Nevada Irrigators

Specialist provider of
DAIRY EFFLUENT EQUIPMENT

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Sustainable Effluent Management

What Type of Irrigator is Best for My Farm

There is no one word answer for what type of irrigator is best for your farm, but there are aspects to consider that can help determine the best fit for your dairy effluent management.

Labour Availability

The first aspect to consider is labour availability. What skill set does the staff already have on the farm? How manageable is the workload? Whether it is seasonal or there are a few hours available every day, understanding the workload can help determine the best irrigator for farm efficiency.

While farm workers can range in their skill sets, a traditional travelling irrigator. The Greenback Magnum is one of the most reliable and recommended options due to the easy set up. With less concern of potential issues, the greenback irrigator makes the process easy for limited skill staff and when workload varies seasonally.

Seasonal Workload

If farmers only have a window of opportunity every few months, it is easier to take on a concentrated effort of effluent management tasks using a drag hose system with a Nevada RainWave™ applicator as an option. A drag hose system offers a great option when effluent is managed intermittently throughout the year. It makes it easy to empty the pond every two months and is best suited for a seasonal workload.

Topography

The other aspect to consider when choosing the best irrigator is the topography on the farm. Whether the farm is hilly or flat, the topography affects the way the effluent can be spread. The topography also includes the size of the farm and the varying size of paddocks. If the farm has a big paddock, then the irrigator needs to be able to cope with the volume of effluent that is being produced. The best irrigator in this case could be a travelling irrigator, such as a greenback magnum, or another type of cannon irrigator to be able to spread high volumes of effluent.

Storage

The size of effluent storage also makes a difference when choosing an irrigator. Calculate out how much storage your farm needs with a DESC. If the farm has a larger storage pond and a big irrigator, then it is suited for high volumes. However, if the system includes pumping from a sump or a small storage facility, it is important that the irrigator is not too big. Otherwise, the storage will be sucked dry too quickly.

Contour

If the farm is hilly, there is the need to have a low application irrigator to try and reduce the incidence of runoff. It is common on a hilly farm to have a stationary rain gun, however, keep in mind that a rain gun needs to be shifted frequently or turned off for a period of time to allow the effluent to soak in before turning on again. If the farm is hilly, remember not to make a decision based on your neighbour or anyone else. Talk directly to a specialist first who can recommend the right resources and equipment that are suited to your specific farm.

Common Mistakes

A common mistake in selecting an irrigator is overlooking the fact that the irrigator, the pump, and the pipeline all need to be considered together when making a choice. Small pumps will not drive big irrigators and big pumps will not necessarily drive irrigators if there is only small pipework. It is not possible to increase the size of the pump if the pipe is too small, it simply will cause hassle and lack of reliable flow. Ask for help from a specialist to ensure the irrigator of choice will work alongside the pump and pipeline that may already be in place. When making big changes, make sure to ask first before any installation.

Time Efficiency

Another common mistake is overlooking how long it takes to set up an irrigator and shift it. It is common among farms to choose a travelling irrigator because everyone else has a travelling irrigator, not necessarily because it is the most suitable to the specific farm. The amount of time it takes to shift a travelling irrigator is comparable per cubic metre of effluent applied to driving a slurry tanker or using a drag hose system, which is why it is important to consider all options when making an investment on the best irrigator for the farm.

