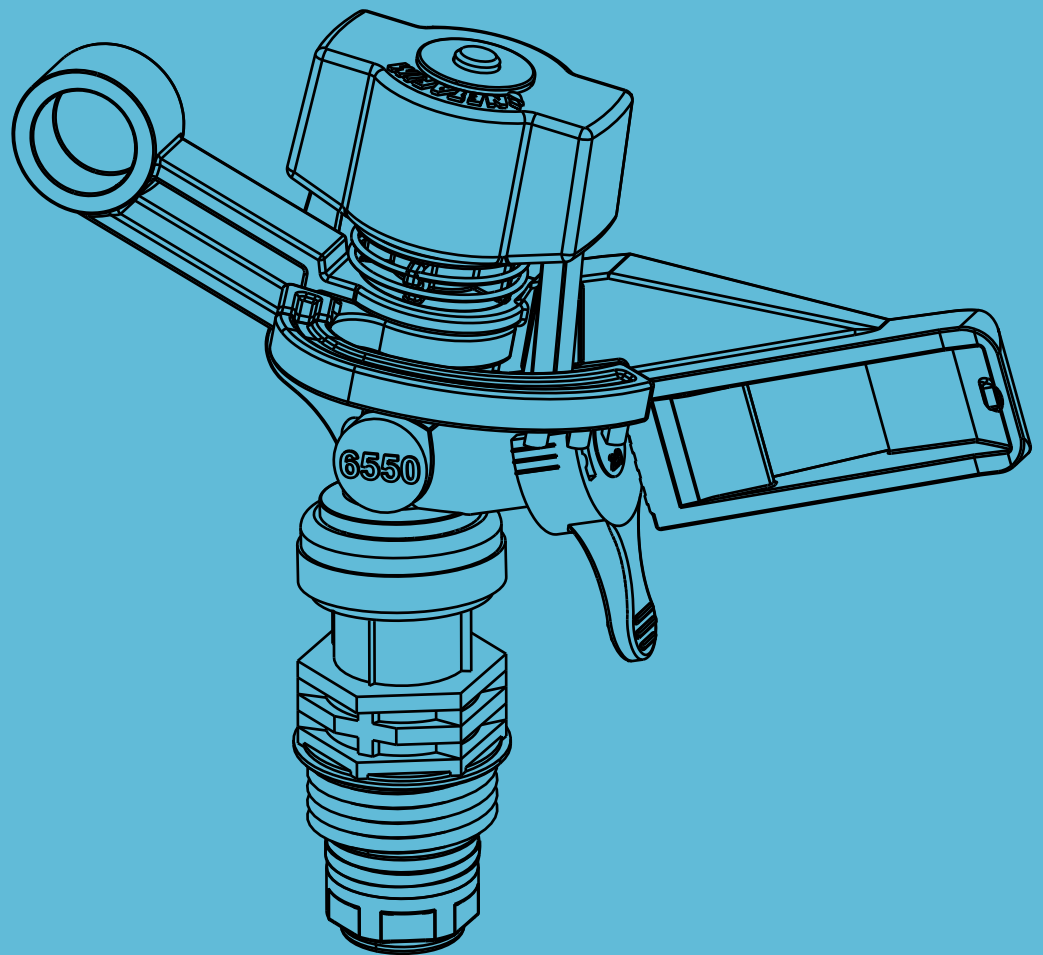


D-Net™ 6550

3D ARM IMPACT SPRINKLER

USER MANUAL



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NOTE

All the drawings in this document are for the purpose of illustration only. The actual product details and infrastructure condition, may differ in any actual application.



FOREIGN LANGUAGES

If you are reading this manual in a language other than the English language, you acknowledge and agree that the English language version shall prevail in any case of inconsistency or contradiction in interpretation or translation.

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INTRODUCTION

Use of symbols

The symbols used in this manual refer to the following:



WARNING

The following text contains instructions aimed at preventing bodily injury or direct damage to the crops, the product and/or the infrastructure.



CAUTION

The following text contains instructions aimed at preventing unwanted system operation, installation or conditions that, if not followed, might void the warranty.



ATTENTION

The following text contains instructions aimed at enhancing the effective use of the instructions in the manual.



