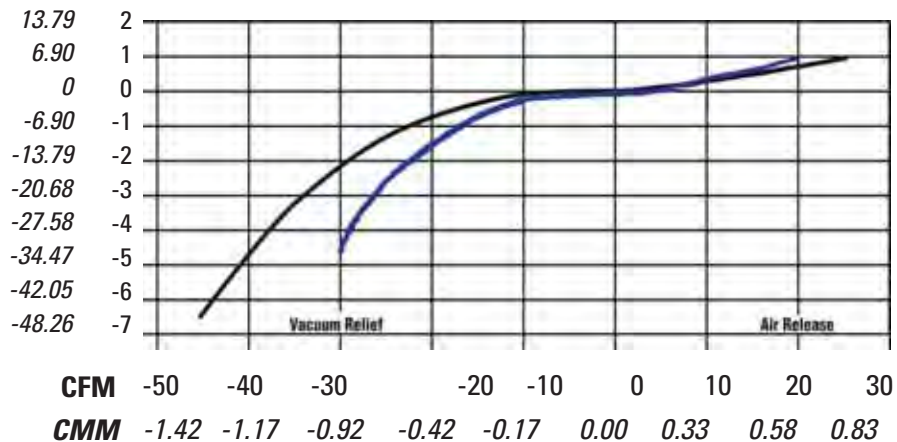
PLASTIC

VBK-3/4", 1" & VBKV-1"



- Dual acting air release/vacuum relief valve
- 80 PSI working pressure
- Inlet 3/4" and 1" NPT
- Seals at 5 PSI
- Clear open diameter is 0.610"
- Optional Schrader Valve to check system pressure

KPa PSI VBK-3/4, VBK-1 and VBKV-1



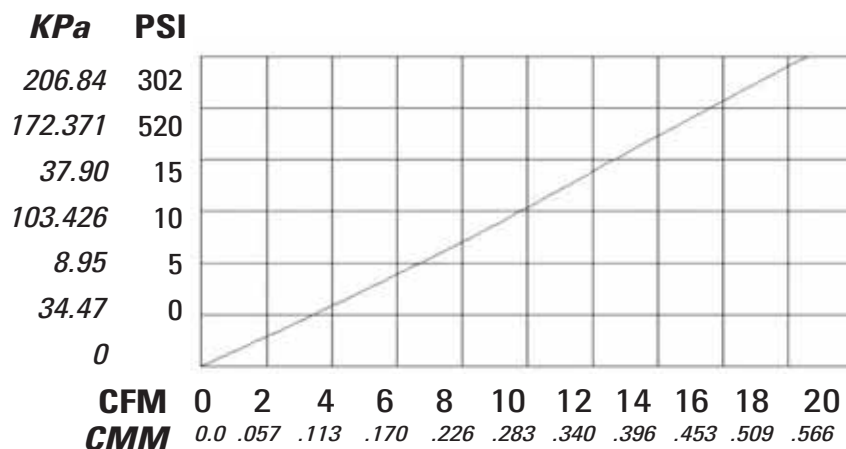
How to Specify VBK Series

The air release/vacuum relief valve shall have a maximum working pressure to 80 PSI rated at standard temperature of 73 F and have a (3/4" 1") MPT inlet. Valve shall operate as a dual acting air release and vacuum relief. Valve shall achieve minimum positive sealing at a pressure of 5 PSI with a clear open diameter of 0.610". Valve shall provide vacuum relief of (-30 -45) CFM @ (-4.5 -6.5) PSI and air release of (20 25) CFM @ 1 PSI. Valve will be manufactured with UV stabilized, durable, weather resistant and non-corrosive engineered plastics of bright colors for easy visibility. Valve will have a removable top for easy seal maintenance (and will have a Schrader valve incorporated into the side of the body to conveniently check system pressure). Air release/vacuum relief valve shall be manufactured by Jain Irrigation, Inc., Fresno, CA.

ARV-1



- Continuous air release
- 170 PSI working pressure
- Inlet 1" NPT or BSP
- Simple design
- Easy maintenance



ACT WATER FILTRATION SYSTEMS™

Advanced Cleaning Technology



Round Riser Filtration System for Wastewater Drip Dispersal

Product Advantages

- Self-cleaning filter for low flow applications
- Corrosion-free plastic filter and manifold
- Over tank or remote mounting available
- Pump can be removed with filter in place
- Freeze protection available
- Uses proven **RING DISC FILTRATION TECHNOLOGY**.
- Filtration level easily changed by replacing disc rings with desired mesh size.
- Wrap around compact design
- Uses internal water supply for backflush
- Low back flushing flow rates (12-15 gpm)
- Up to two internally controlled irrigation zones

Applications

- Ideally suited for Residential, Light Industrial and Commercial Subsurface Drip Dispersal of Treated Effluent

Water Sources

- Primary and secondary treated wastewater

Specifications

Inlet: 1 1/4"

Outlet: 1"

Flush Return: 1"

Maximum Operating Pressure: 100 psi

Minimum Pressure for Back flush: 40 psi

Minimum Flow for Back flush: 12 GPM

ACT DISTRIBUTOR:

JNM TECHNOLOGIES, INC.

PO Box 5667

Bryan, TX 77805

979-779-6500

979-779-6505fax

jnm@jnmtechnologies.com

Materials of Construction

Valves:

Nuts, bolts and washers: 304 Stainless Steel

Valve Body: Glass Reinforced Polyamide

Spring: Stainless Steel AISI 302

Diaphragm: Natural Rubber

Solenoids: 24 VAC (other voltages available upon request)

Filter:

Modified 1" Standard Manual Filter

Filter Body and Disc Spine: Reinforced Polyamide, PVC and Polycarbonate

Disc Rings: Polypropylene and Polyethylene (upon request)

O-Rings: EPDM Rubber

Options:

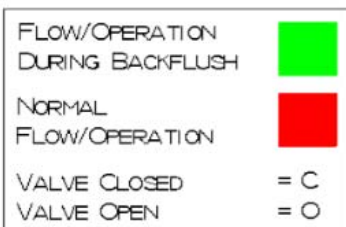
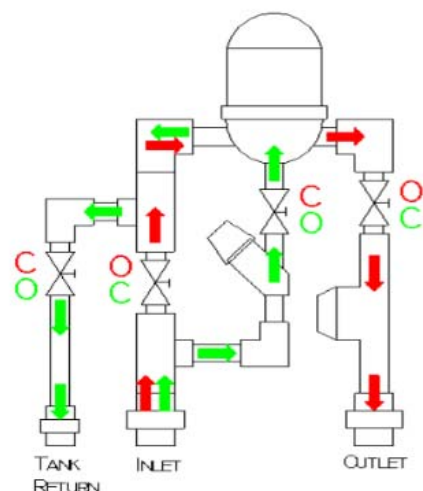
Over tank mounting

Pulsed Reed Switch output Flowmeter

Manual or Automatic Field Flush

Freeze Protection

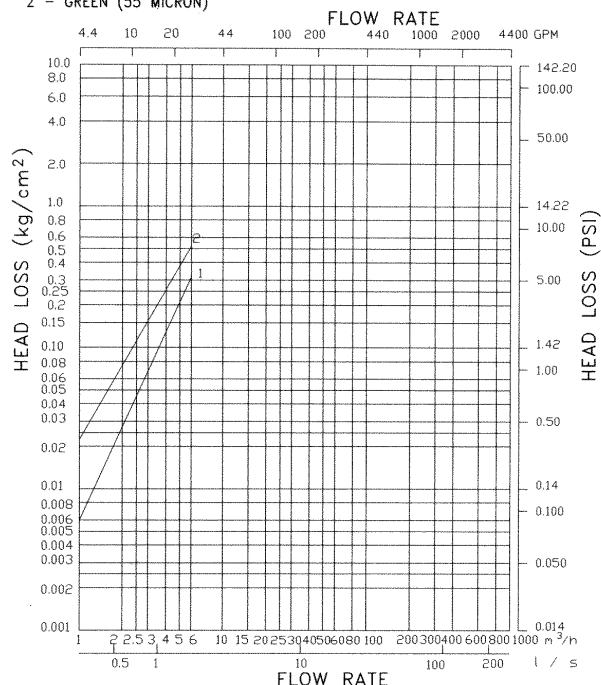
Flow Diagram



Filter Pressure Losses

1 - BLUE, YELLOW, RED (400-130 MICRON/ 40-120 MESH)

2 - GREEN (55 MICRON)



ACT WATER FILTRATION SYSTEMS™

Advanced Cleaning Technology



ACT 100S Vault Enclosure for Wastewater Drip Dispersal

Product Advantages

- Self-cleaning filter for low flow applications
- Corrosion-free plastic filter and manifold
- Above ground or buried installation on self supporting base
- Freeze protection available
- Uses proven **RING DISC FILTRATION TECHNOLOGY**.
- Filtration level easily changed by replacing disc rings with desired mesh size.
- Wrap around compact design
- Uses internal water supply for backflush
- Low back flushing flow rates (12-15 gpm)
- Up to three internally controlled irrigation zones

Applications

- Ideally suited for Residential, Light Industrial and Commercial Subsurface Drip Dispersal of Treated Effluent

Water Sources

- Primary and secondary treated domestic strength wastewater

Specifications

Inlet: 1 1/4"

Outlet: 1"

Flush Return: 1"

Maximum Operating Pressure: 100 psi

Minimum Pressure for Back flush: 40 psi

Minimum Flow for Back flush: 12 GPM

ACT DISTRIBUTOR:

JNM TECHNOLOGIES, INC.

