

Nodolini Rain Guns - Performance Data



TOTAL WATER™
— SUPPLIES —



"Nodolini" Top Quality, Italian Made,
Turbine Drive Rain Guns

2 Year Warranty

High Performance - Low Cost



Model S80 Super
Flows From 1587 - 4050 l/min
Throw Radius 61 - 99 m



Model S45
Flows From 80 - 895 l/min
Throw Radius 18 - 52 m



Model S45-43°
Flows From 370 - 895 l/min
Throw Radius 34 - 52 m



Model S70CW (Corrossive Water)
Flows From 992 - 2742 l/min
Throw Radius 49 - 75 m

Brand Comparison

Nodolini Model	Trajectory	Connections	Nelson (Impact)	Sime (Geared)	Komet (Impact)
S45-11/2	25°	1½" BSP Female	75 Series	River/Skipper	Twin 101PC
S45-2	25°	2" BSP Female	75 Series	River/Skipper	Twin 101PC
S45-HP2	25°	2" BSP Female	75 Series	River/Skipper	Twin 101PC
S60-2	25°	2" BSP Female	75-100 Series	N/A	Twin 101PC
S70-21/2	25°	2½" EN Flange	150 Series	Mariner	Twin 160PC
S70-CW25	25°	2½" BSP Female	150 Series	Mariner	Twin 160PC
S80-SUP	28°	3" EN Flange	200 Series	Mariner	Twin 202PC
S80-CWSUP	28°	3" EN Flange	200 Series	Mariner	Twin 202PC

Dust Suppression 43 Degree

S45-43	43°	2" BSP Female	SR75DS	N/A	Twin 101AP
S60-43	43°	2" BSP Female	SR75DS	Climber	Twin 101AP

S45 - 1½"

Medium Throw

1½" Female BSP Thread 25°

Nozzles Included: 14mm, 16mm & 18mm



Design Features

- * Turbine drive sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Adjustable intermittent jet-breaker for enhanced spray uniformity
- * Suitable for the irrigation of delicate crops
- * This sprinkler can operate with just 4° of lateral movement

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw(m)
10	151 - 202 - 253	80 - 93 - 104	18 - 22 - 24
12	202 - 303 - 405	134 - 164 - 190	24 - 29 - 31
14	202 - 303 - 405	183 - 224 - 258	26 - 32 - 34
16	303 - 405 - 506	292 - 337 - 377	33 - 37 - 39
18	303 - 405 - 506	370 - 427 - 477	34 - 37 - 42
20	303 - 405 - 506	456 - 527 - 590	36 - 41 - 46
22	405 - 506 - 607	638 - 713 - 780	42 - 47 - 49
24	405 - 506 - 607	730 - 817 - 895	43 - 48 - 52

The technical characteristics are indicative and not binding

S45 - 2"

Medium Throw

2" Female BSP Thread 25°

Nozzles Included: 18mm, 20mm & 22mm



Design Features

- * Turbine sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Adjustable intermittent jet-breaker for enhanced spray uniformity
- * Suitable for the irrigation of delicate crops
- * This sprinkler can operate with just 4° of lateral movement

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw (m)
18	303 - 405 - 506	370 - 427 - 477	34 - 37 - 42
20	303 - 405 - 506	456 - 527 - 590	36 - 41 - 46
22	405 - 506 - 607	638 - 713 - 780	42 - 47 - 49
24	405 - 506 - 607	730 - 817 - 895	43 - 48 - 52

The technical characteristics are indicative and not binding

S45 - 2" High Pressure

Medium Throw

2" Female BSP Thread 25°

Nozzles included: 18mm, 20mm, 22mm & 24mm



Manufactured from the highest quality materials. All gears made of metal.
Can operate up to a pressure of 1013 kPa.