NOTE

The following text contains instructions aimed at emphasizing certain aspects of the installation or operation of the product.



SAFETY FOOTWEAR

The following text contains instructions aimed at preventing foot injury.



TIP

The following text provides clarification, tips or useful information.

Aim of this manual

The aim of this manual is to guide the user in setting up, installation, operating and maintenance of the D-Net™ 6550 sprinkler in its various applications.

Safety instructions

- All local safety regulations must be applied when installing, operating, maintaining and troubleshooting the Netafim™ sprinkler irrigation system and its components.
- The effectiveness of the equipment may be jeopardized or impaired if the equipment is used in a manner other than that specified by the manufacturer.



WARNING

In an agricultural environment - always wear protective footwear.

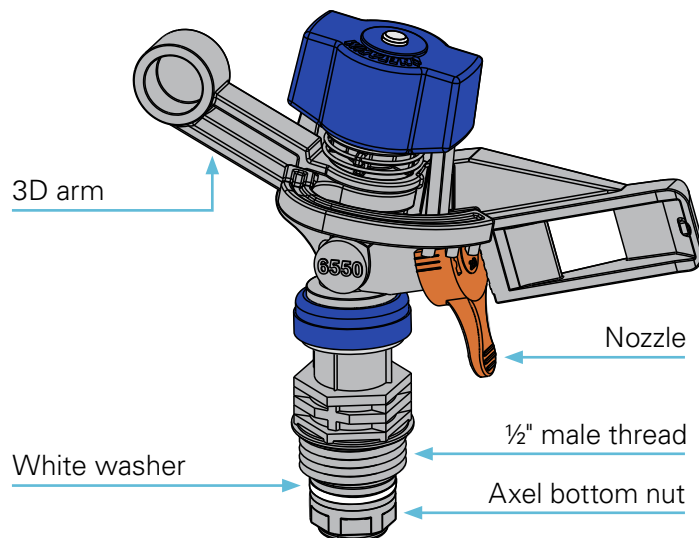


CAUTION

When opening or closing any manual valve, always do so gradually, to prevent damage to the system by water hammer.

D-NET™ 6550 3D ARM IMPACT SPRINKLER

Description



Applications

For under canopy irrigation, plantations, bananas, orchards or any other full coverage needs.

Features and benefits

Higher and better yields

- The D-Net™ 6550 provides high uniformity distribution of the water due to the unique 3-D arm that enables the highest uniformity in the market, respective to its flow rate and installation spacing.
- The D-Net™ 6550 provides maximum water-use efficiency.

Saves labor cost and multiple investment on maintenance

- **High robustness** - The D-Net™ 6550 has special design that makes the sprinkler more resistible and ensure high performance for a long product life.
- **Extended product life** - The D-Net™ 6550 is made of UV-protected materials, making it durable under all climate conditions and with any applied nutrients.
- **Flexible installation** - Can be installed on solid sets or on removable field stands.
- **Easy to maintain** - A special nozzle design, allows simple cleaning of the nozzle even under pressure.

Specifications

- 3 different nominal flow rates: 355, 400, 510 l/h. Nominal flow rates at 2.5 bar pressure.
- Recommended working pressure: 2.0 to 3.0 bar (at the sprinkler head).
- Water trajectory: 14 degrees
- Inlet connector: 1/2" male threaded.
- Color-coded nozzles for easy identification.



ATTENTION

- Wherever sand exceeding 2 ppm exists in the water, a Hydrocyclone is to be installed to protect the system.
- When sand/ silt/ clay solids exceed 100 ppm, pretreatment will be applied according to Netafim™ expert team's instructions.

TECHNICAL DATA

Performance

Nozzle		Working pressure (bar)	Flow rate (l/h)	Wetted diameter* (m)	Spacing (m x m)					
Size (mm)	Color code				9 x 9	9 x 10	10 x 10	10 x 11	10 x 12	12 x 12
					Precipitation (mm/h)					
2.3	Gray	2.0	318	22	3.9	3.5	3.2	2.9	2.7	2.2
		2.5	355	22	4.4	3.9	3.6	3.2	3.0	2.5
		3.0	389	23	4.8	4.3	3.9	3.5	3.2	2.7
2.5	Purple	2.0	358	23	4.4	4.0	3.6	3.3	3.0	2.5
		2.5	400	24	4.9	4.4	4.0	3.6	3.3	2.8
		3.0	438	25	5.4	4.9	4.4	4.0	3.7	3.0
2.9	Orange	2.0	456	23	5.6	5.1	4.6	4.1	3.8	3.2
		2.5	510	25	6.3	5.7	5.1	4.6	4.3	3.5
		3.0	559	25	6.9	6.2	5.6	5.1	4.7	3.9

* Sprinkler head 0.5 meter above ground. At least 0.5 mm/h.

