

# PC on line dripper

On line pressure-compensated, continuously self-flushing dripper, for permanent irrigation applications such as greenhouses, nurseries, citrus, orchards, deciduous, tree irrigation.



Pressure-compensated



Anti-drain mechanism (optional)



Self-flushing mechanism

## / Benefits & Features

- **Pressure-compensated** Precise and equal amounts of water delivered over a broad pressure range, ensuring 100% uniformity of water and nutrient distribution along the laterals.
- **Anti-drain mechanism (LCNL & HCNL)** Eliminates drainage and refill effect, and improves efficiency in pulse irrigation even in steep topography (optional).
- **Continuously self-flushing** Flushes debris throughout operation, while ensuring constant dripper operation even in challenging water quality.
- **Wide water passages** TurboNet™ labyrinth ensures wide water passages, large deep and wide cross-section that improves clogging resistance. The water is drawn into the dripper from the stream center, preventing the entrance of sediment into the drippers.
- **Flexible location** Drippers can be positioned exactly where required. Number of drippers can be increased to increase the water quantities applied.  
Allows the installation of “spider assembly”, splitting the drip supply to a number of drip outlets.

## / Specifications

- Pressure-compensated range according to tables below.
- 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 (0.90, 1.00, 1.20 mm).
- Injected dripper, very low CV with injected silicon diaphragm.
- High UV resistant. Resistant to standard nutrients used in agriculture.
- Compliance ISO 9261 international standards.
- 2 different outlets: nipple, flat.

## → Drippers technical data

### PC drippers

Flow rate* (l/h)	Working pressure range (bar)	Water passages dimensions width-depth-length (mm)	Filtration area (mm <sup>2</sup> )	Constant K	Exponent* X	Base code color	Cap color code
2.0	0.5 – 4.0	1.17 x 1.04 x 61	2.0	2.0	0	Red	Black
4.0		1.32 x 1.44 x 60	2.0	4.0	0	Black	Black
8.5		1.60 x 1.60 x 17	2.0	8.5	0	Green	Black

\*Within working pressure range

## → Drippers technical data

### PC LCNL drippers

Flow rate* (l/h)	Working pressure range (bar)	Water passages dimensions width-depth-length (mm)	Filtration area (mm <sup>2</sup> )	Constant K	Exponent* X	Shut off pressure (bar)	Base code color	Cap color code
2.0	1.0 – 4.0	1.17 x 1.04 x 61	2.0	2.0	0	0.15	Red	Brown
4.0		1.32 x 1.44 x 60	2.0	4.0	0	0.15	Black	Brown
8.5		1.60 x 1.60 x 17	2.0	8.5	0	0.15	Green	Brown

\*Within working pressure range

## → Drippers technical data

### PC HCNL drippers

Flow rate* (l/h)	Working pressure range (bar)	Water passages dimensions width-depth-length (mm)	Filtration area (mm <sup>2</sup> )	Constant K	Exponent* X	Shut off pressure (bar)	Base code color	Cap color code
3.0	1.4 – 4.0	1.17 x 1.04 x 61	2.0	3.0	0	0.30	Black	Black
6.0		1.32 x 1.44 x 60	2.0	6.0	0	0.30	Black	Black
12.0		1.60 x 1.60 x 17	2.0	12.0	0	0.30	Black	Black

\*Within working pressure range

## → Kd (minor loss), insertion barb within distribution pipe

Pipe definition	Inside diameter (mm)	Kd
12/4	9.80	1.65
16/4	13.20	0.39
20/4	17.00	0.13
25/4	21.20	0.10
12010	10.60	1.61
16010 - 16012	14.20	0.37
20010 - 20012	17.50	0.12

## → 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)
PC & PC LCNL drippers , flat outlet	2500	57 x 28 x 27	18.0	32	114 x 114 x 112	576
PC , PC LCNL & PC HCNL drippers , nipple outlet	2300	57 x 28 x 27	19.0	32	114 x 114 x 112	608

# / 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

In all Netafim™ pressure-compensated drippers - including PC drippers (shown in this document) – the dripper exponent X is equal to 0 [zero] (within the pressure range defined for each of the drippers), so the right flow rate of the dripper will be always equal (+/- 7% as defined by the international standard: ISO 9261).

Each dripper has a compensation range which includes minimum and maximum pressure; under the minimum pressure defined, the dripper will perform as non-pressure-compensated dripper and provide flow that increases with the pressure increase until reaching the minimum defined limit working pressure.

If the Netafim™ pressure-compensated drippers are exposed to a higher pressure than the defined maximum pressure, the drippers will continue to regulate the flow rate, but become more sensitive to clogging, usually the maximum working pressure of the drippers are determined by the driplines limitations (diameter and wall thickness) and most importantly the pipe and its associated connections.

## / 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.

As we have already seen, pressure-compensated drippers of Netafim™ will provide equal flow irrespective of the working pressure, therefore, the factors that are affecting the dripline run lengths will be: the dripline inlet pressure, the minimum working pressure set for the dripper and the slope.

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 2.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	54	88	130	159	176	190	204	210	216	225	230
	1.5	71	118	184	231	268	295	318	343	360	369	390
	2.0	83	139	220	282	328	370	402	434	456	486	500
	2.5	92	156	250	321	376	425	468	504	544	567	600
	3.0	100	170	274	354	420	475	522	567	608	648	680
	3.5	107	182	294	381	456	515	570	623	664	711	750
	4.0	113	193	314	408	484	555	612	672	720	765	810
Flat terrain	1.0	59	102	168	225	272	315	360	399	432	468	500
	1.5	75	129	216	288	348	405	456	511	552	603	640
	2.0	86	149	248	330	404	470	528	588	640	693	740
	2.5	95	165	276	366	448	520	588	651	712	765	820
	3.0	103	178	298	396	484	560	636	707	768	828	890
	3.5	109	190	318	423	516	600	678	749	824	891	950
	4.0	115	201	336	447	544	635	714	791	864	936	1010
Downhill 2%	1.0	64	116	210	294	380	460	540	616	696	774	840
	1.5	79	141	248	345	436	525	606	693	776	855	930
	2.0	90	160	278	384	480	575	666	749	840	918	1000
	2.5	98	175	302	414	516	615	708	805	888	981	1060
	3.0	106	187	324	441	552	655	750	847	936	1026	1120
	3.5	112	199	342	465	580	685	786	889	984	1080	1170
	4.0	118	209	358	489	604	715	822	924	1024	1116	1210