Design Features

- * Turbine sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Adjustable intermittent jet-breaker for enhanced spray uniformity
- * Suitable for the irrigation of delicate crops
- * This sprinkler can operate with just 4° of lateral movement

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw (m)
18	303 - 405 - 506	370 - 427 - 477	34 - 37 - 42
20	303 - 405 - 506	456 - 527 - 590	36 - 41 - 46
22	405 - 506 - 607	638 - 713 - 780	42 - 47 - 49
24	405 - 506 - 607	730 - 817 - 895	43 - 48 - 52

The technical characteristics are indicative and not binding

S45 - 2" Dust Suppression 43°

Medium Throw

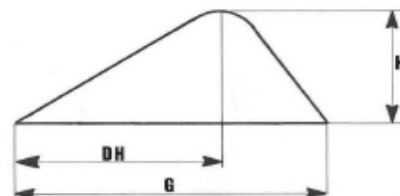
2" Female BSP Thread 43°

Nozzles included: 18mm, 20mm & 22mm



Design Features

- * Turbine sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * This sprinkler can operate with just 4° of lateral movement



Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Length of Jet "G" (m)	Height "H" (m)	Distance at Height "DH" (m)
18	303 - 405 - 506	370 - 427 - 477	34 - 37 - 42	11 - 12.5 - 14	20 - 23 - 25
20	303 - 405 - 506	456 - 527 - 590	36 - 41 - 46	11.5 - 13.5 - 15	22 - 23.5 - 26.5
22	405 - 506 - 607	638 - 713 - 780	42 - 47 - 49	14 - 15.5 - 17	24.5 - 27.5 - 29.5
24	405 - 506 - 607	730 - 817 - 895	43 - 48 - 52	14.5 - 16.5 - 18	25.5 - 28.5 - 30.5

The technical characteristics are indicative and not binding

S60 2" Long Throw

Long Throw

2" Female BSP Thread 25°

Nozzles Included: 20mm, 22mm & 24mm



Design Features

- * Turbine sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Adjustable intermittent jet-breaker for enhanced spray uniformity
- * Suitable for the irrigation of delicate crops
- * This sprinkler can operate with just 4° of lateral movement

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw (m)
20	405 - 455 - 506	506 - 537 - 566	41 - 43 - 45
22	405 - 455 - 506	612 - 649 - 684	43 - 45 - 47
24	405 - 455 - 506	729 - 774 - 816	45 - 47 - 49
26	455 - 506 - 557	980 - 957 - 1004	47 - 49 - 51
28	455 - 506 - 557	1053 - 1110 - 1164	50 - 52 - 54
30	506 - 557 - 607	1273 - 1335 - 1394	53 - 55 - 57

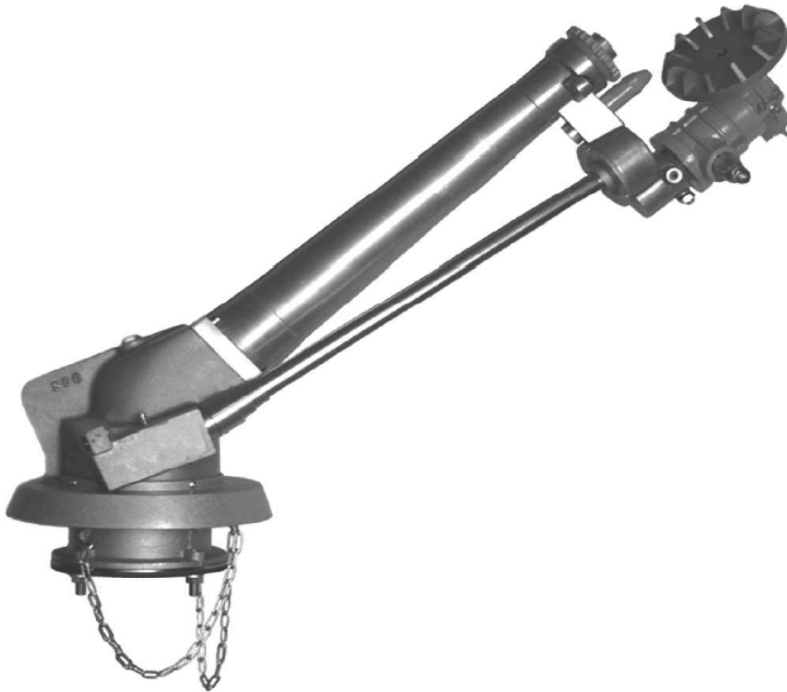
The technical characteristics are indicative and not binding

