

T.K.Z. CENTER PIVOT INC.

SEPTEMBER 18, 2025

WISH-119600

CUSTOMER : HEATH FRANCIS

REINKE LP
3 TOWER - 569 FT
SYSTEM 350 GPM @ 40 PSI

LEGAL : 3 TOWER

NELSON Q3030 ORBITOR
NELSON 10 PSI REGULATORS
KOMET KPW YELLOW #75
ELEVATION 0 FT UP, 0 FT DOWN

3103 SHERMAN AVENUE
MONTE VISTA, COLORADO 81144
(719)852-3683

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 CLIMATIC CONDITIONS, TIGHT AND/OR SLOPING SOILS, IMPROPER END GUN ARC SETTINGS, ERRATIC AND IMPROPER OPERATING SPEED OF THE SYSTEM, POOR QUALITY OF WATER WITH ABRASIVES, CORROSIVES, AND/OR SOLIDS WHICH CAN CAUSE PLUGGING AND JAMMING, AS WELL AS INHERENT VARIABLES IN THE MANY COMPONENTS COMPRISING THE SYSTEM. THEREFORE WESTERN IRRIGATION SUPPLY HOUSE, INC., MAKES NO WARRANTY AS TO THE UNIFORMITY OF COVERAGE OBTAINED FROM THIS WATER APPLICATION PRINTOUT OTHER THAN ITS MATHEMATICAL ACCURACY.

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

FIGURES PRESENTED ON THIS COMPUTER PRINTOUT ARE BASED ON THE FOLLOWING:

1. DATA FURNISHED TO WESTERN IRRIGATION SUPPLY HOUSE, INC., ON PIPE LENGTH, DIAMETER, SURFACE FINISH, OUTLET SPACINGS, WATER FLOW, PIVOT PRESSURE AND ALL OTHER APPLICABLE INFORMATION.
2. THERE IS 100% WATER APPLICATION EFFICIENCY (ZERO WIND VELOCITY AND NO EVAPORATION).
3. PIVOT PRESSURE IS MEASURED ON THE MAIN HORIZONTAL DISTRIBUTION PIPE JUST AFTER THE LAST ELBOW.
4. MAIN PIPE PRESSURE IS CALCULATED AS IF THE PIVOT IS ALWAYS ON LEVEL GROUND.
5. SPRINKLER OR SPRAY NOZZLE BASE PRESSURE MAY BE LESS THAN MAIN LINE PIPE PRESSURE DUE TO THE USE OF PRESSURE REGULATORS. WHERE DROP PIPES ARE USED THE STATIC HEAD IS ADDED TO AND FRICTION LOSS IS SUBTRACTED FROM THE MAIN LINE PIPE PRESSURE TO DETERMINE INLET PSI. REGULATORS ARE CONSIDERED MOUNTED AT THE SAME HEIGHT AS THE SPRINKLING DEVICE UNLESS NOTED.

REINKE LP

SEPTEMBER 18, 2025

WISH-119600

DEALER

T.K.Z. CENTER PIVOT INC.
 3103 SHERMAN AVENUE
 MONTE VISTA, COLORADO 81144

IRRIGATOR

HEATH FRANCIS
 3 TOWER

					SPAN #	LENGTH	PIPE I.D.	# OF HEADS
TOTAL TARGET GPM	350.00	FRICTION FACTOR USED	135					
TOP OF PIVOT PRESSURE	40.00	TOTAL LENGTH	569.00	1	176.25	6.415	17	
ENDGUN TARGET GPM	60.86	NUMBER OF TOWERS	3	2	175.00	6.415	18	
NUMBER OF OUTLETS	116	NUMBER OF SPRINKLERS	58	3	175.00	6.415	18	
NELSON O3030 ORBITOR - FINE DROPLET PURPLE PLATES				OH	23.00	5.79	2	
NELSON ALL-FLO 10 PSI FPT SERIES REGULATORS					19.75	2.06	3	
DROPS AVERAGE 7.5 FT OF .75 I.D. FLEXIBLE HOSE								
ELEVATION IS 0 FT UP AND 0 FT DOWN								

CAUTIONS AND WARNINGS

1. Over watering at beginning of system due to practical limitations on smallest nozzle sizes available and/or allowable for proper operation.
2. When using spray nozzles with five foot ground clearance or less, nozzle should travel between crop rows and spacing should not exceed 80 inches.

