

### **GALAMB AGRO**

Ingeniería para Sistemas de Riego

www.galamb.com.ar

Dealer: Galamb Agro SRL

www.galamb.com.ar

Customer: Tirolesa SA

Eq. 1A

4856 Printout No:



\*\* Specify Senninger UP3 Nozzles when ordering \*\*

Senninger Irrigation INC. Clermont, FL U.S.A.

#### Ingeniería en Sistemas de Riego

www.galamb.com.ar

Tel Fijo: 011-2201-7549

Ing. German Gallo (011) 5517-3033 Ing. Juan Amboldi (011) 3125-3111

Pablo Ritrovatto (011) 6535-3361

info@galamb.com.ar

**Comments:** 

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Dealer: Customer:

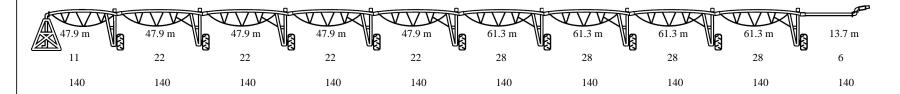
Galamb Agro SRL Tirolesa SA www.galamb.com.ar Eq. 1A

Machine Elevation **Pipes** Mfg: Lindsay 140 C Factor: Difference above(+) pivot 0.00 Flow: 280.00 m3/h 240.1 m. 197.66 mm ID Pipe 1: Difference below(-) pivot 0.00 **Pivot Pressure:** 40.92 psi Pipe 2: 245.1 m, 162.43 mm ID Elevation Rise included in calculations **Base Press** 45.48 psi Pipe 3: 13.7 m, 136.37 mm ID 25.00 psi End Pressure: Span dependent Spacing: 498.80 m Length: **Sprinklers** Regs m3h / Hect: 3.19 m<sup>3</sup>/h Position : Bottom Average Drop: 2.7 m 217 IWob UP3 109 PRL-10 End Gun: KOMET101 18deg .79 (217)Std 9 Grv 108 PSR-10 End Gun Throw: 40.0 m Booster pump 130 gpm

Spans #9

40.92 psi 197.66 162.43 136.37

Gauge 25.00 psi



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#### WARRANTY

WATER APPLICATION UNIFORMITY OBTAINED WITH THIS SYSTEM CAN BE ADVERSELY AFFECTED BY MANY VARIABLES INCLUDING THE IMPROPER MAKEUP OR INSTALLATION OF THE SPRINKLER OR SPRAY NOZZLE PACKAGE, OBSTRUCTED NOZZLES, MAINTAINING INCORRECT PIVOT PRESSURE, UNFAVORABLE CLIMATE CONDITIONS, TIGHT AND/OR SLOPING SOILS, IMPROPER END GUN ARC SETTINGS, ERRATIC AND IMPROPER OPERATING SPEED OF THE SYSTEM, AND AS WELL AS INHERENT VARIABLES IN THE MANY COMPONENTS COMPRISING THE SYSTEM. THEREFORE, SENNINGER IRRIGATION INC. MAKES NO WARRANTY AS TO THE UNIFORMITY OF COVERAGE OBTAINED FROM THIS WATER APPLICATION PRINTOUT OTHER THAN ITS MATHEMATICAL ACCURACY.

PRODUCTS MANUFACTURED BY SENNINGER IRRIGATION INC. THAT ARE SPECIFIED ON THIS SYSTEM ARE COVERED UNDER THE PRINTED "LIMITED WARRANTY" OF EACH INDIVIDUAL ITEM.

IT IS THE RESPONSIBILITY OF THE END USER TO DETERMINE IF ANY INCOMPATABILITY EXISTS BETWEEN THE WATER DISTRIBUTION DEVICES AND THE CROP, THE SOIL, AND THE PHYSICAL STRUCTURE OF THE MECHANICAL MOVE SYSTEM. SENNINGER IRRIGATION THEREFORE DISCLAIMS ANY LIABILITY FOR DAMAGES DUE TO FAILURE OF THE SYSTEM TO PERFORM AS CONTEMPLATED.

ALL FIGURES PRESENTED ON THIS COMPUTER PRINTOUT ARE BASED ON THE FOLLOWING...

- 1. INFORMATION PROVIDED TO SENNINGER IRRIGATION, INC. CONCERNING PIPE LENGTH, DIAMETER, SURFACE FINISH AND OUTLET SPACINGS, PLUS WATER FLOW AND PRESSURE, PLUS ALL OTHER APPLICABLE DATA IS CORRECT.
- 2. THERE IS 100% WATER APPLICATION EFFICIENCY (ZERO WIND VELOCITY & NO EVAPORATION)
- 3. ALL BOW STRING AND WARREN TRUSS TYPE SPANS (EXCEPT THE LAST) ARE CONSIDERED TO END AT THE CENTER OF THE FLEXIBLE COUPLING. THE LAST SPAN IS CONSIDERED TO END AFTER THE "TOWER TOP" OR "END BOOM TRANSITION PIECE" FLANGE. CABLE SUPPORTED SPANS ARE CONSIDERED TO END AT THE CENTER OF THE TOWER.
- 4. PIVOT PRESSURE IS MEASURED UP ON THE MAIN HORIZONTAL DISTRIBUTION PIPE JUST AFTER THE LAST ELBOW.
- 5. PIVOT PRESSURE HAS BEEN DETERMINED IN CONSIDERATION OF A MAXIMUM FIELD ELEVATION RISE AND FALL FROM THE PIVOT POINT AS SHOWN ON PAGE ONE, WITH THESE ELEVATIONS OCCURING AT THE END OF THE SYSTEM.
- 6. SPRINKLER OR SPRAY NOZZLE BASE PRESSURE MAY BE LESS THAN MAIN LINE PIPE PRESSURE DUE TO THE USE OF PRESSURE REGULATORS, WITH FLOW VS. FRICTION LOSS THROUGH EACH REGULATOR CONSIDERED. WHERE DROP PIPES ARE USED THE STATIC HEAD IS ADDED TO THE MAIN PIPE PRESSURE TO DETERMINE SPRAY NOZZLE INLET PRESSURE.

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#### CAUTIONS

WHEN IRRIGATING WITH SENNINGER I-WOBS, USE STANDARD INTEGRAL WEIGHTS OR THREADED PLASTIC OR GALVANIZED DROP WEIGHT ONLY, DO NOT USE SLIP OVER DROP WEIGHTS.

SENNINGER IRRIGATION RECOMMENDS SPACING I-WOBS NO MORE THAN 18 FEET APART WHEN INSTALLED ON DROP PIPES!

SENNINGER I-WOBS ARE DESIGNED TO OPERATE AT 10-20 PSI. THE USE OF I-WOBS AT PRESSURES GREATER THAN 25 PSI VOIDS PRODUCT WARRANTY!

WHEN IRRIGATING WITH I-WOBS, DO NOT EXCEED 18 FOOT SPRINKLER SPACING PAST 2 SPANS WHEN CROP INTERFERENCE CAN PROHIBIT I-WOBS DESIGN DISTRIBUTION!

I-Wob Sprinklers require at least 24" of drop hose. Do not use slip weights. Do not install integrated weights on drop with double I-Wob. Inadequate crop clearence and/or structural interference may cause poor water distribution, resulting in decreased uniformity and possibly streaking.