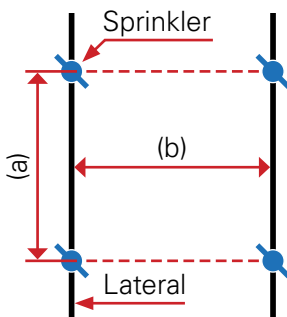


NOTE

The area-coverage and dispersion-uniformity of a layout of sprinklers is influenced by the alignment of the sprinklers.

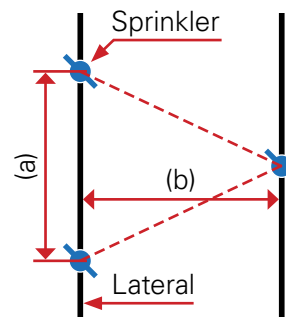
The common types of sprinkler alignment are:

Rectangular alignment

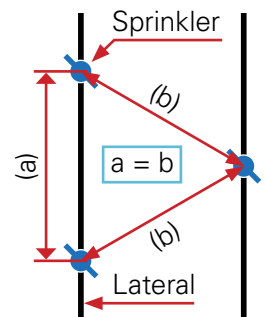


Triangular alignment

Isosceles



Equilateral



Do not confound isosceles with equilateral:

- An isosceles triangle is a triangle in which two sides are of equal length. The distance between 2 adjacent sprinklers on the same lateral (a) is not equal to the distance between 2 sprinklers on adjacent laterals. The height of the triangle represents the distance between adjacent laterals (b). Isosceles is usually referred to in open-field applications.
- An equilateral triangle is a triangle in which all three sides are equal. The distance between 2 adjacent sprinklers on the same lateral is equal to the distance between 2 sprinklers on adjacent laterals. Equilateral is occasionally referred to in orchards due to the tree planting pattern.

TECHNICAL DATA

Max. lateral length - 10% flow variation

Inlet pressure: 3.0 bar

Lateral: 32 mm ID: 27.2 mm

Nominal flow rate: 355 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	99	110	110	120
	1%	108	110	121	132
Flat terrain	0	117	120	132	132
Downhill	-1%	117	130	143	144
	-2%	126	140	143	156

Nominal flow rate: 400 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	90	100	110	108
	1%	99	110	110	120
Flat terrain	0	108	110	121	132
Downhill	-1%	108	120	132	132
	-2%	117	130	132	144

Nominal flow rate: 510 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	81	90	88	96
	1%	90	90	99	108
Flat terrain	0	90	100	110	108
Downhill	-1%	99	100	110	120
	-2%	99	110	121	120

Lateral: 50 mm ID: 45.4 mm

Nominal flow rate: 355 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	189	190	198	204
	1%	225	230	242	252
Flat terrain	0	261	280	297	312
Downhill	-1%	297	320	341	360
	-2%	324	350	374	408

Nominal flow rate: 400 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	180	190	198	204
	1%	207	220	231	240
Flat terrain	0	243	260	275	288
Downhill	-1%	270	290	319	336
	-2%	297	320	341	372

Nominal flow rate: 510 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	162	170	176	180
	1%	180	190	209	216
Flat terrain	0	207	220	242	252
Downhill	-1%	234	250	264	288
	-2%	252	270	286	312

Lateral: 40 mm ID: 36.8 mm

Nominal flow rate: 355 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	144	150	165	168
	1%	162	180	187	192
Flat terrain	0	189	200	209	228
Downhill	-1%	207	220	231	252
	-2%	216	230	253	264

Nominal flow rate: 400 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	135	150	154	156
	1%	153	160	176	180
Flat terrain	0	171	180	198	204
Downhill	-1%	189	200	220	228
	-2%	198	220	231	252