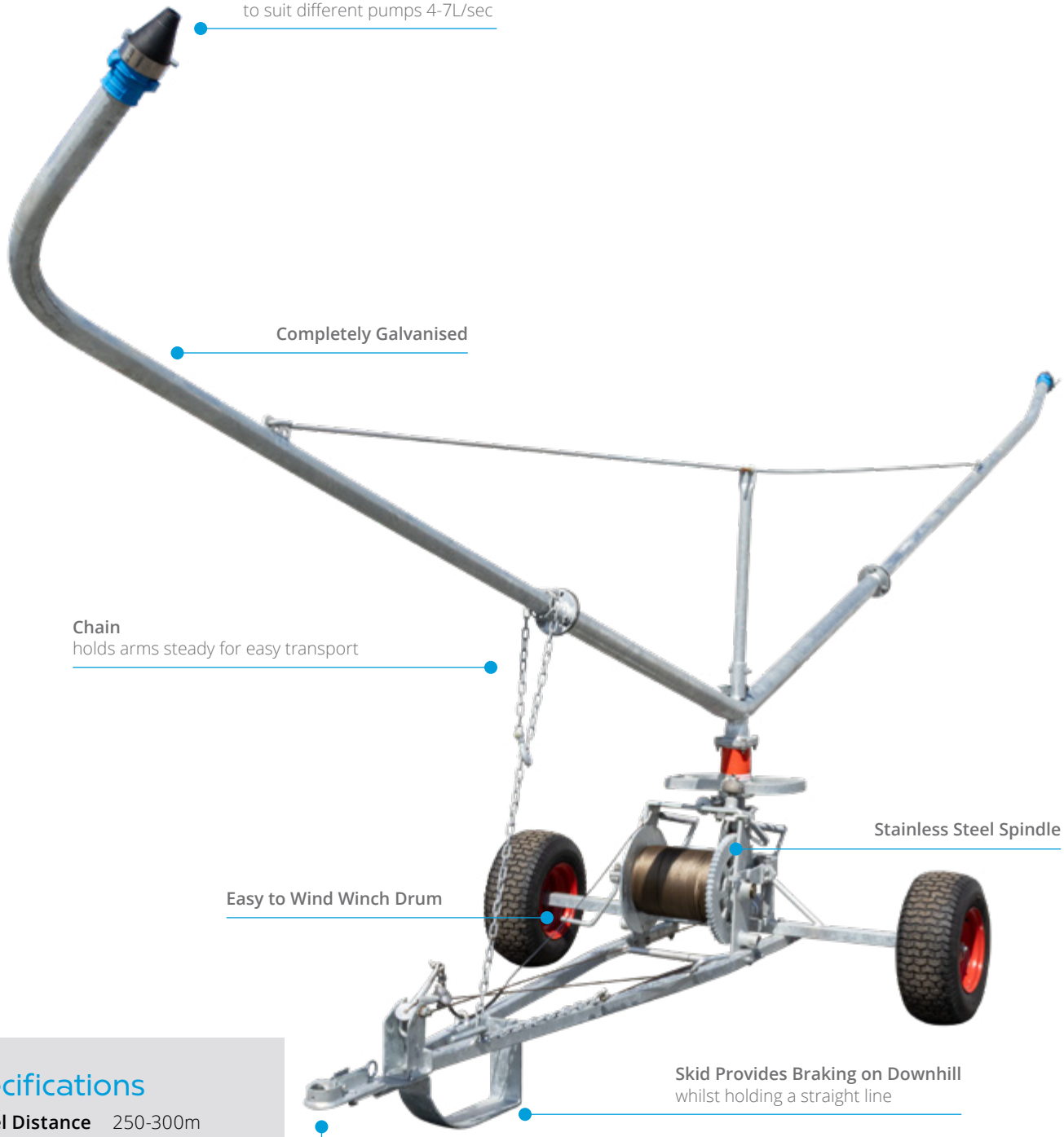
Capacity

A third common mistake is not considering the handling capacity. If there is a feed pad or a high volume of solids coming through the effluent, then the irrigator needs to be able to cope with the amount of solids. Some of the modern rain gun type irrigators have turbines or pelton wheels in them and these are not suited to cope with solids very well. The greenback magnum is better for this. If there is a high concentration of solids in the effluent, spreading with a RainWave™ Drag Hose System or Hard Hose Reel is the better option.

However, a healthy effluent storage system that is stirred thoroughly and frequently with a effluent pond stirrer, can assist in the breakdown of solids. Nevada also recommends thoroughly stirring your effluent prior to spreading.

Get a specialist assessment to optimise your effluent system and find the best irrigator for your farm. Chat with us today.

Spider Deluxe Travelling Irrigator



Specifications

Travel Distance	250-300m
Travel Speeds	4
Spreading Width	20-35m
Boom Width	6m
Min Pressure	2bar
Max Pressure	6bar
Max Draghose	75mm od
Flow Rate L/hr	15,750 - 25,755