This package was plugged with the recommended minimum ground clearance and above the crop canopy.

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**Comments:** 

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**Dealer:** 

**Customer:** 

Galamb Agro SRL www.galamb.com.ar

Date: 08/09/2019

Tirolesa SA Eq. 1A

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FICL		) I I. <i>c</i>	ation	
	-1			

Length: 498.80 m

87.86 ha Area:

Distance to last tower: 485.12 m

Speed of last tower: 2.59 m

Precip. / Hect: (360) 3.19 m3/h

Time for coverage: 19.61Hrs

Tire Size 14.9 x 24

Motor loaded speed (RPM) 1440

Center gear box reduction (RATIO) 40:1

Wheel gear box reduction (RATIO) 50:1

End Gun Throw: 40.0 m

Caution\*\*This chart is an estimate of the performance for your irrigation system. Tire inflation, tire slippage, soil conditions, flow fluctuations and other conditions can cause application and time deviations. The info above should be used as a guide and used with caution.

#### Circle Degree 360

<u>Depth</u>	<u>Timer</u>	<u>Rotation</u>
6.26 mm	100.00%	19.6hrs
7.62 mm	82.12%	23.9hrs
10.16 mm	61.59%	31.8hrs
12.70 mm	49.27%	39.8hrs
15.24 mm	41.06%	47.8hrs
17.78 mm	35.19%	55.7hrs
20.32 mm	30.79%	63.7hrs
22.86 mm	27.37%	71.6hrs
25.40 mm	24.63%	79.6hrs
31.75 mm	19.71%	99.5hrs
38.10 mm	16.42%	119.4hrs
50.80 mm	12.32%	159.2hrs
63.50 mm	9.85%	199.0hrs

	9/2019	ATION			rt No: 4856 HYDRAUL	ICS DATA				HARDWARE DESCRIPTION		Page 6 Goose Nec
DUTLET COUNT		ICE FROM LAST TOWER	PIVOT POINT	OUTLET FLOW NEEDED	ACTUAL OUTLET FLOW	MAIN PIPE PRESS	SPR. BASE PRESS	DROP LENGTH	PRESS REG MODEL	SENNINGER SPRINKLER MODEL&PAD/Weight	NOZZ SIZE (64TH INCH) &COLOR	G=180°Sg Sg=125°Sg Db=125°Db
300111	( M)	( M)	( M)	(M3/H)	(M3/H)	(PSI)	(PSI)	(cm)	WODEL	Mobile In Privalent	4002011	NOZZ#
Pivot -	Gauge											
1-Plg	_		1.1									
2-Plg			2.4									
3-Plg			4.7									
4-Plg			6.9									
5-Plg			9.1									
6-Plg			11.4									
7-Plg			13.6									
8-Plg			15.8									
9-Plg			18.1									
10-Plg			20.3									
11-Plg			22.5									
12		24.77	24.8	0.11	0.19	39.97	11.32	276	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	1
13	2.23	27.00	27.0	0.12	0.19	39.89	11.32	273	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	2
14	2.24	29.24	29.2	0.13	0.19	39.80	11.32	271	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	3
15	2.23	31.47	31.5	0.14	0.19	39.72	11.32	268	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	4
16	2.29	33.76	33.8	0.15	0.19	39.63	11.32	263	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	5
17	2.13	35.89	35.9	0.16	0.19	39.55	11.32	258	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	6
18	2.29	38.18	38.2	0.17	0.19	39.46	11.32	250	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	7
19	2.23	40.41	40.4	0.17	0.19	39.38	11.32	243	PRL-10	IWOD UP3 Std 9 Grv 0	6-GOLD	8
20	2.24	42.65	42.7	0.10	0.19	39.29	11.31	235	PRL-10	IWOD UP3 Std 9 Grv 0	6-GOLD	9
21	2.23	44.88	44.9	0.19	0.19	39.29	11.31	233	PRL-10	IWOD UP3 Std 9 Grv 0	6-GOLD	10
22	2.23	47.17	47.2	0.21	0.19	39.21	11.31	217	PRL-10	IWOD UP3 Std 9 Grv 0 IWob UP3 Std 9 Grv 0	6-GOLD	11
دد ower 1:				0.19	0.19	39.12	11.31	Z I /	PKL-10	IWOD OPS Std 9 GIV 0	0-GOTD	
23	1.78	47.85 0.30	48.65 48.9	0.15	0 10	30 06	11.32	215	DDI 10	IWob UP3 Std 9 Grv 0	6 001 D	12
24	1.76				0.19	39.06		215	PRL-10		6-GOLD	13
		1.57	50.2	0.18	0.19	39.01	11.32 11.31	220	PRL-10	IWob UP3 Std 9 Grv 0	6-GOLD	
25	2.29	3.86	52.5	0.24	0.23	38.92		230	PRL-10	IWob UP3 Std 9 Grv 0	6.5-GLD/*	14
26	2.23	6.09	54.7	0.25	0.26	38.84	11.30	237	PRL-10	IWob UP3 Std 9 Grv 0	7-LIME	15
27	2.24	8.33	57.0	0.26	0.26	38.76	11.30	245	PRL-10	IWob UP3 Std 9 Grv 0	7-LIME	16
28	2.23	10.56	59.2	0.27	0.26	38.67	11.30	253	PRL-10	IWob UP3 Std 9 Grv 0	7-LIME	17
29	2.29	12.85	61.5	0.27	0.26	38.59	11.30	260	PRL-10	IWob UP3 Std 9 Grv 0	7-LIME	18
30	2.13	14.98	63.6	0.28	0.30	38.51	11.29	265	PRL-10	IWob UP3 Std 9 Grv 0	7.5-LIM/*	19
31	2.29	17.27	65.9	0.30	0.30	38.42	11.29	271	PRL-10	IWob UP3 Std 9 Grv 0	7.5-LIM/*	20
32	2.23	19.50	68.2	0.30	0.30	38.34	11.29	273	PRL-10	IWob UP3 Std 9 Grv 0	7.5-LIM/*	21
33	2.19	21.69	70.3	0.32	0.30	38.26	11.28	276	PRL-10	IWob UP3 Std 9 Grv 0	7.5-LIM/*	
34	2.29	23.98	72.6	0.33	0.34	38.17	11.27	276	PRL-10	IWob UP3 Std 9 Grv 0	8-LAVENDE	
35	2.23	26.21	74.9	0.34	0.34	38.09	11.27	276	PRL-10	IWob UP3 Std 9 Grv 0	8-LAVENDE	
36	2.24	28.45	77.1	0.35	0.34	38.01	11.27	273	PRL-10	IWob UP3 Std 9 Grv 0	8-LAVENDE	
37	2.23	30.68	79.3	0.36	0.34	37.93	11.27	271	PRL-10	IWob UP3 Std 9 Grv 0	8-LAVENDE	
38	2.29	32.97	81.6	0.36	0.34	37.84	11.27	265	PRL-10	IWob UP3 Std 9 Grv 0	8-LAVENDE	
39	2.13	35.10	83.7	0.37	0.39	37.77	11.26	260	PRL-10	IWob UP3 Std 9 Grv 0	8.5-LAV/*	28
40	2.29	37.39	86.0	0.39	0.39	37.68	11.25	253	PRL-10	IWob UP3 Std 9 Grv 0	8.5-LAV/*	29

