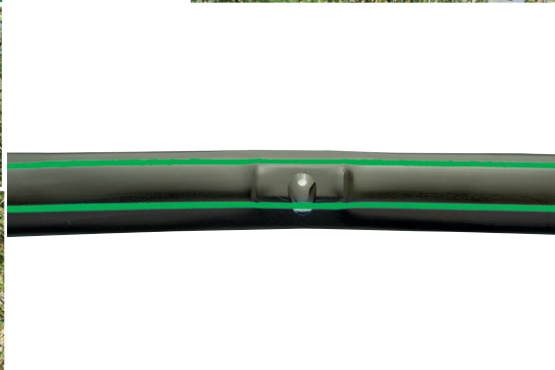


## D4500 PC & AS Drip Line



# Achieve Uniform Flow Rates Over Flat and Sloping Ground

## Rivulis D4500 PC & AS Flow Regulating Drip Line

- Maintains constant flow over wide pressure ranges and sloping terrain
- Designed using computational fluid dynamics modeling
- Anti-siphon (AS) option for additional protection to your subsurface irrigation system

# Rivulis D4500 PC & AS

Constant flow over wide pressure ranges.  
Irrigate sloping terrain with constant flow.

- Uniform crops
- More efficient irrigation
- Irrigate longer run lengths with uniformity



## Start Of Vineyard Row

**Elevation:** 5.0 m

**Pressure:** 1.5 bar (the pressure at start of lateral)

**Actual flow rate for 2.0 l/h Non-PC drip line:** 2.0 l/h

**Actual flow rate for 2.0 l/h Rivulis D4500 PC/AS**

**D4500 PC/AS drip line:** 2.0 l/h

## End Of Vineyard Row

**Elevation:** 0.0 m (variation -5.0 m)

**Lateral length:** 125 m

**Pressure:** 1.9 bar (increased pressure due to gravity)

**Actual flow rate for 2.0 l/h Non-PC drip line:** 2.5 l/h (+25%)

**Actual flow rate for 2.0 l/h Rivulis D4500 PC/AS**

**D4500 PC/AS drip line:** 2.0 l/h (constant)

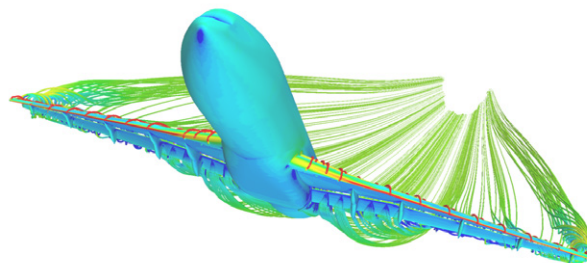
# Rivulis D4500 PC & AS: Designed Using Computational Fluid Dynamics (CFD) Modeling

Computation fluid dynamic modeling (CFD) utilizes advanced computer modeling and algorithms to calculate fluid flows.

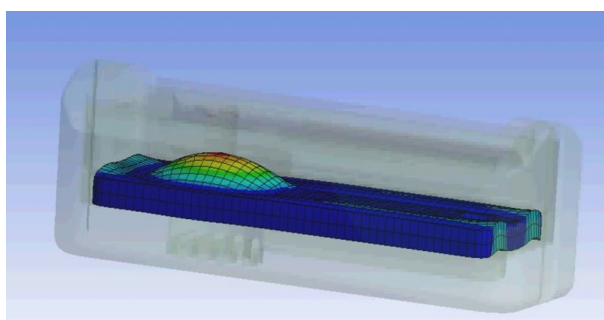
CFD is used commonly in the aerospace industry with initial 3d software development by NASA.