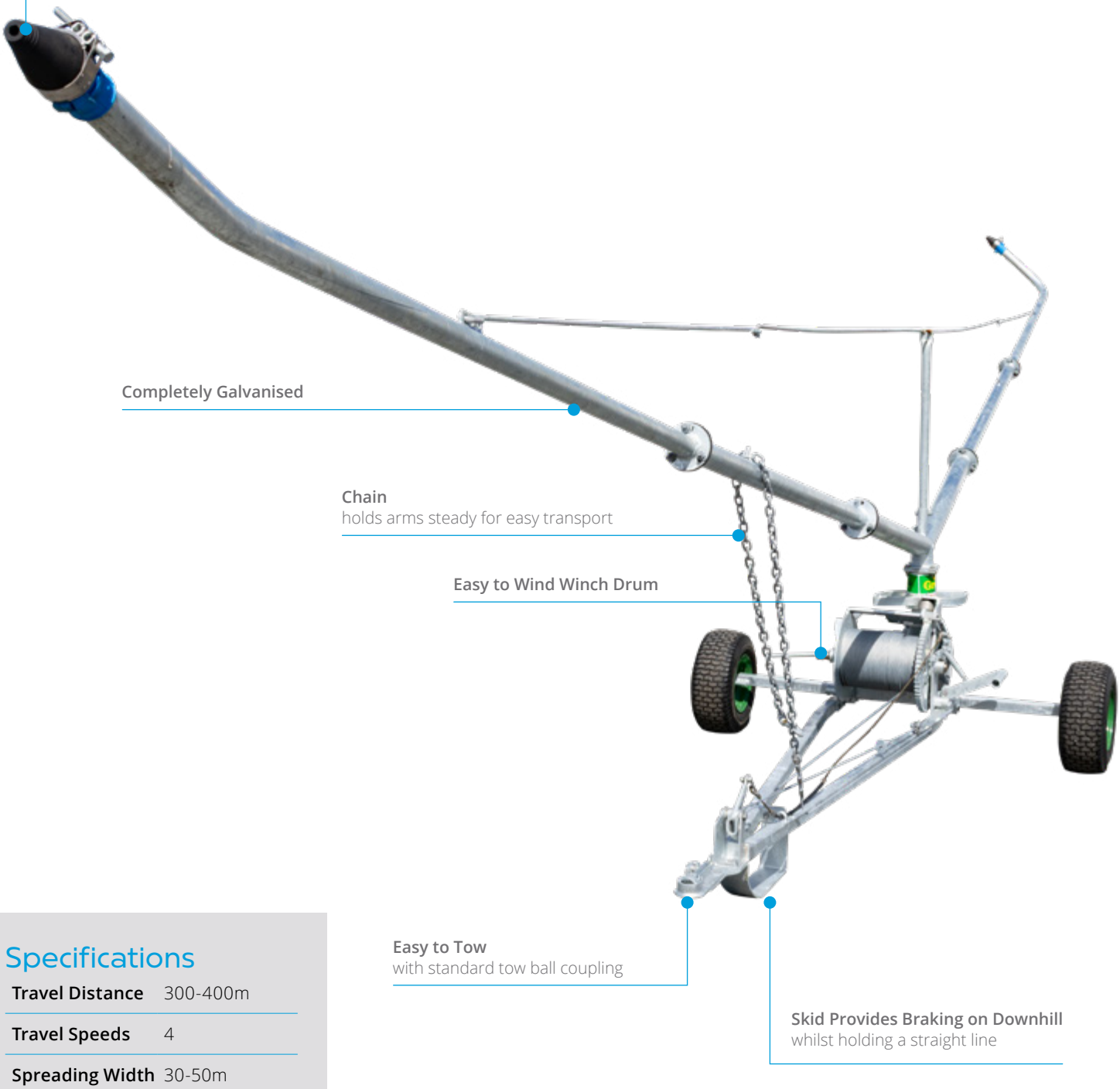
Suits Most Average Sized Farms

The Spider Deluxe travelling irrigator is designed to operate with a 7.5 – 20hp effluent pump which suits most average sized farms. The Deluxe is a proven travelling irrigator with 1000+ worldwide. Available in stainless steel, galvanized wire or spider web synthetic rope, with lengths of 250 or 300 metres.