Date: 08/					INGER art No: 4856		GATIO	N				Page 7
		CATION			HYDRAULI					HARDWARE DESCRIPTION		Goose Neck
OUTLET	DISTAN LAST OUTLET ( M)	ICE FROM LAST TOWER ( M)	PIVOT POINT ( M)	OUTLET FLOW NEEDED (M3/H)	ACTUAL OUTLET FLOW (M3/H)	MAIN PIPE PRESS (PSI)	SPR. BASE PRESS (PSI)	DROP LENGTH (cm)	PRESS H REG MODEL	SENNINGER SPRINKLER MODEL&PAD/Weight	NOZZ SIZE (64TH INCH) S &COLOR [	G=180°Sg Sg=125°Sg Db=125°Db NOZZ#
41	2.23	39.62	88.3	0.40	0.39	37.60	11.25	245	PRL-10	IWob UP3 Std 9 Grv 0	8.5-LAV/*	30 G
42	2.24	41.86	90.5	0.41	0.39	37.52	11.25	237	PRL-10	IWob UP3 Std 9 Grv 0	8.5-LAV/*	31 G
43	2.23	44.09	92.7	0.42	0.44	37.44	11.24	230	PRL-10	IWob UP3 Std 9 Grv 0	9-GREY	32 G
44	2.29	46.38	95.0	0.39	0.39	37.36	11.25	220	PRL-10	IWob UP3 Std 9 Grv 0	8.5-LAV/*	33 G
Tower	2	47.85	96.50									
45	1.78	0.30	96.8	0.30	0.30	37.29	11.29	215	PRL-10	IWob UP3 Std 9 Grv 0	7.5-LIM/*	34 G
46	1.27	1.57	98.1	0.35	0.34	37.25	11.27	220	PRL-10	IWob UP3 Std 9 Grv 0	8-LAVENDER	35 G
47	2.29	3.86	100.4	0.46	0.44	37.17	11.23	230	PRL-10	IWob UP3 Std 9 Grv 0	9-GREY	36 G
48	2.23	6.09	102.6	0.46	0.49	37.09	11.22	237	PRL-10	IWob UP3 Std 9 Grv 0	9.5-GRY/*	37 G
49	2.24	8.33	104.8	0.47	0.49	37.01	11.21	245	PRL-10	IWob UP3 Std 9 Grv 0	9.5-GRY/*	38 G
50	2.23	10.56	107.1	0.49	0.49	36.93	11.21	253	PRL-10	IWob UP3 Std 9 Grv 0	9.5-GRY/*	39 G
51	2.29	12.85	109.4	0.49	0.49	36.85	11.21	260	PRL-10	IWob UP3 Std 9 Grv 0	9.5-GRY/*	40 G
52	2.13	14.98	111.5	0.50	0.49	36.77	11.21	265	PRL-10	IWob UP3 Std 9 Grv 0	9.5-GRY/*	41 G
53	2.29	17.27	113.8	0.52	0.54	36.69	11.19	271	PRL-10	IWob UP3 Std 9 Grv 0	10-TURQUOIS	SE 42 G
54	2.23	19.50	116.0	0.52	0.54	36.61	11.19	273	PRL-10	IWob UP3 Std 9 Grv 0	10-TURQUOIS	SE 43 G
55	2.19	21.69	118.2	0.53	0.54	36.54	11.18	276	PRL-10	IWob UP3 Std 9 Grv 0	10-TURQUOIS	SE 44 G
56	2.29	23.98	120.5	0.55	0.54	36.46	11.18	276	PRL-10	IWob UP3 Std 9 Grv 0	10-TURQUOIS	SE 45 G
57	2.23	26.21	122.7	0.55	0.54	36.38	11.18	276	PRL-10	IWob UP3 Std 9 Grv 0	10-TURQUOIS	SE 46 G
58	2.24	28.45	124.9	0.56	0.54	36.30	11.18	273	PRL-10	IWob UP3 Std 9 Grv 0	10-TURQUOIS	SE 47 G
59	2.23	30.68	127.2	0.58	0.59	36.23	11.15	271	PRL-10	IWob UP3 Std 9 Grv 0	10.5-TUR/*	48 G
60	2.29	32.97	129.5	0.58	0.59	36.15	11.16	265	PRL-10	IWob UP3 Std 9 Grv 0	10.5-TUR/*	49 G
61	2.13	35.10	131.6	0.59	0.59	36.08	11.15	260	PRL-10	IWob UP3 Std 9 Grv 0	10.5-TUR/*	50 G
62	2.29	37.39	133.9	0.61	0.59	36.00	11.15	253	PRL-10	IWob UP3 Std 9 Grv 0	10.5-TUR/*	51 G
63	2.23	39.62	136.1	0.61	0.59	35.92	11.14	245	PRL-10	IWob UP3 Std 9 Grv 0	10.5-TUR/*	52 G
64	2.24	41.86	138.4	0.63	0.65	35.85	11.12	237	PRL-10	IWob UP3 Std 9 Grv 0	11-YELLOW	53 G
65	2.23	44.09	140.6	0.64	0.65	35.77	11.12	230	PRL-10	IWob UP3 Std 9 Grv 0	11-YELLOW	54 G
66	2.29	46.38	142.9	0.59	0.59	35.70	11.15	220	PRL-10	IWob UP3 Std 9 Grv 0	10.5-TUR/*	55 G
Tower		47.85	144.35									
67	1.78	0.30	144.7	0.45	0.44	35.64	11.23	215	PRL-10	IWob UP3 Std 9 Grv 0	9-GREY	56 G
68	1.27	1.57	145.9	0.53	0.54	35.60	11.19	220	PRL-10	IWob UP3 Std 9 Grv 0	10-TURQUOIS	
69	2.29	3.86	148.2	0.68	0.65	35.52	11.11	230	PRL-10	IWob UP3 Std 9 Grv 0	11-YELLOW	58 G
70	2.23	6.09	150.4	0.68	0.65	35.45	11.10	237	PRL-10	IWob UP3 Std 9 Grv 0	11-YELLOW	59 G
71	2.24	8.33	152.7	0.69	0.71	35.38	11.08	245	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/*	60 G
72	2.23	10.56	154.9	0.71	0.71	35.30	11.07	253	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/*	61 G
73	2.29	12.85	157.2	0.70	0.71	35.23	11.08	260	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/*	62 G
74	2.13	14.98	159.3	0.71	0.71	35.16	11.07	265	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/*	63 G
75	2.29	17.27	161.6	0.74	0.71	35.09	11.06	271	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/*	64 G
76	2.23	19.50	163.9	0.73	0.71	35.02	11.06	273	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/*	65 G
77	2.19	21.69	166.0	0.75	0.77	34.95	11.03	276	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	66 G
78	2.29	23.98	168.3	0.77	0.77	34.88	11.03	276	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	67 G
79	2.23	26.21	170.6	0.77	0.77	34.81	11.03	276	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	68 G
80	2.24	28.45	172.8	0.78	0.77	34.74	11.02	273	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	69 G

