

ASPERSIÓN

**Capacitación Distribuidores Sureste
Villahermosa, Tabasco 2022**

Aspersión y microaspersión



Netafim ofrece una amplia gama de aspersores, microaspersores y emisores para una amplia gama de aplicaciones.

Dividimos nuestros aspersores en tres segmentos principales: **Campo abierto**, **Huertos** y **Cultivos Protegidos**

En cualquier segmento debemos seleccionar cuidadosamente el producto adecuado de acuerdo con la aplicación requerida para lograr el mayor rendimiento y un diseño óptimo.



Clasificación



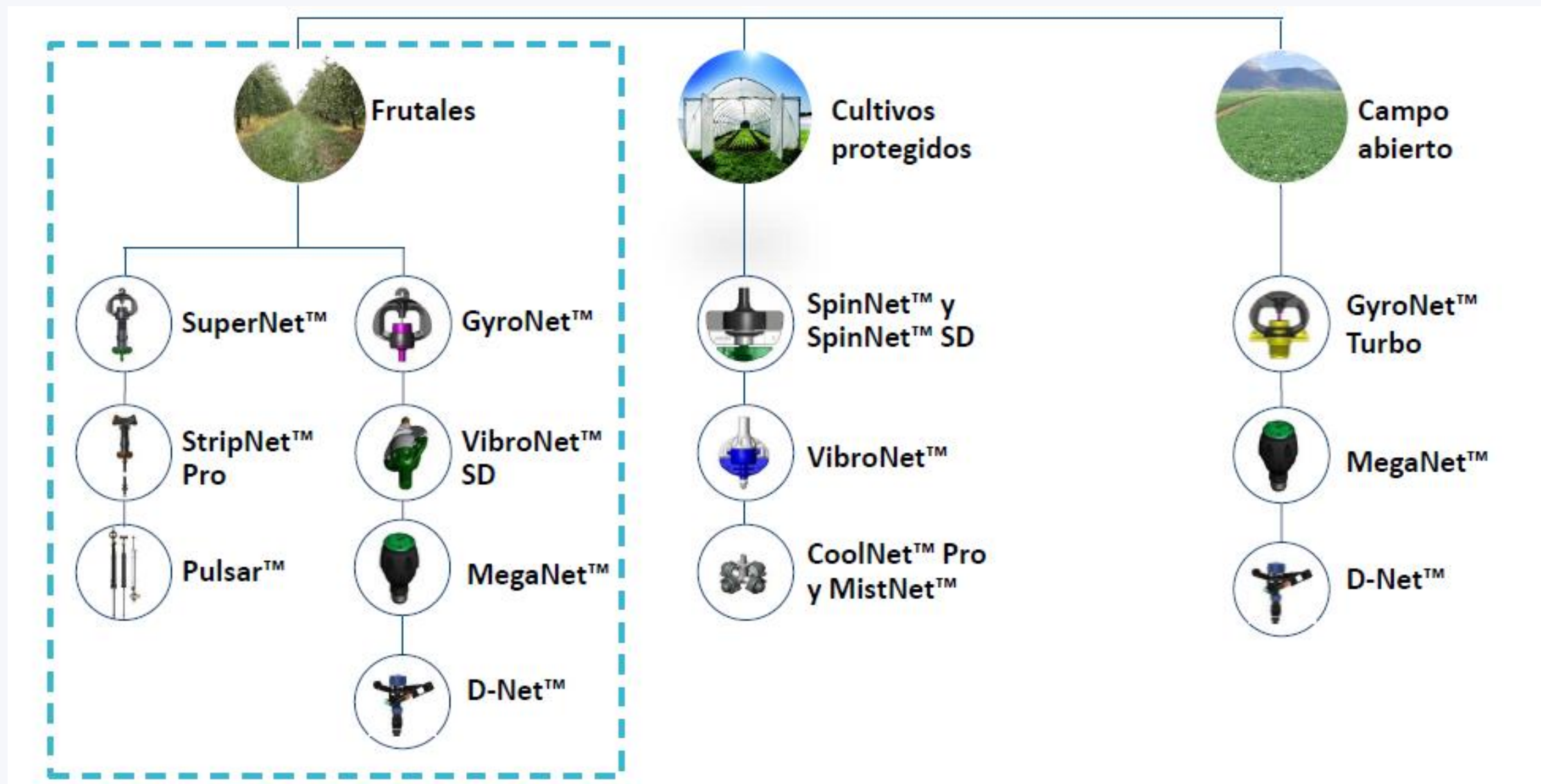
En cada segmento, hay diferentes necesidades y requisitos.