		30psi		40psi		50psi	
		Average Application Depth	Travel Speed Metres/Minutes	Average Application Depth	Travel Speed Metres/Minutes	Average Application Depth	Travel Speed Metres/Minutes
Teeth taken per revolution	2	24	0.60m/min	24	0.53m/min	26	0.70m/min
	4	12	1.20m/min	12	1.10m/min	13	1.30m/min
	6	9	1.60m/min	8	1.80m/min	9	2.00m/min
	8	6	2.00m/min	5	2.15m/min	7	2.40m/min
		Approx. Flowrate: 15750L/Hr Wetted Diameter: 25m		Approx. Flowrate: 19625L/Hr Wetted Diameter: 28m		Approx. Flowrate: 25755L/Hr Wetted Diameter: 34m	

** Results from testing with assistance from Massey University. These tests have been done using liquid from an effluent pond to give the most accurate results possible. This information should only be used as a guideline.*

Greenback Spider Travelling Irrigator



Specifications

Travel Distance	300-400m
Travel Speeds	4
Spreading Width	30-50m
Boom Width	9.0m
Min Pressure	2bar
Max Pressure	6bar
Max Draghose	90mm od
Flow Rate L/hr	19,625 - 30,120

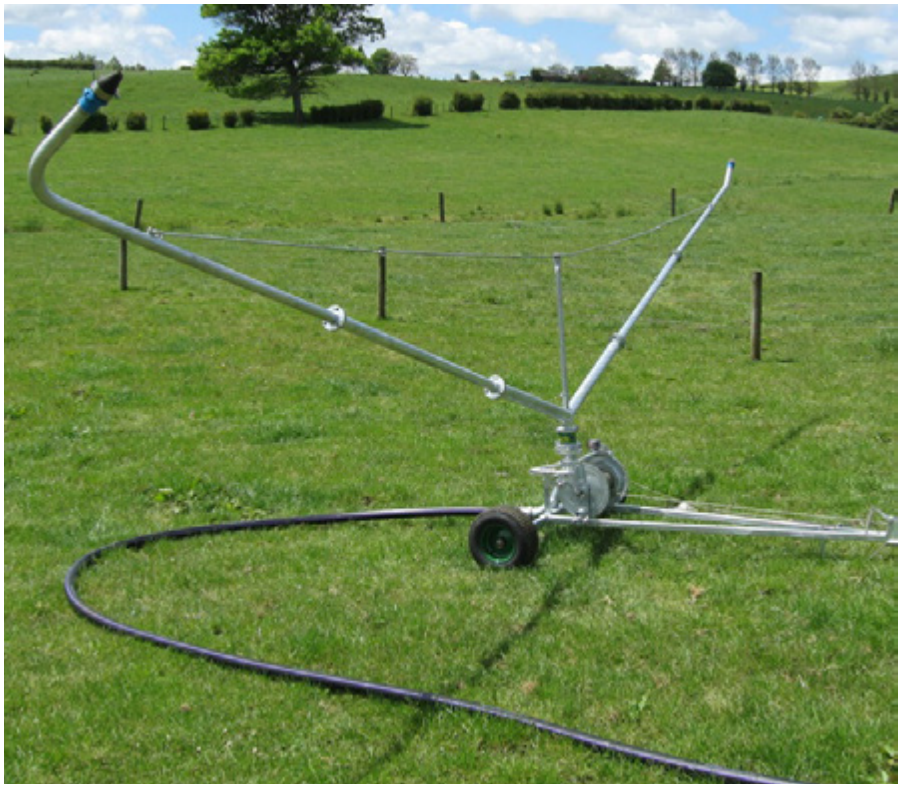
Designed for reliability and simplicity

Boost pasture growth by harnessing your farm's natural nutrients. The Greenback Spider's smart, efficient design and easy five-speed travel system give you precise control over application depths (up to 5 mm), ensuring nutrients are used where they matter most for stronger, more productive pastures.