Nominal flow rate: 510 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	126	130	143	144
	1%	135	140	154	156
Flat terrain	0	153	160	165	180
Downhill	-1%	162	170	187	192
	-2%	171	180	198	204

Lateral: FlexNet™ 2" ID: 51.5 mm

Nominal flow rate: 355 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	207	210	220	228
	1%	252	270	286	288
Flat terrain	0	315	330	352	372
Downhill	-1%	360	390	418	444
	-2%	396	430	462	492

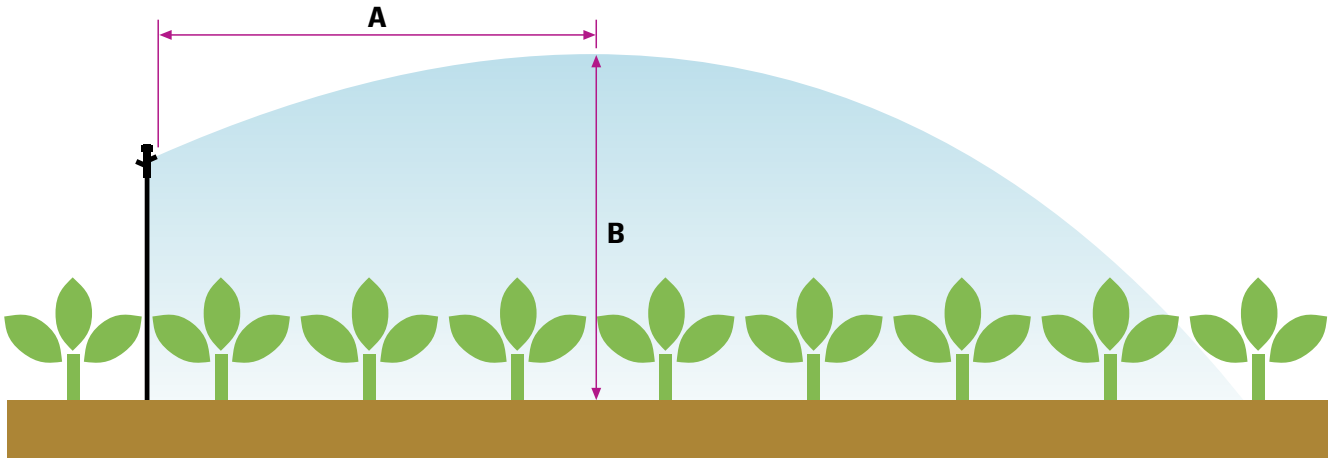
Nominal flow rate: 400 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	198	210	209	216
	1%	243	250	264	276
Flat terrain	0	288	310	330	348
Downhill	-1%	333	360	385	408
	-2%	369	400	429	456

Nominal flow rate: 510 l/h*	Slope	Distance between sprinklers (m)			
		9	10	11	12
		Max. lateral length (m)			
Uphill	2%	180	190	198	204
	1%	216	220	242	252
Flat terrain	0	252	270	286	300
Downhill	-1%	279	300	319	348
	-2%	306	330	352	384

*Nominal flow rate at 2.5 bar working pressure.

TECHNICAL DATA

Sprinkler water trajectory



A. Distance - Distance of max. trajectory height from sprinkler nozzle.

B. height - Elevation of max. trajectory height above ground.

Trajectory height above sprinkler nozzle

The maximum trajectory height above the sprinkler nozzle is relevant in the following cases:

- When sprinklers are used under the canopy to prevent wetting the foliage.
- When sprinklers are used in a net-house or inside a roofed structure such as a glasshouse, to prevent wetting the net or the ceiling.

Water trajectory angle: 14 degrees

Nozzle		Working pressure (bar)	Trajectory (m)	
Size (mm)	Color code		Height	Distance
2.3	Gray	2.0	0.8	5.0
		2.5	0.9	5.6
		3.0	1.1	6.2
2.5	Purple	2.0	0.8	5.2
		2.5	1.0	5.8
		3.0	1.1	6.3
2.9	Orange	2.0	0.9	5.3
		2.5	1.0	6.0
		3.0	1.2	6.5

Head loss in riser tube

Riser tube: OD 12.0 mm, ID 9.0 mm

Riser tube length (m)	Flow rate* (l/h)		
	355	400	510
1.2	Head loss (bar)		
	0.046	0.057	0.087

Riser tube: ½", ID 15.0 mm

Riser tube length (m)	Flow rate* (l/h)		
	355	400	510
0.4	Head loss (bar)		
	0.001	0.002	0.003
	0.003	0.003	0.005
1.2	0.004	0.005	0.008

*Nominal flow rate at 2.5 bar working pressure.