En **campo abierto**, la principal aplicación de aspersores son la germinación y el riego de cultivos de hileras de hortalizas como papas, zanahoria, cebolla, ajo, brócoli, etc.

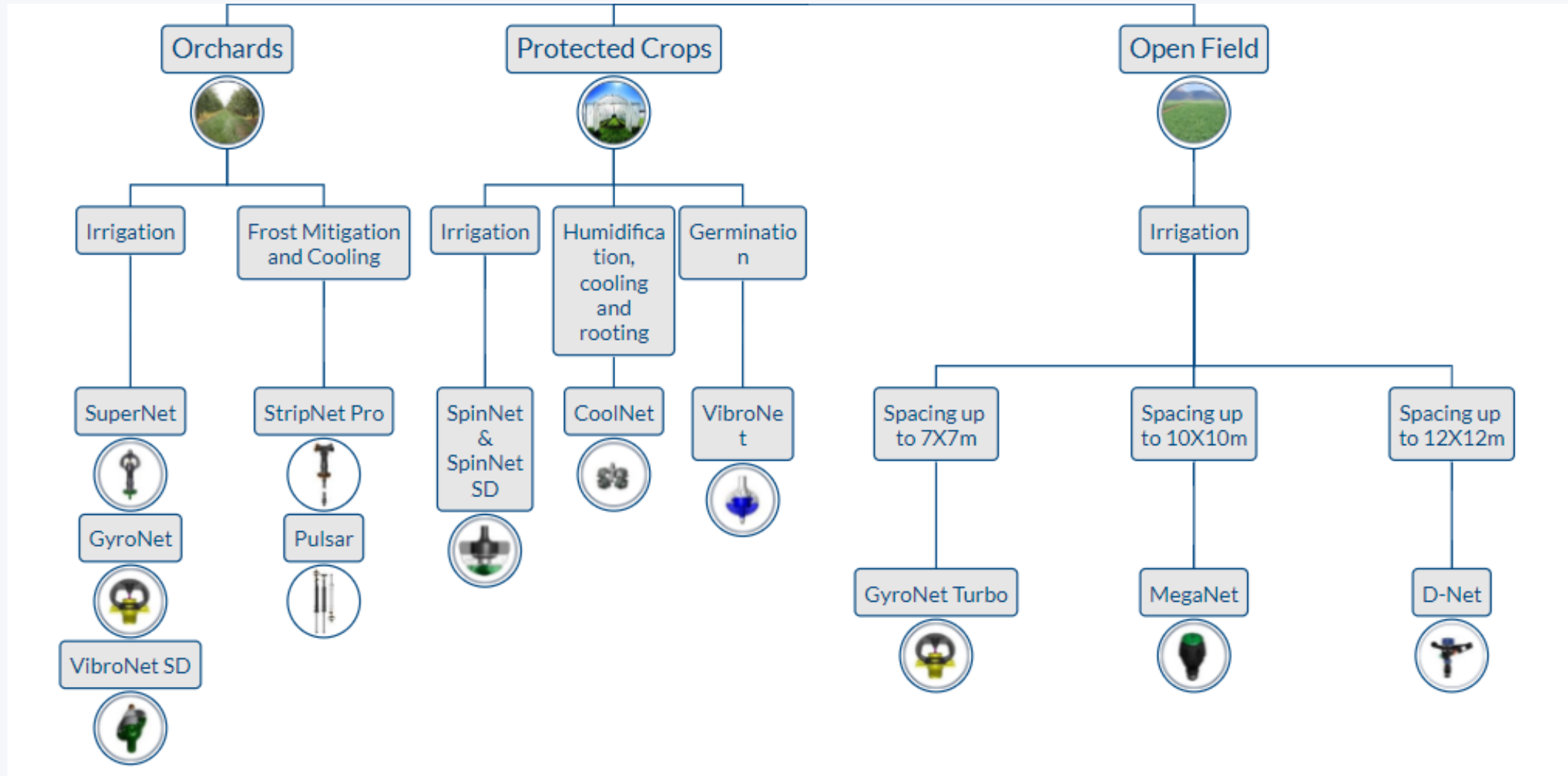
En **huertos**, utilizamos micro-aspersores y aspersores para varias aplicaciones, como: bajo riego de árboles, mitigación de heladas, enfriamiento, humidificación de huertos y hojas y limpieza de polvo.

