

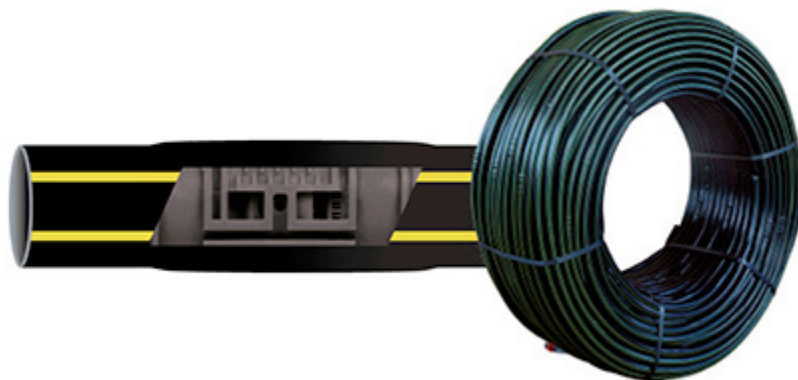


Multibar™ C Rootguard™

A subsurface drip irrigation system using Rootguard® pressure-compensating dripline distributes water by capillarity at a depth varying from 10 to 75 cm below the ground, creating a continuous moist area along the plant rows and avoiding the radical intrusion that would cause the occlusion of the drippers.

Benefits of subsurface irrigation:

Subsurface drip irrigation is the method that ensures the slowest evaporation of water, ensuring an efficiency of at least 95%. Compared to the ground system, with the same amount of supplied water, subsurface irrigation humidifies almost twice as much. It also encourages water movement and reduces percolation losses, which is why subsurface irrigation is recommended in case of sloping land. Moreover, it requires less manpower: easier distribution of fertilizers, reduced presence of weeds and no maintenance.



Multibar™ C Rootguard™

Sub-irrigation systems



What is sub-irrigation?

Traditional "drip" irrigation systems using driplines are found above the ground. Now, with **ROOTGUARD®** technology, the lines can be buried below the ground surface for a long, trouble-free life, without drippers being clogged by the root area.

Sub-irrigation allows the precise application of water, nutrients, chemicals and other agrochemicals directly to the root area of the plants, thus reducing the volumes of products used, resulting in reduced costs and environmental impact. This allows users to optimise the crop growing environmental conditions and leads to higher quality and quantity of yields.

A system created using **ROOTGUARD®** technology conveys water by capillary action down to a depth of 10 to 75 cm beneath the surface, forming a continuous wet area along the plant rows.

Frequent irrigation cycles maximise the capillary action and minimise water surfacing.

The depth and placement of the driplines depend on the soil composition and the crop needs. Focusing on product quality, reliability and ease of use, Irritec with **ROOTGUARD®** provides the most advanced sub-irrigation technology available on the market today, guaranteeing the best results.

Dripper characteristics

Nominal diameter mm	Flow rate 44/47 mil lph a 2,0 bar	Flow Equation		Minimum working pressure		Recomm. filtering mesh	CV
		k	x	bar	psi		
16	1,10	0,86	0,035	0,5	7,3	155	≤ 4
	1,60	1,51	0,020	0,5	7,3	155	≤ 4
	2,10	2,06	0,020	0,5	7,3	155	≤ 4
	2,90	2,90	0,025	0,5	7,3	155	≤ 4
	3,80	3,65	0,020	0,5	7,3	155	≤ 4
20	1,60	1,53	0,020	0,5	7,3	155	≤ 4
	2,10	2,10	0,020	0,5	7,3	155	≤ 4
	2,90	2,75	0,027	0,5	7,3	155	≤ 4
	3,80	3,55	0,030	0,5	7,3	155	≤ 4

Field of application



Distribution of water after 10 hours with 1 hour of irrigation

Conveying the same amount of water, drip sub-irrigation covers a 46% larger wet volume of soil than a surface irrigation system.

This decreases the saturation point of the soil, not only leaving room for more air, but also improves the capillary movement of the water and decreases water loss by percolation.

ROOTGUARD® sub-irrigation system uses the same components of a surface drip system, including filtration and treatment of water, fertiliser and chemical injection, air release valves, discharge valves and manual or automatic control.

The only and most important difference is the dripline manufactured with **ROOTGUARD®** technology.

Today Irritec® supplies **ROOTGUARD®** technology together with its popular **MULTIBAR™** driplines.