PO Box 5667

Bryan, TX 77805-5667

979-779-6500

979-779-6505 fax

jnm@jnmtechnologies.com

Materials of Construction

Valves:

Nuts, bolts and washers: 304 Stainless Steel

Valve Body: Glass Reinforced Polyamide

Spring: Stainless Steel AISI 302

Diaphragm: Natural Rubber

Solenoids: 24 VAC (other voltages available upon request)

Filter:

Modified 1" Standard Manual Filter

Filter Body and Disc Spine: Reinforced Polyamide, PVC and Polycarbonate

Disc Rings: Polypropylene and Polyethylene (upon request)

O-Rings: EPDM Rubber

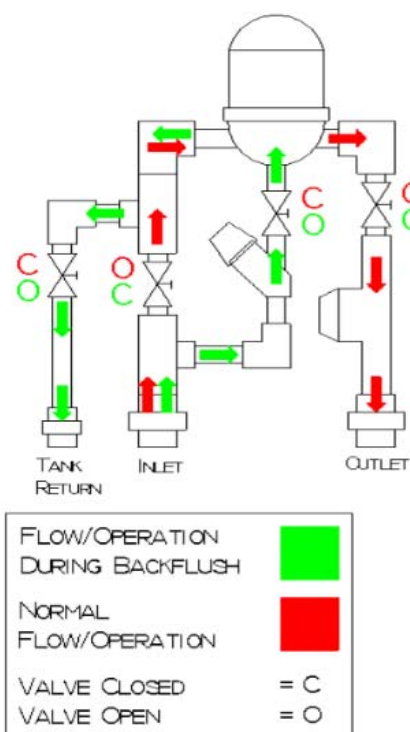
Options:

Pulsed Reed Switch output Flowmeter

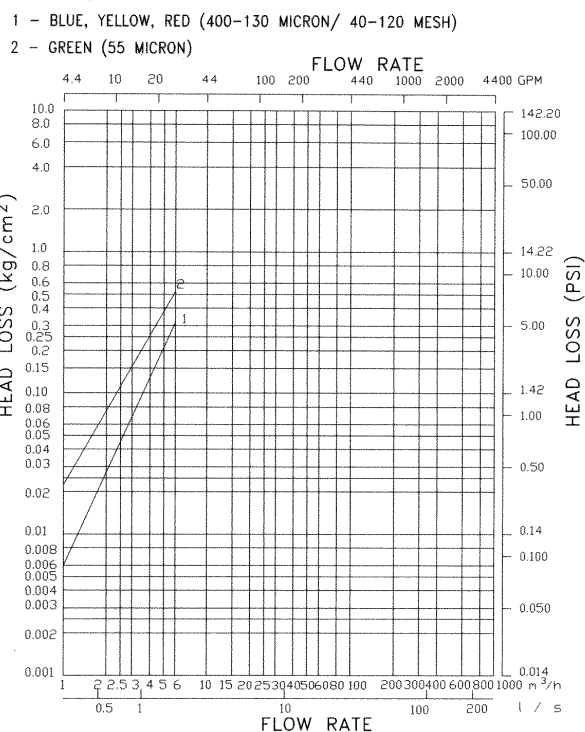
Manual or Automatic Field Flush

Freeze Protection

Flow Diagram



Filter Pressure Losses



Use for materials and flow data. Filter in ACT100S is auto-flush with patented ring release.



Manual Disc Filters

**Reliable, Efficient Plastic Discs
Create Superior Filtration**



Product Advantages

- Engineered for efficient operation - year after year with practically zero maintenance.
- Flat, grooved plastic rings stack together to form a cylindrical filter element.
- Easy cleaning - no scrubbing is necessary.
- Greater holding capacity - filters through the entire ring depth - not just the surface.
- During filtration, pressure increases and compresses the rings increasing efficiency and protecting the system from clogging.
- Constructed of the highest quality UV protected reinforced polymer plastic.
- Degree of filtration is easily changed - replace disc rings with desired mesh size.
- Available in a range of sizes, degrees of filtration and flow capacities.
- Works well as stand-alone units or combined to form modular filter batteries.

MANUAL DISC FILTERS

MESH	FILTER SIZE					
	3/4"	1"	1" Super	1 1/2"	1 1/2" Super	2" Dual
040	0	0	0	0	0	0
080	X	X	X	X	X	X
120	X	X	X	X	X	X
140	X	X	X	X	X	X
200	-	-	-	-	-	0
280	-	0	0	0	0	0

MESH	2" Super	3" Twin	3" Angle	4" Twin	6" Twin
040	0	0	0	0	0
080	X	X	X	X	X
120	X	X	X	X	X
140	X	X	X	X	X
200	0	0	-	-	-
280	0	0	0	0	0

X = Standard, 0 = Optional, - = Not Available



2" Super Filter

Applications

- Protection of irrigation systems from clogging and/or abrasion
- Working conditions of 1 to 350 GPM
- Temperatures from -40° to 160°

Materials

Filter Body and Cover: Reinforced Polyamide
Disc Rings: Polypropylene
O-Rings: EPDM Rubber
Clamps: Stainless Steel

DISC COLOR AND MICRON EQUIVALENT

Disc Color	Mesh Size	Micron Size
Blue	040	400
Yellow	080	200
Red	120	130
Black	140	115
Brown	200	70
Green	280	50



NETAFIM USA
5470 E. Home Ave. • Fresno, CA 93727
888.638.2346 • 559.453.6800
FAX 800.695.4753
www.netafimusa.com

Manual Disc Filter Specifications



3/4" Filter

Flow range:	1-12 GPM
Maximum pressure:	140 psi
Filtering surface area:	24.8 sq. in.
Filtering volume:	5.8 cu. in.
Length:	8 1/16"
Width:	9 5/8"
Weight:	.8 lbs.
Distance between end connections:	6"
Inlet/outlet diameter:	3/4" male
Part Number:	25A45-XXX



1" Filter

Flow range:	5-26 GPM
Maximum pressure:	140 psi
Filtering surface area:	48.91 sq. in.
Filtering volume:	26.8 cu. in.
Length:	8 7/8"
Width:	5 1/8"
Weight:	2.4 lbs.
Distance between end connections:	6 7/32"
Inlet/outlet diameter:	1" male
Part Number:	25A47-XXX



1" Super Filter

Flow range:	10-35 GPM
Maximum pressure:	140 psi
Filtering surface area:	77.78 sq. in.
Filtering volume:	36.1 cu. in.
Length:	13 11/16"
Width:	5 1/8"
Weight:	3.13 lbs.
Distance between end connections:	6 7/32"
Inlet/outlet diameter:	1" male
Part Number:	25A48-XXX



2" Super Filter

Flow range:	40-120 GPM
Maximum pressure:	140 psi
Filtering surface area:	148 sq. in.
Filtering volume:	75 cu. in.
Length:	19 13/32"
Width:	5 1/8"
Weight:	13.2 lbs.
Distance between end connections:	7 7/8"
Inlet/outlet diameter:	2" male
Part Number:	25A49-XXXSDS



3" Twin Filter - Flanged

Flow range:	80-175 GPM
Maximum pressure:	140 psi
Filtering surface area:	291 sq. in.
Filtering volume:	150 cu. in.
Length:	35.3"
Width:	11 13/16"
Weight:	26.8 lbs.
Distance between end connections:	12 19/32"
Inlet/outlet diameter:	3" flanged
Part Number:	25A50-XXXF

3" Twin Filter - Grooved

Flow range:	80-175 GPM
Maximum pressure:	140 psi
Filtering surface area:	291 sq. in.
Filtering volume:	150 cu. in.
Length:	35.3"
Width:	11 13/16"
Weight:	25.4 lbs.
Distance between end connections:	12 19/32"
Inlet/outlet diameter:	3" grooved
Part Number:	25A50-XXXG

4" Twin Filter

Flow range:	160-450 GPM
Maximum pressure:	140 psi
Filtering surface area:	574 sq. in.
Filtering volume:	108 cu. in.
Weight:	44.7 lbs.
Distance between end connections:	16 9/32"
Inlet/outlet diameter:	4" flanged
Part Number:	25A78-XXXF





1 1/2" Filter

Flow range:	10-35 GPM
Maximum pressure:	140 psi
Filtering surface area:	49 sq. in.
Filtering volume:	26.8 cu. in.
Length:	8 25/32"
Width:	5 1/8"
Weight:	2.9 lbs.
Distance between end connections:	7 7/8"
Inlet/outlet diameter:	1 1/2" male
Part Number:	25A15-XXX



1 1/2" Super Filter

Flow range:	10-52 GPM
Maximum pressure:	140 psi
Filtering surface area:	77.8 sq. in.
Filtering volume:	36.1 cu. in.
Length:	14 1/16"
Width:	5 1/8"
Weight:	3.32 lbs.
Distance between end connections:	7 7/8"
Inlet/outlet diameter:	1 1/2" male
Part Number:	25A17-XXX



2" Dual Filter

Flow range:	40-120 GPM
Maximum pressure:	174 psi
Filtering surface area:	148 sq. in.
Filtering volume:	75 cu. in.
Length:	18 5/16"
Width:	7 7/8"
Weight:	11 lbs.
Distance between end connections:	10 1/4"
Inlet/outlet diameter:	2" male
Part Number:	25A30-XXX

3" Angle Filter - Flanged

Flow range:	80-220 GPM
Maximum pressure:	140 psi
Filtering surface area:	287 sq. in.
Filtering volume:	54 cu. in.
Length:	25 7/32"
Width:	11 13/16"
Weight:	26 lbs.
Inlet/outlet diameter:	3" flanged
Part Number:	25A53-XXXF

3" Angle Filter - Grooved

Flow range:	80-220 GPM
Maximum pressure:	140 psi
Filtering surface area:	287 sq. in.
Filtering volume:	54 cu. in.
Length:	25 7/32"
Width:	11 13/16"
Weight:	26 lbs.
Inlet/outlet diameter:	3" grooved
Part Number:	25A53-XXXG



