



Football Pitch Irrigation Design using the Rain Bird 11000 and 952 series rotors

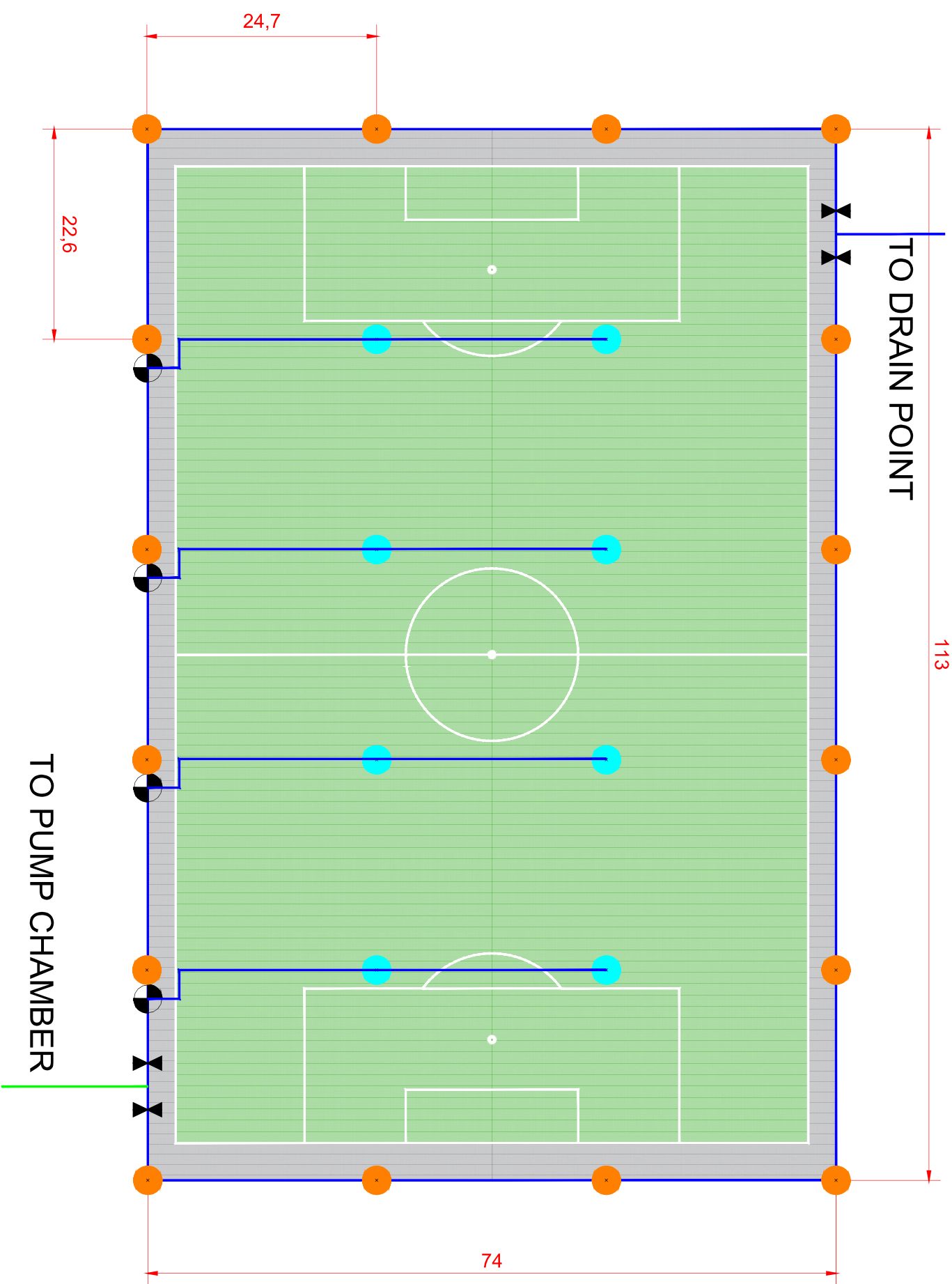
The NEW Rain Bird 11000 Series infield rotor offers impressive performance (up to 32m radius) but at lower flow rates.

This enables a more cost effective system design resulting in lower product and installation costs without compromising coverage or efficiency.

When combined with the NEW Rain Bird 952 and the IVM control system with IQ for remote access this package provides the ultimate solution to future proof your project.