S60 2" Dust Suppression 43°

Dust Suppression 43°

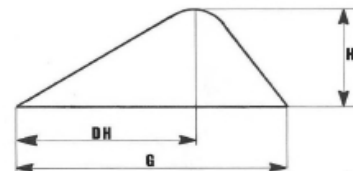
2" Female BSP Thread

Nozzles Included: 20mm, 22mm, 24mm & 26mm



Design Features

- * Robust construction for pressures up to 1500 kPa.
- * Turbine sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * This sprinkler can operate with just 4° of lateral movement



Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Length of Jet "G" (m)	Height "H" (m)	Distance at Height "DH" (m)
20	303 - 405 - 506	440 - 506 - 566	37 - 41 - 44	11 - 14 - 17	22 - 26 - 29
22	303 - 405 - 506	530 - 612 - 684	38 - 42 - 45	12 - 15 - 19	23 - 27 - 30
24	405 - 506 - 608	729 - 816 - 895	44 - 48 - 51	16.5 - 18 - 20	28 - 32 - 36
26	405 - 506 - 608	857 - 957 - 1050	46 - 50 - 52	16.5 - 18.5 - 20.5	30 - 33 - 36
28	405 - 506 - 608	994 - 1110 - 1220	48 - 51 - 54	17 - 19 - 21.5	31 - 34 - 37
30	506 - 608 - 709	1273 - 1394 - 1513	55 - 62 - 64	21 - 23 - 25	39 - 43 - 45

The technical characteristics are indicative and not binding

S70 Super 2½"

Long Throw

2½" EN Flange 25°

Nozzles Included: 28mm, 30mm, 32mm, 34mm, 36mm, 38mm & 40mm



Long range turbine sprinkler designed to obtain maximum output with medium pressure.

Design Features

- * Turbine drive sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Adjustable intermittent jet-breaker for enhanced spray uniformity
- * Suitable for the irrigation of delicate crops
- * This sprinkler can operate with just 4° of lateral movement

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw (m)
28	405 - 506 - 607	992 - 1109 - 1215	49 - 54 - 59
30	506 - 607 - 709	1272 - 1393 - 1505	55 - 61 - 63
32	506 - 607 - 709	1449 - 1587 - 1714	57 - 63 - 66
34	607 - 709 - 810	1792 - 1935 - 2069	64 - 67 - 69
36	607 - 709 - 810	2009 - 2170 - 2320	65 - 69 - 71
38	709 - 810 - 911	2418 - 2585 - 2742	71 - 73 - 75
40	709 - 810 - 911	2788 - 2810 - 2910	74 - 77 - 80

The technical characteristics are indicative and not binding

S70 Corrosive & Salt Waters 2½"

Long Throw Corrosive Waters

2½" BSP Female Thread 25°

Nozzle Included: 28mm



Design Features

- * Turbine drive sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Mechanical parts are internal and protected against corrosive waters.
- * Aluminium components are treated with anodic oxidation, plastic coating and cathodolysis
- * All nuts, bolts, washers & pins are made of stainless steel
- * Can be used with pressures up to 1500 kPa
- * This sprinkler can operate with just 4° of lateral movement

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw (m)
28	405 - 506 - 607	992 - 1109 - 1215	49 - 54 - 59
30	506 - 607 - 709	1272 - 1393 - 1505	55 - 61 - 63
32	506 - 607 - 709	1449 - 1587 - 1714	57 - 63 - 66
34	607 - 709 - 810	1792 - 1935 - 2069	64 - 67 - 69
36	607 - 709 - 810	2009 - 2170 - 2320	65 - 69 - 71
38	709 - 810 - 911	2418 - 2585 - 2742	71 - 73 - 75

The technical characteristics are indicative and not binding

S80 Super 3"

Very Long Throw 28°

DN100 PN16 EN1092-1 flange connection

Nozzles Included: 32mm, 34mm, 36mm & 38mm



Design Features

- * Turbine drive sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Adjustable intermittent jet-breaker for enhanced spray uniformity
- * Suitable for the irrigation of delicate crops
- * This sprinkler can operate with just 4° of lateral movement