6" Twin Filter

Flow range:	200-600 GPM
Maximum pressure:	140 psi
Filtering surface area:	574 sq. in.
Filtering volume:	108 cu. in.
Weight:	48 lbs.
Distance between end connections:	16 1/3"
Inlet/outlet diameter:	6" flanged
Part Number:	25A80-XXXF



Manual Disc Filter Technical Information

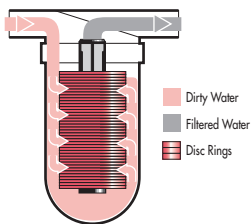
FILTER APPLICATION RECOMMENDATIONS

FLOW RATE (GPM)	HEAD LOSS (psi)										
	3/4"	1"	1" Super	1 1/2"	1 1/2" Super	2" Dual	2" Super	3" Twin	3" Angle	4" Twin*	6" Twin*
5	0.60	0.25									
10	2.50	0.60									
13	3.40	1.34									
17	5.87	2.10									
22		3.24	1.10	1.10							
26			1.50	1.30	1.50						
31			2.10	1.70	2.10						
35			2.50	2.30	2.50						
44					4.20	0.30	0.30				
66						0.63	0.63				
88						1.03	1.03	0.64	0.44		
110						1.47	1.47	0.98	0.58		
132								1.37	0.73		
154								1.80	0.88		
176								2.28	1.03		
198									1.32		
220									1.61		
242											
264											
286											
308										1.40	1.00
330										1.50	1.20
350										1.60	1.30
400										2.00	1.50
500											2.00
600											3.00

Chart Legend

0.00	River, ditch, pond, lake or reservoir water
0.00	Well water containing sand only
0.00	Municipal supply

Description of Operation



As dirty water is pumped into the filter and pressure increases on the outside of the filter element, the water pressure compresses the rings tightly together increasing efficiency. Grooves in the disc rings criss-cross,

forming a network that traps both organic and inorganic contaminants from the water source. This design filters the dirty water thoroughly - not only on the outer surface of the cylindrical disc filter element - but through the entire depth of every ring groove. Clean water exits from the inside of the cylinder.

MANUAL DISC FILTER PARTS

Filter Size	Part Description	Part Number
3/4"	Ring Set with spine	25AP46-XXX
1" & 1 1/2"	Ring Set with spine	25AP47-XXX
1" & 1 1/2" Super	Ring Set with spine	25AP21121-XXX
2" Dual, 2" Super & 3" Twin	Ring Set only	25AP49-XXXS
2" Dual, 2" Super & 3" Twin	Detachable Spine with rings	25AP49-XXXSDS
3" Angle, 4" Twin, 6" Twin	Ring Set with spine	25AP1341-XXX
3" Angle, 4" Twin, 6" Twin	Ring Set only	25AP2341-XXX

Substitute XXX with proper mesh size

Netafim USA – Delivering Total System Solutions for Agriculture

• Dripperlines • Sprinklers • Filters • Valves • Air Vents • Flow Meters • Crop Management Technologies



For more information call your Authorized Netafim USA Distributor or call Netafim USA Customer Service at (888) 638-2346.

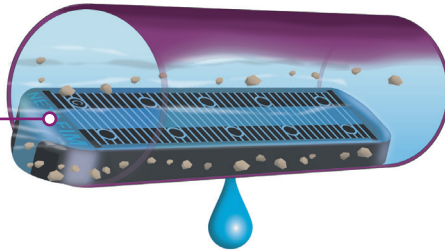
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BIOLINE® DRIPPERLINE

THE WORLD'S MOST ADVANCED CONTINUOUS
SELF-CLEANING, PRESSURE COMPENSATING
DRIPPERLINE SPECIFICALLY DESIGNED FOR WASTEWATER

CROSS SECTION OF BIOLINE DRIPPERLINE

Bioline dripper inlets
are positioned in the
center of flow where
water is the cleanest



PRODUCT ADVANTAGES

- Pressure compensation - all drippers deliver equal flow, even on sloped or rolling terrain.
- Unique flow path - Turbonet technology provides more control of water and a high resistance to clogging.
- Continuous self-flushing dripper design - flushes debris, as it is detected - throughout operation, not just at the beginning or end of a cycle. Ensures uninterrupted dripper operation.
- Single hole dripper outlet from tubing:
 - Better protection against root intrusion
 - Allows the dripperline to be used in subsurface applications without need for chemical protection
- Drippers capture water flow from the center of the tubing - ensures that only the cleanest flow enters the dripper.
- Built-in physical root barrier - drippers are protected from root intrusion without the need for chemical protection. Water exits dripper in one location while exiting the tubing in another.
- Three dripper flow rates - provides the broadest range of flow rates available. Allows the designer to match the dripperline to any soil or slope condition.
- Bioline tubing is completely wrapped in purple - easily identifying it for non-potable use, regardless of how the tubing is installed.
- Anti-bacterial-impregnated drippers - prevents buildup of microbial slime.
- Can be used subsurface - Bioline can be installed on-surface, under cover or subsurface.
- No special storage requirements - does not degrade if stored outdoors.
- Techfilter compatible - an optional level of protection, provides a limited lifetime warranty against root intrusion.

APPLICATIONS

- Typically installed following a treatment process
- Can be used with domestic septic tank effluent with proper design, filtration and operation
- Reuse applications including municipally treated effluent designated for irrigation and other disinfected and non-disinfected water sources.

SPECIFICATIONS

- Dripper flow rates: 0.4, 0.6 or 0.9 GPH
- Dripper spacings: 12", 18" or 24" dripper spacings and blank tubing
- 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, 0.57" ID
- Tubing color: Purple color indicates non-potable
- Coil lengths: 500' or 1,000' (Blank tubing in 250')
- Recommended filtration: 120 mesh
- Bending radius: 7"
- UV resistant
- Tubing material: Linear low-density polyethylene

Additional spacing and pipe sizes available by special order. Please contact Netafim USA Customer Service for details.

BIOLINE DRIPPERLINE

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 3.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.3 GPM REQUIRED PER LATERAL TO ACHIEVE 3 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	102	94	84	136	127	113	161	151	137
	25	151	136	118	203	184	161	245	223	197
	35	193	171	146	260	232	200	315	283	245
	40	211	186	158	286	254	218	347	311	267
	45	228	200	169	310	274	233	377	335	287
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 3 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.0 GPM REQUIRED PER LATERAL TO ACHIEVE 2.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	128	115	100	172	155	136	205	187	165
	25	183	161	137	248	220	188	301	268	231
	35	228	198	166	310	272	229	379	333	283
	40	248	214	178	338	295	247	413	362	305
	45	266	229	190	364	316	263	447	389	327
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.6 GPM REQUIRED PER LATERAL TO ACHIEVE 2.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	161	141	119	217	191	164	263	233	201
	25	221	190	157	302	261	218	369	321	270
	35	269	229	187	370	316	260	455	391	324
	40	290	246	200	399	340	278	493	421	347
	45	310	261	212	427	362	296	527	449	369
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.2 GPM REQUIRED PER LATERAL TO ACHIEVE 1.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	201	171	140	275	235	194	337	289	241
	25	266	222	179	366	308	251	453	383	313
	35	316	262	210	437	365	295	543	455	369
	40	337	280	223	469	391	313	583	487	393
	45	358	296	235	497	413	331	619	517	415
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.8 GPM REQUIRED PER LATERAL TO ACHIEVE 1.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	248	205	163	344	285	228	427	355	285
	25	315	258	203	440	361	286	549	453	359
	35	367	299	234	513	419	331	643	527	417
	40	389	316	248	545	445	350	683	559	441
	45	409	332	260	574	468	367	721	589	463
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 0.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.4 GPM REQUIRED PER LATERAL TO ACHIEVE 0.5 fps

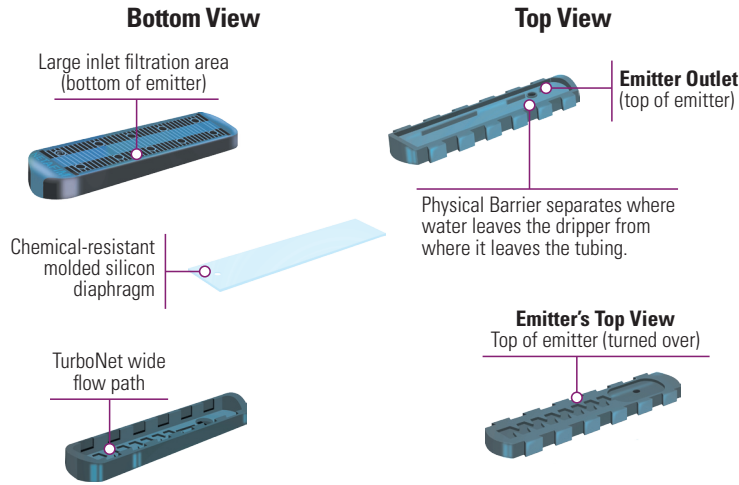
DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	301	242	188	422	341	265	531	429	335
	25	369	296	228	520	418	323	655	527	409
	35	421	337	260	595	476	368	749	603	467
	40	443	354	273	626	501	387	790	635	491
	45	464	371	285	656	524	404	829	665	513
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 0.5 fps flushing/scouring velocity

Netafim recommends flushing velocities capable of breaking free any accumulated bioslimes and debris in the piping network.

- Notes:
1. Refer to local regulations for information on flushing velocities that may be written into codes.
 2. Netafim does not endorse a specific flushing velocity.
 3. Flushing velocities should be determined based on regulations, quality of effluent, and type of flushing control.
 4. Using a flushing velocity less than 1 fps does not provide turbulent flow as defined by Reynolds Number.
 5. Higher flushing velocities provide more aggressive flushing.