En **cultivos protegidos**, como: invernaderos, túneles, casas de red y viveros abiertos, utilizamos micro-aspersores y micro-emisores para riego invertido, germinación, enfriamiento, humidificación y enraizamiento.

Netafim divide en 3 segmentos principales la aspersión



Netafim divide en 3 segmentos principales la aspersión



En aplicaciones de campo que requieren superposición entre aspersores, es importante verificar que el agua aplicada se distribuya uniformemente sobre la zona regada

UNIFORMIDAD DE DISTRIBUCIÓN DE AGUA



Existen tres índices que representan la uniformidad en la distribución del agua: CU, DU y S.C.

- **CU (Coeficiente de Christiansen)** - el %CU es una medida de uniformidad, expresado como la tasa promedio (%) de desviación del promedio general solicitud. (EU)*
- **DU (Uniformidad de Distribución)** - el %DU es una medida de uniformidad, basada en la comparación del 25% más seco del área encuestada con el promedio general aplicación neta.
- **SC (5%) (Coeficiente de programación)** es un multiplicador de tiempo de ejecución. es la cantidad de tiempo que se necesita para regar en exceso para lograr la tasa de aplicación promedio de la toda el área en la parte más seca del 5% del área irrigada.

NOTAS

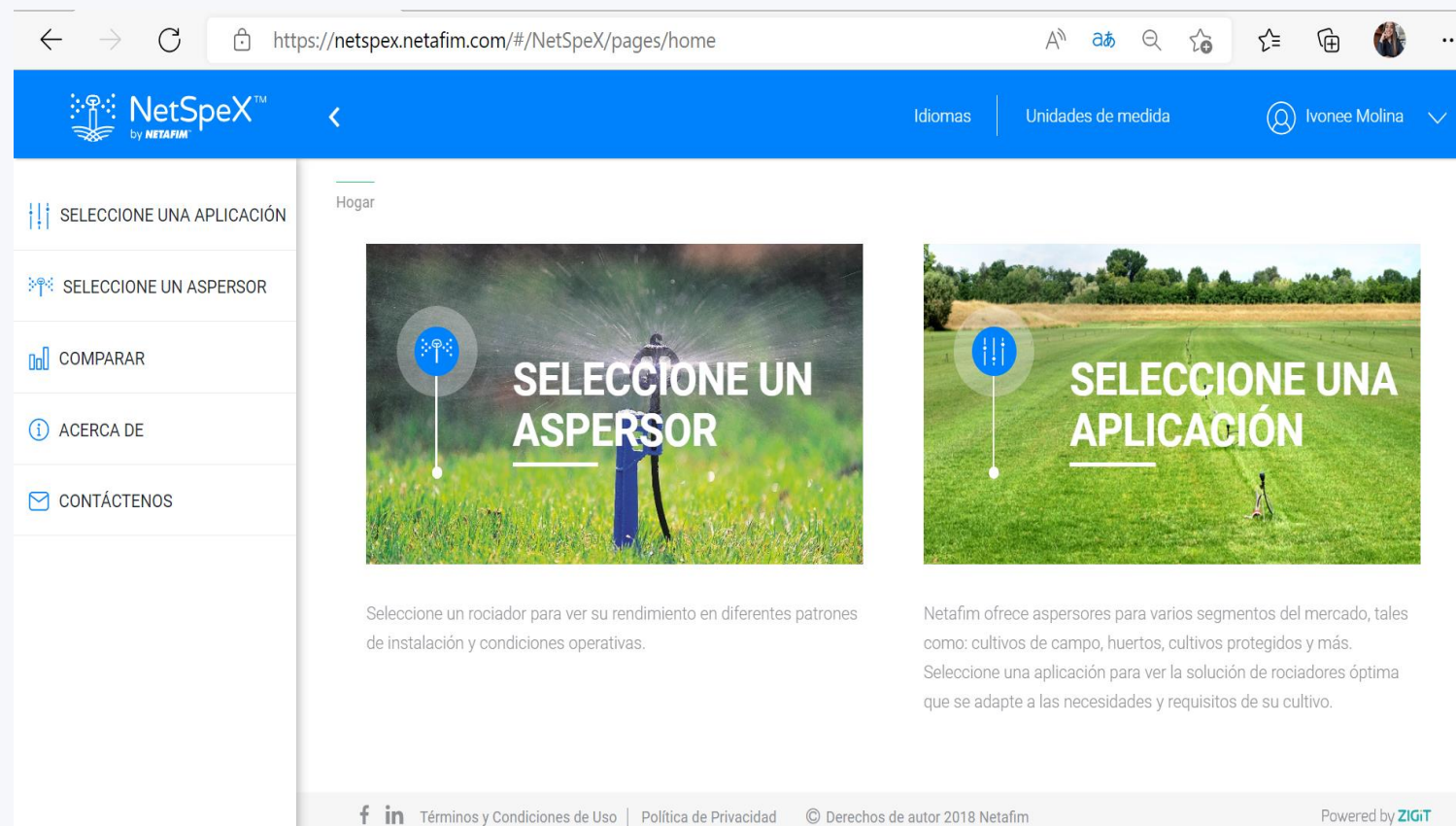
- A mayor CU y DU (100%), mayor uniformidad en la distribución del agua. Cuanto menor sea el SC (1.0), mayor será la uniformidad en la distribución del agua.