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE	SPRK NO.	REG SIZE	PLUG NO.	DROP LENGTH
48	9.50	234.87	3.93	3.82	38.64	10.65	03030 26 WHITE	23	NEL10AF		90
49		239.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		26
50	9.50	244.37	4.09	4.09	38.55	10.63	03030 27 WHITE	24	NEL10AF		96
51		249.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		27
52	9.50	253.87	4.25	4.09	38.49	10.63	03030 27 WHITE	25	NEL10AF		96
53		258.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		28
54	9.50	263.37	4.41	4.45	38.45	10.60	03030 28 BLUE	26	NEL10AF		96
55		268.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		29
56	9.50	272.87	4.57	4.45	38.44	10.60	03030 28 BLUE	27	NEL10AF		96
57		277.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		30
58	9.50	282.37	4.73	4.75	38.45	10.57	03030 29 BLUE	28	NEL10AF		96
59		287.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		31
60	9.50	291.87	4.89	4.75	38.49	10.57	03030 29 BLUE	29	NEL10AF		96
61		296.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		32
62	9.50	301.37	5.05	5.07	38.56	10.54	03030 30 DK BROWN	30	NEL10AF		90
63		306.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		33
64	9.50	310.87	5.21	5.07	38.65	10.54	03030 30 DK BROWN	31	NEL10AF		90
65		315.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		34
66	9.50	320.37	5.38	5.37	38.76	10.52	03030 31 DK BROWN	32	NEL10AF		84
67		325.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		35
68	9.50	329.87	5.53	5.37	38.90	10.52	03030 31 DK BROWN	33	NEL10AF		78
69		334.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		36
70	9.50	339.37	5.70	5.76	39.07	10.48	03030 32 ORANGE	34	NEL10AF		72
71		344.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		37
72	9.50	348.87	7.11	7.19	39.10	10.37	03030 36 PURPLE	35	NEL10AF		72
TOWER 2	175.00	351.25									
73		357.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		38
74	13.50	362.37	7.34	7.19	39.08	10.38	03030 36 PURPLE	36	NEL10AF		72
75		367.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		39
76	9.50	371.87	6.24	6.13	38.89	10.45	03030 33 ORANGE	37	NEL10AF		78
77		376.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		40
78	9.50	381.37	6.41	6.50	38.71	10.42	03030 34 DK GREEN	38	NEL10AF		84
79		386.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		41
80	9.50	390.87	6.56	6.50	38.56	10.42	03030 34 DK GREEN	39	NEL10AF		84
81		395.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		42
82	9.50	400.37	6.73	6.85	38.43	10.39	03030 35 DK GREEN	40	NEL10AF		90
83		405.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		43
84	9.50	409.87	6.88	6.85	38.33	10.39	03030 35 DK GREEN	41	NEL10AF		90
85		414.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		44
86	9.50	419.37	7.04	7.19	38.26	10.38	03030 36 PURPLE	42	NEL10AF		96
87		424.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		45
88	9.50	428.87	7.19	7.19	38.20	10.38	03030 36 PURPLE	43	NEL10AF		96
89		433.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		46
90	9.50	438.37	7.35	7.19	38.18	10.38	03030 36 PURPLE	44	NEL10AF		96
91		443.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		47
92	9.50	447.87	7.52	7.68	38.18	10.37	03030 37 PURPLE	45	NEL10AF		96
93		452.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		48
94	9.50	457.37	7.67	7.68	38.20	10.37	03030 37 PURPLE	46	NEL10AF		96

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE	SPRK NO.	REG SIZE	PLUG NO.	DROP LENGTH
95		462.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	49	
96	9.50	466.87	7.83	7.68	38.26	10.37	03030 37 PURPLE	47	NEL10AF	96	
97		471.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	50	
98	9.50	476.37	8.00	8.11	38.33	10.37	03030 38 BLACK	48	NEL10AF	90	
99		481.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	51	
100	9.50	485.87	8.15	8.11	38.43	10.37	03030 38 BLACK	49	NEL10AF	90	
101		490.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	52	
102	9.50	495.37	8.31	8.11	38.56	10.37	03030 38 BLACK	50	NEL10AF	84	
103		500.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	53	
104	9.50	504.87	8.50	8.57	38.71	10.36	03030 39 BLACK	51	NEL10AF	78	
105		509.62	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	54	
106	9.50	514.37	8.65	8.57	38.89	10.36	03030 39 BLACK	52	NEL10AF	72	
107		519.12	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	55	
108	9.50	523.87	8.47	8.57	38.94	10.36	03030 39 BLACK	53	NEL10AF	72	
TOWER 3	175.00	526.25									
			PIPE ID CHANGES FROM 6.415 TO 5.790								
109	8.76	532.63	8.60	8.57	38.93	10.36	03030 39 BLACK	54	NEL10AF	72	
110		537.38	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	56	
111	9.50	542.13	9.11	9.01	38.93	10.36	03030 40 DK TURQ	55	NEL10AF	72	
112		546.88	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	57	
			PIPE ID CHANGES FROM 5.790 TO 2.060								
113	9.50	551.63	9.31	9.54	38.36	10.36	03030 41 DK TURQ	56	NEL10AF	72	
114		556.38	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	58	
115	9.50	561.13	9.16	9.01	37.91	10.37	03030 40 DK TURQ	57	NEL10AF	72	
116		565.88	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	59	
117	7.87	569.00	9.03	9.01	37.61	10.37	03030 40 DK TURQ	58	NEL10AF	72	
OVERHANG	42.75	569.00		60.02	ENDGUN		(1) KOMET KPW YELLOW #75				

