DRIP CONVERSION **DESIGN GUIDE**

World Leader in Irrigation Technology

JAIN

Converting An Overhead Irrigation System to a Drip Irrigation System

With drought restrictions increasing in some states and the overall awareness in other states to conserve our natural resources, the need has never been greater to convert typical overhead irrigation to drip. In this concise guide we'll help you feel more comfortable with an easy conversion.

There are a few main changes to your system that will need to be made:

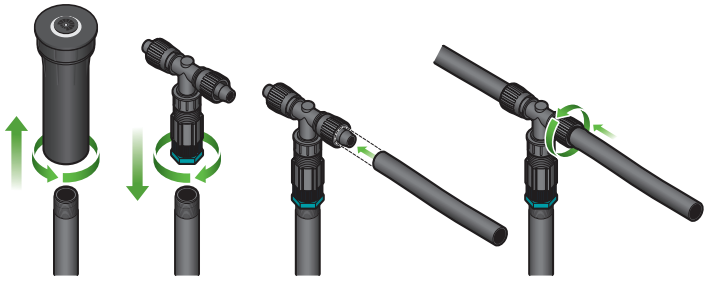
Filtration: Typical overhead systems use a lot of water and the stream of water is greater making it easier for debris to leave the system. With drip, emission holes are much smaller and are susceptible to clogging if the water supply is not filtered and flushed properly. Ideally a filter is installed on every drip zone valve but it this is not possible a primary filter at the beginning of the irrigation system will suffice.

Pressure Regulation: Overhead irrigation components like pop-ups and rotors are typically at the mercy of the pressure and water sent their way. The more pressure, the further water travels and the more misting occurs. While the market now offers pressure regulated heads they are still using up to 40% more water than a properly installe drip system. For the conversion to drip you'll need to install an inline pressure regulator and at the head or at the valve. The two illustrations on the right detail the simplicity of adding an inline pressure regulator on the valve or where the previous sprinkler connection existed.

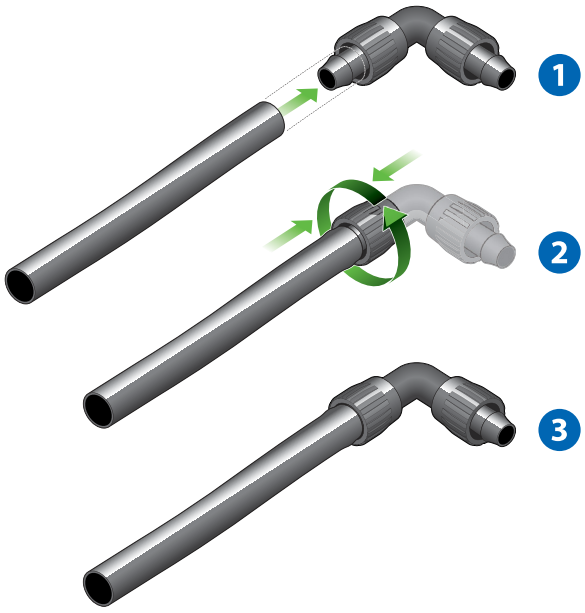
Fittings: While insert fittings for drip tubing exist, the ideal fitting is the Power-Loc. Power-Loc fittings lock into place and are much easier to install than conventional insert and compression fittings. Power-Loc fittings will hold tubing even if pressures rise beyond the required 20-40psi.

Part #	Description
Included in JAIN Drip Conversion Kit	
12501360	20 Psi Inline Pressure Regulator, PL-55 x 3/4" HT Tee and 3/4" x 1/2" threaded reducer bushing

72130076 - Spin Clean Filter (3/4" MPT with 100 Mesh Screen Filter)
12100036 - Medium Flow Pressure Regulator (1" FPT x 1" FPT 40psi)
72100031 - Medium Flow Pressure Regulator (1" FPT x 1" FPT 30psi)



JAIN offers a conversion kit to make the conversion from sprinklers to drip easy.