- **Varios factores influyen en la uniformidad de la distribución del agua:**
 - tipo de aspersor
 - caudal del aspersor
 - presión de entrada
 - ángulo del aspersor
 - altura sobre la superficie
 - posición del aspersor (vertical/invertido)
 - distancia de instalación entre aspersor
- Para calcular CU/DU/SC para cada caso, puedes utilizar la aplicación NetSpeX™.



NetSpeX™ es una herramienta inteligente para productos de rociadores, que proporciona al usuario el rendimiento de los rociadores en varios patrones de instalación y condiciones de funcionamiento.

Permite al usuario encontrar el producto, el espaciado y la instalación óptimos de acuerdo con la aplicación de campo requerida.

Se puede acceder a la herramienta a través de la web y las aplicaciones móviles.



Es compatible con navegadores web: Google Chrome, Edge Explorer, Firefox y Safari.

QUE ES IMPORTANTE CONSIDERAR CUANDO SE ELIGE UN MICRO-ASPERSOR?



- ✓ Presión de trabajo
- ✓ Altura del emisor
- ✓ Uniformidad de distribución
- ✓ Tasade precipitación
- ✓ Tasade infiltración del suelo
- ✓ Pérdida por evaporación durante el riego
- ✓ Máxima longitud de tubería
- ✓ Pérdida de presión en el micro-tubo/ elevador del emisor

RECURSOS



SuperNet™ LR & LRD

LONG RANGE & LONG RANGE WITH DEFLECTOR

Irrigation of tree plantations with large root volumes.