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 4.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	36	59	92	117	136	150	162	175	184	189	200
	1.5	46	78	126	162	192	215	240	259	272	288	300
	2.0	54	91	148	192	228	260	288	315	336	360	380
	2.5	59	102	166	216	260	295	330	357	384	414	440
	3.0	64	111	182	237	284	325	366	399	432	459	490
	3.5	69	118	194	255	308	350	396	434	464	495	530
	4.0	73	125	206	270	328	375	420	462	496	531	570
Flat terrain	1.0	38	65	108	144	176	205	234	259	280	306	330
	1.5	48	83	138	186	224	260	294	329	360	387	420
	2.0	55	96	160	213	260	305	342	378	416	450	480
	2.5	61	106	178	237	288	335	378	420	456	495	530
	3.0	66	114	192	255	312	365	408	455	496	540	580
	3.5	70	122	204	273	332	385	438	483	528	576	610
	4.0	74	128	216	288	352	410	462	511	560	603	650
Downhill 2%	1.0	40	71	126	174	220	265	306	350	392	432	470
	1.5	49	88	152	210	260	310	360	406	448	495	540
	2.0	56	100	172	234	292	345	396	448	496	540	590
	2.5	62	110	188	255	316	375	432	483	536	585	630
	3.0	67	118	202	273	340	400	456	511	568	621	670
	3.5	71	125	214	291	360	420	480	539	600	648	700
	4.0	75	132	226	303	376	440	504	567	624	684	730

Minimum considered pressure 0.5 bar

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 8.5 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	23	38	62	78	96	105	120	126	136	144	150
	1.5	29	50	82	105	128	145	162	175	192	207	220
	2.0	33	57	94	123	148	170	192	210	232	243	260
	2.5	37	64	106	138	168	195	216	238	256	279	300
	3.0	40	69	114	153	184	210	240	259	280	306	320
	3.5	43	74	122	162	196	225	258	280	304	324	350
	4.0	45	78	130	171	208	240	270	301	328	351	370
Flat terrain	1.0	23	40	68	90	112	130	144	161	176	189	210
	1.5	30	51	86	114	140	165	186	203	224	243	260
	2.0	34	59	100	132	160	190	216	238	256	279	300
	2.5	37	65	110	147	180	210	234	259	288	306	330
	3.0	40	70	118	159	192	225	258	280	312	333	360
	3.5	43	75	126	168	208	240	270	301	328	360	380
	4.0	45	79	134	177	216	255	288	322	352	378	400
Downhill 2%	1.0	24	43	74	102	128	150	174	196	216	243	260
	1.5	30	53	92	123	156	180	210	238	256	288	310
	2.0	34	61	104	141	176	205	234	266	288	315	340
	2.5	38	67	114	153	192	225	258	287	312	342	370
	3.0	41	72	122	165	204	240	276	308	336	369	400
	3.5	43	76	130	177	216	255	288	322	352	387	420
	4.0	46	80	138	186	228	265	306	336	376	405	440

Minimum considered pressure 0.5 bar

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 2.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	95	138	184	207	220	230	234	238	240	243	250
	1.5	129	197	280	333	368	395	414	427	440	450	460
	2.0	153	237	348	423	480	520	558	581	608	621	640
	2.5	172	269	402	495	568	625	672	707	744	765	790
	3.0	187	296	446	555	640	710	768	819	856	891	930
	3.5	201	319	486	606	704	785	852	910	960	1008	1050
	4.0	213	340	520	654	760	850	930	994	1056	1107	1150
Flat terrain	1.0	112	184	294	384	464	535	606	665	728	783	840
	1.5	144	235	376	492	596	690	774	854	936	1008	1080
	2.0	166	272	436	570	688	795	894	987	1080	1161	1250
	2.5	183	301	482	633	764	880	996	1099	1200	1296	1380
	3.0	198	326	522	684	828	955	1074	1190	1296	1404	1500
	3.5	212	348	558	732	884	1020	1152	1267	1384	1494	1600
	4.0	223	367	590	771	932	1080	1218	1344	1464	1584	1690
Downhill 2%	1.0	130	232	418	594	768	920	1062	1204	1336	1467	1600
	1.5	158	275	478	666	848	1010	1164	1316	1456	1602	1740
	2.0	179	307	526	726	916	1090	1248	1407	1560	1710	1850
	2.5	195	333	566	777	972	1155	1320	1484	1648	1800	1950
	3.0	210	356	602	819	1024	1210	1386	1554	1720	1881	2040
	3.5	222	377	634	861	1072	1265	1446	1624	1792	1953	2120
	4.0	233	395	662	897	1112	1310	1500	1680	1856	2025	2190

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 4.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	65	99	142	168	188	200	210	217	224	225	230
	1.5	86	135	202	249	284	315	336	357	376	387	400
	2.0	101	160	244	306	352	395	426	455	480	504	530
	2.5	113	180	276	348	408	460	498	539	576	603	630
	3.0	123	197	304	387	452	510	564	609	648	684	720
	3.5	131	211	328	417	492	555	612	665	712	756	790
	4.0	139	225	350	447	528	600	660	714	768	819	860
Flat terrain	1.0	72	118	190	249	300	345	390	434	472	504	540
	1.5	92	151	242	318	384	445	498	553	600	648	700
	2.0	106	174	280	366	444	515	576	637	696	756	810
	2.5	117	193	310	408	492	570	642	707	776	837	890
	3.0	127	209	336	441	532	615	696	770	840	900	970
	3.5	135	223	358	471	568	660	738	819	896	963	1030
	4.0	143	236	380	498	600	695	780	868	944	1017	1090
Downhill 2%	1.0	79	138	240	336	428	515	606	693	776	855	930
	1.5	98	167	284	390	488	585	678	770	864	945	1020
	2.0	111	189	318	432	536	640	738	833	928	1017	1100
	2.5	122	207	346	465	580	685	786	889	984	1080	1170
	3.0	132	222	368	495	616	725	834	938	1040	1134	1220
	3.5	140	235	390	522	644	760	870	980	1088	1179	1280
	4.0	147	247	408	549	676	795	912	1022	1128	1233	1330

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 8.5 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	42	66	98	123	140	155	168	175	184	198	200
	1.5	55	87	134	171	200	225	246	266	280	297	310
	2.0	64	102	160	204	240	270	300	329	352	369	390
	2.5	71	114	180	231	272	310	342	371	400	423	450
	3.0	77	125	196	252	300	340	378	413	448	477	500
	3.5	82	133	210	273	324	370	408	448	480	513	550
	4.0	87	141	224	288	344	395	438	483	520	549	590
Flat terrain	1.0	45	73	118	153	188	215	246	266	296	315	340
	1.5	57	93	150	198	240	275	312	343	376	405	430
	2.0	66	108	174	228	276	320	360	399	432	468	500
	2.5	72	119	192	252	304	355	396	441	480	522	560
	3.0	78	129	208	273	332	385	432	476	520	558	600
	3.5	83	138	222	291	352	410	462	511	552	603	640
	4.0	88	146	234	309	372	430	486	539	584	630	680
Downhill 2%	1.0	47	81	138	189	236	280	324	371	416	459	500
	1.5	59	100	166	225	280	330	378	427	472	522	570
	2.0	68	113	188	252	312	365	420	469	520	576	620
	2.5	74	124	206	276	340	400	456	511	560	612	670
	3.0	80	134	220	294	360	425	486	539	600	648	700
	3.5	85	142	234	312	384	450	510	567	632	684	740
	4.0	90	150	246	327	400	470	534	595	656	711	770