Model #	Part #	Description
Power-Loc Fittings		
PL-55-PC	**72050305**	Power-Loc Coupling
PL-55-P3T	**72050301**	Power-Loc Tee
PL-55-PELL	**72050304**	Power-Loc Elbow
PL-55-P1/2MA	**72050308**	Power-Loc x 1/2" MPT Adapter
PL-55-P3/4-MA	**72050317**	Power-Loc x 3/4" MPT Adapter
PL-55-PETC	**72050306**	Power-Loc End Cap

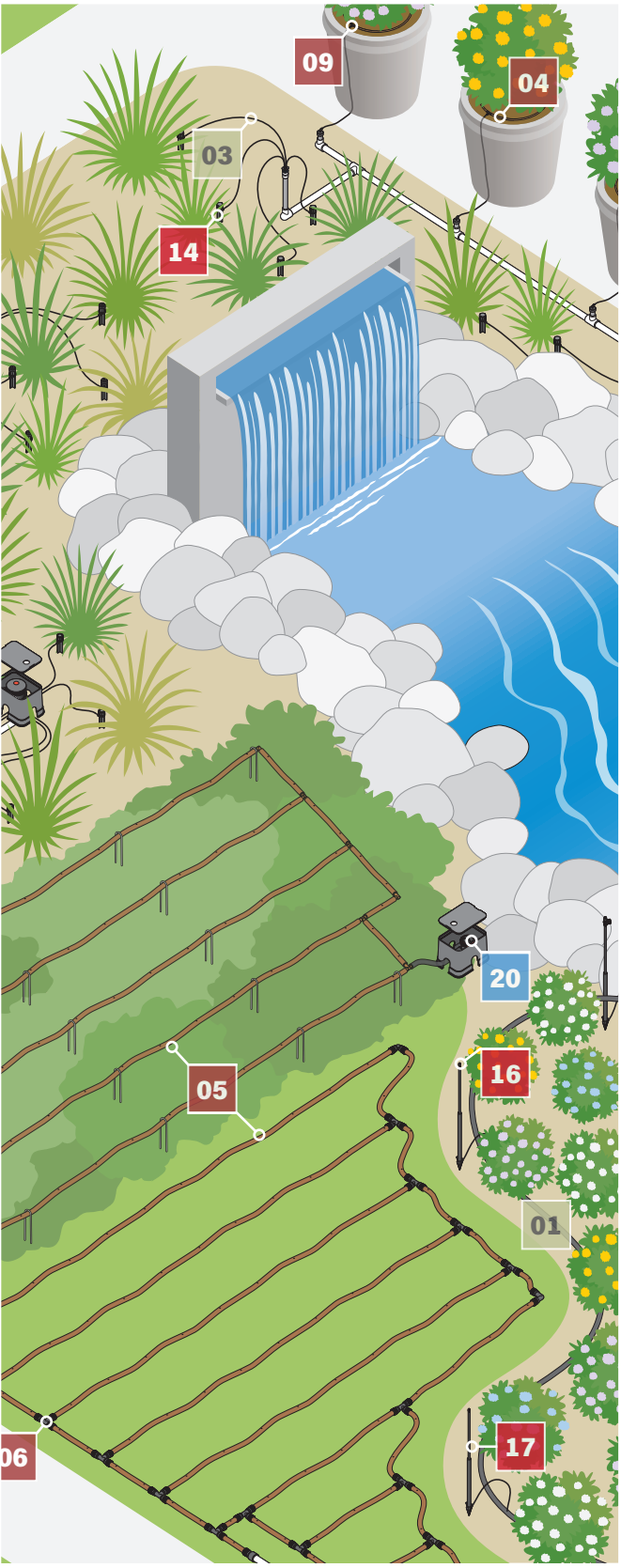
Tubing: Supply tubing, which is how the irrigation industry refers to tubing with no emission holes, is used to connect any drip components that will be installed above ground. Emitterline is essentially supply tubing with internal emitters that control how much water leaves each hole while the system is running. The amount of water that comes out of any kind of drip emitter is measured by gallons per hour (GPH). When researching a plant's water requirement GPH is the unit of measurement typically provided.