**Now this advanced method of fluid modeling has been used to develop the Rivulis D4500 PC / AS emitter.**

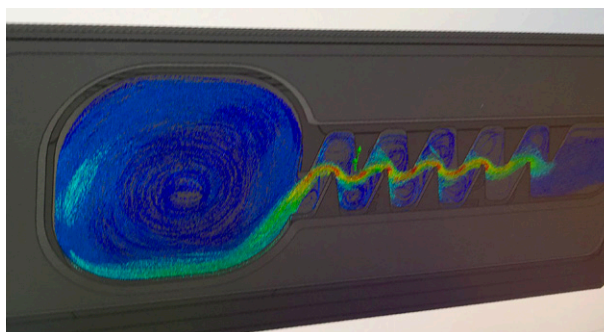
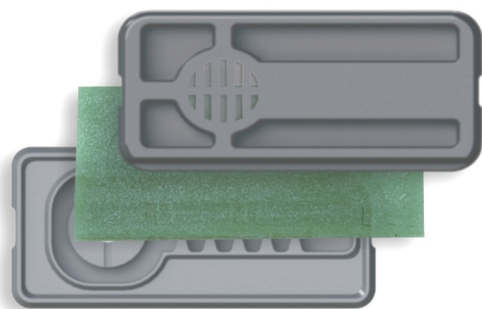
Using state of the art technology, the Rivulis R&D team are able to model water within the emitter to design a drip line that provides constant flow over wide pressure ranges, while also minimizing the risk of clogging.



CFD modeling in the aerospace industry



CFD modeling of Rivulis D4500 PC diaphragm



CFD modeling of Rivulis D4500 PC flow path simulation to maximize fluid turbulence

## Rivulis D4500 AS (Anti-Siphon)

In conditions where risk of soil ingestion at shut-off is high, Rivulis D4500 AS protects you through anti-siphon diaphragm technology.

When there is negative pressure in the hose (i.e. a vacuum caused at system shut-off), the membrane lowers against the inlet filters, which in turn slows the reverse of water. The stronger the vacuum, the stronger the seal that is made.

**Rivulis D4500 AS – additional protection to your subsurface irrigation system.**

# D4500 PC & AS Drip Line



## Rivulis D4500 PC & AS Technical Data

Nominal Ø	Wall Thickness		Internal Ø	Drip Line Coiling	Maximum Operating Pressure	Roll Length (according to emitter spacing)	Flow Rate	Maximum Run Length x Spacing Between Emitters (cm) on Flat Ground								
	(mm)	(mil)						(mm)	15	20	30	40	50	60	70	75
(mm)	(mm)	(mil)	(mm)		(bar)	(m)	(l/h)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
16	0.38	15	16.1	Flat	2.1	850 (20 cm)	1.0	133	170	237	297	353	405	453	467	586
						900 (25 cm)	2.0	85	108	152	190	227	260	291	306	376
						950 (≥30 cm)	2.0	85	108	152	190	227	260	291	306	376
	0.45	18	16.1	Flat	2.3	750 (20 cm)	1.0	136	174	243	305	362	415	465	488	601
						800 (≥30 cm)	2.0	86	111	155	195	232	265	298	313	385
	0.89	35	14.2	Flat	3.0	450 (≥30 cm)	1.0	116	149	211	268	320	368	414	437	539
2.0							73	95	134	170	204	235	265	278	346	
1.02		40	14.2	Round	3.5	500 (≥15 cm)	1.0	124	159	225	285	341	393	442	466	576
							2.0	78	101	143	182	218	251	282	297	369
17	0.64	25	16.1	Flat	2.5	650 (20 cm)	1.0	143	183	256	321	382	437	490	515	633
						650 (25 cm)	2.0	91	116	163	205	244	280	314	330	406
						650 (≥30 cm)	2.0	91	116	163	205	244	280	314	330	406
	0.89	35	16.1	Flat	3.0	400 (≥30 cm)	1.0	155	198	277	348	413	474	531	558	686
2.0							98	126	176	222	264	302	340	358	440	
20	1.02	40	17.5	Round	3.5	400 (≥15 cm)	1.0	209	264	364	452	533	608	678	712	869
							2.0	133	168	232	289	341	389	434	456	558
	1.14	45	17.5	Round	3.5	400 (≥15 cm)	1.0	209	264	364	452	533	608	678	712	869
							2.0	133	168	232	289	341	389	434	456	558
22	0.45	18	22.2	Flat	1.8	Consult	1.0	237	299	410	508	598	680	758	796	970
							2.0	151	190	262	325	382	436	486	510	622
23	0.64	25	22.2	Flat	2	450 (≥15 cm)	1.0	249	314	431	535	629	716	799	838	1021
							2.0	158	200	275	342	403	459	512	537	655

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