INSTALLATION

Introduction



CAUTION

Assembly must be done gently. Do not overtighten or use excessive force.

Tools required

- 20 mm spanner

Various installation configurations

Netafim™ sprinklers can be installed at a convenient height in different configurations, to suit the needs of various crops and field conditions.

Among the various installation options:

- **Mega Stand™** - a ½" diameter robust and durable modular sprinkler stand suitable for a variety of agriculture and mining irrigation applications.
- **IMP SPR stand™** - a ½" diameter stand, satisfactorily used by farmers all over the globe for many years. It became a classic in open field and orchard irrigation due to its durability, simplicity and versatility. It can accommodate any type of ½" sprinkler.
- **Solid set** - Netafim™ offers a comprehensive range of sockets and reducer couplings dedicated to the proper connection of sprinklers to solid-set riser pipes (PVC or other rigid pipes). Usage of these accessories ensures appropriate, safe operation and longevity of the sprinklers.

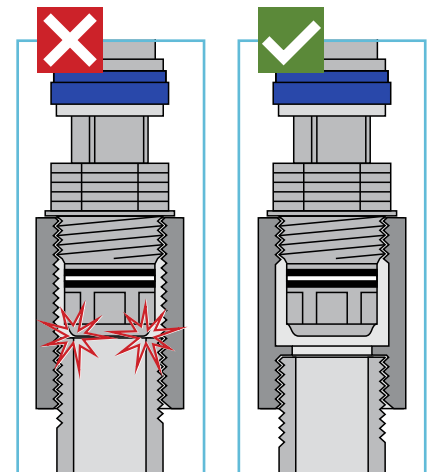


ATTENTION

When installing a Netafim™ impact hammer sprinkler (such as D-Net™) on a solid set riser pipe of the same thread size, make sure to allow clearance for the free rotation of the axel bottom nut.

If sufficient clearance is not allowed and the axel bottom nut comes in contact with any internal part of the piping, the sprinkler will not rotate.

Always use a Netafim™ dedicated socket specially designed to allow the required clearance.



See the installation manual for each one of the above installation options at <http://www.netafim.com/irrigation-products-technical-materials>

MAINTENANCE

To assure proper operation of the sprinkler, a simple inspection and maintenance procedure should be carried out regularly.


The nozzle is equipped with a handle that allows to detach and attach the D-Net™ 6550 sprinkler nozzles quickly and easily.

Rinsing the nozzle

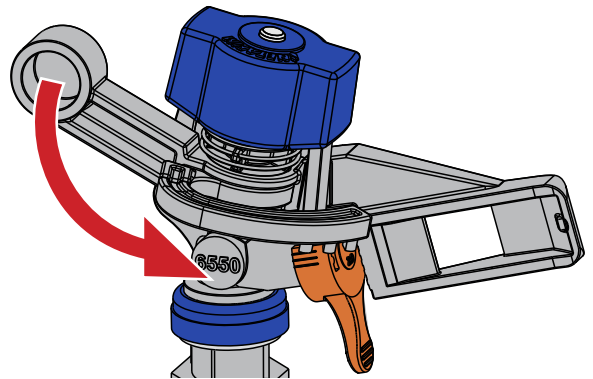
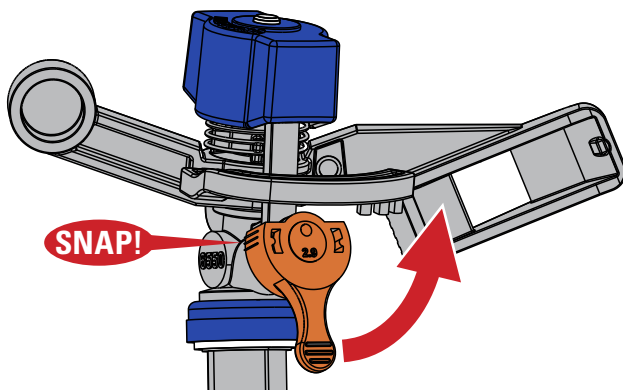
Frequency: Before the beginning of each growing season