For the hydraulic characteristics of each dripline please refer to the respective technical catalogues.

Dripline technical data

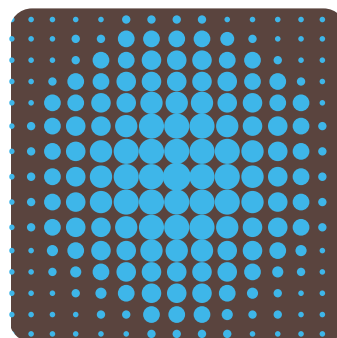
Nominal diameter mm	Internal diameter mm	External diameter mm	Pricelist Ref. -	Thickness		Max working pressure		Kd -
				mil	mm	bar	psi	
16	13,6	15,8	FAMA44	44	1,10	4,0	58	1,00
20	17,5	19,9	FAMB47	47	1,20	4,0	58	0,65

Length recommended in metres, based on working pressure

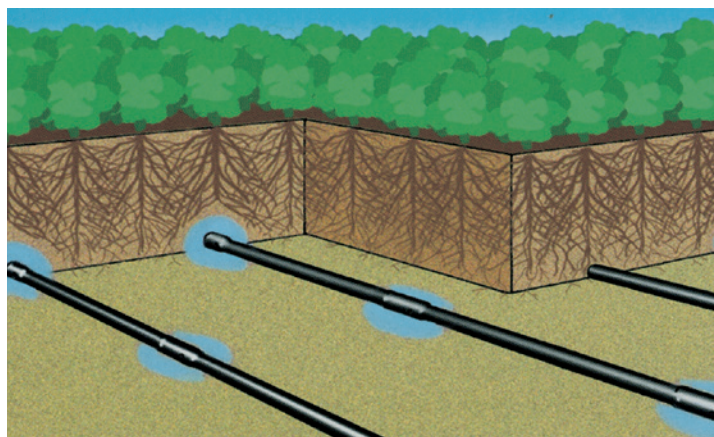
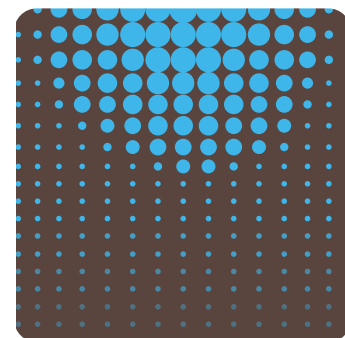
MULTIBAR™ C Rootguard 16 mm					
Flow rate lph	Pres. bar	Spacing (cm)			
		30	50	75	100
1,10	1,0	95	148	206	259
	2,0	142	220	308	386
	3,0	171	265	370	465
	4,0	193	300	418	525
1,60	1,0	73	113	157	197
	2,0	108	168	234	294
	3,0	130	202	282	354
	4,0	146	228	318	400
2,10	1,0	62	96	134	169
	2,0	92	144	200	252
	3,0	111	173	241	303
	4,0	125	195	272	342
2,90	1,0	50	77	107	135
	2,0	74	115	160	201
	3,0	89	138	192	241
	4,0	100	156	217	273
3,80	1,0	42	66	92	115
	2,0	63	98	136	171
	3,0	76	118	164	206
	4,0	85	133	185	233

MULTIBAR™ C Rootguard 20 mm					
Flow rate lph	Pres. bar	Spacing (cm)			
		30	50	75	100
1,60	1,0	133	200	271	334
	2,0	198	297	404	498
	3,0	238	358	486	600
	4,0	271	406	552	680
2,10	1,0	110	165	224	277
	2,0	165	247	335	413
	3,0	198	297	404	498
	4,0	227	340	462	570
2,90	1,0	90	135	184	226
	2,0	134	201	274	337
	3,0	162	242	329	406
	4,0	184	276	375	462
3,80	1,0	77	115	156	193
	2,0	114	171	233	287
	3,0	138	206	280	346
	4,0	155	233	317	391

Sub-irrigation



Surface irrigation



The installation and use manual is available on request of the **ROOTGUARD®** sub-irrigation systems, which can also be downloaded free of charge from the website www.subirrigazione.it - Furthermore, our technical office can provide the technical support necessary to design and install the **ROOTGUARD®** system.



Irritec S.p.A. is a Benefit Corporation

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For further information
download the complete
catalogue.