EXPLODED VIEW OF BIOLINE EMITTER



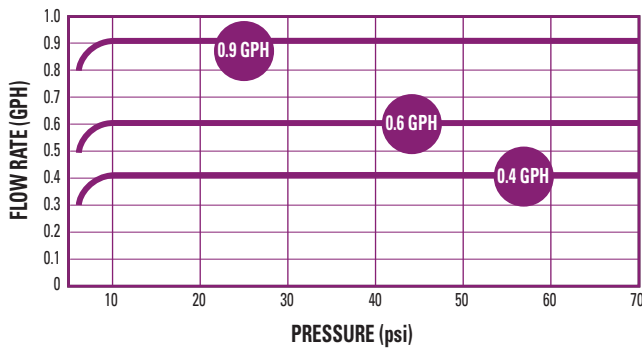
BIOLINE EMITTER OPERATION

Bioline® dripperline emitters are pressure compensating - delivering the water uniformly into the soil for further treatment or for reuse by the landscape. These unique emitters allow the tubing to be installed on flat topography or steep slopes.

Bioline emitters are protected against microbial slime. Each emitter is impregnated with an antimicrobial agent to resist biological build-up.

Netafim emitters are 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.

DRIPPER 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.

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"	40.0	0.67	61.0	1.02	92.0	1.53
18"	26.7	0.44	41.0	0.68	61.0	1.02
24"	20.0	0.34	31.0	0.51	46.0	0.77

SPECIFYING INFORMATION

SAMPLE MODEL NUMBER

08WRAM.6-24 V

A Bioline Dripperline = **08WRAM**

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**
500' = V500
1,000' = V

BLANK Tubing Model Number: 250' = 08WRAM-250

ORDERING INFORMATION

FLOW RATE	DRIPPER SPACING	COIL LENGTH	MODEL NUMBER
0.4 GPH	12"	1,000' 500'	08WRAM.4-12V 08WRAM.4-12V500
0.4 GPH	18"	1,000' 500'	08WRAM.4-18V 08WRAM.4-18V500
0.4 GPH	24"	1,000' 500'	08WRAM.4-24V 08WRAM.4-24V500
0.6 GPH	12"	1,000' 500'	08WRAM.6-12V 08WRAM.6-12V500
0.6 GPH	18"	1,000' 500'	08WRAM.6-18V 08WRAM.6-18V500
0.6 GPH	24"	1,000' 500'	08WRAM.6-24V 08WRAM.6-24V500
0.9 GPH	12"	1,000' 500'	08WRAM.9-12V 08WRAM.9-12V500
0.9 GPH	18"	1,000' 500'	08WRAM.9-18V 08WRAM.9-18V500
0.9 GPH	24"	1,000' 500'	08WRAM.9-24V 08WRAM.9-24V500
Blank Tubing 17mm		250'	08WRAM-250

BIOLINE FITTINGS

FITTING APPLICATIONS

- Fits Bioline Dripperline

FITTING SPECIFICATIONS

- Barbed fittings for a secure fit
- Easy installation without glue or tools
- Maximum recommended system pressure without clamps: 50 psi
- Allows for easy on-site inspection of proper fitting installation



TLCOUP
Insert Coupling



TLELL
Insert Elbow



TLTEE
Insert Tee



TLCROS
Insert Cross



TL050MA
1/2" Male Adapter



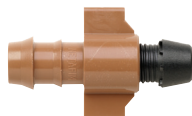
TL075MA
3/4" Male Adapter



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



TL2W075MA
2-Way Insert
3/4" MPT x Insert



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



TLIAPVC-B
Insert Adapter with Grommet
1 1/2" or larger PVC Pipe



TDBIT16.5
Drill Bit for TLIAPVC
Fitting (16.5mm or 21/32")



TLFIG8
Figure 8 Line End



TLS6
6" Soil Staple

FITTING DEFINITIONS

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



TISOV
Shut-Off Valve
Ins x Ins



TLCV
Inline Check Valve

- Flow Range: 0.9 to 4.4 GPM
- Opening Pressure: 10.2 psi
- Closing Pressure: 5.8 psi
(13.4 Feet Column of Water)



NETAFIM USA
5470 E. Home Ave.
Fresno, CA 93727
CS 888 638 2346
F 800 695 4753
www.netafimusa.com



4" multi-stage submersible pump



This product is Listed to UL Standards for Safety by Underwriters Laboratories Inc. (UL).



The STEP Plus™ D Series 4" submersible pump in 10, 20 and 30 GPM models dominate with superior "DRAW-DOWN" capability.

The STEP Plus™ D Series 4" submersible pump dominates with reduced AMP DRAW.

The STEP Plus™ D Series 4" submersible pump dominates with COOLER and QUIETER operation.

APPLICATIONS

- **Clean and Gray Water...** for residential, commercial, and agricultural use.

SPECIFICATIONS

Motor – Available in 115 or 230 volt versions. Dry-wound, double ball-bearing, double-seal and thermal overload protected, UL and CSA approved.

Shell – Stainless steel (300 grade)

Discharge – Fiberglass-reinforced thermoplastic

Discharge Bearing – Nylatron®

Impellers – Acetel

Diffusers – Polycarbonate

Suction Caps – Polycarbonate with stainless steel wear ring

Thrust Pads – Proprietary spec.

Shaft and Coupling – Stainless steel 300 grade

Intake – Fiberglass-reinforced thermoplastic

Intake Screen – Stainless steel

Jacketed Cord – 600 Volt "SJOW" jacketed 10' leads, 2-wire with ground

Agency Listing – UL, CSA

STEP Plus™ D SERIES

FEATURES

STEP Plus DOMINATES with a...

Patented Stage System – The proven SignaSeal™ staging system utilizes a patented ceramic wear surface. When incorporated with Sta-Rite's "true" independent floating impellers, dominates with 1st-in-class performance, superior sand handling, and a thrust management staging system with industry exclusive "dry-run" capabilities.

Superior "draw-down" capability –

The STEP Plus Dominates in this class with the lowest draw-down of 4-1/2" (a standard 4" NEMA submersible only draws-down to 13-1/2").

Reduced amp draw – The STEP Plus Dominates in this class with less energy consumption – over 25% less amp draw (9.5 amps vs. 12.7 amps, 115 volt) than a 4" NEMA submersible, reducing operating costs and extending the service life of float switch contacts.

Cooler and quieter operation –

The STEP Plus Dominates by using the pumped liquid to cool the motor as it passes over the motor. The water passing over the motor dampens the motor noise, eliminating expensive "flow-inducer sleeves" required when using a standard 4" NEMA submersible.

Impellers – Precision molded for perfect balance... ultra smooth for the highest performance and efficiency. Allows for .080" solids.

Shaft – Positive drive, hexagonal 7/16" – 300-grade stainless steel shaft offers generous impeller drive surfaces.

Shaft bearing – Exclusive self-lubricating Nylatron® bearing resists wear surface from sand and abrasives.

Shell – Heavy-walled, corrosion resistant 300-grade stainless steel.

ORDERING INFORMATION

Catalog Number	HP	Max. Load Amps	Volts	Phase/Cycles	Cord Length	Pallet Quantity	Weight (Lbs.)
10DOM05221	1/2	5.5	230	1/60	10'	80	16
10DOM05121	1/2	11.0	115	1/60	10'	80	16
20DOM05221	1/2	4.6	230	1/60	10'	80	16
20DOM05121	1/2	9.5	115	1/60	10'	80	16
30DOM05221	1/2	4.6	230	1/60	10'	80	16
30DOM05121	1/2	9.5	115	1/60	10'	80	16
20DOM05221+1	1/2	5.3	230	1/60	10'	80	16
20DOM05121+1	1/2	10.6	115	1/60	10'	80	16

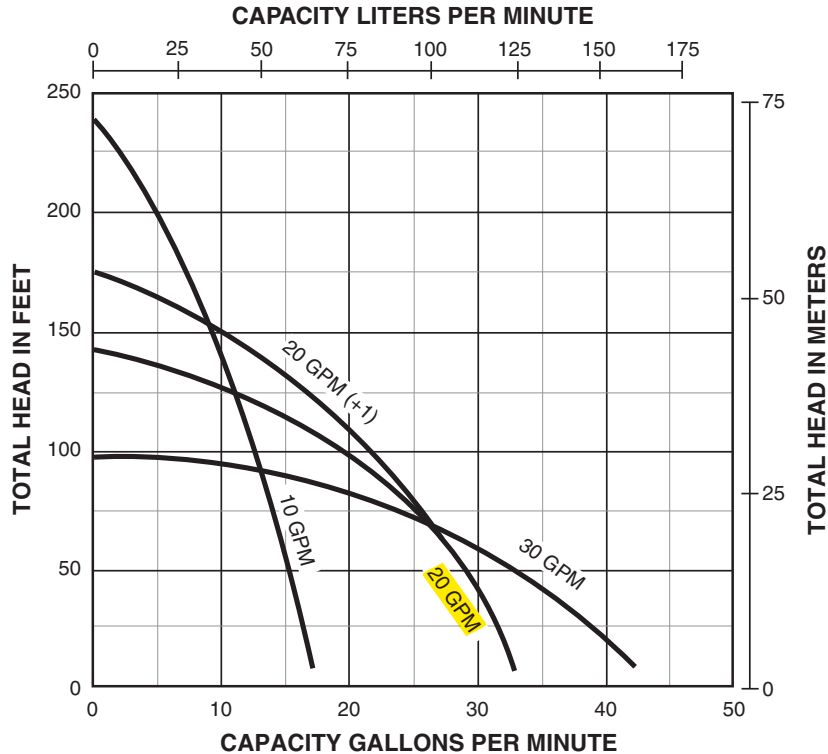
Nylatron® is a registered trademark of Polymer Corp. SignaSeal™ and STEP Plus™ are trademarks of Sta-Rite Industries.

In order to provide the best products possible, specifications are subject to change.