Minimum considered pressure 0.5 bar

## Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 2.0 l/h

	Distance between drippers (meter)											
	Inlet pressure (bar)	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	138	183	220	234	240	245	246	252	248	252	250
	1.5	196	279	368	414	440	455	468	476	480	486	490
	2.0	236	346	476	552	600	635	660	679	688	702	710
	2.5	268	399	562	666	736	790	828	854	880	900	910
	3.0	295	444	636	762	852	920	972	1015	1048	1080	1100
	3.5	318	483	700	846	956	1040	1104	1162	1200	1242	1270
	4.0	339	517	756	921	1048	1145	1224	1288	1344	1386	1430
Flat terrain	1.0	183	291	460	597	720	830	936	1036	1128	1215	1300
	1.5	234	374	590	768	924	1070	1200	1323	1448	1557	1670
	2.0	271	432	682	888	1068	1235	1392	1533	1672	1800	1930
	2.5	300	480	758	984	1188	1370	1542	1701	1856	1998	2140
	3.0	325	520	820	1068	1288	1485	1668	1848	2008	2169	2320
	3.5	347	555	876	1140	1372	1585	1782	1967	2144	2313	2480
	4.0	366	586	926	1206	1452	1675	1884	2086	2272	2448	2620
Downhill 2%	1.0	231	414	760	1053	1324	1585	1836	2086	2328	2574	2810
	1.5	273	475	842	1155	1444	1720	1992	2254	2512	2763	3010
	2.0	306	523	908	1239	1544	1835	2118	2387	2656	2925	3180
	2.5	332	563	966	1311	1628	1935	2226	2506	2784	3060	3330
	3.0	355	598	1016	1377	1708	2020	2322	2618	2904	3177	3460
	3.5	375	629	1062	1434	1776	2100	2412	2709	3008	3294	3570
	4.0	394	657	1104	1488	1840	2170	2490	2800	3104	3393	3680

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

## Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 4.0 l/h

	Distance between drippers (meter)											
	Inlet pressure (bar)	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	98	140	184	207	220	230	234	238	240	243	250
	1.5	134	200	282	333	368	395	414	427	440	450	460
	2.0	159	242	350	423	480	520	552	581	608	621	640
	2.5	179	275	404	495	568	625	672	707	744	765	790
	3.0	196	302	450	555	640	710	768	812	856	891	930
	3.5	211	326	490	609	704	785	852	910	960	1008	1040
	4.0	224	348	524	654	760	850	924	994	1048	1107	1150
Flat terrain	1.0	117	187	296	384	464	535	606	665	728	783	840
	1.5	150	240	380	495	596	690	774	854	928	1008	1080
	2.0	174	278	440	573	688	795	894	987	1080	1161	1240
	2.5	192	308	486	633	764	880	990	1099	1192	1287	1380
	3.0	208	334	528	687	828	955	1074	1190	1296	1395	1490
	3.5	222	356	564	735	884	1020	1146	1267	1384	1494	1600
	4.0	235	377	596	777	936	1080	1212	1344	1464	1575	1690
Downhill 2%	1.0	137	238	422	597	768	920	1062	1197	1336	1467	1590
	1.5	166	282	484	672	852	1015	1164	1309	1456	1593	1730
	2.0	188	315	532	729	920	1090	1248	1400	1552	1701	1850
	2.5	206	342	572	780	976	1155	1320	1484	1640	1791	1940
	3.0	221	366	608	825	1028	1210	1386	1554	1720	1872	2030
	3.5	234	387	640	864	1072	1265	1446	1617	1784	1953	2110
	4.0	246	406	670	900	1116	1315	1500	1680	1848	2016	2180

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 8.5 l/h

	Distance between drippers (meter)											
	Inlet pressure (bar)	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	65	97	138	165	184	195	204	217	224	225	230
	1.5	87	133	196	243	276	305	330	350	368	378	390
	2.0	102	158	238	297	344	385	414	448	472	495	510
	2.5	114	178	270	339	396	445	486	525	560	585	610
	3.0	124	194	296	375	440	495	546	588	624	666	700
	3.5	133	209	320	405	476	540	594	644	688	729	770
	4.0	141	222	342	435	512	580	642	693	744	792	830
Flat terrain	1.0	73	116	184	240	288	335	378	413	456	486	520
	1.5	93	149	236	306	368	425	480	532	576	621	670
	2.0	107	172	272	354	428	495	558	616	672	720	770
	2.5	119	191	302	393	472	545	618	679	744	801	860
	3.0	129	206	326	426	512	595	666	735	800	864	930
	3.5	137	220	348	456	548	635	714	784	856	927	990
	4.0	145	233	368	480	580	670	750	833	904	981	1050
Downhill 2%	1.0	80	135	232	321	408	490	576	658	736	819	890
	1.5	99	165	276	375	468	560	648	735	816	900	980
	2.0	113	186	308	414	516	610	702	791	880	972	1050
	2.5	124	204	334	450	556	655	750	847	936	1026	1110
	3.0	133	219	358	477	588	695	798	896	992	1080	1170
	3.5	142	232	378	504	620	730	834	938	1032	1134	1220
	4.0	149	244	396	528	648	760	870	973	1072	1179	1270

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 2.0 l/h

	Distance between drippers (meter)											
	Inlet pressure (bar)	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	175	214	238	243	248	250	252	252	256	252	250
	1.5	263	353	430	459	476	485	486	490	496	495	500
	2.0	323	453	582	645	680	700	714	721	728	729	740
	2.5	372	533	710	804	860	895	918	938	952	963	970
	3.0	412	601	818	942	1020	1075	1110	1141	1160	1179	1190
	3.5	447	659	914	1068	1168	1240	1290	1330	1360	1377	1400
	4.0	478	711	998	1179	1300	1390	1458	1505	1544	1575	1600
Flat terrain	1.0	267	426	672	873	1052	1215	1368	1512	1640	1773	1900
	1.5	342	547	862	1122	1352	1560	1752	1939	2112	2277	2440
	2.0	396	632	998	1299	1564	1805	2028	2240	2440	2637	2820
	2.5	438	701	1108	1440	1736	2005	2250	2485	2712	2925	3130
	3.0	475	760	1200	1560	1880	2170	2442	2695	2936	3168	3390
	3.5	507	811	1282	1668	2008	2320	2610	2877	3136	3384	3620
	4.0	536	858	1354	1764	2124	2450	2760	3045	3320	3573	3830
Downhill 2%	1.0	369	684	1214	1689	2140	2580	3006	3430	3848	4257	4660
	1.5	427	763	1328	1833	2308	2770	3222	3661	4096	4518	4940
	2.0	471	826	1422	1950	2448	2930	3396	3850	4296	4743	5180
	2.5	508	880	1502	2052	2572	3065	3546	4018	4480	4932	5380
	3.0	540	928	1574	2145	2676	3190	3684	4165	4640	5103	5560
	3.5	568	971	1638	2226	2776	3300	3810	4305	4784	5256	5730
	4.0	594	1010	1698	2304	2868	3405	3924	4424	4920	5400	5880