Pressure
Compensated



Reduces
Maintenance



Higher Reliability &
Longevity

Applications



Under tree
irrigation as
single head



Orchards frost
mitigation



Orchards
cooling

Benefits & Features

Ensures higher crop uniformity

- Thanks to a unique design of pressure compensation mechanism and special design of the sprinkler swivel and water channel

Achieves optimal results in a varied topography area

- With a unique pressure compensated mechanism, the SuperNet™ LR & LRD ensures uniform water and nutrient distribution around the tree, regardless of sprinkler's inlet pressures (within pressure range)

Reduced maintenance and higher reliability & longevity

- The water passage area is 30% larger (depending on the flow rate) than industry standard eliminates clogging issues
- Anti-ant mechanism preventing insect penetration into the area of the micro sprinkler nozzle
- Special raw materials made the SuperNet resistant to all agrochemicals & weather conditions

*Note: Filtration method shall be selected based on the type and concentration of the dirt particles contained in the water. Whenever sand exceeding 2 ppm exists in the water, a Microstrainer shall be installed before the main filter. Whenever sand/ silt/ clay exists exceed 100 ppm, pre-treatment shall be applied according to Netafim™ instructions.

Specs. & Recommendations

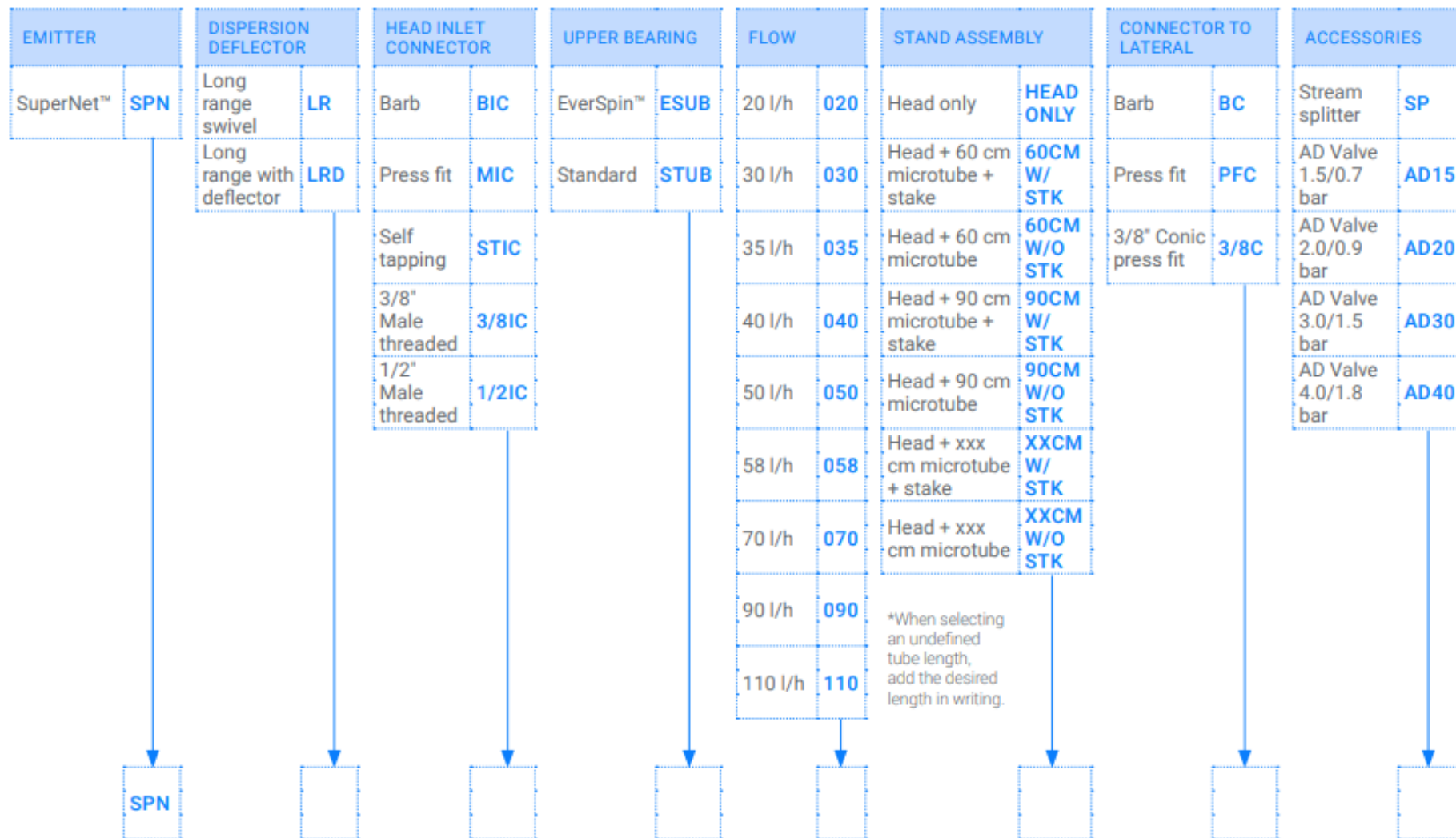
- LR is a dynamic swivel irrigating a Long Range area as single head
- LRD, Long Range with Deflector. The stream deflector concentrates all the water in the area close to the young tree, and it can be broken, allowing for extended irrigation diameter
- **9 different flow rates:** 20, 30, 35, 40, 50, 58, 70, 90, 110 l/h. (Flow rates within pressure range)
- **Pressure range:** 1.5-4.0 bar
- **5 types of inlet connectors:** Barb, Self-tapping, Press fit, 1/4", 1/2" male threaded
- **3 types of upper bearing:**
Standard = STUB - for normal water
Everspin™ = ESUB - for harsh conditions
Spring = SPUB, for upside-down installation
- LR swivel colored Purple for flows 20-40, and Black for 50-110
- The regulation chamber is color coded for easy identification of the flow rate
- Conformity with ISO 8026 standards (SI 1406)
- **Recommended filtration*:** 200 mic./80 mesh