Action:

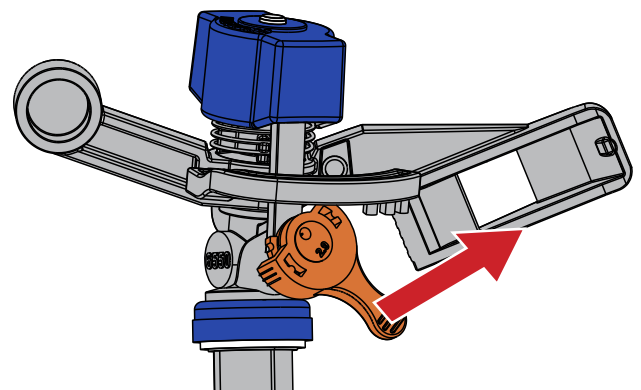
1. Detach the nozzle from the sprinkler.


 **NOTE** To detach the nozzle, rotate and hold the 3D arm so that it doesn't get in the way of the nozzle.

A. Manually rotate the nozzle 1/8 of a turn counterclockwise. You should feel it snap open.



B. Manually pull the nozzle out.



 **NOTE** When detaching the nozzle, hold the 3D arm so it doesn't get in the way.

2. Clean the nozzle opening from the outside with a water jet or pressurized air.

3. Visually inspect the nozzle. If it looks damaged, replace it with a new one.

4. Reattach the nozzle. You should feel it snap into place.

MAINTENANCE

Checking the white washer

Frequency: Before the beginning of each growing season

Action:

1. Remove the sprinkler from the stand using a 20 mm spanner.
2. Visually inspect the white washer at the bottom of the sprinkler.

During regular operation of the sprinkler, the white washer gradually wears thinner. Its original thickness is 1.5 mm.

3. If the white washer has reached half its original thickness or less, replace it with a new one using a 16 mm spanner to open the bolt at the bottom of the sprinkler.



NOTE

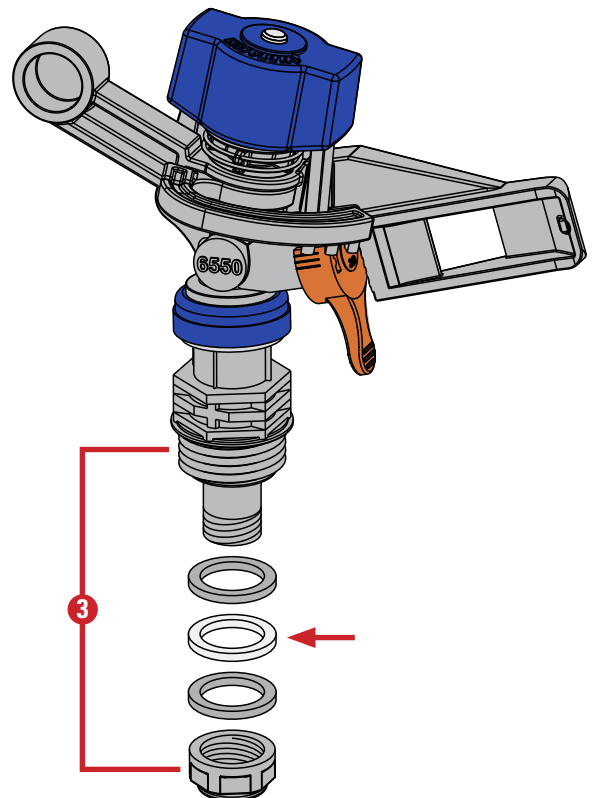
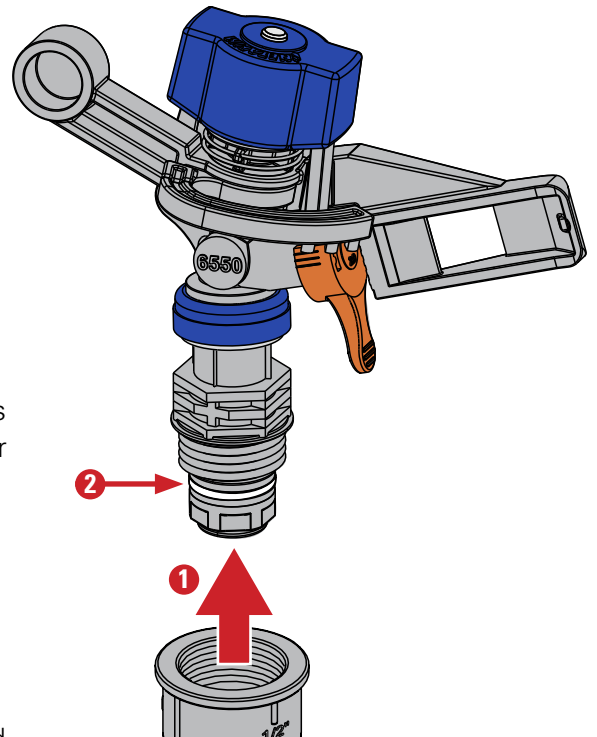
Make sure to place the white washer in between the two black washers.