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length



### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 4.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	132	177	216	231	240	245	246	245	248	252	250
	1.5	186	267	356	402	432	450	462	469	480	486	490
	2.0	224	330	458	534	584	620	648	665	680	693	700
	2.5	253	380	538	642	712	765	804	840	864	882	900
	3.0	278	421	608	732	824	890	948	987	1024	1053	1080
	3.5	300	457	666	810	920	1005	1074	1127	1176	1215	1240
	4.0	320	490	720	882	1004	1105	1182	1253	1304	1350	1390
Flat terrain	1.0	172	274	432	561	676	785	882	973	1056	1143	1220
	1.5	220	351	554	723	868	1005	1128	1246	1360	1467	1570
	2.0	254	406	642	834	1008	1160	1308	1442	1576	1692	1820
	2.5	281	450	712	927	1116	1290	1452	1603	1744	1881	2010
	3.0	305	488	772	1005	1208	1395	1572	1736	1888	2043	2180
	3.5	325	521	824	1071	1292	1490	1680	1855	2016	2178	2330
	4.0	343	551	870	1134	1364	1575	1776	1960	2136	2304	2460
Downhill 2%	1.0	214	382	698	975	1228	1465	1698	1932	2152	2376	2590
	1.5	254	441	776	1074	1340	1595	1848	2086	2320	2556	2790
	2.0	285	486	842	1152	1436	1705	1962	2219	2464	2709	2940
	2.5	310	524	896	1221	1516	1795	2064	2331	2584	2835	3080
	3.0	331	557	944	1281	1588	1880	2160	2429	2696	2952	3210
	3.5	350	587	988	1338	1656	1955	2244	2520	2792	3060	3320
	4.0	367	613	1028	1389	1716	2025	2316	2604	2880	3150	3420

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 8.5 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.0	90	130	174	198	216	225	228	238	240	243	240
	1.5	123	184	264	315	352	380	402	413	432	441	450
	2.0	145	222	324	396	448	495	528	553	576	603	620
	2.5	163	251	372	459	528	585	630	672	704	729	760
	3.0	178	276	414	513	596	660	720	763	808	846	880
	3.5	191	297	448	561	652	730	792	854	904	945	990
	4.0	203	317	480	603	704	790	864	924	984	1035	1080
Flat terrain	1.0	106	169	268	348	420	485	546	602	656	711	760
	1.5	136	217	344	447	540	625	702	777	840	909	970
	2.0	157	251	398	516	624	720	810	896	976	1053	1130
	2.5	174	278	440	573	692	800	900	994	1080	1170	1250
	3.0	188	302	478	621	748	865	972	1078	1168	1260	1350
	3.5	201	322	510	663	800	925	1038	1148	1248	1350	1440
	4.0	212	340	538	702	844	975	1098	1211	1320	1431	1530
Downhill 2%	1.0	122	211	370	522	672	815	942	1064	1176	1296	1410
	1.5	149	251	428	591	748	900	1032	1162	1288	1413	1530
	2.0	168	281	474	648	812	970	1110	1246	1384	1512	1640
	2.5	184	306	510	693	864	1030	1176	1323	1456	1593	1730
	3.0	198	328	544	735	912	1085	1236	1386	1528	1674	1810
	3.5	210	347	572	771	956	1130	1290	1442	1592	1737	1880
	4.0	221	364	598	804	996	1175	1338	1498	1648	1800	1950

Minimum considered pressure 0.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 2.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	54	88	130	159	176	190	204	210	216	225	230
	2.0	71	118	184	231	268	295	318	343	360	369	390
	2.5	83	139	220	282	328	370	402	434	456	486	500
	3.0	92	156	250	321	376	425	468	504	544	567	600
	3.5	100	170	274	354	420	475	522	567	608	648	680
	4.0	107	182	294	381	456	515	570	623	664	711	750
Flat terrain	1.5	59	102	168	225	272	315	360	399	432	468	500
	2.0	75	129	216	288	348	405	456	511	552	603	640
	2.5	86	149	248	330	404	470	528	588	640	693	740
	3.0	95	165	276	366	448	520	588	651	712	765	820
	3.5	103	178	298	396	484	560	636	707	768	828	890
	4.0	109	190	318	423	516	600	678	749	824	891	950
Downhill 2%	1.5	64	116	210	294	380	460	540	616	696	774	840
	2.0	79	141	248	345	436	525	606	693	776	855	930
	2.5	90	160	278	384	480	575	666	749	840	918	1000
	3.0	98	175	302	414	516	615	708	805	888	981	1060
	3.5	106	187	324	441	552	655	750	847	936	1026	1120
	4.0	112	199	342	465	580	685	786	889	984	1080	1170

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 4.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	36	59	92	117	136	150	162	175	184	189	200
	2.0	46	78	126	162	192	215	240	259	272	288	300
	2.5	54	91	148	192	228	260	288	315	336	360	380
	3.0	59	102	166	216	260	295	330	357	384	414	440
	3.5	64	111	182	237	284	325	366	399	432	459	490
	4.0	69	118	194	255	308	350	396	434	464	495	530
Flat terrain	1.5	38	65	108	144	176	205	234	259	280	306	330
	2.0	48	83	138	186	224	260	294	329	360	387	420
	2.5	55	96	160	213	260	305	342	378	416	450	480
	3.0	61	106	178	237	288	335	378	420	456	495	530
	3.5	66	114	192	255	312	365	408	455	496	540	580
	4.0	70	122	204	273	332	385	438	483	528	576	610
Downhill 2%	1.5	40	71	126	174	220	265	306	350	392	432	470
	2.0	49	88	152	210	260	310	360	406	448	495	540
	2.5	56	100	172	234	292	345	396	448	496	540	590
	3.0	62	110	188	255	316	375	432	483	536	585	630
	3.5	67	118	202	273	340	400	456	511	568	621	670
	4.0	71	125	214	291	360	420	480	539	600	648	700

