

CapiNet™ on line dripper

Compact on line dripper, with drop leading feature, for pot, container, greenhouses, nurseries, garden pot irrigation.



Flexible location



High clogging resistance



Compact

/ Benefits & Features

- **Flexible location** Drippers can be positioned exactly where required. Number of drippers can be increased to increase the water quantities applied.
- **High clogging resistance** With self-cleaning labyrinth that flushes debris throughout operation.
- **Wide water passages** TurboNet™ labyrinth ensures wide water passages, large deep and wide cross-section that improves clogging resistance.
- **Versatility** Special design stake enables stabilization of the CapiNet™ end on pots, beds, and open fields, can hold the CapiNet™ straight up or at 45 degrees angle. No need for connectors, to connect to the distribution line.

/ Specifications

- Working pressure up to 2.0 bar.
- Recommended filtration: 130 micron / 120 mesh. Filtration method selected based on the kind and concentration of dirt particles contained in the water. Wherever sand exceeding 2 ppm exists in the water, a Hydrocyclone should be installed before the main filter. Where sand/silt/clay solids exceed 100 ppm, pre treatment it should be applied following Netafim™ expert instructions.
- TurboNet™ labyrinth with large water passage.
- Insertable into thick wall blank PE pipes (1.00, 1.20 mm).
- Injected dripper, very low CV.
- High UV resistance. Resistant to standard nutrients used in agriculture.

→ Drippers technical data

Flow rate* (l/h)	Max. working pressure (bar)	Water passages dimensions width-depth-length (mm)	Filtration area (mm ²)	Constant K	Exponent X
1.95	2.0	0.76 x 0.70 x 21	5.0	0.630	0.49
2.75	2.0	0.76 x 0.70 x 11	5.0	0.890	0.49

*Flow rate at 1.0 bar pressure

→ Drippers package data

Model	Quantity p/box (units)	Box dimensions (cm x cm x cm)	Box weight (kg)	Boxes per pallet (units)	Pallet size (cm x cm x cm)	Pallet weight (kg)
20 cm length	3000	27 x 56 x 25	13.8	32	114 x 114 x 112	443
40 cm length		27 x 56 x 25	27.4	32		875
60 cm length		27 x 62 x 27	40.9	32		1308
80 cm length		27 x 113 x 28	54.4	16		870
100 cm length		27 x 113 x 28	67.9	20		1358

/ Drippers flow rate vs working pressure

In order to calculate the right flow rate of each dripper, under different working pressures, we use the following formula:

$$Q = K * P^X$$

Where:

Q = Dripper flow rate (liters/hour)

K = Constant (each dripper has his singular constant and must be defined by the dripper producer)

P = Real working pressure (meter)

X = Exponent (each dripper has its singular exponent and must be declared and defined by the dripper producer)

*ISO 9261 require from the manufacturer to declare the constant K and dripper exponent

Non-pressure-compensated drippers provide flow adequate to the pressure it is exposed to, according to the formula presented above. In order to simplify the calculations and understandings of the linkage between the flow and the pressure, a table with the flow rates at different working pressures is presented here for each of the drippers presented in this document.

Flow rate (l/h) vs pressure (bar)

Flow rate* (l/h)	Pressure (bar)									
	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0
1.95	0.88	1.24	1.52	1.75	1.95	2.13	2.30	2.45	2.60	2.73
2.75	1.25	1.76	1.24	2.47	2.75	3.01	3.24	3.46	3.67	3.86

*Flow rate at 1.0 bar pressure

/ Max. lateral length

Flow Variation (FV) expresses the flow variation between the dripper "sensing" the highest pressure and the one "sensing" the lowest pressure in an irrigation block (zone).

These drippers will not always be the first and last drippers on the dripline.

$$FV \% = (Q_{max} - Q_{min}) / Q_{max} * 100$$

*International standards define 10% flow variation to be considered as uniform irrigation.

In order to calculate the maximum run lengths that can be planned for specific dripline (considering all the hydraulic factors influencing the flow within the same dripline), we use a calculation software that was developed by Netafim™ based on Darcy-Waisbach formulas + years of design experience and cooperation with academic institutes.