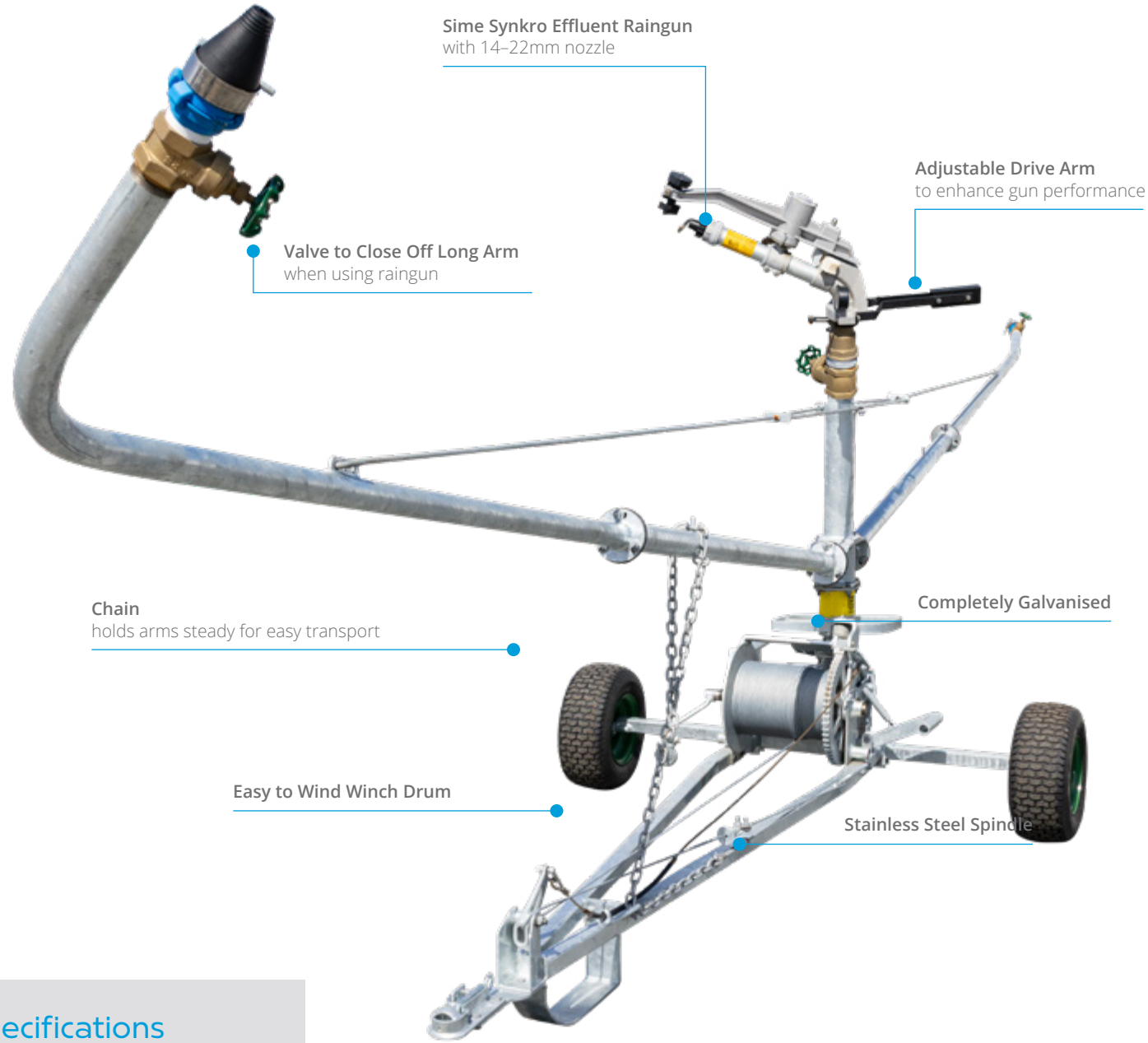
Pressure at Irrigators with 13mm nozzles

		30psi		40psi		50psi	
		Average Application Depth	Travel Speed Metres/Minutes	Average Application Depth	Travel Speed Metres/Minutes	Average Application Depth	Travel Speed Metres/Minutes
Teeth taken per revolution	2	35	0.30m/min	36	0.40m/min	39	0.40m/min
	4	17	0.60m/min	18	0.75m/min	20	0.80m/min
	6	13	1.05m/min	14	1.10m/min	25	1.20m/min
	8	9	1.60m/min	9	1.65m/min	10	1.60m/min
	10	5	2.00m/min	5	2.10m/min	6	2.20m/min
		Approx. Flowrate: 19,625L/Hr Wetted Diameter: 34m		Approx. Flowrate: 25,755L/Hr Wetted Diameter: 38m		Approx. Flowrate: 30,120L/Hr Wetted Diameter: 42m	

** Results from testing with assistance from Massey University. These tests have been done using liquid from an effluent pond to give the most accurate results possible. This information should only be used as a guideline.*



Greenback Magnum Travelling Irrigator



Specifications

Travel Distance	300-400m
Travel Speeds	5
Spreading Width	30-80m
Boom Width	7.5m
Min Pressure	2bar
Max Pressure	6bar
Max Draghose	90mm od
Flow Rate L/hr	17,640 - 51,360

