Pyro-Chem
Kitchen Knight II
PCL-160/300/460/600
Nozzle Coverage Summary Sheet

KITCHEN KNIGHT. II

Appliance	Nozzle Type	Flow Points	Width (In) Max. Side	Length (In) Area Sq. In	Min. Height (in)	Max. Height (in)
Deep Fat Fryer – Vat	2H	2	19 1/2	19	24	48
Deep Fat Fryer (Low Proximity) – Vat	2L				13	24
Deep Fat Fryer – Drip Pan (Vat 18" x 18" max.)	2H	2	27 3/4	500 Sq. In.	24	48
Deep Fat Fryer (Low Proximity) – Drip Pan (Vat 18" x 18" max.)	2L				13	24
Deep Fat Fryer – Drip Pan (Vat 19 1/2" x 19" max.)	2H	2	25 3/8	495 Sq. In.	24	48
Deep Fat Fryer (Low Proximity) – Drip Pan (Vat 19 1/2" x 19" max.)	2L				13	24
Two Burner Range	1H	1	12	28	40	50
Two Burner Range (Low Proximity)	1L				13	24
Two Burner – Back Shelf (High Proximity)	2L	2	28	336 Sq. In.	24	35
Four Burner Range	2L	2	28	28	34	48
Small Wok	1H	1	24" dia.	6" depth	24	48
Small Wok (Low Proximity)	1L				13	24
Large Wok	2H	2	30" dia.	8" depth	24	48
Large Wok (Low Proximity)	2L				13	24
Small Griddle	1H	1	36	1080 Sq. In.	24	48
Small Griddle (Low Proximity)	1L				10	24
Large Griddle	2H	2	48	1440 Sq. In.	24	48
Large Griddle (Low Proximity)	2L				10	24
Gas Radiant Char-Broiler	1H	1	26	624 Sq. In.	24	48
Gas Radiant Char-Broiler (Low Proximity)	1L				13	24
Large Gas Radiant Char-Broiler	2H	2	36	864 Sq. In.	36	48
Large Gas Radiant Char-Broiler (Low Proximity)	2L				13	36
Lava Rock Char-Broiler	2L	2	26	624 Sq. In.	15	35
Natural Charcoal Char-Broiler (max. fuel depth 6")	1H	1	24	480 Sq. In.	24	35
Natural Charcoal Char-Broiler (Low Proximity)	1L				15	24
Mesquite Char-Broiler (max. fuel depth 6")	1H	1	24	480 Sq. In.	24	35
Mesquite Char-Broiler (Low Proximity)	1L				15	24
Upright/Salamander Broiler	1L	1	36 W	28 D	Front edge; above the grate	
Chain Broiler (Internal Chamber)	1L	1	27 W	38 D	Front edge; 1-3" above the chain	
Tilt Skillet/Braising Pan	Coverage limitations are based on fryer sizes including the drip boards. Exception: Tilt Skillets and Braising Pans may exceed maximum of 6 sq. ft.					

Plenum	Nozzle Type	Flow Points	Width (ft)	Length (ft)	Nozzle Placement (See manual for more detail)
Single Bank/V Bank	1H	1	4	10	0" – 6" from end of plenum

Duct	Nozzle Type	Flow Points	Max. Side (in)	Perimeter (in)	Diameter (in)	Length (in)
Rectangle/Circular	2D	2	34	100	31 7/8	Unlimited
Rectangle/Circular	(2) 2D	4	51	150	47 1/2	Unlimited
▸ Rectangle/Circular	1L	1	16 3/4	50	16	Unlimited

Pyro-Chem Kitchen Knight II Pipe Volumes Conversion Chart

KITCHEN KNIGHT. II

1/4" = 20.5 ml per ft. **3/8" = 37.5 ml per ft.** **1/2" = 59.8 ml per ft.** **3/4" = 105 ml per ft.**

Cylinder Size	Flow Pts	Total Pipe Vol	1st nozzle to last nozzle	Total Pipe Maximum Pipe Length				From 1st nozzle to last nozzle Maximum Pipe Length			
				1/4"	3/8"	1/2"	3/4"	1/4"	3/8"	1/2"	3/4"
PCL 160	5	1500	600	73.1 ft.	40.0 ft.	25.0 ft.	—	29.2 ft.	16.0 ft.	10.0 ft.	—
PCL 300	10	1910	1125	93.17 ft	50.93 ft	31.94 ft	18.19 ft	54.88 ft	30.00 ft	18.81 ft	10.71 ft
PCL 460	14	3400	3000	165.85 ft	90.67 ft	56.86 ft	32.38 ft	146.34 ft	80.00 ft	50.17 ft	28.57 ft
PCL 460	15	2600	2000	126.83 ft	69.33 ft	43.48 ft	24.76 ft	97.56 ft	53.33 ft	33.44 ft	19.05 ft
PCL 600	19	4215	1688/side	205.61 ft	112.40 ft	70.48 ft	40.14 ft	82.34 ft	45.01 ft	28.23 ft	16.08 ft
PCL 600	20	3465	1312.5/side	169.02 ft	92.40 ft	57.94 ft	33.00 ft	64.02 ft	35.00 ft	21.95 ft	12.50 ft

Pipe length/ft	Pipe Size/ml			
	1/4"	3/8"	1/2"	3/4"
1	20.5	37.5	59.8	105
2	41	75	119.6	210
3	61.5	112.5	179.4	315
4	82	150	239.2	420
5	102.5	187.5	299	525
6	123	225	358.8	630
7	143.5	262.5	418.6	735
8	164	300	478.4	840
9	184.5	337.5	538.2	945
10	205	375	598	1050
11	225.5	412.5	657.8	1155
12	246	450	717.6	1260
13	266.5	487.5	777.4	1365
14	287	525	837.2	1470
15	307.5	562.5	897	1575
16	328	600	956.8	1680
17	348.5	637.5	1016.6	1785
18	369	675	1076.4	1890
19	389.5	712.5	1136.2	1995
20	410	750	1196	2100

Minimum Pipe Volumes for a Fryer, Range, and Wok		
Cylinder Size	**Entire System**	**At or before appliance**
PCL 160	239 ml - 1 Flow Pt	180 ml - 1 Flow Pt
PCL 300	300 ml - 4 Flow Pts	239 ml - 2 Flow Pts
PCL 460	660 ml - 10 Flow Pts	180 ml - 2 Flow Pts
PCL 600	960 ml - 14 Flow Pts	120 ml - 2 Flow pts

General Rules:

1. Measurements taken from fittings centerline (All SCH. 40 Pipe).
2. Maximum difference in elevation from valve outlet to any nozzle is 10'.
3. Largest diameter pipe must be used first and decrease in size as installation moves away from the tank.
4. No traps in the piping.
5. Two elbows are allowed in place of a swivel. Elbows used as a swivel do not have to be subtracted from the total allowed.
6. Maximum of 25 elbows.
7. Maximum of 5 elbows between nozzle and preceding tee.
8. Maximum flows for 1/4" pipe = 6 flows.
9. Maximum volume allowed for 1/4" pipe from tee to nozzle is 410 ml (20 ft).

Additional rules for PCL 600:

1. Split piping must be used with a maximum of 14 flows on a side.
2. No nozzles before the split.
3. Minimum 1/2" pipe must be used to the first split.