4" multi-stage submersible pump

PUMP PERFORMANCE



PUMP PERFORMANCE (Capacity in Gallons per Minute)

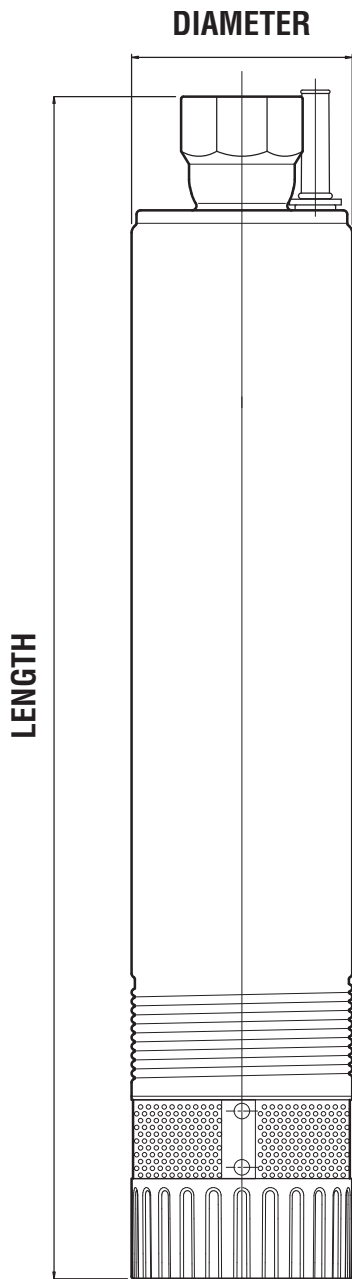
Pump Model	Flow Rate (GPM)	PSI											
		0	10	20	30	40	50	60	70	80	90	100	110
10DOM05221	10			15.0	13.7	12.7	11.5	10.2	8.4	6.5	4.3	1.0	
10DOM05121	10			15.0	13.7	12.7	11.5	10.2	8.4	6.5	4.3	1.0	
20DOM05221	20			30.0	26.0	21.5	14.2	4.4					
20DOM05121	20			30.0	26.0	21.5	14.2	4.4					
30DOM05221	30		38.5	33.3	25.8	16							
30DOM05121	30		38.5	33.3	25.8	16							
20DOM05221+1	20 + 1			30	27.5	24	20	13.5	6				
20DOM05121+1	20 + 1			30	27.5	24	20	13.5	6				

PUMP PERFORMANCE (Capacity in Liters per Minute)

Pump Model	Flow Rate (LPM)	Bar											
		0	.69	1.38	2.07	2.76	3.45	4.13	4.82	5.51	6.20	6.89	7.58
10DOM05221	37.85		56.8	51.9	48.1	43.5	38.6	31.8	24.6	16.3	3.8		
10DOM05121	37.85		56.8	51.9	48.1	43.5	38.6	31.8	24.6	16.3	3.8		
20DOM05221	75.7		113.6	98.4	81.4	53.7	16.7						
20DOM05121	75.7		113.6	98.4	81.4	53.7	16.7						
30DOM05221	113.55	145.7	126.0	97.7	60.6								
30DOM05121	113.55	145.7	126.0	97.7	60.6								
20DOM05221+1	75.7 + 1			113.4	103.9	90.7	75.6	51.0	22.6				
20DOM05121+1	75.7 + 1			113.4	103.9	90.7	75.6	51.0	22.6				

4" multi-stage submersible pump

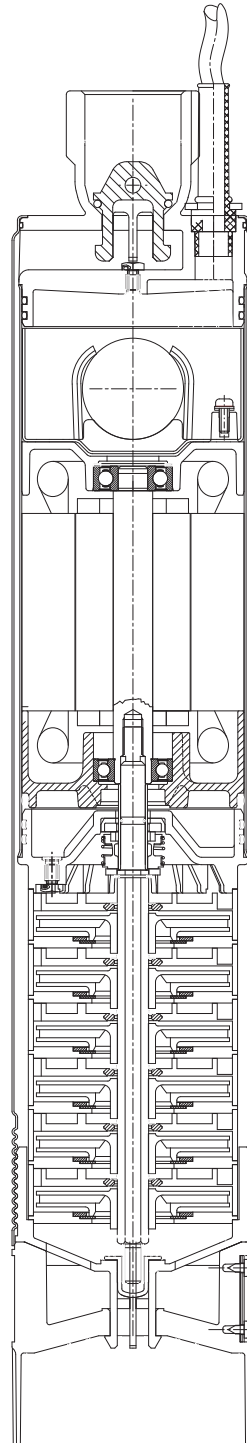
OUTLINE DIMENSIONS



GPM	Length	Diameter
10	21.6" (549 mm)	3.86" (98 mm)
20	20.8" (529 mm)	3.86" (98 mm)
30	20.6" (523 mm)	3.86" (98 mm)
20+1	22.3" (567 mm)	3.86" (98 mm)

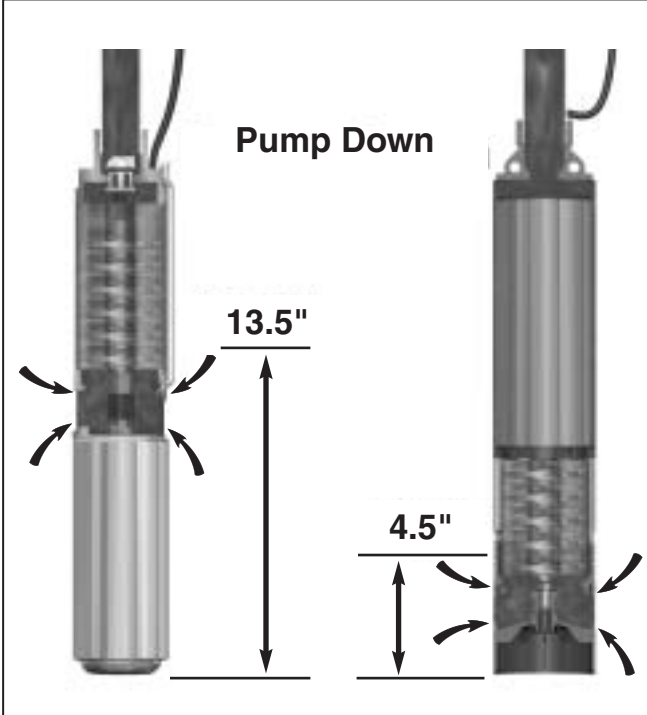
Dimensions are for estimating purposes only.