Powerful Nevada spec'd irrigator

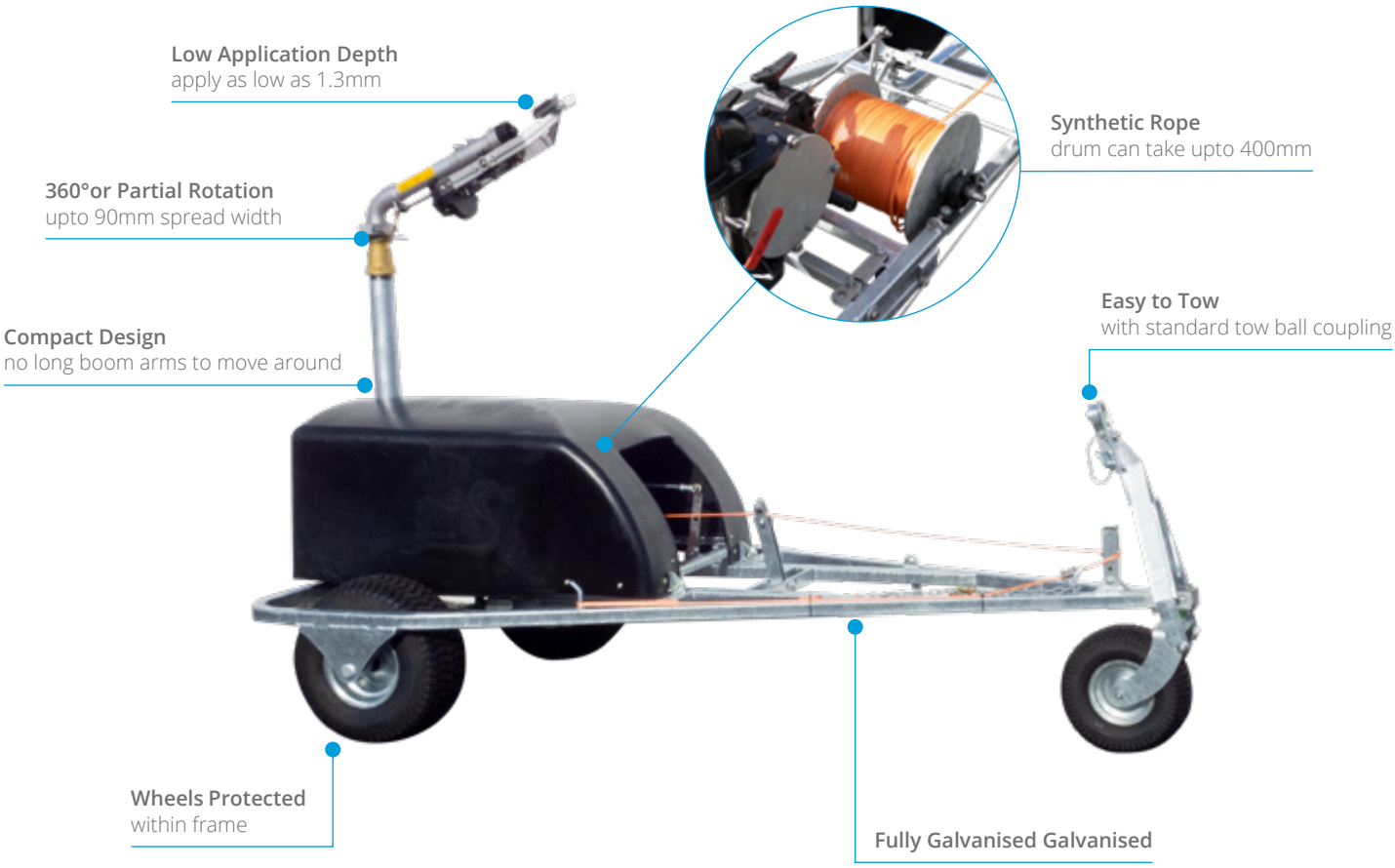
The Nevada Spec'd Greenback Magnum irrigator, incorporates a traditional travelling irrigator, with added value of the powerful Sime Synkro effluent rain gun. With a wetted width more than twice as wide as a traditional travelling irrigator, the Magnum offers a minimum application depth of 3mm.

The following tables provide a guide to Magnum application rates[1].