Date: 08/					INGER art No: 4856		GATIO	N				Page 8
		ATION			HYDRAULI					HARDWARE DESCRIPTION		Goose Neck
OUTLET	DISTAN LAST OUTLET ( M)	ICE FROM LAST TOWER ( M)	PIVOT POINT ( M)	OUTLET FLOW NEEDED (M3/H)	ACTUAL OUTLET FLOW (M3/H)	MAIN PIPE PRESS (PSI)	SPR. BASE PRESS (PSI)	DROP LENGTH (cm)	PRESS I REG MODEL	SENNINGER SPRINKLER MODEL&PAD/Weight	NOZZ SIZE (64TH INCH) &COLOR	G=180°Sg Sg=125°Sg Db=125°Db NOZZ#
81	2.23	30.68	175.0	0.80	0.77	34.67	11.01	271	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	70 G
82	2.29	32.97	177.3	0.79	0.77	34.60	11.02	265	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	71 G
83	2.13	35.10	179.5	0.80	0.77	34.53	11.01	260	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	72 G
84	2.29	37.39	181.7	0.83	0.84	34.46	10.97	253	PRL-10	IWob UP3 Std 9 Grv 0	12.5-RED/	* 73 G
85	2.23	39.62	184.0	0.83	0.84	34.40	10.97	245	PRL-10	IWob UP3 Std 9 Grv 0	12.5-RED/	* 74 G
86	2.24	41.86	186.2	0.84	0.84	34.33	10.97	237	PRL-10	IWob UP3 Std 9 Grv 0	12.5-RED/	* 75 G
87	2.23	44.09	188.4	0.86	0.84	34.26	10.96	230	PRL-10	IWob UP3 Std 9 Grv 0	12.5-RED/	* 76 G
88	2.29	46.38	190.7	0.78	0.77	34.20	11.02	220	PRL-10	IWob UP3 Std 9 Grv 0	12-RED	77 G
Tower	4	47.85	192.21									
89	1.78	0.30	192.5	0.59	0.59	34.14	11.15	215	PRL-10	IWob UP3 Std 9 Grv 0	10.5-TUR/	* 78 G
90	1.27	1.57	193.8	0.70	0.71	34.11	11.08	220	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/	* 79 G
91	2.29	3.86	196.1	0.90	0.90	34.04	10.92	230	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	80 G
92	2.23	6.09	198.3	0.90	0.90	33.97	10.91	237	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	81 G
93	2.24	8.33	200.5	0.91	0.90	33.91	10.91	245	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	82 G
94	2.23	10.56	202.8	0.93	0.90	33.85	10.90	253	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	83 G
95	2.29	12.85	205.1	0.92	0.90	33.78	10.91	260	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	84 G
96	2.13	14.98	207.2	0.93	0.90	33.72	10.90	265	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	85 G
97	2.29	17.27	209.5	0.96	0.97	33.66	10.85	271	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 86 G
98	2.23	19.50	211.7	0.95	0.97	33.60	10.86	273	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 87 G
99	2.19	21.69	213.9	0.97	0.97	33.54	10.85	276	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 88 G
100	2.29	23.98	216.2	0.99	0.97	33.47	10.84	276	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 89 G
101	2.23	26.21	218.4	0.99	0.97	33.41	10.84	276	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 90 G
102	2.24	28.45	220.7	1.00	0.97	33.35	10.83	273	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 91 G
103	2.23	30.68	222.9	1.02	1.04	33.29	10.78	271	PRL-10	IWob UP3 Std 9 Grv 0	14-BLUE	92 G
104	2.29	32.97	225.2	1.01	0.97	33.23	10.83	265	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 93 G
105	2.13	35.10	227.3	1.02	1.04	33.18	10.79	260	PRL-10	IWob UP3 Std 9 Grv 0	14-BLUE	94 G
106	2.29	37.39	229.6	1.05	1.04	33.12	10.77	253	PRL-10	IWob UP3 Std 9 Grv 0	14-BLUE	95 G
107	2.23	39.62	231.8	1.05	1.04	33.06	10.77	245	PRL-10	IWob UP3 Std 9 Grv 0	14-BLUE	96 G
108	2.24	41.86	234.1	1.06	1.04	33.00	10.76	237	PRL-10	IWob UP3 Std 9 Grv 0	14-BLUE	97 G
109	2.23	44.09	236.3	1.08	1.11	32.95	10.71	230	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/	* 98 G
110	2.29	46.38	238.6	0.98	0.97	32.89	10.84	220	PRL-10	IWob UP3 Std 9 Grv 0	13.5-WHT/	* 99 G
Tower	5	47.85	240.06									
	.D. CHANGE											
111	1.78	0.30	240.4		0.71		11.06	215	PRL-10	IWob UP3 Std 9 Grv 0	11.5-YEL/	
112	1.27	1.57	241.6		0.90	32.69	10.93	220	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	101 G
113	2.29	3.86		1.11	1.11	32.54	10.69	227	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/	
114	2.23	6.09		1.11	1.11	32.40	10.69	235	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/	
115	2.24	8.33		1.12	1.11	32.26	10.69	243	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/	
116	2.23	10.56		1.14	1.14	32.12	11.16	249	PSR-10	IWob UP3 Std 9 Grv 0	14.5-BLU/	
117	2.29	12.85		1.13	1.11	31.98	10.68	255	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/	
118	2.13	14.98	255.0	1.14	1.11	31.85	10.68	263	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/	* 107 G