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw (m)
32	606 - 658 - 709	1587 - 1652 - 1714	61 - 65 - 68
34	606 - 658 - 709	1792 - 1865 - 1935	63 - 66 - 70
36	709 - 810 - 911	2169 - 2319 - 2460	71 - 74 - 80
38	709 - 810 - 911	2418 - 2585 - 2742	73 - 78 - 83
40	810 - 911 - 1013	2864 - 3038 - 3203	81 - 86 - 90
42	810 - 911 - 1013	3120 - 3310 - 3490	83 - 89 - 93
44	911 - 1013 - 1114	3630 - 3830 - 4050	92 - 95 - 99

The technical characteristics are indicative and not binding

S80 Super 3" Corrosive & Salt Waters

Very Long Throw 28°

DN100 PN16 EN1092-1 flange connection

Nozzle Included: 32mm



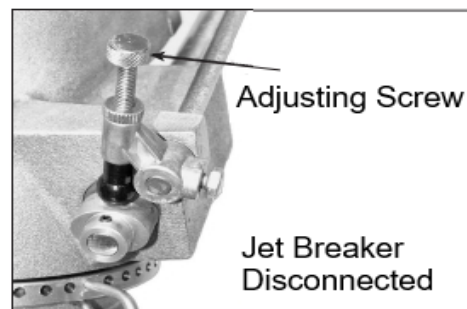
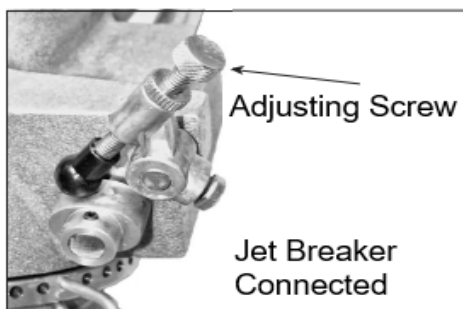
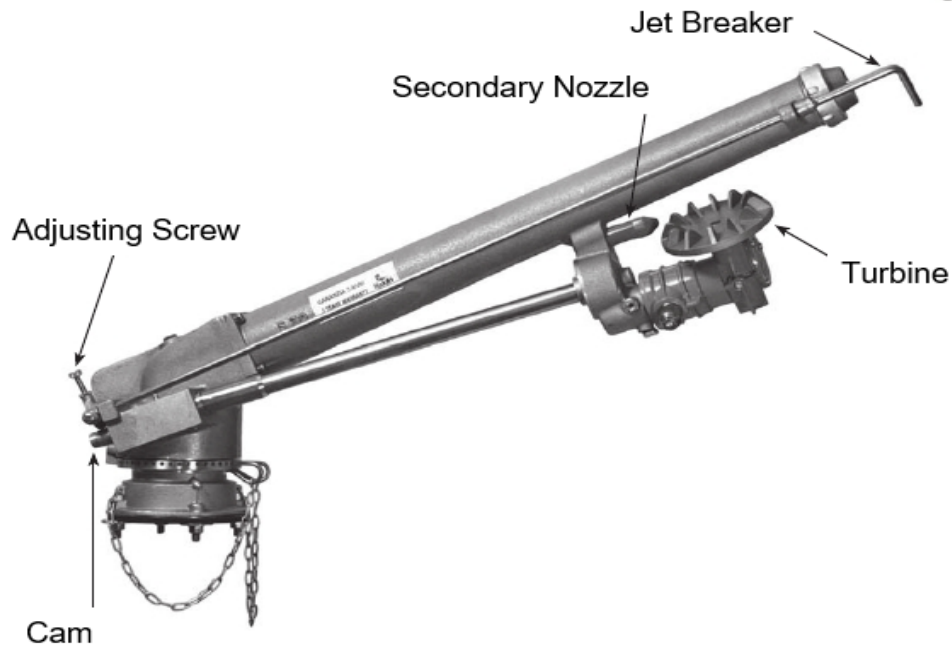
Design Features