CROSS-SECTION

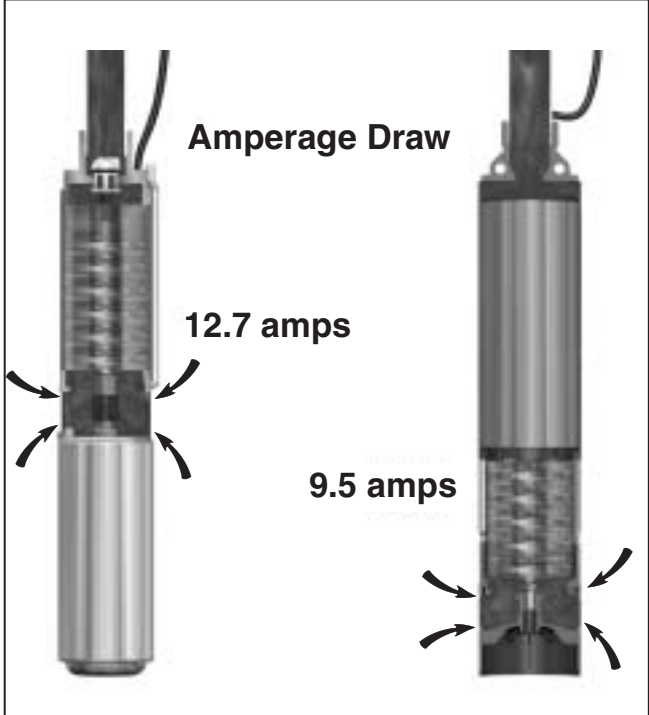


4" multi-stage submersible pump

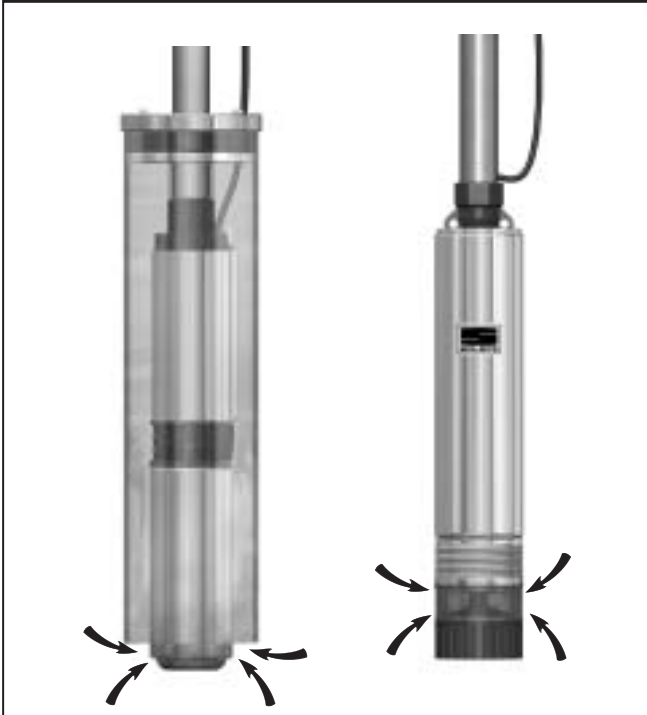
INCREASED DRAW-DOWN



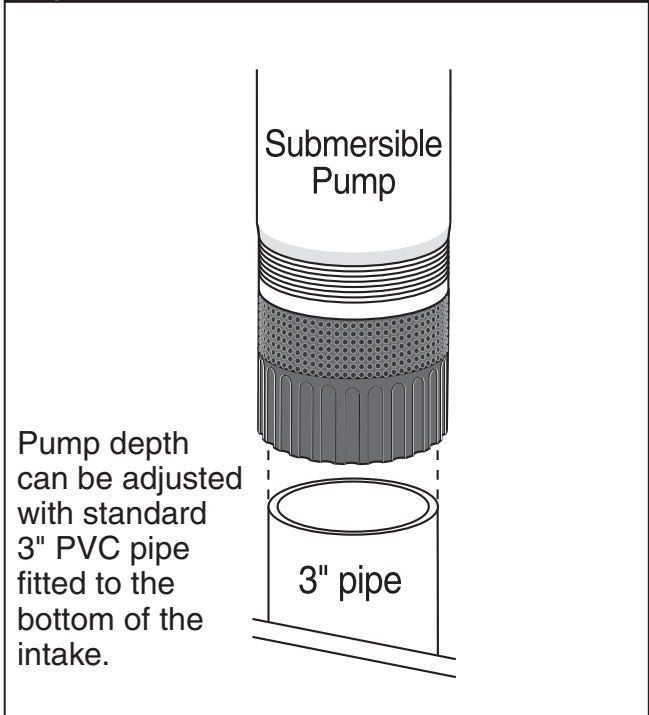
REDUCED AMP-DRAW



ELIMINATES FLOW-INDUCER



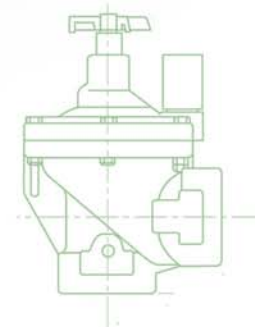
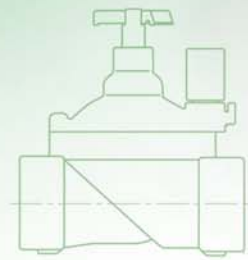
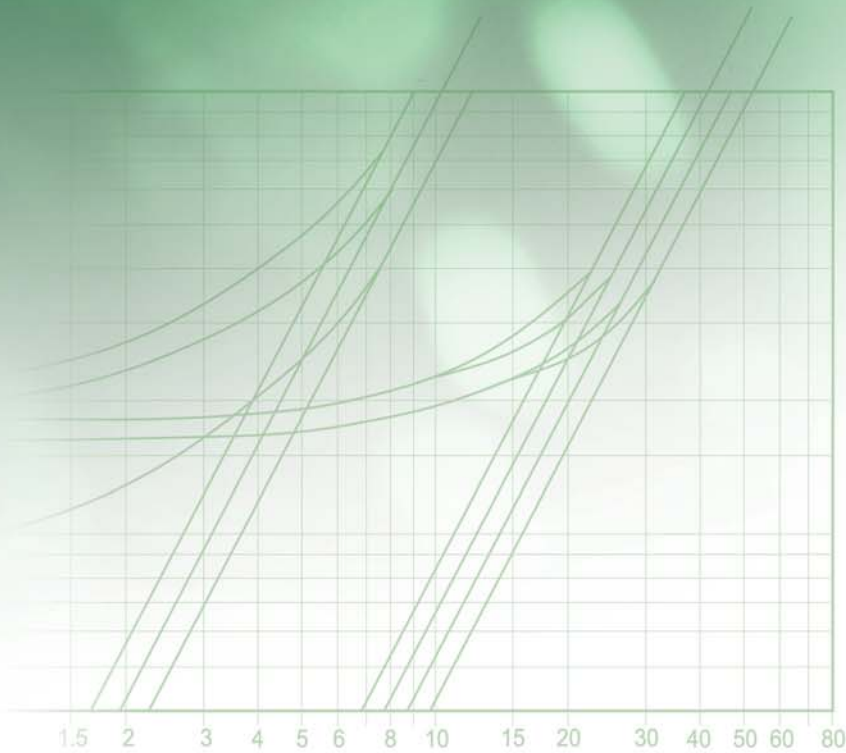
ADJUSTABLE DEPTH SETTING

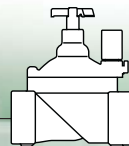


Irrigation for Agriculture

Engineering Data

IR-200 Series





Product Parts Features, Hydraulic Valve

[1] Fastening Bolts & Nuts

6 Stainless Steel bolts and nuts (1½-2"; DN40-50 valves) fasten valve cover to body, ensuring quick in-line inspection and service.

[2] Valve Cover (Hydraulic Type)

Simple and light construction enables quick in-line inspection and service.

[2.1] Flow Stem (Optional)

[3] Auxiliary Closing Spring

One single spring fully meets valve requirements for operating pressure range, ensuring low opening pressure and secured closing.

[4] Seal Disk Assembly (Hydraulic Type)

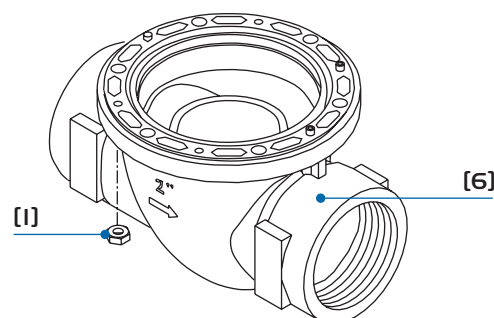
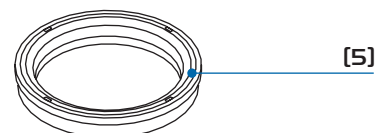
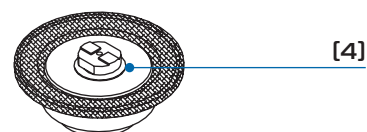
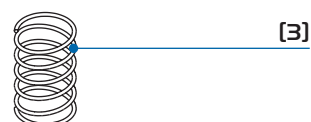
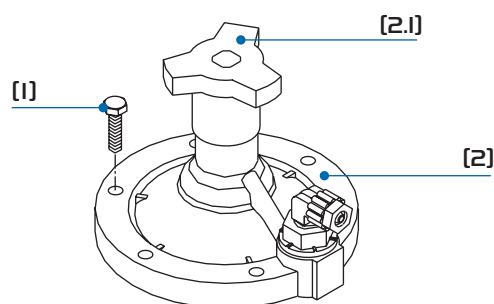
The seal disk assembly includes a flexible, carefully balanced, and peripherally supported diaphragm and a rugged guided plug with elastomeric sealing surface. This internal design enables:

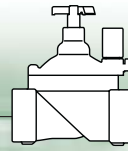
- High flow rate with low head loss
- Smooth valve opening and closing
- Accurate and stable regulation
- Low opening and actuation pressure
- No diaphragm erosion and distortion
- Same diaphragm and spring fully meet the valve's operating pressure range requirements

[5] Diaphragm Supporting Ring

[6] Valve Body (Hydraulic Type)

Glass-Filled Nylon to meet rough service conditions obtaining high chemical and cavitation resistance. Full bore seat with unobstructed flow path, free of any in-line ribs, supporting cage, or shafts.





Product Parts Features, Electric Valve

[1] **Fastening Bolts & Nuts**

6 Stainless Steel bolts and nuts (1 1/2-2"; DN40-50 valves) fasten valve cover to body, ensuring quick in-line inspection and service.

[2] **Valve Cover (Electric Type)**

Simple and light construction enables quick in-line inspection and service.

[2.1] 2-Way Solenoid Actuator

[2.2] Manuale Override Handle

[2.3] Needle - Restricts inlet flow & eliminates internal restriction clogging.

[2.4] Flow Stem (optional)

[3] **Auxiliary Closing Spring**

One single spring fully meets valve requirements for operating pressure range, ensuring low opening pressure and secured closing.

[4] **Seal Disk Assembly (Electric Type)**

The seal disk assembly includes a flexible, carefully balanced, and peripherally supported diaphragm and a rugged guided plug with elastomeric sealing surface. This internal design enables:

- High flow rate with low head loss
- Smooth valve opening and closing
- Accurate and stable regulation
- Low opening and actuation pressure
- No diaphragm erosion and distortion
- Same diaphragm and spring fully meet the valve's operating pressure range requirements

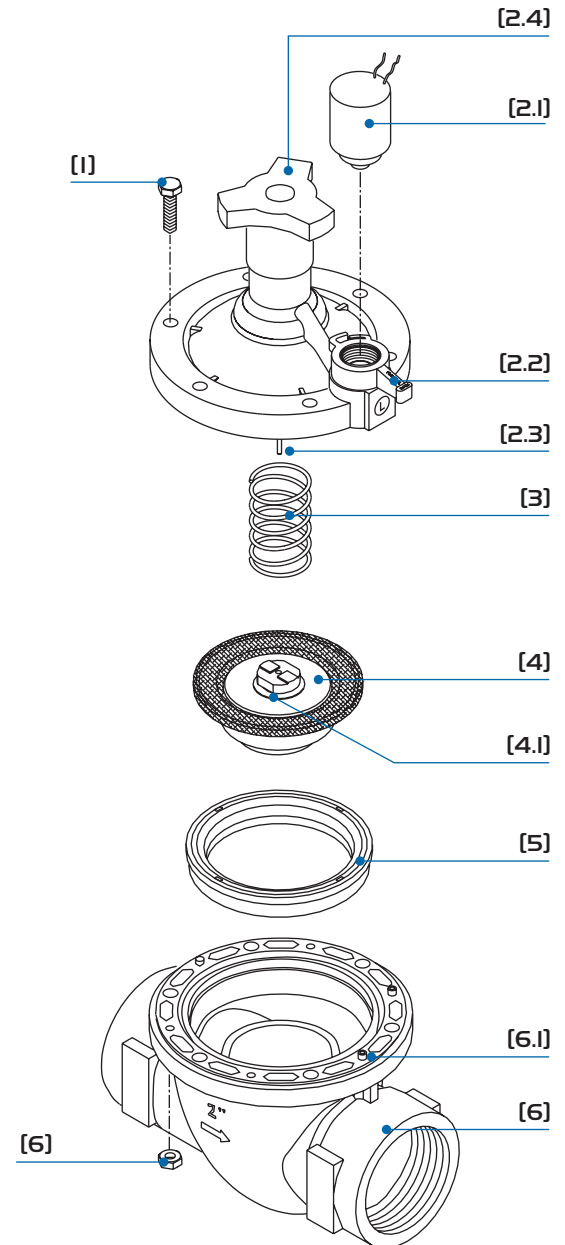
[4.1] Internal Restriction

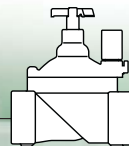
[5] **Diaphragm Supporting Ring**

[6] **Valve Body (Electric Type)**

Glass-Filled Nylon to meet rough service conditions obtaining high chemical and cavitation resistance. Full bore seat with unobstructed flow path, free of any in-line ribs, supporting cage, or shafts.