Minimum considered pressure 1.0 bar

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 8.5 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	23	38	62	78	96	105	120	126	136	144	150
	2.0	29	50	82	105	128	145	162	175	192	207	220
	2.5	33	57	94	123	148	170	192	210	232	243	260
	3.0	37	64	106	138	168	195	216	238	256	279	300
	3.5	40	69	114	153	184	210	240	259	280	306	320
	4.0	43	74	122	162	196	225	258	280	304	324	350
Flat terrain	1.5	23	40	68	90	112	130	144	161	176	189	210
	2.0	30	51	86	114	140	165	186	203	224	243	260
	2.5	34	59	100	132	160	190	216	238	256	279	300
	3.0	37	65	110	147	180	210	234	259	288	306	330
	3.5	40	70	118	159	192	225	258	280	312	333	360
	4.0	43	75	126	168	208	240	270	301	328	360	380
Downhill 2%	1.5	24	43	74	102	128	150	174	196	216	243	260
	2.0	30	53	92	123	156	180	210	238	256	288	310
	2.5	34	61	104	141	176	205	234	266	288	315	340
	3.0	38	67	114	153	192	225	258	287	312	342	370
	3.5	41	72	122	165	204	240	276	308	336	369	400
	4.0	43	76	130	177	216	255	288	322	352	387	420

Minimum considered pressure 1.0 bar

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 2.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	95	138	184	207	220	230	234	238	240	243	250
	2.0	129	197	280	333	368	395	414	427	440	450	460
	2.5	153	237	348	423	480	520	558	581	608	621	640
	3.0	172	269	402	495	568	625	672	707	744	765	790
	3.5	187	296	446	555	640	710	768	819	856	891	930
	4.0	201	319	486	606	704	785	852	910	960	1008	1050
Flat terrain	1.5	112	184	294	384	464	535	606	665	728	783	840
	2.0	144	235	376	492	596	690	774	854	936	1008	1080
	2.5	166	272	436	570	688	795	894	987	1080	1161	1250
	3.0	183	301	482	633	764	880	996	1099	1200	1296	1380
	3.5	198	326	522	684	828	955	1074	1190	1296	1404	1500
	4.0	212	348	558	732	884	1020	1152	1267	1384	1494	1600
Downhill 2%	1.5	130	232	418	594	768	940	1110	1281	1448	1602	1740
	2.0	158	275	478	666	848	1025	1200	1379	1552	1710	1850
	2.5	179	307	526	726	916	1100	1284	1463	1632	1800	1950
	3.0	195	333	566	777	972	1165	1350	1533	1712	1881	2040
	3.5	210	356	602	819	1024	1220	1410	1603	1784	1953	2120
	4.0	222	377	634	861	1072	1275	1470	1659	1848	2025	2190

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 4.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	65	99	142	168	188	200	210	217	224	225	230
	2.0	86	135	202	249	284	315	336	357	376	387	400
	2.5	101	160	244	306	352	395	426	455	480	504	530
	3.0	113	180	276	348	408	460	498	539	576	603	630
	3.5	123	197	304	387	452	510	564	609	648	684	720
	4.0	131	211	328	417	492	555	612	665	712	756	790
Flat terrain	1.5	72	118	190	249	300	345	390	434	472	504	540
	2.0	92	151	242	318	384	445	498	553	600	648	700
	2.5	106	174	280	366	444	515	576	637	696	756	810
	3.0	117	193	310	408	492	570	642	707	776	837	890
	3.5	127	209	336	441	532	615	696	770	840	900	970
	4.0	135	223	358	471	568	660	738	819	896	963	1030
Downhill 2%	1.5	79	138	240	336	428	515	606	693	776	855	930
	2.0	98	167	284	390	488	585	678	770	864	945	1020
	2.5	111	189	318	432	536	640	738	833	928	1017	1100
	3.0	122	207	346	465	580	685	786	889	984	1080	1170
	3.5	132	222	368	495	616	725	834	938	1040	1134	1220
	4.0	140	235	390	522	644	760	870	980	1088	1179	1280

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 8.5 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	42	66	98	123	140	155	168	175	184	198	200
	2.0	55	87	134	171	200	225	246	266	280	297	310
	2.5	64	102	160	204	240	270	300	329	352	369	390
	3.0	71	114	180	231	272	310	342	371	400	423	450
	3.5	77	125	196	252	300	340	378	413	448	477	500
	4.0	82	133	210	273	324	370	408	448	480	513	550
Flat terrain	1.5	45	73	118	153	188	215	246	266	296	315	340
	2.0	57	93	150	198	240	275	312	343	376	405	430
	2.5	66	108	174	228	276	320	360	399	432	468	500
	3.0	72	119	192	252	304	355	396	441	480	522	560
	3.5	78	129	208	273	332	385	432	476	520	558	600
	4.0	83	138	222	291	352	410	462	511	552	603	640
Downhill 2%	1.5	47	81	138	189	236	280	324	371	416	459	500
	2.0	59	100	166	225	280	330	378	427	472	522	570
	2.5	68	113	188	252	312	365	420	469	520	576	620
	3.0	74	124	206	276	340	400	456	511	560	612	670
	3.5	80	134	220	294	360	425	486	539	600	648	700
	4.0	85	142	234	312	384	450	510	567	632	684	740

Minimum considered pressure 1.0 bar

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 2.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	138	183	220	234	240	245	246	252	248	252	250
	2.0	196	279	368	414	440	455	468	476	480	486	490
	2.5	236	346	476	552	600	635	660	679	688	702	710
	3.0	268	399	562	666	736	790	828	854	880	900	910
	3.5	295	444	636	762	852	920	972	1015	1048	1080	1100
	4.0	318	483	700	846	956	1040	1104	1162	1200	1242	1270
Flat terrain	1.5	183	291	460	597	720	830	936	1036	1128	1215	1300
	2.0	234	374	590	768	924	1070	1200	1323	1448	1557	1670
	2.5	271	432	682	888	1068	1235	1392	1533	1672	1800	1930
	3.0	300	480	758	984	1188	1370	1542	1701	1856	1998	2140
	3.5	325	520	820	1068	1288	1485	1668	1848	2008	2169	2320
	4.0	347	555	876	1140	1372	1585	1782	1967	2144	2313	2480
Downhill 2%	1.5	231	414	760	1053	1324	1585	1836	2086	2328	2574	2810
	2.0	273	475	842	1155	1444	1720	1992	2254	2512	2763	3010
	2.5	306	523	908	1239	1544	1835	2118	2387	2656	2925	3180
	3.0	332	563	966	1311	1628	1935	2226	2506	2784	3060	3330
	3.5	355	598	1016	1377	1708	2020	2322	2618	2904	3177	3460
	4.0	375	629	1062	1434	1776	2100	2412	2709	3008	3294	3570