→ TECHNICAL DATA

MODEL	FLOW RATE (L/H)*	REGULATION CHAMBER CODE COLOR	NOZZLE SIZE (MM)	WORKING PRESSURE RANGE (BAR)	CONSTANT K	EXPONENT* X	WETTED DIAMETER (M)		SWIVEL (ROTOR) CODE COLOR
							LR MODEL 20 CM ABOVE GROUND	LRD MODEL 20 CM ABOVE GROUND	
020	20	DARK PINK	0.89	1.5 - 4.0	20	0	4.5	1.5	DARK PINK
030	30	BROWN	1.14	1.5 - 4.0	30	0	6.0	1.5	
035	35	LIGHT BLUE	1.20	1.5 - 4.0	35	0	6.0	1.5	
040	40	BLUE	1.28	1.5 - 4.0	40	0	6.0	1.5	
050	50	GREEN	1.43	1.5 - 4.0	50	0	7.0	1.5	BLACK
058	58	GREY	1.55	1.5 - 4.0	58	0	7.0	1.5	
070	70	BLACK	1.73	1.5 - 4.0	70	0	7.0	2.0	
090	90	ORANGE	1.74	1.5 - 4.0	90	0	7.0	2.0	
110	110	RED	1.70	2.0 - 4.0	110	0	8.0	2.0	

* Within working pressure range

How to use: To determine the desired product definition select one of every set of options displayed on the chart.



TIPOS DE CONEXIÓN

Conectores de entrada:

Dentado, Auto-roscante, Macho de presión, 3/8" y 1/2" rosca externa



MegaNet™ 15D

Unique encapsulated and protected impact sprinkler with low water trajectory angle - 15 degrees, for field crops and under canopy irrigation.



Uniform Wetting & Higher Yield

Insect Protected

Anti-Clogging

Applications



Windy open field crop & vegetable irrigation



Under canopy irrigation as barriers



Orchards frost mitigation & cooling

Benefits & Features

Uniform wetting & higher yield

- MegaNet™ 15D has symmetric structure allows the water split to two equal water jets, that contribute to a balanced sprinkler, providing very high water distribution uniformity
- The lower trajectory angle of the water prevents evaporation to the air in areas with winds

Anti-Clogging

- Unique integral filter inside the MegaNet™ ensures clean water inside the nozzle. This filter can be easily cleaned if needed

Insect protected

- Innovative encapsulated design with unique pop-up mechanism, that opens only during operation, extends the life of the nozzle and other moving parts by preventing insects and dirt particles from obstructing the sprinkler

Increased germination percentage

- MegaNet™ provides gentle water jet, and relatively small drops near the ground and does not groove the soil along the whole irrigation event (including startup and shut off), which prevents from the seed to be exposed out of the soil