[6.1] Internal Control Circuit Outlet

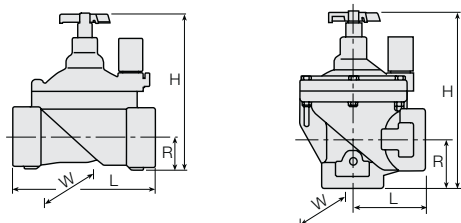




Technical Data



Dimensions & Weights



Pattern	Globe				Angle	
Size	DN20	DN25	DN40	DN50	DN40	DN50
L (mm)	110	110	160	170	80	85
H (mm)	115	115	180	190	190	210
R (mm)	22	22	35	38	40	60
W (mm)	78	78	125	125	125	125
Weight*(kg)	0.35	0.33	1.0	1.1	0.95	0.91
CCDV**(lit)	0.015	0.015	0.072	0.072	0.072	0.072

* Without flow control handle

**Control Chamber Displacement Volume (liter)

Technical Specifications

Available Patterns & Sizes:

Globe: DN: 20, 25, 40 & 50

Angle: DN: 40 & 50

Available End Connections:

BSP-T; NPT female threads

Pressure Rating: 10 bar

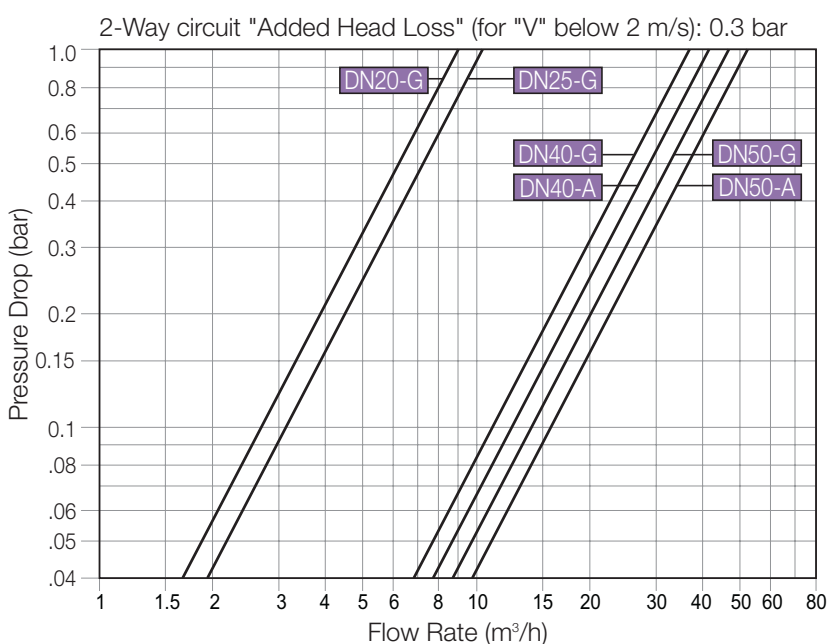
Operating Pressure Range: 0.7-10 bar

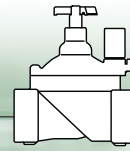
Temperature: Water up to 60°C

Standard Materials:

- Body & Cover: Nylon Reinforced
- Metal Parts: Stainless Steel
- Diaphragm: Natural Rubber
- Seals: NBR [Buna-N]
- Spring: Stainless Steel
- Cover bolts: Stainless Steel

Flow Chart

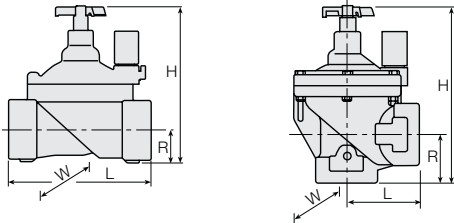




Technical Data

US English

Dimensions & Weights



Pattern	Globe				Angle	
Size	1/2"	1"	1 1/2"	2"	1 1/2"	2"
L (inch)	45/16	45/16	65/16	6 11/16	33/16	33/8
H (inch)	4 1/2	4 1/2	7 1/8	7 1/2	7 1/2	8 1/4
R (inch)	7/8	7/8	13/8	1 1/2	19/16	23/8
W (inch)	3 1/16	3 1/16	4 15/16	4 15/16	45/16	4 15/16
Weight* (lb)	0.77	0.73	2.2	2.4	2.1	2.0
CCDV** (gal)	0.004	0.004	0.02	0.02	0.02	0.02

* Without flow control handle

**Control Chamber Displacement Volume (gallons)

Technical Specifications

Available Patterns & Sizes:

Globe: 3/4", 1", 1 1/2", 2"

Angle: 1 1/2", 2"

Available End Connections:

BSP-T; NPT female threads

Pressure Rating: 150 psi

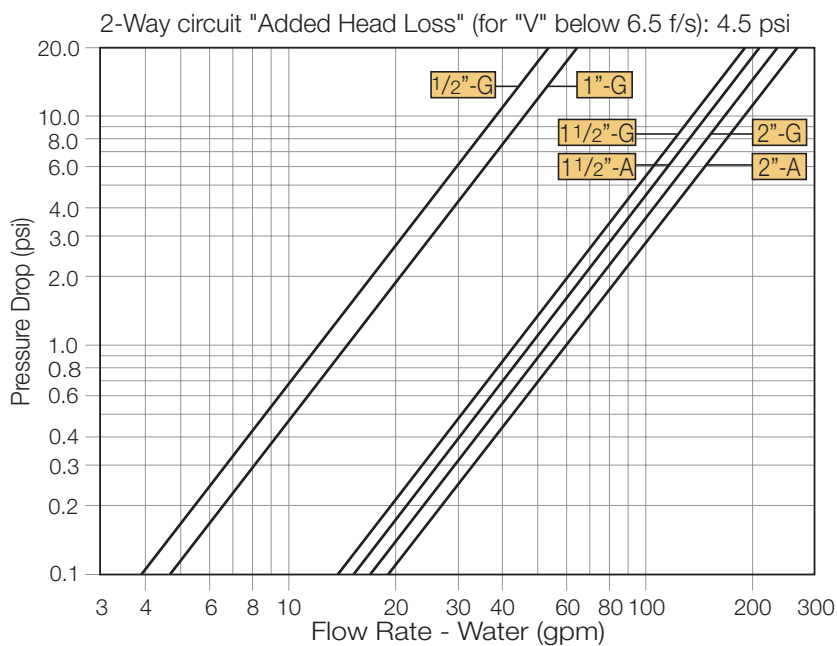
Operating Pressure Range: 10-150 psi

Temperature: Water up to 140°F

Standard Materials:

- Body & Cover: Nylon Reinforced
- Metal Parts: Stainless Steel
- Diaphragm: Natural Rubber
- Seals: NBR [Buna-N]
- Spring: Stainless Steel
- Cover bolts: Stainless Steel

Flow Chart



DLJ Epoxy Coated Bronze Water Meters

Models DLJ 50, DLJ 75, DLJ 7575, DLJ 100



Description

Operation The DLJ 50, 75, 7575 and 100 are multijet (inferential) impeller meters. The impeller and magnet are the only moving parts in the measuring chamber. The chamber is located in a strainer basket, which allows for high amounts of impurities to be passed through the meter without affecting operation. The impeller movement is transferred by a magnetic coupling to the hermetically sealed register.

Compliance The DLJ line of multijets complies with AWWA C708 and ISO 4064 Class B standards.

Installation The meter must be installed in a clean pipeline, free of any foreign materials. Install the meter with direction of flow as indicated by the arrow cast into the meter body. You can install the meter vertically or horizontally and with the register facing any direction.

Application The DLJ meter is for use only with cold water up to 122 degrees F (50 degrees C)

Construction The meter consists of an epoxy coated bronze maincase with the size and flow direction cast into it, an integral strainer/measuring chamber, a removable dry hermetically sealed register assembly and a secured calibration port (factory tested and set).