Date: 08/					INGER art No: 4856		GATIO	N				Page 9
		CATION			HYDRAUL					HARDWARE DESCRIPTION		ose Neck
OUTLET	DISTAN LAST OUTLET ( M)	ICE FROM LAST TOWER ( M)	PIVOT POINT ( M)	OUTLET FLOW NEEDED (M3/H)	ACTUAL OUTLET FLOW (M3/H)	MAIN PIPE PRESS (PSI)	SPR. BASE PRESS (PSI)	DROP LENGTI (cm)	PRESS H REG MODEL	SENNINGER SPRINKLER MODEL&PAD/Weight	(64TH INCH) Sg &COLOR Db	180°Sg =125°Sg =125°Db NOZZ#
119	2.29	17.27	257.3	1.18	1.14	31.71	11.16	267	PSR-10	IWob UP3 Std 9 Grv 0	14.5-BLU/*	108 G
120	2.23	19.50	259.6	1.17	1.14	31.58	11.16	272	PSR-10	IWob UP3 Std 9 Grv 0	14.5-BLU/*	109 G
121	2.24	21.74	261.8	1.18	1.22	31.45	11.14	274	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	110 G
122	2.23	23.98	264.0	1.21	1.22	31.32	11.13	277	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	111 G
123	2.29	26.26	266.3	1.19	1.22	31.18	11.14	279	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	112 G
124	2.13	28.40	268.5	1.20	1.22	31.06	11.13	282	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	113 G
125	2.29	30.68	270.7	1.24	1.22	30.93	11.13	282	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	114 G
126	2.23	32.92	273.0	1.22	1.22	30.81	11.13	282	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	115 G
127	2.19	35.10	275.2	1.24	1.22	30.68	11.13	279	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	116 G
128	2.29	37.39	277.4	1.27	1.30	30.56	11.10	277	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	117 G
129	2.23	39.62	279.7	1.26	1.30	30.44	11.10	274	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	118 G
130	2.24	41.86	281.9	1.27	1.30	30.32	11.10	272	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	119 G
131	2.23	44.09	284.2	1.30	1.30	30.20	11.10	267	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	120 G
132	2.29	46.38	286.4	1.28	1.30	30.08	11.10	262	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	121 G
133	2.13	48.51	288.6	1.29	1.30	29.97	11.10	254	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	122 G
134	2.29	50.80	290.9	1.33	1.30	29.85	11.09	249	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	123 G
135	2.23	53.03	293.1	1.32	1.30	29.74	11.09	241	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	124 G
136	2.24	55.27	295.3	1.33	1.30	29.63	11.09	234	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	125 G
137	2.23	57.50	297.6	1.36	1.38	29.52	11.06	226	PSR-10	IWob UP3 Std 9 Grv 0	16-ORANGE	126 G
138	2.29	59.79	299.9	1.23	1.22	29.41	11.13	218	PSR-10	IWob UP3 Std 9 Grv 0	15-DK BROWN	127 G
Tower	6	61.26	301.33									
139	1.78	0.30	301.6	0.93	0.90	29.32	10.90	215	PRL-10	IWob UP3 Std 9 Grv 0	13-WHITE	128 G
140	1.27	1.57	302.9	1.09	1.11	29.26	10.71	220	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/*	129 G
141	2.29	3.86	305.2	1.39	1.38	29.15	11.05	226	PSR-10	IWob UP3 Std 9 Grv 0	16-ORANGE	130 G
142	2.23	6.09	307.4	1.39	1.38	29.05	11.06	234	PSR-10	IWob UP3 Std 9 Grv 0	16-ORANGE	131 G
143	2.24	8.33	309.7	1.40	1.38	28.95	11.05	241	PSR-10	IWob UP3 Std 9 Grv 0	16-ORANGE	132 G
144	2.23	10.56	311.9	1.42	1.47	28.85	11.03	249	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	133 G
145	2.29	12.85	314.2	1.40	1.38	28.74	11.05	254	PSR-10	IWob UP3 Std 9 Grv 0	16-ORANGE	134 G
146	2.13	14.98	316.3	1.41	1.38	28.65	11.05	262	PSR-10	IWob UP3 Std 9 Grv 0	16-ORANGE	135 G
147	2.29	17.27	318.6	1.45	1.46	28.55	11.02	267	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	136 G
148	2.23	19.50	320.8	1.45	1.47	28.46	11.02	272	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	137 G
149	2.24	21.74	323.1	1.46	1.46	28.36	11.02	274	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	138 G
150	2.23	23.98	325.3	1.49	1.46	28.27	11.01	277	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	139 G
151	2.29	26.26	327.6	1.46	1.46	28.18	11.02	279	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	140 G
152	2.13	28.40	329.7		1.46	28.09	11.01	282	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	141 G
153	2.29	30.68	332.0	1.52	1.55	28.00	10.98	282	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREEN	142 G
154	2.23	32.92	334.2	1.49	1.46	27.92	11.01	282	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	143 G
155	2.19	35.10	336.4	1.52	1.55	27.83	10.98	279	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREEN	144 G
156	2.29	37.39	338.7	1.55	1.55	27.75	10.97	277	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREEN	145 G
157	2.23	39.62	340.9	1.54	1.55	27.66	10.98	274	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREEN	146 G
158	2.24	41.86			1.55	27.58	10.97	272	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREEN	147 G
159	2.23	44.09	345.4	1.58	1.55	27.50	10.97	267	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREEN	148 G

Date: 08/					INGER art No: 4856		GATIO	N				Page 10
	LOC	ATION			HYDRAULI	CS DATA				HARDWARE DESCRIPTION	]	Goose Neck
OUTLET COUNT	DISTAN LAST OUTLET ( M)	CE FROM LAST TOWER ( M)	PIVOT POINT ( M)	OUTLET FLOW NEEDED (M3/H)	ACTUAL OUTLET FLOW (M3/H)	MAIN PIPE PRESS (PSI)	SPR. BASE PRESS (PSI)	DROP LENGTH (cm)	PRESS REG MODEL	SENNINGER SPRINKLER MODEL&PAD/Weight	(64TH INCH)	G=180°Sg Sg=125°Sg Db=125°Db NOZZ#
160	2.29	46.38	347.7	1.55	1.55	27.42	10.97	262	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREE	N 149 (
161	2.13	48.51	349.8	1.56	1.55	27.35	10.97	254	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREE	N 150 (
162	2.29	50.80	352.1	1.61	1.64	27.27	10.93	249	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	151 (
163	2.23	53.03	354.4	1.60	1.64	27.20	10.94	241	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	152 (
164	2.24	55.27	356.6	1.61	1.64	27.13	10.93	234	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	153 (
165	2.23	57.50	358.8	1.64	1.64	27.06	10.93	226	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	154 (
166	2.29	59.79	361.1	1.48	1.46	26.99	11.01	218	PSR-10	IWob UP3 Std 9 Grv 0	16.5-ORN/*	155 (
Tower	7	61.26	362.59									
167	1.78	0.30	362.9	1.12	1.11	26.93	10.69	215	PRL-10	IWob UP3 Std 9 Grv 0	14.5-BLU/*	156 (
168	1.27	1.57	364.2	1.31	1.30	26.89	11.09	218	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	157 (
169	2.29	3.86	366.4	1.67	1.64	26.83	10.92	226	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	158 (
170	2.23	6.09	368.7	1.67	1.64	26.76	10.92	234	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	159 (
171	2.24	8.33	370.9	1.68	1.64	26.70	10.92	241	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	160 (
172	2.23	10.56	373.2	1.70	1.73	26.64	10.88	249	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	161 (
173	2.29	12.85	375.4	1.68	1.64	26.57	10.92	254	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	162 (
174	2.13	14.98	377.6	1.69	1.64	26.52	10.91	262	PSR-10	IWob UP3 Std 9 Grv 0	17.5-DGN/*	163 (
175	2.29	17.27	379.9	1.73	1.73	26.46	10.87	267	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	164 (
176	2.23	19.50	382.1	1.73	1.73	26.40	10.88	272	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	165 (
177	2.24	21.74	384.3	1.74	1.73	26.35	10.87	274	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	166 (
178	2.23	23.98	386.6	1.77	1.73	26.29	10.86	277	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	167 (
179	2.29	26.26	388.9	1.74	1.73	26.24	10.87	279	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	168 (
180	2.13	28.40	391.0	1.75	1.73	26.19	10.87	282	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	169 (
181	2.29	30.68	393.3	1.80	1.83	26.14	10.83	282	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	170 (
182	2.23	32.92	395.5	1.77	1.73	26.09	10.86	282	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	171 (
183	2.19	35.10	397.7	1.80	1.83	26.04	10.83	279	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	172 (
184	2.29	37.39	400.0	1.83	1.83	26.00	10.82	277	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	173 (
185	2.23	39.62	402.2	1.82	1.83	25.95	10.82	274	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	174 (
186	2.24	41.86	404.4	1.83	1.83	25.91	10.82	272	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	175 (
187	2.23	44.09	406.7	1.86	1.82	25.86	10.81	267	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	176 (
188	2.29	46.38	409.0	1.83	1.83	25.82	10.82	262	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	177 (
189	2.13	48.51	411.1	1.84	1.82	25.78	10.82	254	PSR-10	IWob UP3 Std 9 Grv 0	18.5-PUR/*	178 (
190	2.29	50.80	413.4	1.89	1.92	25.75	10.77	249	PSR-10	IWob UP3 Std 9 Grv 0	19-BLACK	179 (
191	2.23	53.03	415.6	1.88	1.92	25.71	10.78	241	PSR-10	IWob UP3 Std 9 Grv 0	19-BLACK	180 (
192	2.24	55.27	417.9	1.89	1.92	25.67	10.77	234	PSR-10	IWob UP3 Std 9 Grv 0	19-BLACK	181 (
193	2.23	57.50	420.1	1.92	1.92	25.64	10.76	226	PSR-10	IWob UP3 Std 9 Grv 0	19-BLACK	182 (
194	2.29	59.79	422.4	1.73	1.73	25.60	10.87	218	PSR-10	IWob UP3 Std 9 Grv 0	18-PURPLE	183 (
Tower	8	61.26	423.85									
195	1.78	0.30	424.2	1.31	1.30	25.58	11.09	213	PSR-10	IWob UP3 Std 9 Grv 0	15.5-DBN/*	184 (
196	1.27	1.57	425.4	1.53	1.55	25.56	10.98	218	PSR-10	IWob UP3 Std 9 Grv 0	17-DK GREE	N 185 (
197	2.29	3.86	427.7	1.95	1.92	25.53	10.75	226	PSR-10	IWob UP3 Std 9 Grv 0	19-BLACK	186 (
198	2.23	6.09	429.9	1.94	1.92	25.50	10.76	234	PSR-10	IWob UP3 Std 9 Grv 0	19-BLACK	187 (
199	2.24	8.33	432.2	1.95	1.92	25.47	10.75	241	PSR-10	IWob UP3 Std 9 Grv 0	19-BLACK	188 (