Pressure at irrigator (PSI)	Irrigator Nozzle (mm)	Synkro Nozzle (mm)	Flow Irrigator (l/min)	Flow Synkro (l/min)	Flow Total (l/min)	Radius (m)	Avg App Rate (mm/hour)	App Depth (mm)
30	13 Hard	14	120	174	294	25.5	8.64	2.16
44	13 Hard	14	152	212	364	30	7.72	1.60
58	13 Hard	14	169	245	414	34	7.05	1.59
30	13 Hard	16	120	226	346	27	9.06	1.73
44	13 Hard	16	152	276	428	32	7.98	1.74
58	13 Hard	16	169	320	489	36	7.21	1.72
73	13 Hard	16	180	356	536	39	6.73	1.71
30	13 Hard	18	120	286	406	29	9.22	1.86
44	13 Hard	18	152	350	502	34	8.29	1.90
58	13 Hard	18	169	404	573	38	7.58	1.89
73	13 Hard	18	180	452	632	42	6.84	1.84
30	13 Hard	20	120	354	474	31	9.42	2.01
44	13 Hard	20	152	432	584	36	8.61	2.06
58	13 Hard	20	169	501	670	40	8.00	2.07
73	13 Hard	20	180	560	740	44	7.30	2.03
44	13 Hard	22	152	522	674	37	9.40	2.30
58	13 Hard	22	169	604	773	42.5	8.17	2.21
73	13 Hard	22	180	676	856	45	8.07	2.28

** These tests have been conducted using liquid from an effluent pond to give the most accurate results possible. This information should only be used as a guideline.*

King Cobra Travelling Irrigator



Specifications

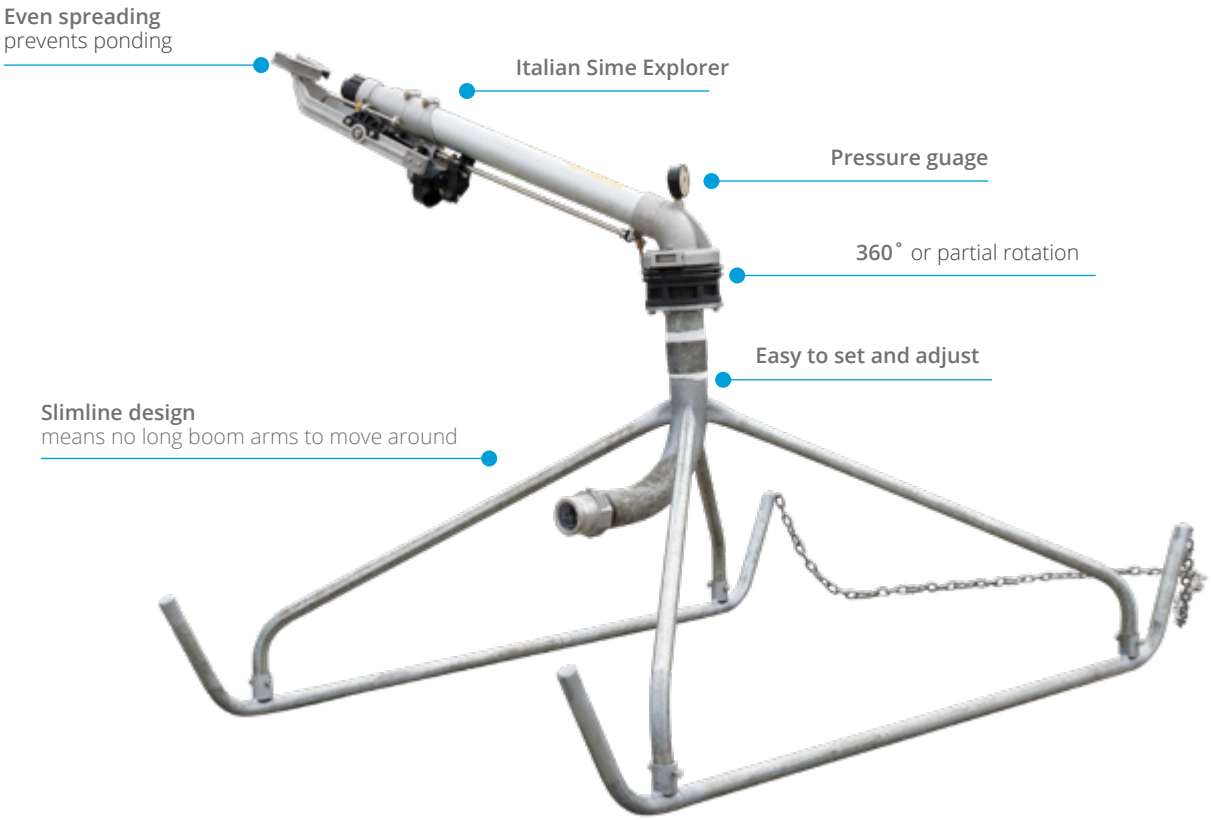
Travel Distance	300-400m
Travel Speeds	6
Spreading Width	23-48m
Min Pressure	2bar
Max Pressure	4.8bar
Max Draghose	75mm od
Flow Rate L/hr	9,000 - 44,000