Characteristics	Specifications			
	DLJ 50 5/8" x 1/2"	DLJ 75 5/8" x 3/4"	DLJ 7575 3/4" x 3/4"	DLJ100 1"
Flow Rating (gpm)	20	20	30	50
Continuous Flow (gpm)	15	20	25	30
Normal Flow Range (gpm)	1 - 20	1 - 20	2-30	3 - 50
Low Flow (gpm)	1/4	1/4	1/4	1/2
Maximum Pressure (psi)	150	150	150	150
Maximum Temperature (°F)	122	122	122	122
Sweep Hand Registers (Gallons)	10	10	10	10
Register Capacity (Millions of Gallons)	10	10	10	10

watermeters.com

*the first and still the best online source
for water meters*

DLJ Meter



www.watermeters.com

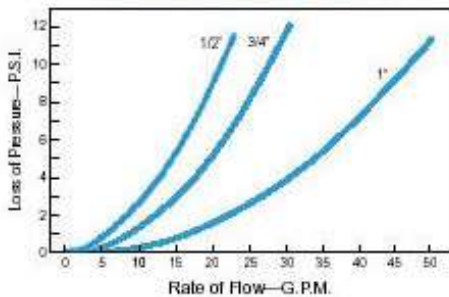
DLJ Epoxy Coated Bronze Water Meters

Models DLJ 50, DLJ 75, DLJ 7575, DLJ 100

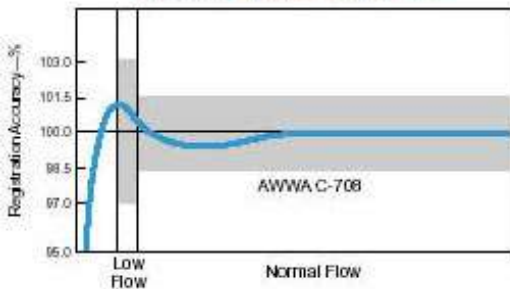
Direct Read Register The register is contained in a hermetically sealed nylon casing with a 5mm tempered glass lens. The totalizer wheels are large and easy to read and the sweep hand is designed not to interfere with the odometer reading. The register's circumference shows individual gallons down to increments of tenths of gallons, for precision reading. The large red spinning trickle indicator is excellent for leak detection. Each register clearly shows its applicable meter size.



Head Loss Curves - 1/2", 3/4", 1"



Accuracy Curves - 1/2", 3/4", 1"



Pulse Output The DLJ line is available with a dry contact reed switch pulse output. This requires external DC power, 4 watts, 30VDC maximum. Contact closure is 1 pulse per gallon.



Maintenance The register assembly is easily removable and replaceable if needed. The integral strainer on the measuring assembly prevents foreign debris damage and can be removed and flushed clean if merited.

Magnetic Drive The magnetic drive design facilitates coupling between the measuring chamber and the register assembly. The coupling will remain unless the flow rates are higher than recommended

Connections Meter casing spuds conform to ANSI B2.1 and have external straight threads (referred to as non-tapered meter threading). All meters come with full bronze meter coupling sets bringing you to Male NPT.

Specifications	Size			
	DLJ 50 5/8" x 1/2"	DLJ 75 5/8" x 3/4"	DLJ 7575 3/4" x 3/4"	DLJ100 1"
Length	7 1/2"	7 1/2"	9"	10 3/4"
Height	4 1/8"	4 1/8"	4 1/8"	3 7/8"
Width	3 3/4"	3 3/4"	3 3/4"	4 1/8"
Weight (lbs.)	4	4	5	5

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GEVA 75 1/8" Solenoid Valves

General Description

GEVA 75 1/8" solenoid valves are based on GEVA 75 operators mounted on a plastic base.

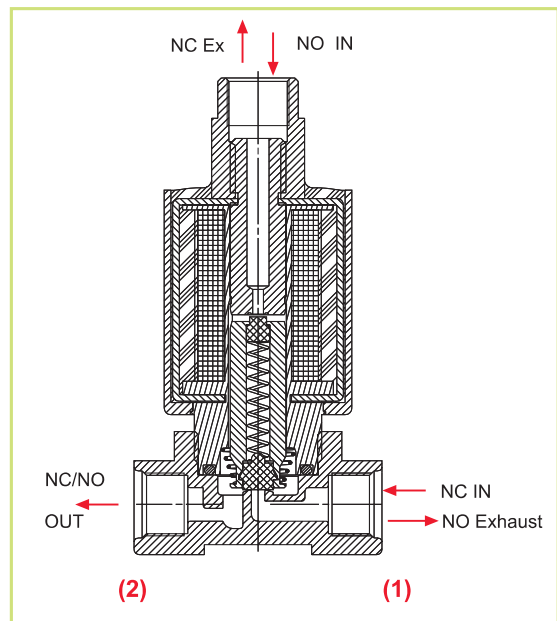
These bases are available with or without flange, manual override as standard.

Applications

They are specially designed for irrigation control systems.

Notes

For other available voltages and to order valves manufactured to your specific requirements, please contact our technical sales department.



How to Order

Example : G75 - A - 11032-1

Is a GEVA 75 with flange, 1/8" BSP 3WNC 1.2 orifice ad 24VAC coil.

G75-A	Type	Port	Function	Orifice	Voltage
	with flange 1	1/8"BSP 10	2WNC 1	1 1	24 VAC 1
	without flange 2	1/8"NPT 11	3WNC 3	1.2 2	9-12VDC latch 2
	Brass 3		3WNO 4	1.6 3	12VAC 3
					12VDC 4
					24VDC 5
					24VDC latch 6
					110VAC 7

Technical Specifications

Ports size: 1/8" BSP or NPT

Materials: **Base & manual override:**

Reinforced Nylon

Seals:

EPDM

Solenoid:

See solenoid specifications

Pressure: See table

Mounting: Flange or by two tapping screws No.6

Voltage: 12, **24**, 110, 230 AC

12, 24 DC

9-12, 24 V Latch

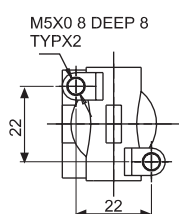
Protection class IP66

Max. Pressure

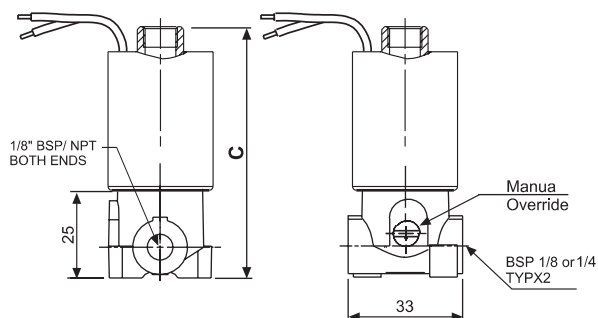
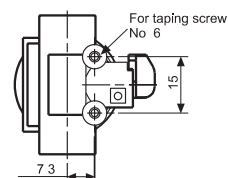
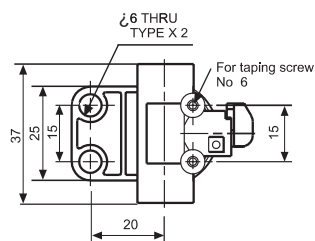
Pressure bar

Function	Orifice	AC	DC latch
2WNC	up to 2.0	12	12
3WNC	1	16	16
	1.2	11	11
	1.6	6	6
3WNO	1	16	16
	1.2	12	12
	1.6	8	8

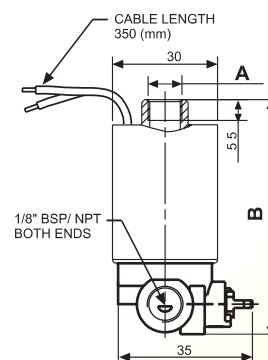
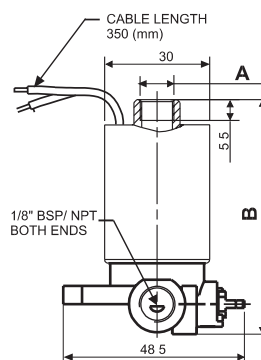
Dimensions



	A	B	C
2WNC	—	60	65
3W	1/8	74	78



BRASS



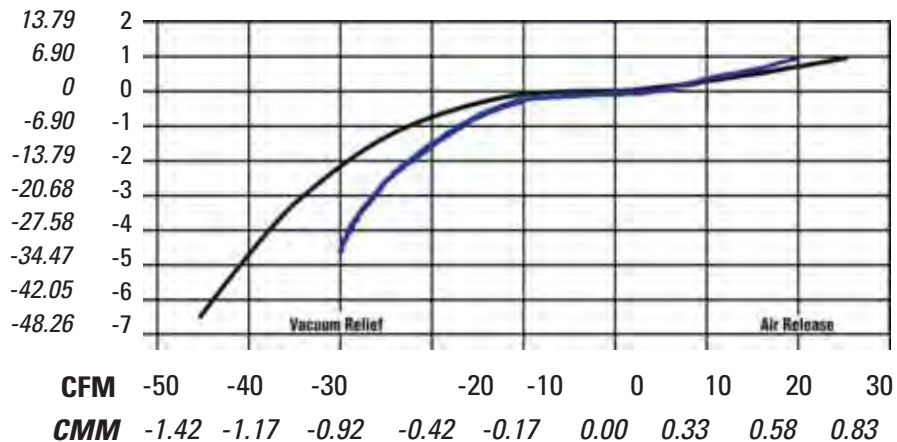
PLASTIC

VBK-3/4", 1" & VBKV-1"



- Dual acting air release/vacuum relief valve
- 80 PSI working pressure
- Inlet 3/4" and 1" NPT
- Seals at 5 PSI
- Clear open diameter is 0.610"
- Optional Schrader Valve to check system pressure

KPa PSI VBK-3/4, VBK-1 and VBKV-1



How to Specify VBK Series

The air release/vacuum relief valve shall have a maximum working pressure to 80 PSI rated at standard temperature of 73 F and have a (3/4" 1") MPT inlet. Valve shall operate as a dual acting air release and vacuum relief. Valve shall achieve minimum positive sealing at a pressure of 5 PSI with a clear open diameter of 0.610". Valve shall provide vacuum relief of (-30 -45) CFM @ (-4.5 -6.5) PSI and air release of (20 25) CFM @ 1 PSI. Valve will be manufactured with UV stabilized, durable, weather resistant and non-corrosive engineered plastics of bright colors for easy visibility. Valve will have a removable top for easy seal maintenance (and will have a Schrader valve incorporated into the side of the body to conveniently check system pressure). Air release/vacuum relief valve shall be manufactured by Jain Irrigation, Inc., Fresno, CA.

ARV-1



- Continuous air release
- 170 PSI working pressure
- Inlet 1" NPT or BSP
- Simple design
- Easy maintenance