Date: 08/0	09/2019				INGER art No: 4856	IRRIC	GATIO	N				Page 11
		CATION			HYDRAULI					HARDWARE DESCRIPTION		Goose Neck
OUTLET COUNT	DISTAN LAST OUTLET (M)	ICE FROM LAST TOWER ( M)	PIVOT POINT ( M)	OUTLET FLOW NEEDED (M3/H)	ACTUAL OUTLET FLOW (M3/H)	MAIN PIPE PRESS (PSI)	SPR. BASE PRESS (PSI)	DROP LENG (cm)		SENNINGER SPRINKLER MODEL&PAD/Weight	NOZZ SIZE (64TH INCH) &COLOR	G=180°Sg Sg=125°Sg Db=125°Db NOZZ#
200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220	2.23 2.29 2.13 2.29 2.23 2.24 2.23 2.29 2.13 2.29 2.23 2.29 2.23 2.24 2.23 2.29 2.23 2.24 2.23 2.24	10.56 12.85 14.98 17.27 19.50 21.74 23.98 26.26 28.40 30.68 32.92 35.10 37.39 39.62 41.86 44.09 46.38 48.51 50.80 53.03 55.27	434.4 436.7 438.8 441.1 443.4 445.6 447.8 450.1 452.3 454.5 456.8 459.0 461.2 463.5 465.7 467.9 470.2 472.4 474.7 476.9 479.1	1.98 1.95 1.96 2.01 2.00 2.01 2.05 2.01 2.02 2.08 2.04 2.07 2.11 2.09 2.10 2.14 2.10 2.11 2.17 2.15 2.16	2.02 1.92 1.92 2.02 2.02 2.02 2.01 2.02 2.02 2.11 2.11	25.44 25.41 25.39 25.36 25.32 25.30 25.28 25.26 25.24 25.22 25.19 25.17 25.16 25.15 25.14 25.12 25.11 25.10 25.09	10.71 10.75 10.75 10.70 10.71 10.70 10.69 10.70 10.65 10.65 10.64 10.65 10.64 10.63 10.64 10.64 10.59 10.63 10.59	249 254 262 267 272 274 277 279 282 282 279 277 274 272 267 262 254 249 241 234	PSR-10 PSR-10	IWob         UP3         Std         9         Grv         0           IWob         UP3	19.5-BLK/* 19-BLACK 19-BLACK 19.5-BLK/* 19.5-BLK/* 19.5-BLK/* 19.5-BLK/* 19.5-BLK/* 20-TURQ	190 G 191 G 192 G 193 G 194 G 195 G 196 G 197 G 198 G 199 G 200 G 201 G 202 G 203 G 204 G 205 G 206 G 207 G 208 G
221 222	2.24 2.23 2.29	57.50 59.79	481.4 483.6	2.20 2.49	2.21 2.51	25.09 25.09 25.08	10.58	234 226 218	PSR-10 PSR-10 PSR-10	IWOD UP3 Std 9 Grv 0 IWob UP3 Std 9 Grv 0 IWob UP3 Std 9 Grv 0	20.5-DTQ/* 20.5-DTQ/* 22-MAROON	
Tower 9	•	61.26	485.12									
					3 mm TO 13							
223 224 225 226 227 228	2.81 2.29 2.23 2.24 2.23 2.29 1.07	1.33 3.62 5.85 8.09 10.32 12.61 13.68	486.5 488.7 491.0 493.2 495.4 497.7 498.8	2.50 2.23 2.22 2.23 2.26 2.30 30.86	2.51 2.21 2.21 2.21 2.31 2.31 29.07	25.06 25.04 25.03 25.02 25.01 25.00 25.00	10.36 10.57 10.57 10.57 10.52 10.51 52.36	213 213 213 213 213 213 213 End	PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 Gun 1	IWob UP3 Std 9 Grv 0 KOMET101 18deg .79	22-MAROON 20.5-DTQ/* 20.5-DTQ/* 20.5-DTQ/* 21-MUSTARI 21-MUSTARI	214 G 215 G 216 G
Boos	ter Pump	added 27.	4 psi to	inline	pressure							

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Date: 08/	09/2019				Chart	No: 4856	5						Page 12
M .	ATERIALS	IWo	b UP3										
Qty	Pad	Size				I	Posit	ions					
13	Std 9 Grv	6	1	2	3	4	5	6	7	8	9	10	
			11-т	T-12	13								
1	Std 9 Grv	6.5	14										
4	Std 9 Grv	7	15	16	17	18							
5	Std 9 Grv	7.5	19	20	21	22	T-34						
6	Std 9 Grv	8	23	24	25	26	27	35					
5	Std 9 Grv	8.5	28	29	30	31	33-T						
3	Std 9 Grv	9	32	36	T-56								
5	Std 9 Grv	9.5	37	38	39	40	41						
7	Std 9 Grv	10	42	43	44	45	46	47	57				
7	Std 9 Grv	10.5	48	49	50	51	52	55-T	T-78				
4	Std 9 Grv	11	53	54	58	59							
8	Std 9 Grv	11.5	60	61	62	63	64	65	79	T-10	0		
8	Std 9 Grv	12	66	67	68	69	70	71	72	77-T			
4	Std 9 Grv	12.5	73	74	75	76							
8	Std 9 Grv	13	80	81	82	83	84	85	101	T-12	8		
8	Std 9 Grv	13.5	86	87	88	89	90	91	93	99-т			