Targeted direction, ideal for hillsides

Spreads over large distances, is easy to move around and set-up plus it allows targeted directional irrigation, ideal for hillsides.

Nozzle Size (mm)	Pressure @ Irrigator (psi)	Pressure @ Gun (psi)	Jet Length (m)	Volume (M^3/hr)	Application Rate (mm/hr)	Application Depth (mm)
14	50+	32 - 56	23 - 33	9 - 15	4.2 - 5.4	1.3 - 7.8
16	50+	30 - 70	27 - 39	13 - 21	4.4 - 5.8	1.6 - 9.5
18	50+	30 - 70	29 - 42	17 - 27	4.9 - 6.4	1.9 - 11.4
20	50+	30 - 70	31 - 44	21 - 33	5.5 - 7	2.3 - 13.4
22	50+	30 - 70	37 - 48	31 - 44	6.1 - 7.2	2.7 - 16.3

Skid Mounted Rain Gun



A popular choice to pump large volumes quickly.

Nevada's simple skid-mounted Rain Gun is a popular choice when needing to pump large volumes quickly, handling up to 165,000L/hr. Ideal for poor draining soils or sloping land, this stationary rain gun can provide low application depths and rates to reduce the risk of run-off and ponding.

Specifications

Spreading Width	40-78m
Min Pressure	3bar
Max Pressure	7.9bar
Max Draghose	76-150mm od
Flow Rate L/hr	30,000 - 165,000

Fertigator™

Optional Tow Kit
for towing with a farm bike

The Fertigator™ is a portable effluent irrigation solution, manufactured in New Zealand especially for local farming conditions.

Spreading effluent straight from the pond or sump, you can say goodbye to common irrigator issues like run-off, ponding, and groundwater contamination. Simply connect with your pump and drag hose, and away you go!

Hook up the optional tow kit to your farm bike or tractor and the Fertigators™ are easily movable, making them perfect for any size farm. With a wide 700mm diameter base for stability, the Fertigator™ will glide over both flat land and steeper areas without toppling over, and will always maintain consistent spread.

Nevada Fertigators™ suit both small and large pumps, and can be used in conjunction with a traveling irrigator if required. With 10mm, 12mm, or 14mm nozzles, blockages are minimised, allowing you to get the job done more efficiently. What's more, the gun is made from metal, not plastic, for long term reliability.

Features

- Low application rate.
- 50m of drag hose between units (not included).
- Up to 1500m² coverage (at 45psi).
- Can be used with both small and large pumps.

Specifications

Base Width	700mm Ø
Spreading Width	25-43m
Min Pressure	2bar
Max Pressure	4.9bar
Max Draghose	63mm od
Flow Rate L/hr	6,600 - 18,500 (per Fertigator™)

Fertigator™ application rates[1].

Nozzle (mm)	Pressure (psi)	Flowrate (L/min)	Wetting Ø (m)	Coverage (m^2)
14mm	25	156	33.4	876
	30	171	36.5	1046
	35	180	39.3	1213
	40	184	41.8	1372
	45	188	43.9	1513
12mm	25	108	31.6	784
	30	120	34.6	940
	35	130	37.2	1086
	40	138	39.5	1225
	45	142	41.4	1346
10mm	25	75	28.0	615
	30	84	30.1	711
	35	91	32.0	804
	40	96	33.7	892
	45	100	35.2	973

[1] As tested by an independent dairy effluent consultant. Actual rates may vary, depending on the system and conditions.

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