THERE IS NO BOOSTER PUMP

TOTAL GPM = 350.80

GPA = 12.38

MINIMUM RECOMMENDED REGULATOR INLET PRESSURE IS 15.00 PSI
 WITH GRADUATED ELEVATION OF .00 FT THE INLET PRESSURE IS 39.19 PSI FOR SPRINKLER 58
 THIS POSITION IS THE CLOSEST TO THE MINIMUM RECOMMENDED INLET PRESSURE

HYDRAULICS SUMMARY

TOWER NUMBER	ACRES UNDER SPAN	GPM NEED	ACTUAL GPM	PERCENT DEVIATION	GPM PER ACRE	AVERAGE IN. PER HR DELIVERED UNDER SPAN	AVERAGE IN. DELIVERED FOR REVOLUTION TIME		
							36 HR	48 HR	60 HR
1	2.24	27.74	27.62	0%	12.33	0.027	0.98	1.31	1.63
2	6.66	82.44	80.99	-2%	12.17	0.027	0.97	1.29	1.61
3	11.08	137.14	135.07	-2%	12.20	0.027	0.97	1.29	1.62
OVERHANG	3.38	41.82	47.09	13%	13.95	0.031	1.11	1.48	1.85

ENDGUN
TOTAL

3.78	60.86	60.02	28%	15.89
27.13	350.00	350.80		12.93

SUMMARY OF SPRINKLERS

3 O3030 11 BEIGE
1 O3030 12 GOLD
1 O3030 13 GOLD
1 O3030 14 LIME
1 O3030 15 LIME
1 O3030 16 LAVENDER
1 O3030 17 LAVENDER
1 O3030 18 GRAY
2 O3030 19 GRAY
1 O3030 20 TURQUOISE
2 O3030 21 TURQUOISE
1 O3030 22 YELLOW
1 O3030 24 RED
3 O3030 25 RED
3 O3030 26 WHITE
2 O3030 27 WHITE
2 O3030 28 BLUE
2 O3030 29 BLUE
2 O3030 30 DK BROWN
2 O3030 31 DK BROWN
1 O3030 32 ORANGE
1 O3030 33 ORANGE
2 O3030 34 DK GREEN
2 O3030 35 DK GREEN
5 O3030 36 PURPLE
3 O3030 37 PURPLE
3 O3030 38 BLACK
4 O3030 39 BLACK
3 O3030 40 DK TURQ
1 O3030 41 DK TURQ

SUMMARY OF DROPS

13 72 IN DROP
6 78 IN DROP
9 84 IN DROP
12 90 IN DROP
18 96 IN DROP

SUMMARY OF REGULATORS

58 Nelson Int All-Flo 10 psi

59 PLUGS**TOTAL OF 58 DROPS**
LENGTH OF HOSE: 414.0 FT.**TOTAL OF 58 REGULATORS**

NOZZLE POSITION CHART

O3030 11 BEIGE	1, 2, 3
O3030 12 GOLD	4
O3030 13 GOLD	5
O3030 14 LIME	6
O3030 15 LIME	7
O3030 16 LAVENDER	8
O3030 17 LAVENDER	9
O3030 18 GRAY	10
O3030 19 GRAY	11, 12
O3030 20 TURQUOISE	13
O3030 21 TURQUOISE	14, 15
O3030 22 YELLOW	16
O3030 24 RED	19
O3030 25 RED	17, 20, 21
O3030 26 WHITE	18, 22, 23
O3030 27 WHITE	24, 25
O3030 28 BLUE	26, 27
O3030 29 BLUE	28, 29
O3030 30 DK BROWN	30, 31
O3030 31 DK BROWN	32, 33
O3030 32 ORANGE	34
O3030 33 ORANGE	37
O3030 34 DK GREEN	38, 39
O3030 35 DK GREEN	40, 41
O3030 36 PURPLE	35, 36, 42, 43, 44
O3030 37 PURPLE	45, 46, 47
O3030 38 BLACK	48, 49, 50
O3030 39 BLACK	51, 52, 53, 54
O3030 40 DK TURQ	55, 57, 58
O3030 41 DK TURQ	56