Reduced labor cost and reduced maintenance

- Versatile installation. Can be installed on solid sets or on removable field stands
- Long-term reliable service, simple, modular parts, clog resistant design
- MegaNet™ is made of superior raw material makes it resistant to agrochemicals & weather conditions

Specifications & Recommendations

- Unique impact sprinkler with low trajectory angle for full coverage installation with spacing up to 10X12 meters
- **7 different flow rates:** 200, 250, 350, 450, 550, 650, 750 L/H
- **Nominal flow rate at:** 2.3 bar
- **Recommended pressure range:** 2.0 - 3.0 b bar
- **Water Trajectory angle:** 15 Degrees
- **Nozzle Protection:**
 - Integral filter at the inlet of the sprinkler
 - Pop up mechanism: For insect penetration protection
- Water distribution using a special rotating turbine and two identical symmetrical nozzles
- **3 types of inlet connectors:**
 - 1/2" male threaded
 - 20 MM ISO inlet connector (to be glued to PVC)
 - 1/2" ASTM inlet connector (to be glued to PVC)
- **2 body types:**
 - Standard
 - Anti Darin valve
- **Color coded for easy identification:**
 - Cap is color coded according to the flow rate
 - Locking pin for 15D model is white
- Made of UV-protected materials, durable to all climate conditions and nutrients injected in agricultural applications
- MegaNet™ sprinklers meet ISO 8026 standards (SI 1406) with production certified by the Israel Standards Institute (SII)
- **Recommended filtration*:** 400 micron / 40 mesh

***Note:** Filtration method shall be selected based on the type and concentration of the dirt particles contained in the water. Wherever sand exceeding 2 ppm exists in the water, a Hydrocyclone shall be installed before the main filter. Wherever sand/ silt/ clay solids exceed 100 ppm, pre-treatment shall be applied according to Netafim™ instructions

→ TECHNICAL DATA

NOZZLE SIZE (MM)	CODE COLOR	WORKING PRESSURE (BAR)	FLOW RATE (L/H)	WETTED DIAMETER* (M)	PRECIPITATION (MM/H)						
					SPACING (M X M)						
					7 X 8	8 X 8	8 X 10	9 X 9	10 X 10	10 X 11	10 X 12
1.85	YELLOW	2.5	210	14.0	3.8	3.3	2.6	2.6	2.1	1.9	1.8
		3.0	230	14.0	4.1	3.6	2.9	2.8	2.3	2.1	1.9
2.06	PURPLE	2.5	258	14.0	4.6	4.0	3.2	3.2	2.6	2.3	2.2
		3.0	283	14.0	5.1	4.4	3.5	3.5	2.8	2.6	2.4
2.44	GREEN	2.5	362	14.0	6.5	5.7	4.5	4.5	3.6	3.3	3.0
		3.0	396	14.0	7.1	6.2	5.0	4.9	4.0	3.6	3.3
2.79	BLUE	2.5	461	16.0	8.2	7.2	5.8	5.7	4.6	4.2	3.8
		3.0	505	16.0	9.0	7.9	6.3	6.2	5.1	4.6	4.2
3.08	BROWN	2.5	553	16.0	9.9	8.6	6.9	6.8	5.5	5.0	4.6
		3.0	605	16.0	10.8	9.5	7.6	7.5	6.1	5.5	5.0
3.37	ORANGE	2.5	678	16.0	12.1	10.6	8.5	8.4	6.8	6.2	5.7
		3.0	743	16.0	13.3	11.6	9.3	9.2	7.4	6.8	6.2
3.68	RED	2.5	785	17.0	14.0	12.3	9.8	9.7	7.9	7.1	6.5
		3.0	860	17.0	15.4	13.4	10.8	10.6	8.6	7.8	7.2

* at least 0.5 mm/h

**Performance table prepared under laboratory conditions, sprinkler head 1.0 meter above ground

CU = OR > THAN 92%

CU = OR > 88% AND < 92%

CU = OR > 86% AND < 88%

CU < 86%



Gracias

Ivonee Molina Robles

Ivonee.molina@netafim.com

w. 3339680077