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Date: 08/	/09/2019		Chart No: 4856											
M	ATERIALS	IWo	b UP3											
Qty	Pad	Size					Posit	cions						
5	Std 9 Grv	14	92	94	95	96	97							
11	Std 9 Grv	14.5	98	102	103	104	105	106	107	108	109	129		
			T-15	6										
8	Std 9 Grv	15	110	111	112	113	114	115	116	127-	т			
11	Std 9 Grv	15.5	117	118	119	120	121	122	123	124	125	157		
			T-18	4										
6	Std 9 Grv	16	126	130	131	132	134	135						
9	Std 9 Grv	16.5	133	136	137	138	139	140	141	143	155-	Т		
9	Std 9 Grv	17	142	144	145	146	147	148	149	150	185			
9	Std 9 Grv	17.5	151	152	153	154	158	159	160	162	163			
9	Std 9 Grv	18	161	164	165	166	167	168	169	171	183-	Т		
8	Std 9 Grv	18.5	170	172	173	174	175	176	177	178				
9	Std 9 Grv	19	179	180	181	182	186	187	188	190	191			
8	Std 9 Grv	19.5	189	192	193	194	195	196	197	199				
9	Std 9 Grv	20	198	200	201	202	203	204	205	206	208			
6	Std 9 Grv	20.5	207	209	210	213	214	215						
2	Std 9 Grv	21	216	217-	T									

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	(09/2019		Chart No: 4856	Page 14
	ATERIALS	IW	ob UP3	250 11
Qty	Pad	Size	Positions	
2	Std 9 Grv	22	211-T T-212	
217	Total			

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Date: 08/	/09/2019	Chart No: 4856							
Q	UANTITIES								
Qty	Item	De	scription						
217	IWob UP3	(217)Std 9 Grv							
109	PRL-10								
108	PSR-10								
217	Weights	(217)Magnum lb							
11	Plugs								
1	KOMET101 18deg .79								
	(cm)	(cm)		(cm)		(cm)			
7 x	213 Drop	2 x 235 Drop	1 x	255 Drop	8 x	272 Drop			
7 x	215 Drop	8 x 237 Drop	1 x	258 Drop	9 x	273 Drop			
1 x	217 Drop	7 x 241 Drop	8 x	260 Drop	8 x	274 Drop			
6 x	218 Drop	2 x 243 Drop	7 x	262 Drop	13 x	276 Drop			
10 x	220 Drop	8 x 245 Drop	2 x	263 Drop	8 x	277 Drop			
7 x	226 Drop	8 x 249 Drop	8 x	265 Drop	8 x	279 Drop			
2 x	227 Drop	1 x 250 Drop	8 x	267 Drop	12 x	282 Drop			
8 x	230 Drop	8 x 253 Drop	1 x	268 Drop					
7 x	234 Drop	7 x 254 Drop	9 x	271 Drop					
	549.39m	TOTAL DROP LENGTH							
	349.35m	TOTAL DROP LENGTH							

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#### Drop lengths are based on the following values.

Span	Tower	height	Crown height	Ground	Clearance	m
1,2,3,	4,5	3.91	4.52			
6.7.8.	9	3.91	4.60			

Ground Clearance : General 1.50

#### These dimensions must be confirmed prior to manufacturing the drop components

DEVIATION SU	MMARY				
Span number	Area	Required flow	Actual flow	% Deviation	m3/h/ha
1	0.74	1.82	2.18	20.13	2.94
2	2.18	7.01	7.02	0.14	3.21
3	3.62	11.64	11.65	0.10	3.21
4	5.06	16.26	16.11	-0.97	3.18
5	6.50	20.89	20.84	-0.24	3.20
6	10.43	33.50	33.43	-0.22	3.21
7	12.79	41.08	41.15	0.17	3.22
8	15.15	48.67	48.55	-0.25	3.20
9	17.51	56.32	56.37	0.08	3.22
10	4.23	13.68	13.71	0.21	3.24
End Gun 1	9.65	30.86	29.07	-5.81	3.01
Nozzle Discha	rge Uniformi	ty Coefficient = 9	8.3 %		

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#### **GROSS APPLICATION RATE**

Span	#Sprinklers	Average throw	Total flow	Total area	Rate	
		m	m3/h	m2	mm/h	
1	11	5.87	2.18	1089.24	6.58	
2	22	6.05	7.02	1904.48	12.10	
3	22	6.31	11.65	1986.05	19.26	
4	22	6.51	16.11	2050.72	25.79	
5	22	6.70	20.84	2111.36	32.42	
6	28	6.88	33.43	2771.57	39.61	
7	28	7.07	41.15	2848.09	47.45	
8	28	7.24	48.55	2917.00	54.66	
9	28	7.41	56.37	2990.89	61.90	
10	6	7.57	13.71	694.65	64.80	

This page is a simulation of the application rate that is derived from the average pattern radius of the sprinklers selected plus any additional offset parameters.

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BI	LL of MATERIALS - Hydra	ulic Components								
Qty	PartNumber	Cost	Description							
217	IWOB00B3-UP3		UP3 I-Wob Standard Angle 9 Groove (Black							
11	FTP3		3/4" Plugs							
13	UP3NZ06		# 6 UP3 Nozzle (gold)							
1	UP3NZ065		# 6.5 UP3 Nozzle (gold) notched							
4	UP3NZ07		# 7 UP3 Nozzle (lime)							
5	UP3NZ075		# 7.5 UP3 Nozzle (lime) notched							
6	UP3NZ08		# 8 UP3 Nozzle (lavender)							
5	UP3NZ085		# 8.5 UP3 Nozzle (lavender) notched							
3	UP3NZ09		# 9 UP3 Nozzle (grey)							
5	UP3NZ095		# 9.5 UP3 Nozzle (grey) notched							
7	UP3NZ10		#10 UP3 Nozzle (turquoise)							
7	UP3NZ105		#10.5 UP3 Nozzle (turquoise) notched							
4	UP3NZ11		#11 UP3 Nozzle (yellow)							
8	UP3NZ115		#11.5 UP3 Nozzle (yellow) notched							
8	UP3NZ12		#12 UP3 Nozzle (red)							
4	UP3NZ125		#12.5 UP3 Nozzle (red) notched							
8	UP3NZ13		#13 UP3 Nozzle (white)							
8	UP3NZ135		#13.5 UP3 Nozzle (white) notched							
5	UP3NZ14		#14 UP3 Nozzle (blue)							
11	UP3NZ145		#14.5 UP3 Nozzle (blue) notched							
8	UP3NZ15		#15 UP3 Nozzle (brown)							
11	UP3NZ155		#15.5 UP3 Nozzle (brown) notched							
6	UP3NZ16		#16 UP3 Nozzle (orange)							
9	UP3NZ165		#16.5 UP3 Nozzle (orange) notched							
9	UP3NZ17		#17 UP3 Nozzle (dark green)							
9	UP3NZ175		#17.5 UP3 Nozzle (dark green) notched							
9	UP3NZ18		#18 UP3 Nozzle (purple)							
8	UP3NZ185		#18.5 UP3 Nozzle (purple) notched							
9	UP3NZ19		#19 UP3 Nozzle (black)							
	1	1								