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 4.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	98	140	184	207	220	230	234	238	240	243	250
	2.0	134	200	282	333	368	395	414	427	440	450	460
	2.5	159	242	350	423	480	520	552	581	608	621	640
	3.0	179	275	404	495	568	625	672	707	744	765	790
	3.5	196	302	450	555	640	710	768	812	856	891	930
	4.0	211	326	490	609	704	785	852	910	960	1008	1040
Flat terrain	1.5	117	187	296	384	464	535	606	665	728	783	840
	2.0	150	240	380	495	596	690	774	854	928	1008	1080
	2.5	174	278	440	573	688	795	894	987	1080	1161	1240
	3.0	192	308	486	633	764	880	990	1099	1192	1287	1380
	3.5	208	334	528	687	828	955	1074	1190	1296	1395	1490
	4.0	222	356	564	735	884	1020	1146	1267	1384	1494	1600
Downhill 2%	1.5	137	238	422	597	768	920	1062	1197	1336	1467	1590
	2.0	166	282	484	672	852	1015	1164	1309	1456	1593	1730
	2.5	188	315	532	729	920	1090	1248	1400	1552	1701	1850
	3.0	206	342	572	780	976	1155	1320	1484	1640	1791	1940
	3.5	221	366	608	825	1028	1210	1386	1554	1720	1872	2030
	4.0	234	387	640	864	1072	1265	1446	1617	1784	1953	2110

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 8.5 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	65	97	138	165	184	195	204	217	224	225	230
	2.0	87	133	196	243	276	305	330	350	368	378	390
	2.5	102	158	238	297	344	385	414	448	472	495	510
	3.0	114	178	270	339	396	445	486	525	560	585	610
	3.5	124	194	296	375	440	495	546	588	624	666	700
	4.0	133	209	320	405	476	540	594	644	688	729	770
Flat terrain	1.5	73	116	184	240	288	335	378	413	456	486	520
	2.0	93	149	236	306	368	425	480	532	576	621	670
	2.5	107	172	272	354	428	495	558	616	672	720	770
	3.0	119	191	302	393	472	545	618	679	744	801	860
	3.5	129	206	326	426	512	595	666	735	800	864	930
	4.0	137	220	348	456	548	635	714	784	856	927	990
Downhill 2%	1.5	80	135	232	321	408	490	576	658	736	819	890
	2.0	99	165	276	375	468	560	648	735	816	900	980
	2.5	113	186	308	414	516	610	702	791	880	972	1050
	3.0	124	204	334	450	556	655	750	847	936	1026	1110
	3.5	133	219	358	477	588	695	798	896	992	1080	1170
	4.0	142	232	378	504	620	730	834	938	1032	1134	1220

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 2.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	175	214	238	243	248	250	252	252	256	252	250
	2.0	263	353	430	459	476	485	486	490	496	495	500
	2.5	323	453	582	645	680	700	714	721	728	729	740
	3.0	372	533	710	804	860	895	918	938	952	963	970
	3.5	412	601	818	942	1020	1075	1110	1141	1160	1179	1190
	4.0	447	659	914	1068	1168	1240	1290	1330	1360	1377	1400
Flat terrain	1.5	267	426	672	873	1052	1215	1368	1512	1640	1773	1900
	2.0	342	547	862	1122	1352	1560	1752	1939	2112	2277	2440
	2.5	396	632	998	1299	1564	1805	2028	2240	2440	2637	2820
	3.0	438	701	1108	1440	1736	2005	2250	2485	2712	2925	3130
	3.5	475	760	1200	1560	1880	2170	2442	2695	2936	3168	3390
	4.0	507	811	1282	1668	2008	2320	2610	2877	3136	3384	3620
Downhill 2%	1.5	369	684	1214	1689	2140	2580	3006	3430	3848	4257	4660
	2.0	427	763	1328	1833	2308	2770	3222	3661	4096	4518	4940
	2.5	471	826	1422	1950	2448	2930	3396	3850	4296	4743	5180
	3.0	508	880	1502	2052	2572	3065	3546	4018	4480	4932	5380
	3.5	540	928	1574	2145	2676	3190	3684	4165	4640	5103	5560
	4.0	568	971	1638	2226	2776	3300	3810	4305	4784	5256	5730

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 4.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	132	177	216	231	240	245	246	245	248	252	250
	2.0	186	267	356	402	432	450	462	469	480	486	490
	2.5	224	330	458	534	584	620	648	665	680	693	700
	3.0	253	380	538	642	712	765	804	840	864	882	900
	3.5	278	421	608	732	824	890	948	987	1024	1053	1080
	4.0	300	457	666	810	920	1005	1074	1127	1176	1215	1240
Flat terrain	1.5	172	274	432	561	676	785	882	973	1056	1143	1220
	2.0	220	351	554	723	868	1005	1128	1246	1360	1467	1570
	2.5	254	406	642	834	1008	1160	1308	1442	1576	1692	1820
	3.0	281	450	712	927	1116	1290	1452	1603	1744	1881	2010
	3.5	305	488	772	1005	1208	1395	1572	1736	1888	2043	2180
	4.0	325	521	824	1071	1292	1490	1680	1855	2016	2178	2330
Downhill 2%	1.5	214	382	698	975	1228	1465	1698	1932	2152	2376	2590
	2.0	254	441	776	1074	1340	1595	1848	2086	2320	2556	2790
	2.5	285	486	842	1152	1436	1705	1962	2219	2464	2709	2940
	3.0	310	524	896	1221	1516	1795	2064	2331	2584	2835	3080
	3.5	331	557	944	1281	1588	1880	2160	2429	2696	2952	3210
	4.0	350	587	988	1338	1656	1955	2244	2520	2792	3060	3320

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC LCNL drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 8.5 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	1.5	90	130	174	198	216	225	228	238	240	243	240
	2.0	123	184	264	315	352	380	402	413	432	441	450
	2.5	145	222	324	396	448	495	528	553	576	603	620
	3.0	163	251	372	459	528	585	630	672	704	729	760
	3.5	178	276	414	513	596	660	720	763	808	846	880
	4.0	191	297	448	561	652	730	792	854	904	945	990
Flat terrain	1.5	106	169	268	348	420	485	546	602	656	711	760
	2.0	136	217	344	447	540	625	702	777	840	909	970
	2.5	157	251	398	516	624	720	810	896	976	1053	1130
	3.0	174	278	440	573	692	800	900	994	1080	1170	1250
	3.5	188	302	478	621	748	865	972	1078	1168	1260	1350
	4.0	201	322	510	663	800	925	1038	1148	1248	1350	1440
Downhill 2%	1.5	122	211	370	522	672	815	942	1064	1176	1296	1410
	2.0	149	251	428	591	748	900	1032	1162	1288	1413	1530
	2.5	168	281	474	648	812	970	1110	1246	1384	1512	1640
	3.0	184	306	510	693	864	1030	1176	1323	1456	1593	1730
	3.5	198	328	544	735	912	1085	1236	1386	1528	1674	1810
	4.0	210	347	572	771	956	1130	1290	1442	1592	1737	1880

Minimum considered pressure 1.0 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 3.0 l/h