All the tables presented in this document are for initial reference only; the exact run length of the driplines is obtained from design software that considers various hydraulic factors in the entire system.

There might be small variance between the different software's in the market due to the calculation method and assumptions each software is using. For an initial estimate of the dripline length, the data that is presented in this document (within the tables shown) is sufficiently accurate.

Non-pressure-compensated drippers of Netafim™ will provide different flow according to the real working pressure, therefore, the influencing factors will be: the pressure that each dripper in the dripline is exposed to, and the allowed flow variation the dripline is designed to, which in most cases is defined as 10% difference in flow, according to the international standards, and / or any other limitation that the customer / planner will prefer to design while considering the crop needs and area topography.

The following tables are only displayed at one inlet pressure for each dripline, since in non-pressure-compensated drippers the flow varies according to the pressure. There might be differences in run lengths with different inlet pressures; however for an initial estimate of the dripline length, the data that is presented in this document (within the tables shown) is sufficiently accurate.

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 1.95 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	11	20	28	35	41	47	52	56	60	64
	1%	11	21	29	37	44	50	56	62	67	72
Flat terrain	0	11	21	30	38	46	53	61	67	74	80
Downhill	-1%	11	22	31	40	49	57	65	73	80	87
	-2%	11	22	32	42	51	60	69	78	86	94

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 1.95 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	23	39	51	61	69	76	83	87	92	96
	1%	24	41	56	68	78	88	97	104	112	118
Flat terrain	0	24	43	60	74	88	100	112	123	133	144
Downhill	-1%	25	46	64	81	97	112	127	141	154	167
	-2%	26	48	68	87	106	123	141	158	175	191

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 1.95 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	39	61	76	87	96	103	108	113	116	120
	1%	41	67	87	104	118	130	140	150	158	166
Flat terrain	0	44	74	100	122	143	161	179	196	212	228
Downhill	-1%	46	81	111	140	167	192	216	241	265	288
	-2%	48	87	122	157	190	223	255	287	319	351

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 1.95 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	54	81	97	108	116	121	125	128	131	133
	1%	59	94	120	140	157	170	181	192	201	208
Flat terrain	0	64	109	146	179	209	236	262	286	311	333
Downhill	-1%	68	122	170	216	259	301	342	382	423	463
	-2%	73	135	195	253	311	369	428	487	546	605

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 2.75 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	9	16	23	28	34	38	43	47	50	54
	1%	9	16	23	30	36	41	46	50	55	59
Flat terrain	0	9	17	24	31	37	43	48	54	59	64
Downhill	-1%	9	17	25	32	39	45	51	58	63	69
	-2%	9	17	25	33	40	47	54	60	67	73

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 2.75 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	18	32	42	51	59	65	70	75	80	84
	1%	19	33	45	55	64	73	80	86	93	99
Flat terrain	0	19	35	48	60	71	80	90	98	107	115
Downhill	-1%	20	36	51	64	77	88	99	110	121	131
	-2%	20	38	53	68	82	95	108	121	133	146

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 2.75 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	32	51	64	75	84	90	96	101	105	109
	1%	33	55	72	86	98	109	118	127	135	142
Flat terrain	0	35	59	80	98	115	130	144	158	170	183
Downhill	-1%	36	64	88	109	130	149	168	186	204	221
	-2%	38	67	95	120	145	169	192	215	239	261

Max. lateral length (meters) at different slopes - 10% flow variation

CapiNet™ dripper • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 2.75 l/h • Inlet pressure 1.5 Bar

	Distance between drippers (meter)										
	Slope	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Uphill	2%	44	69	85	96	105	111	116	120	123	126
	1%	48	77	100	118	133	146	157	167	176	184
Flat terrain	0	51	87	117	143	167	190	210	230	248	267
Downhill	-1%	54	96	133	167	200	231	262	291	321	350
	-2%	57	104	148	190	232	274	315	356	398	439