System Notes & Highlights

- Assume maximum water requirement per day of 6mm
- Pitch minimum dimensions as per FIFA requirements of 105m x 68m
- Minimum run off 3m on the pitch sides and 4m on the pitch ends therefore irrigated area circa 113m x 74m
- Therefore, water storage requirement for single 6mm application is circa 50m³
- Pitch design based on 24 sprinklers with spacing of 22.6m x 24.7m
- Allowance for derating of radius due to wind by 5% thus actual requirement is 23m x 25.2m
- Perimeter heads Rain Bird 952-IVM with radius of 26.5m @ 5.5 bar and a flow rate of 9.3 m³/hr
- Infield heads Rain Bird 11000 c/w Sod Cup and radius of 25.9m @ 4.8 bar & flow rate of 8.8 m³/hr
- Infield Rain Bird 11000 heads run in pairs using 2" Rain Bird PGA-IVM solenoid valves
- Pipe from the pumphouse to the pitch 90mm 10 bar PE100 (inside diameter 79.2mm)
- All other pipework 63mm PE100 10 bar (inside diameter 55.4mm)
- Worst case friction loss to furthest end of line infield sprinkler is circa 1.1 bar
- Pipe velocity below 1.53m/s for mains and 2.14m/s for laterals
- Suggested minimum pump set duty circa 19.5m³ @ 7.5 bar



TO DRAIN POINT

113

TO PUMP CHAMBER

74

24,7

22,6

- LEGEND**
- 63MM - 595M
 - 90MM - 18M
 - RAIN BIRD 962E X 20
 - RAIN BIRD 11000 X 16
 - RAIN BIRD PGA 200
 - VALVES X 8
 - ISOLATION VALVE X 4
 - PITCH AREA
 - RUNOFF AREA



T: +44 (0)345 230 9937 W: lws.uk.com/

PROJECT: RAIN BIRD PITCH LAYOUT

CLIENT: RAIN BIRD PITCH LAYOUT

TITLE: RAIN BIRD PITCH LAYOUT

SCALE: 1:500 @ A1

DATE: 12/09/2024

DRAWING NO: 12/09/2024



11000 Series Rotors

Engineered for Sports Fields and Large Turf Applications

MODEL:



11000 Series Rotors

The Rain Bird 11000 Series Rotor is specifically designed for use on sports fields and large commercial turf applications. Providing excellent water distribution uniformity over a full 105' (32.0 m) radius, makes this rotor ideal for sports fields and reduces the number of heads required. With a small exposed head and included rubber cover, this rotor is designed for in-field use and therefore can irrigate fields 25% larger than 1" rotors with 40% fewer rotors.

FEATURES:

- Five-year trade warranty
- Water-lubricated, gear-driven pop-up rotor
- Top-serviceable rock screen
- Seal-A-Matic (SAM) check valve to help prevent low-head drainage
- Heavy-duty stainless steel retract spring ensures positive pop-down
- Standard rubber black cover
- Available in non-reversing full-circle and 30-345° reversing part-circle. Full and part circle operation in one unit.
- Optional opposing nozzle available
- Top serviceable for all required service

OPERATING RANGE:

Radius
70 to 105 feet (21.3 to 32.0 m)

Pressure
60 to 100 psi (4.1 to 6.9 bar)

Flow
20 to 56 gpm (4.6 to 12.7 m³/h or 76.5 to 211.6 l/m)

SPECIFICATIONS:

- 1.5" ACME threaded inlet
- SAM check valve holds up to 5 feet (1.5 m) of head
- Available with 6x pre-installed nozzle combinations
- Nozzle outlet trajectory is 25°

DIMENSIONS:

Exposed diameter
2.7" (6.9 cm)

Overall diameter
5.25" (13.3 cm)

Overall height
12.6" (32.0 cm)

Pop-up height to mid-nozzle
3.6" (9.1 cm)

MODEL:

11004:
1.5" ACME female-threaded inlet

11004-ON:
1.5" ACME female-threaded inlet with opposing nozzle

OPTIONS:

- Sod Cup
- Rubber Cover
 - Green - Synthetic Turf
 - Purple - Non-Potable

HOW TO SPECIFY:

11000 - XX

	Nozzle	
<i>Model</i>	44	48
<i>11004</i>	52	56
<i>11004-ON = with Opposing Nozzle</i>	60	64