- * Turbine drive sprinkler
- * Conical pipe for high performance
- * Perfect functioning on steep terrain
- * No vibration
- * No mechanical brake required
- * Mechanical parts are internal and protected against corrosive waters.
- * Aluminium components are treated with anodic oxidation, plastic coating and cathodolysis
- * All nuts, bolts, washers & pins are made of stainless steel
- * This sprinkler can operate with just 4° of lateral movement
- * Can be used with pressures up to 1500 kPa

Performance Table

Nozzle Size (mm)	Pressure (kPa)	Discharge (l/min)	Radius of Throw (m)
32	606 - 658 - 709	1587 - 1652 - 1714	61 - 65 - 68
34	606 - 658 - 709	1792 - 1865 - 1935	63 - 66 - 70
36	709 - 810 - 911	2169 - 2319 - 2460	71 - 74 - 80
38	709 - 810 - 911	2418 - 2585 - 2742	73 - 78 - 83
40	810 - 911 - 1013	2864 - 3038 - 3203	81 - 86 - 90
42	810 - 911 - 1013	3120 - 3310 - 3490	83 - 89 - 93
44	911 - 1013 - 1114	3630 - 3830 - 4050	92 - 95 - 99

The technical characteristics are indicative and not binding



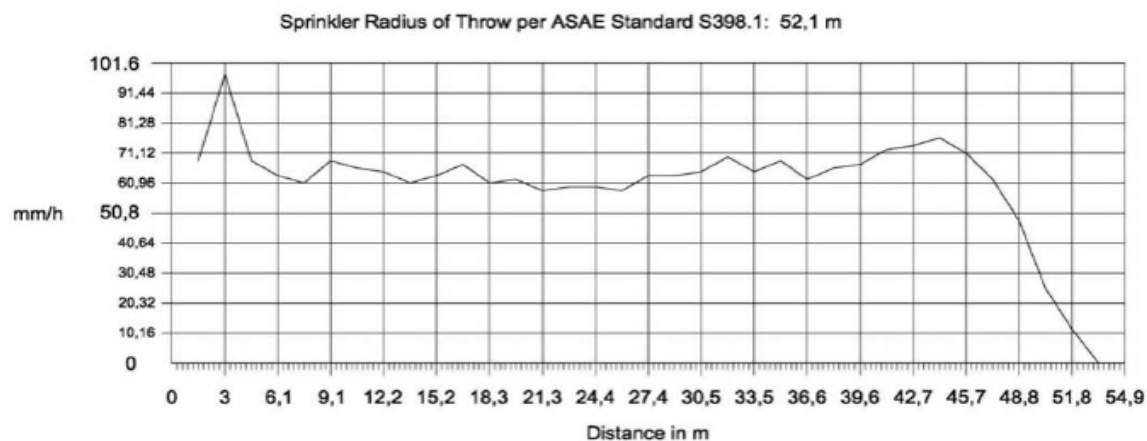
Advantages of the Turbine Sprinkler

- All mechanical parts are internal and protected.
- The conical barrel provides greater performance.
- No mechanical brake that can cause problems over time.
- Works perfectly even on steep slopes and pressures up to 1500 kPa.
- The sprinklers can operate with just 4° of lateral movement.
- The dynamic jet breaker with adjustable interference ensures correct rain uniformity in all situations, even at low pressure. Many of our competitors provide plenty of water over the last few meters of throw but very little in the first few meters.