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BII	LL of MATERIALS - Hydraulic C	Components	
Qty	PartNumber	Cost	Description
8	UP3NZ195		#19.5 UP3 Nozzle (black) notched
9	UP3NZ20		#20 UP3 Nozzle (dark turquoise)
6	UP3NZ205		#20.5 UP3 Nozzle (dark turquoise) notched
2	UP3NZ21		#21 UP3 Nozzle (mustard)
2	UP3NZ22		#22 UP3 Nozzle (maroon)
109	PRL10LF3F3F		REGULATOR, SENN, PRL, 10 PSI
108	PSR10-3F3F		REGULATOR, SENN, PSR, 10 PSI
217	MAGWGTBRB		WEIGHT, Magnum, Barb (I-Wob)
1	Nozzle , Komet Twin		Nozzle , Komet Twin 101, 0.79"
880	Total		

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Date: 08/	/09/2019		Chart No: 4856	Page 20				
BI	LL of MATERIALS - Drop C	omponents						
Qty	PartNumber	Cost	Description					

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Dealer:

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**Customer:** 

Tirolesa SA

Eq. 1A

**Printout No:** 4856

Date: 08/09/2019 Chart No: 4856 Page 21

Date: 08/09	9/2019						Char	t No: 48	356							Pa	ge 21
INS	STALLA	ATION															
Len	Noz		Len	Noz		I	Len	Noz		I	len	Noz		L	en	Noz	
Out#	Pos	Reg	Out#	Pos	Reg	Out#	I	Pos	Reg	Out#	I	Pos	Reg	Out#	Po	S	Reg
217x1 22 243x1 25 263x1 26 273x1 27	2 6 3 6 4 6 5 6 6 6 6 7 6 8 6 9 6 10 6 11 6 Summary 7x1 235x1 0x1 258x1 8x1 271x1 6x1  er No. 1 12 6 13 6 14 6.5 15 7 16 7 17 7 18 7 19 7.5 20 7.5 21 7.5 22 7.5 23 8 24 8 25 8 26 8 27 8	PRL-10	215x1 2: 237x2 24 260x2 26 273x2 2'  Town  1 215 2 220 3 230 4 237 5 245 6 253 7 260 8 265 9 271 10 273 11 276 12 276 14 273 15 271 16 265 17 260 18 253 19 245 20 237 21 230 22 220 Drop 215x1 2: 237x2 24 260x2 26	29 8.5 30 8.5 31 8.5 32 9 33 8.5  Summary 20x2 230x 45x2 253x 55x2 271x  76x3  er No. 2 34 7.5 35 8 36 9 37 9.5 38 9.5 39 9.5 40 9.5 41 9.5 42 10 43 10 44 10 45 10 46 10 47 10 48 10.5 50 10.5 51 10.5 52 10.5 53 11 54 11 55 10.5 Summary 20x2 230x 45x2 253x 55x2 271x	PRL-10	1 2 2 2 3 4 2 5 6 2 7 8 8 2 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2	220	566 9 57 10 58 11 59 11 50 11.5 51 11.5 52 11.5 53 11.5 54 11.5 55 11.5 56 12 57 12 58 12 77 12	2	16 2 17 2 18 2 2 2 2 2 2 2 2 3 2 2 2 2 2 2 2 2 2 2	265 9 260 9 253 9 245 9 220 9 220 9 245 2 265 2 276 2 267 1 227 1 235 1 249 1 255 1 277 1	2 253x2 2 271x2 3	2	215x1 226x1 235x1 249x2 262x1 272x2 279x2  T 1	20 129 26 130 34 131 41 132 49 133 54 134 62 135 67 136 77 139 79 140 82 141 82 142 82 143 77 145 74 146 72 147 67 148 62 149 151 41 152 34 153 26 154	220x1 234x1 243x1 255x1 267x2 277x2  . 6 13 14.5 16 16 16.5 16.5 16.5 16.5 17 17 17 17 17 17 17 17 17 17 17 17 17	PRL-10 PRL-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10 PSR-10

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**Customer:** 

Tirolesa SA

Eq. 1A

**Printout No:** 4856

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Len Noz	Len Noz	Len Noz	Len Noz	Len Noz
ut# Pos Reg	Out# Pos Reg	Out# Pos Reg	Out# Pos Reg	Out# Pos Reg
Tower No. 7  1 215 156 14.5 PRL-10 2 218 157 15.5 PSR-10 3 226 158 17.5 PSR-10 4 234 159 17.5 PSR-10 5 241 160 17.5 PSR-10 6 241 162 17.5 PSR-10 7 254 162 17.5 PSR-10 8 262 163 17.5 PSR-10 8 262 163 17.5 PSR-10 8 262 163 17.5 PSR-10 9 267 164 18 PSR-10 1 274 166 18 PSR-10 1 274 166 18 PSR-10 2 277 167 18 PSR-10 2 277 167 18 PSR-10 3 279 168 18 PSR-10 3 279 168 18 PSR-10 5 282 170 18.5 PSR-10 5 282 170 18.5 PSR-10 6 282 171 18 PSR-10 7 279 172 18.5 PSR-10 8 277 173 18.5 PSR-10 9 274 174 18.5 PSR-10 9 274 174 18.5 PSR-10 1 267 176 18.5 PSR-10 2 262 177 18.5 PSR-10 2 262 177 18.5 PSR-10 3 254 178 18.5 PSR-10 4 249 179 19 PSR-10 5 241 180 19 PSR-10 6 234 181 19 PSR-10 7 226 182 19 PSR-10 7 226 182 19 PSR-10 8 218 183 18 PSR-10 7 226 182 249×2 54x2 262x2 267x2 72x2 274x2 277x2 79x2 282x3  Tower No. 8 1 213 184 15.5 PSR-10 2 218 185 17 PSR-10 2 218 185 17 PSR-10 3 254 178 19 PSR-10 4 234 187 19 PSR-10 5 241 188 19 PSR-10 5 241 188 19 PSR-10 6 241 188 19 PSR-10 7 254 190 19 PSR-10	8 262 191 19 PSR-10 9 267 192 19.5 PSR-10 10 272 193 19.5 PSR-10 11 274 194 19.5 PSR-10 12 277 195 19.5 PSR-10 13 279 196 19.5 PSR-10 14 282 197 19.5 PSR-10 15 282 198 20 PSR-10 16 282 199 19.5 PSR-10 17 279 200 20 PSR-10 18 277 201 20 PSR-10 19 274 202 20 PSR-10 20 272 203 20 PSR-10 21 267 204 20 PSR-10 22 262 205 20 PSR-10 23 254 206 20 PSR-10 24 249 207 20.5 PSR-10 25 241 208 20 PSR-10 26 234 209 20.5 PSR-10 27 226 210 20.5 PSR-10 28 218 211 22 PSR-10 28 218 211 22 PSR-10 29 272x2 274x2 277x2 279x2 282x3  Tower No. 9  1 213 212 22 PSR-10 2 213 213 20.5 PSR-10 3 213 214 20.5 PSR-10 4 213 215 20.5 PSR-10 5 213 216 21 PSR-10 6 213 217 21 PSR-10 6 213 217 21 PSR-10 7 Drop Summary  Drop Summary  Drop Summary 213x1 218x2 226x2 272x2 274x2 277x2 279x2 282x3	Drop Total  213x7		