	Distance between drippers (meter)											
	Inlet pressure (bar)	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	43	70	108	132	152	170	180	189	200	207	210
	2.5	55	93	148	189	220	250	270	294	312	324	340
	3.0	64	109	176	225	268	305	336	364	384	405	430
	3.5	71	122	196	255	304	345	384	420	448	477	500
	4.0	77	132	216	279	336	380	426	462	496	531	560
Flat terrain	2.0	45	78	130	174	212	245	276	308	336	360	390
	2.5	58	100	166	222	272	315	354	392	432	468	500
	3.0	66	115	192	255	312	365	408	455	496	540	580
	3.5	73	127	212	282	344	400	456	504	552	594	640
	4.0	79	137	230	306	372	435	492	546	592	648	690
Downhill 2%	2.0	48	87	154	216	276	330	384	441	496	549	600
	2.5	60	107	186	255	320	385	444	504	560	621	670
	3.0	68	121	210	288	356	425	492	553	616	675	730
	3.5	75	133	228	312	388	460	528	595	656	720	780
	4.0	81	143	246	333	412	490	558	630	696	765	830

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 6.0 l/h

	Distance between drippers (meter)											
	Inlet pressure (bar)	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	28	47	74	96	112	125	138	147	160	162	170
	2.5	36	61	100	129	152	175	192	210	224	243	250
	3.0	42	71	116	153	184	210	234	252	272	297	310
	3.5	46	79	130	171	204	235	264	287	312	333	360
	4.0	50	86	142	186	224	260	288	315	344	369	390
Flat terrain	2.0	29	50	84	111	136	160	180	203	216	234	250
	2.5	37	64	108	144	176	205	228	252	280	306	320
	3.0	42	74	124	165	200	235	264	294	320	351	370
	3.5	47	81	136	183	224	260	294	329	360	387	410
	4.0	50	88	148	198	240	280	318	350	384	414	450
Downhill 2%	2.0	30	54	94	129	164	195	228	259	288	315	340
	2.5	38	67	116	156	196	230	270	301	336	369	400
	3.0	43	76	130	177	220	260	300	336	368	405	440
	3.5	48	84	144	195	240	285	324	364	400	441	470
	4.0	51	90	154	207	256	305	348	385	424	468	500

Minimum considered pressure 1.5 bar



### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 12/4 • ID 9.8 mm • Kd 1.65 • Flow rate 12.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	18	31	50	66	80	90	102	112	120	126	130
	2.5	23	40	66	87	104	120	132	147	160	171	180
	3.0	27	46	76	102	124	140	162	175	192	207	220
	3.5	30	51	86	114	136	160	180	196	216	225	240
	4.0	32	56	92	123	148	175	192	217	232	252	270
Flat terrain	2.0	19	33	54	72	88	105	120	133	144	153	170
	2.5	24	41	70	93	112	130	150	168	184	198	210
	3.0	27	47	80	108	132	150	174	189	208	225	240
	3.5	30	52	88	117	144	170	192	210	232	252	270
	4.0	32	56	96	129	156	180	204	231	248	270	290
Downhill 2%	2.0	19	34	58	81	100	120	138	154	168	189	200
	2.5	24	42	72	99	124	145	168	182	208	225	240
	3.0	28	48	82	111	140	165	186	210	232	252	270
	3.5	30	53	90	123	152	180	204	224	248	270	290
	4.0	33	57	98	132	164	190	216	245	264	288	310

Minimum considered pressure 1.5 bar

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 3.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	76	114	160	186	204	215	222	231	232	234	240
	2.5	102	159	232	282	320	350	372	392	408	414	430
	3.0	120	189	284	351	404	445	480	511	536	558	580
	3.5	134	213	324	405	472	525	570	609	640	675	700
	4.0	146	234	358	450	524	590	642	693	736	774	800
Flat terrain	2.0	87	142	228	297	360	415	468	518	568	612	650
	2.5	111	181	290	381	460	530	600	665	720	783	830
	3.0	128	210	336	441	532	615	696	763	832	900	970
	3.5	141	232	372	489	588	680	768	847	928	999	1070
	4.0	153	251	404	528	640	740	834	917	1000	1080	1160
Downhill 2%	2.0	97	171	300	423	540	660	774	889	1000	1116	1230
	2.5	119	205	352	486	612	735	858	973	1096	1215	1330
	3.0	135	231	390	534	668	800	924	1050	1168	1287	1410
	3.5	148	251	422	573	716	850	984	1113	1232	1359	1480
	4.0	159	269	450	609	756	895	1032	1162	1296	1422	1550

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 6.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	51	80	118	144	160	175	186	196	208	216	220
	2.5	68	107	164	204	236	265	288	308	328	342	350
	3.0	79	126	194	246	288	325	354	385	408	432	450
	3.5	88	141	220	279	328	375	414	448	480	504	530
	4.0	95	154	240	309	364	415	456	497	536	567	600
Flat terrain	2.0	56	91	146	192	232	270	300	336	368	396	420
	2.5	71	117	188	246	296	345	390	427	464	504	540
	3.0	82	135	216	285	344	395	450	497	536	585	620
	3.5	91	149	240	315	380	440	498	546	600	648	690
	4.0	98	161	260	342	412	475	534	595	648	702	750
Downhill 2%	2.0	60	103	176	243	308	370	432	490	552	612	670
	2.5	75	126	212	288	360	430	492	560	624	684	750
	3.0	85	143	238	321	400	470	540	609	680	747	810
	3.5	93	157	260	351	432	510	582	658	728	792	860
	4.0	101	169	280	375	460	540	618	693	768	837	910

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 16/4 • ID 13.2 mm • Kd 0.39 • Flow rate 12.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	34	54	82	102	120	135	144	154	168	171	180
	2.5	44	71	110	141	168	190	210	224	240	252	270
	3.0	51	83	130	168	200	225	252	273	296	315	330
	3.5	57	93	146	189	224	255	288	308	336	360	380
	4.0	62	101	160	207	248	280	312	343	368	396	420
Flat terrain	2.0	36	59	94	123	152	175	198	217	240	261	280
	2.5	46	75	120	159	192	225	252	280	304	324	350
	3.0	53	87	140	183	220	255	288	322	352	378	400
	3.5	58	96	154	204	244	285	318	357	384	414	450
	4.0	63	104	168	219	264	310	348	385	416	450	480
Downhill 2%	2.0	38	64	108	147	184	215	252	280	312	351	380
	2.5	47	79	132	177	220	255	294	329	368	405	440
	3.0	54	90	148	198	244	290	330	371	408	441	480
	3.5	59	99	164	219	268	315	354	399	440	477	520
	4.0	64	107	176	234	284	335	384	427	472	513	550