4. Screw back the bolt using a 16 mm spanner.
5. Remove the old Teflon tape from the sprinkler thread and apply 3 layers of new Teflon tape to prevent leakage.
6. Re-connect the sprinkler to the stand using a 20 mm spanner.



NOTE

It is recommended to replace the white washer every 2000 irrigation hours.

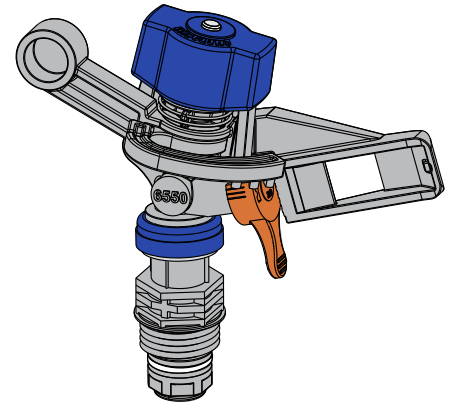


PARTS

D-Net™ 6550 catalog numbers

Nozzle		Flow rate* (l/h)	Catalog number
Size (mm)	Color code		
2.3	Gray	355	60100-002300
2.5	Purple	400	60100-002310
2.9	Orange	510	60100-002320

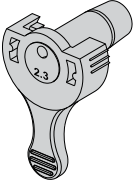
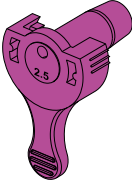
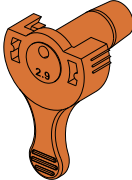
*Nominal flow rate at 2.5 bar working pressure




Packaging data

Model	Units p/box	Box size (cm x cm x cm)	Box weight (Kg)	Boxes p/pallet	Total units p/pallet	Pallet weight (Kg)
D-Net™ 6550	168	54 x 36 x 33	12.0	18	3024	240

D-Net™ 6550 sprinkler nozzles

Size (mm)	2.3	2.5	2.9
Color code	Gray	Purple	Orange
			
Catalog number	60100-002450	60100-002451	60100-002452

D-Net™ 6550 washer

Product description	 D-Net™ 6550 white washer 22
Catalog number	60100-001076

WARRANTY

Netafim™ warrants all the components of the D-Net™ 6550 sprinkler to be free of substantial defects in material and workmanship for a period of no more than 1 (one) year from the date of purchase.

If a defect is discovered during the applicable warranty period, Netafim™ will repair or replace, at its discretion, the product or the defective part.

This warranty does not extend to repairs or replacements of a D-Net™ 6550 sprinkler or part resulting from misuse, negligence, alteration, force majeure, lightning, improper installation or improper maintenance, including any maltreatment of the D-Net™ 6550 sprinkler or any part of the irrigation systems.

If a defect arises in your Netafim™ product during the warranty period, contact your Netafim™ supplier.

Limited warranty

This warranty is subject to the terms and conditions contained in Netafim's official warranty statement in force at the time of application.

For the full text of Netafim's official warranty statement, go to:

<http://www.netafim.com/irrigation-products-technical-materials>

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