PERFORMANCE DATA

11000 Series - Nozzle Performance (Imperial)					
Pressure (psi)	Nozzle	Radius (ft)	Flow (gpm)	Precip (in/h)	Precip (in/h)
60	44	70	20.2	0.89	1.03
	48	74	27.6	1.08	1.24
	52	78	32.2	1.19	1.37
	56	82	35.7	1.23	1.42
	60	86	39.2	1.29	1.49
	64	90	43	1.32	1.52
70	44	73	21.3	0.95	1.10
	48	77	29.8	1.05	1.21
	52	81	34.5	1.12	1.29
	56	85	38.7	1.18	1.36
	60	90	42.5	1.26	1.45
	64	94	46.3	1.27	1.46
80	44	75	22.8	0.92	1.06
	48	80	31.7	1.04	1.20
	52	84	36.5	1.11	1.28
	56	89	41.4	1.16	1.34
	60	93	45.3	1.23	1.42
	64	98	50	1.16	1.34
90	44	78	24.3	0.92	1.06
	48	82	33.5	1.05	1.21
	52	87	39.1	1.07	1.24
	56	92	43.5	1.11	1.29
	60	97	47.9	1.16	1.34
	64	101	53.2	1.22	1.41
100	44	80	25.5	0.94	1.08
	48	85	35.6	1.04	1.20
	52	90	40.5	1.09	1.26
	56	95	46	1.06	1.22
	60	100	50.5	1.10	1.27
	64	105	55.9	1.21	1.40

11000 Series - Nozzle Performance (Metric)						
Pressure (Bar)	Nozzle	Radius (m)	Flow (m³/h)	Flow (l/m)	Precip (mm/h)	Precip (mm/h)
4.1	44	21.3	4.6	76.5	22.66	26.16
	48	22.6	6.3	104.5	27.31	31.53
	52	23.8	7.3	121.9	30.15	34.82
	56	25.0	8.1	135.1	31.19	36.02
	60	26.2	8.9	148.4	32.72	37.78
	64	27.4	9.8	162.8	33.43	38.60
4.8	44	22.3	4.8	80.6	24.21	27.95
	48	23.5	6.8	112.8	26.70	30.83
	52	24.7	7.8	130.6	28.42	32.82
	56	25.9	8.8	146.5	29.97	34.61
	60	27.4	9.7	160.9	31.88	36.81
	64	28.7	10.5	175.3	32.21	37.19
5.5	44	22.9	5.2	86.3	23.39	27.01
	48	24.4	7.2	120.0	26.49	30.59
	52	25.6	8.3	138.2	28.24	32.62
	56	27.1	9.4	156.7	29.39	33.94
	60	28.3	10.3	171.5	31.19	36.02
	64	29.9	11.4	189.3	29.51	34.08
6.2	44	23.8	5.5	92.0	23.39	27.01
	48	25.0	7.6	126.8	26.59	30.71
	52	26.5	8.9	148.0	27.25	31.47
	56	28.0	9.9	164.7	28.27	32.64
	60	29.6	10.9	181.3	29.51	34.08
	64	30.8	12.1	201.4	30.99	35.78
6.9	44	24.4	5.8	96.5	23.77	27.45
	48	25.9	8.1	134.8	26.47	30.56
	52	27.4	9.2	153.3	27.69	31.97
	56	29.0	10.4	174.1	26.87	31.03
	60	30.5	11.5	191.2	27.94	32.26
	64	32.0	12.7	211.6	30.81	35.58

OPTIONS: HOW TO SPECIFY

J - H - 0 - 0 - 00 - X - 3

Length
Pipe Lay Arm
H = 1 1/2" 12"

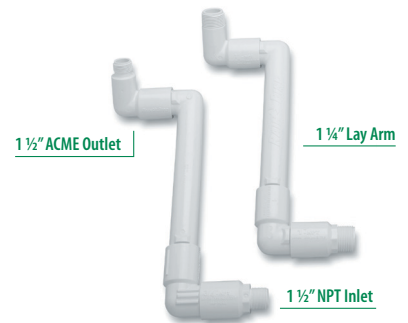
Config.
0 = Standard

Config.
0 = Standard

Inlet Style
1 = NPT
2 = BSP
4 = Spigot

Outlet Style
3 = ACME

*Not all configurations are available



Rain Bird Corporation
6991 East Southpoint Rd.
Tucson, AZ 85756
(520) 741-6100

Rain Bird Corporation
970 West Sierra Madre Ave.
Azusa, CA 91702
(626) 812-3400

The Intelligent Use of Water™
www.rainbird.com