Flushing: As stated in the filtration section of this document, eliminating any particulates in the water is crucial to a drip systems efficiency. At the end of each "zone" or "hydrozone" of drip tubing a flush valve will need to be installed. JAIN manufactures an automatic flush valve that flushes every time the system is activated, eliminating the risk of human error. Flush valve models available are 1/2" FPT and 17mm barb. Flush valves should be mounted in a small Bubbler Box with pea gravel to help the displacement of water prior to each cycle.

Controller Adjustments: Traditional spray and rotors sprinklers heads measure water in gallons per minute, not gallons per hour like drip irrigation. One of the main reasons to convert to drip is the benefit plants and turf receive from gradual watering. Applying water over an extended period of time allows water to permeate soil evenly and greatly reduces wasteful runoff. With the slower application of water our "Water Indow" will increase, this is the time the irrigation system takes to cycle. A longer Water Window will produce earlier Start Times and longer Run Times. Be sure to adjust controller run times to account for slower application rates. Or install a JAIN Smart Controller and let our cloud take the guess work out of the equation.

Combination Air Relief/Flush valves can be installed at the end of each zone. P/N 12060701

Anatomy of a Drip Irrigation System



Supply Tubing		**Part No.**
01	Supply Tubing	71200017
02	Swing Pipe	71230004
03	1/4" Bubbler Tubing	71500155
Emitterline and Fittings		
04	1/4" Emitterline	71500880
05	Total CV Emitterline	71591307
06	Power-Loc Fittings	
07	Insert Fittings	
08	Compression Fittings	
09	1/4" Barbed Fittings	
Emission Devices		
10	Octa-Bubbler	72500729
11	J-Bubbler PC	72500582
12	Shrubbler	72503125
13	Mini-Bubbler	72015008
14	Spectrum Vortex Sprayer	72015011
15	Clik Tif (Button Emitter)	32020420
16	Aqua Jet	12500801
17	Micro-Pop	72500740
Valves		
18	1" Ball Valve	12220120
19	1" JAIN Control Valve	14103012
20	Auto Flush-Air Relief Valve	12060701
Filtration and Pressure Regulation		
21	1" Commercial Filter Kit	72131303
Accessories and Tools		
22	Tree Ties	71240005
23	1/4" Indicator Stakes	72290042
24	Landscape Staples	72500527
25	Bubbler Box	72500621

JAIN is a fully integrated global food / plant production company recognized by Harvard Business to be one of five global sustainability champions, the G-20 for lifting people out of poverty, and Fortune magazine for being a "Change the World Company." Our irrigation manufacturing capabilities include everything from the pump discharge to the flush valve at the end of the lateral and everything in between. We lead the industry in manufacturing technology, owning both our extrusion and mold manufacturing equipment providers.

JAIN leads plant science research globally across a variety of food crops and is staffed with some of the world's leading research scientists. With the Gandhi Library, JAIN now houses the leading collection of the world's best plant science knowledge in a single facility. Our agronomic knowledge is integrated from our world class plant tissue culture operations through our food processing businesses. We research, educate, advance, manufacture, finance, propagate plants, and purchase produce for processing all in an effort to fulfill the JAIN mission:

"Leave This World Better Than You Found It"

JAIN Irrigation, Inc.
www.jainsusa.com

JAIN Customer Service
Phone: (559) 485-7171
Fax: (800) 777-6162

Western Manufacturing Facility
2851 E. Florence Ave.
Fresno, CA 93721

Northeastern Manufacturing Facility
740 Water St.
Watertown, NY 13601

ETwater Corporate Offices
6 Hamilton Landing Suite 175
Novato, CA 94949

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