**T.K.Z. CENTER PIVOT INC.
3103 SHERMAN AVENUE
MONTE VISTA, COLORADO 81144**

SEPTEMBER 18, 2025

VISH-119600

HEATH FRANCIS

3 TOWER

Rotation time at 100% = 3.66 Hours Or 220 minutes

350 GPM @ 40 PSI

REINKE LP

NELSON O3030 ORBITOR

NELSON 10 PSI REGULATORS

.75 I.D. FLEXIBLE HOSE

KOMET KPW YELLOW #75

Installation Chart

Page 1

PRECIPITATION CHART FOR FULL CIRCLE

WISH-119600

SEPTEMBER 18, 2025

DEALER - T.K.Z. CENTER PIVOT INC.

IRRIGATOR - HEATH FRANCIS
FIELD - 3 TOWER

TOTAL LENGTH PIPE = 569.00 SYSTEM PRESSURE = 40 PSI
 GPM UNDER PIPE = 290.77 TOTAL GPM = 350.80
 ACRES UNDER PIPE = 23.35
 RANGE OF ENDGUN = 44.30
 GPM OF ENDGUN = 60.02
 ACRES UNDER ENDGUN = 3.78
 WATERING LENGTH = 613.30

MOTOR SIZE (HP) = 1.5
 LOADED MOTOR RPM = 1745
 CENTER GEAR BOX RATIO = 25
 WHEEL GEAR BOX RATIO = 50
 TIRE SIZE = 11 X 24.5
 LAST TOWER SPEED (FPM) = 15.04

PRECIPITATION DATA FIGURED WITH ENDGUN RUNNING

PRECIPITATION BASED

% TIMER BASED

PRECIPITATION INCHES	% TIMER SETTING	TIME HOURS	% TIMER SETTING	PRECIPITATION INCHES	TIME HOURS
.10	100.00	3.66 - 220(min)	100.00	.10	3.66 - 220(min)
.20	50.41	7.27	90.00	.11	4.07
.25	40.33	9.09	80.00	.13	4.58
.30	33.61	10.90	70.00	.14	5.23
.40	25.21	14.54	60.00	.17	6.11
.50	20.16	18.17	50.00	.20	7.33
.60	16.80	21.81	45.00	.22	8.14
.70	14.40	25.44	40.00	.25	9.16
.75	13.44	27.26	35.00	.29	10.47
.80	12.60	29.07	30.00	.34	12.21
.90	11.20	32.71	25.00	.40	14.66
1.00	10.08	36.34	20.00	.50	18.32
1.25	8.07	45.43	15.00	.67	24.43
1.50	6.72	54.51	10.00	1.01	36.64
1.75	5.76	63.60	5.00	2.02	73.28

CAUTION: The relationship between precipitation rate, timer setting, and hours per revolution provided above are theoretical numbers based on the data list at the top of the page. Actual precipitation rates may vary due to the following field and machine conditions: wind drift; evaporation; tire slippage, tire loaded radius; drive train efficiency; elevation changes; soil type. Due to these varying field and machine conditions the above chart should be used as a guide only.

DEALER - T.K.Z. CENTER PIVOT INC.

IRRIGATOR - HEATH FRANCIS
FIELD - 3 TOWER

SPAN 1 <u>POS/LEN</u>	SPAN 2 <u>POS/LEN</u>	SPAN 3 <u>POS/LEN</u>	ENDBOOM <u>POS/LEN</u>
1 - 78	18 - 72	36 - 72	54 - 72
2 - 84	19 - 78	37 - 78	55 - 72
3 - 84	20 - 84	38 - 84	56 - 72
4 - 90	21 - 84	39 - 84	57 - 72
5 - 90	22 - 90	40 - 90	58 - 72
6 - 96	23 - 90	41 - 90	
7 - 96	24 - 96	42 - 96	
8 - 96	25 - 96	43 - 96	
9 - 96	26 - 96	44 - 96	
10 - 96	27 - 96	45 - 96	
11 - 96	28 - 96	46 - 96	
12 - 90	29 - 96	47 - 96	
13 - 90	30 - 90	48 - 90	
14 - 84	31 - 90	49 - 90	
15 - 78	32 - 84	50 - 84	
16 - 72	33 - 78	51 - 78	
17 - 72	34 - 72	52 - 72	
	35 - 72	53 - 72	

SUMMARY OF DROPS

13 - 72 IN DROP
6 - 78 IN DROP
9 - 84 IN DROP
12 - 90 IN DROP
18 - 96 IN DROP

TOTAL OF 58 DROPS