




GREENHOUSE 

Planning Water systems for Greenhouses

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Netafim




GREENHOUSE 


Unique basic requirements •

- Short irrigation cycles •
- Very accurate water application •
- Very accurate fertilizer application •
- Detailed data systems •

Multiple systems •

- Drip •
- Overhead •
- Misting •
- Wet-wall •
- Service water •





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Basic requirements

Short Cycles:- Shallow roots •
Limited root volume •
Limited water holding capacity •
Maximum flexibility •

Accuracy:- Frequency •
Quantity •
Recipes •
pH •



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Pulse Irrigation

- Irrigating more than 4 times per day •
- Feeding as and when required •
- Real-time adjustments: pH & EC •
- Energy and fertilizer savings •
- CNL systems •
- Computer control •

Why do we need a CNL designed System

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If a flower grower is irrigating for 2 hours day and it takes say 2 minutes to fill and 1 minute to empty the pipelines:

to empty the pipelines:

Once a day	3 min / 120 min	2,5%
Twice a day	3 min / 60 min	5%
Four times a day	3 min / 30 min	10%
Eight times a day	3 min / 15 min	20%

Other important considerations

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Consider:- Action time from controller to

- Pumps** •
- Filters** •
- Valves** •

Consider:- Reaction time to controller from

- Water meter** •
- EC sensor** •
- pH sensor** •

Consider:- Keeping the system full all the time •

Main Components

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CNL System

- CNL drippers:** •
- Pot systems** •
- CNL dripper lines (integral)** •
- Troughs systems** •
- DNL** •
- Large greenhouses** •
- Dedicated Main Lines** •

Netafim compensated non leakage dripper

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C.N.L. Flow Rate	
Low C.N.L.	High C.N.L.
2 l/h	3 l/h
4 l/h	6 l/h
8 l/h	12 l/h

NETAFIM
Irrigation Equipment
E. Crop Systems


[New Product Menu](#) [Main Menu](#)

DNL

T.N.L

Applications: Agriculture, Greenhouse and Turf Irrigation

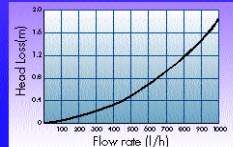
Prevention of main and sub-main water drainage into dripperlines



Connections available

- 1/2" NPT
- Fast connection

Type	Closing Pressure	Opening Pressure
2	2 m	6 m
4	4 m	8 m
6	6 m	10 m



NETAFIM Irrigation Equipment & Drop Systems

Previous Next American Units Home

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CNL drippers: •
Pot systems •
DNL •



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UniRam



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Uniram & DNL



Dedicated Main Lines

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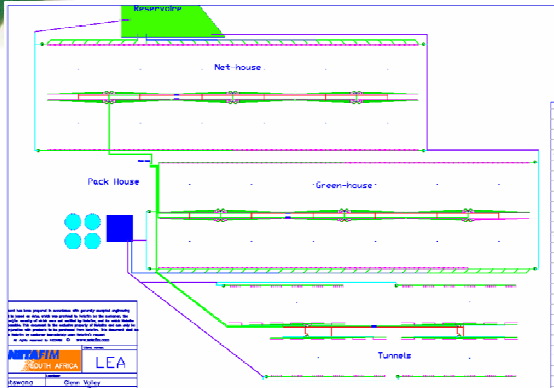
- One line for each Irrigation block
- All valves in the Pump house




Multiple system NETAFIM™

- Most greenhouses will have at-least two water systems
- The multiple systems are required to work simultaneously but separately
- There-for each system must be independent
- Components of systems can be used as back-up for other systems

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Net-house

Peck House

Green-house


Tunnela



NETAFIM
Africa
LEA


GREENHOUSE NETAFIM™

Two systems:

- Nutrigation
- Service/Wet-wall



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Two examples of pump rooms with multiple systems •
Drip, Misting & Service water •



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Valves in Pump room





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Summery 


Consider:- Unique basic requirements •


- Pulse irrigation •**
- Non-drain system •**
- Dedicated main-lines •**

Consider:- Multiple water systems •


- Back up systems •**

Consider:- Keeping the system full all the time •



In Conclusion 

get the basics right
And everyone will cheer



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Make the Grower smile !

Thank you