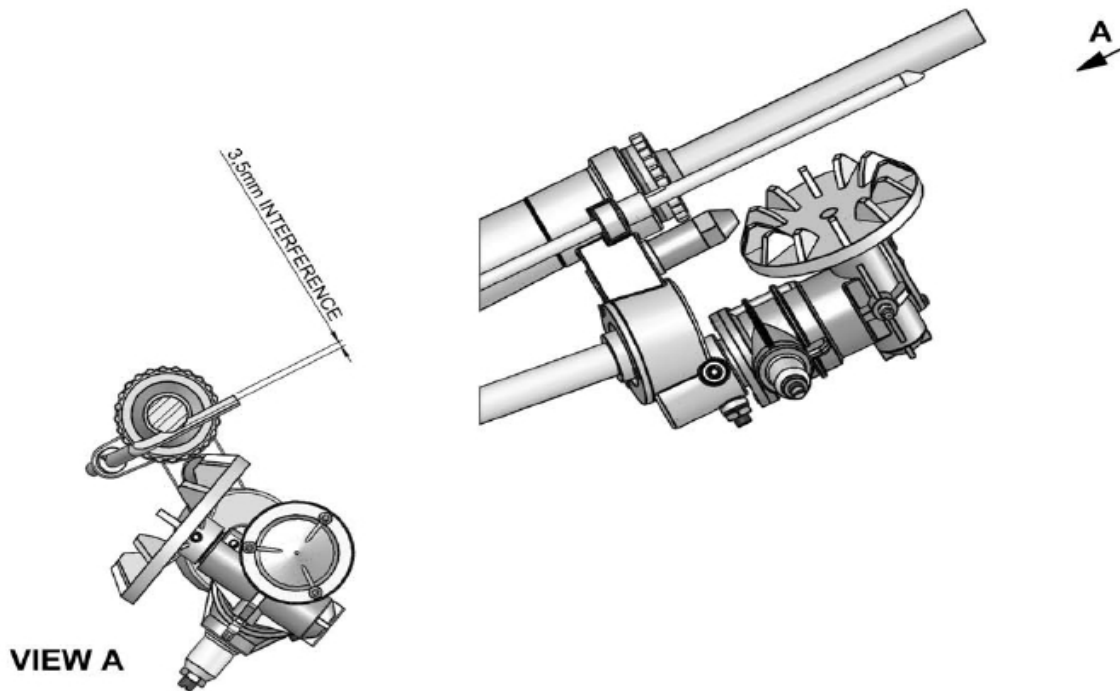
Below is our model S60 E / S60 with a 24mm diameter nozzle and sprinkler pressure of 608 kPa. In this situation we have optimized the watering uniformity with a jet breaker interference of 3.5mm.

Water distribution diagram with S.I. (International System) measurement units drawn up at the Center for Irrigation Technology (C.I.T. Fresno)

Sprinkler Name	Nodolini			
Sprinkler Model	S60			
Date/Time of Test	12/17/2013 10:55			
Nozzle Size	24 mm	0,945 in		
Flow Rate	0.01495 m ³ /s	53,83 m ³ /h	897.14 l/min	237 gpm
Base Pressure	0.608 MPa	6,08 bar	6 atm	88,2 psi
Riser Height	0.61 m	24 in		
Set Screw Setting	3,5 mm	0,138 in		
Degree of Arc	0,698 rad	40°		



1,5 = 68,58	15,2 = 63,50	29 = 63,50	42,7 = 73,66
3 = 97,79	16,8 = 67,31	30,5 = 64,77	44,2 = 76,20
4,6 = 68,58	18,3 = 60,96	32 = 69,85	45,7 = 71,12
6,1 = 63,50	19,8 = 62,23	33,5 = 64,77	47,2 = 62,23
7,6 = 60,96	21,3 = 58,42	35 = 68,58	48,8 = 48,26
9,1 = 68,58	22,9 = 59,69	36,6 = 62,23	50,3 = 25,40
10,7 = 66,04	24,4 = 59,69	38,1 = 66,04	51,8 = 11,43
12,2 = 64,77	25,9 = 58,42	39,6 = 67,31	
13,7 = 60,96	27,4 = 63,50	41,1 = 72,39	



Christiansen Uniformity Coefficient (C_u)

$$C_u = 100 \cdot \left(1 - \frac{\sum_{i=1}^n |h_i - h_m|}{n \cdot h_m} \right)$$

$$C_u = 100 \cdot \left(1 - \frac{225,64}{34 \cdot 62,98} \right) = 88\%$$

Christiansen Uniformity Value (C_u)	
> 87%	= excellent
> 83%	= very good
> 79%	= good
> 75%	= satisfactory
> 70%	= poor

Distribution Uniformity Coefficient (D_u)

$$D_u = 100 \cdot \left(\frac{h_{lq}}{h_m} \right)$$

$$D_u = 100 \cdot \left(\frac{53,53}{62,98} \right) = 85\%$$

Distribution Uniformity Value (D_u)	
> 85%	= excellent
> 80%	= very good
> 75%	= good
> 70%	= satisfactory
> 65%	= poor