Minimum considered pressure 1.5 bar

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 3.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	114	158	200	219	232	235	240	245	248	252	250
	2.5	158	231	318	369	400	425	438	455	464	468	470
	3.0	188	282	400	477	532	570	600	630	648	657	670
	3.5	212	322	466	564	636	695	738	777	808	828	850
	4.0	233	356	522	639	728	800	858	903	944	972	1010
Flat terrain	2.0	141	225	356	462	556	645	726	798	872	936	1010
	2.5	181	289	456	594	716	825	930	1022	1120	1206	1290
	3.0	209	334	528	687	828	955	1074	1183	1296	1395	1490
	3.5	231	370	584	762	916	1060	1194	1316	1432	1548	1650
	4.0	250	401	634	825	992	1150	1290	1428	1552	1674	1790
Downhill 2%	2.0	170	298	536	765	992	1215	1440	1659	1880	2106	2310
	2.5	204	349	606	846	1080	1310	1542	1764	1992	2214	2420
	3.0	230	388	662	915	1156	1395	1626	1855	2088	2313	2530
	3.5	250	420	710	972	1224	1465	1704	1939	2176	2403	2620
	4.0	268	448	750	1023	1280	1530	1776	2016	2248	2484	2710

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 6.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	79	116	160	186	204	215	222	231	232	234	240
	2.5	107	161	234	285	320	350	372	392	408	414	430
	3.0	126	193	286	351	404	445	480	511	536	558	580
	3.5	141	218	326	408	472	525	570	609	640	675	700
	4.0	153	239	360	453	528	590	642	693	728	765	800
Flat terrain	2.0	91	145	228	297	360	415	468	518	560	603	650
	2.5	116	186	294	381	460	530	600	658	720	774	830
	3.0	134	215	340	441	532	615	690	763	832	900	960
	3.5	148	238	376	489	592	680	768	847	928	999	1070
	4.0	161	258	408	531	640	740	834	917	1000	1080	1160
Downhill 2%	2.0	102	175	304	426	544	660	774	889	1000	1116	1230
	2.5	126	210	356	489	612	735	858	973	1088	1206	1320
	3.0	143	237	394	537	668	800	924	1043	1168	1287	1400
	3.5	156	258	428	576	716	850	978	1106	1232	1359	1480
	4.0	168	277	456	612	760	900	1032	1162	1288	1413	1540

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 20/4 • ID 17.0 mm • Kd 0.13 • Flow rate 12.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	54	81	118	144	160	175	186	196	208	216	220
	2.5	71	109	164	204	236	265	288	308	328	342	350
	3.0	83	129	196	246	288	325	354	385	408	432	450
	3.5	92	145	222	282	332	375	408	448	472	504	530
	4.0	100	158	244	309	364	415	456	497	528	567	590
Flat terrain	2.0	58	93	148	192	232	270	300	336	368	396	420
	2.5	75	119	190	246	296	345	384	427	464	504	540
	3.0	86	138	218	285	344	395	450	497	536	585	620
	3.5	95	153	242	315	380	440	498	546	600	648	690
	4.0	103	166	262	342	412	475	534	595	648	693	750
Downhill 2%	2.0	63	106	178	246	308	370	432	490	552	612	670
	2.5	79	130	214	291	360	430	492	560	624	684	740
	3.0	90	147	242	324	400	475	540	609	680	738	810
	3.5	99	161	264	351	432	510	582	658	728	792	860
	4.0	106	174	282	375	460	540	618	693	768	837	910

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

### Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 3.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	149	194	226	237	244	245	246	252	248	252	250
	2.5	216	303	388	429	452	465	474	483	488	486	490
	3.0	262	379	512	585	628	660	678	693	704	711	720
	3.5	298	440	610	711	780	825	864	889	904	918	930
	4.0	328	490	692	822	912	975	1026	1064	1088	1116	1130
Flat terrain	2.0	206	329	518	675	812	940	1056	1169	1272	1368	1470
	2.5	264	422	666	867	1044	1205	1356	1498	1632	1755	1880
	3.0	305	488	770	1002	1208	1395	1572	1736	1888	2034	2180
	3.5	338	541	854	1113	1340	1550	1740	1925	2096	2259	2420
	4.0	366	586	926	1206	1452	1680	1884	2086	2272	2448	2620
Downhill 2%	2.0	267	484	898	1305	1708	2110	2460	2779	3096	3402	3710
	2.5	314	551	986	1404	1812	2220	2580	2912	3240	3555	3870
	3.0	350	603	1058	1488	1908	2320	2688	3031	3368	3690	4020
	3.5	379	648	1120	1563	1988	2410	2784	3136	3480	3816	4150
	4.0	405	686	1176	1629	2064	2490	2874	3234	3592	3933	4270

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

## Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 6.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	108	152	196	216	228	235	240	245	248	252	250
	2.5	149	220	306	357	392	415	432	448	456	468	470
	3.0	178	268	384	459	516	555	588	616	632	648	660
	3.5	200	305	446	540	612	670	714	756	784	810	830
	4.0	219	337	496	609	696	770	828	875	912	954	980
Flat terrain	2.0	132	211	334	435	524	605	678	749	816	882	950
	2.5	169	271	428	558	672	775	876	966	1048	1134	1210
	3.0	196	314	496	645	776	900	1008	1113	1216	1314	1400
	3.5	217	348	550	717	864	995	1122	1239	1352	1458	1560
	4.0	235	377	596	777	936	1080	1212	1344	1464	1575	1690
Downhill 2%	2.0	157	276	494	702	908	1115	1314	1519	1720	1926	2120
	2.5	190	324	562	783	996	1205	1416	1624	1824	2034	2240
	3.0	214	361	614	846	1068	1285	1500	1708	1920	2124	2330
	3.5	234	391	660	903	1132	1355	1578	1792	2000	2214	2420
	4.0	251	418	698	951	1188	1420	1644	1862	2080	2295	2510

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length

## Max. lateral length (meter) at different inlet pressure and different slopes

PC HCNL drippers • On PE pipe 25/4 • ID 21.2 mm • Kd 0.10 • Flow rate 12.0 l/h

	Inlet pressure (bar)	Distance between drippers (meter)										
		0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Uphill 2%	2.0	75	111	154	180	196	210	216	224	232	234	240
	2.5	101	153	224	273	308	335	360	378	392	405	420
	3.0	118	182	272	336	388	430	462	490	520	540	560
	3.5	132	206	310	387	448	500	546	581	616	648	680
	4.0	144	225	342	429	500	560	612	658	704	738	770
Flat terrain	2.0	85	136	216	279	340	390	438	483	528	567	610
	2.5	109	174	276	360	432	500	564	623	680	729	780
	3.0	126	202	320	417	500	580	654	721	784	846	910
	3.5	139	223	354	462	556	640	720	798	872	936	1000
	4.0	151	242	384	498	604	695	780	861	944	1017	1090
Downhill 2%	2.0	95	163	282	393	500	605	714	812	920	1017	1120
	2.5	117	196	330	453	568	680	792	896	1008	1116	1220
	3.0	133	221	368	498	624	740	858	966	1080	1188	1300
	3.5	146	241	398	537	668	790	912	1029	1144	1251	1370
	4.0	157	259	426	573	708	835	960	1078	1200	1314	1430

Minimum considered pressure 1.5 bar

Due to lateral filling time and flushing effectiveness it is not recommended to exceed 800 meters lateral length