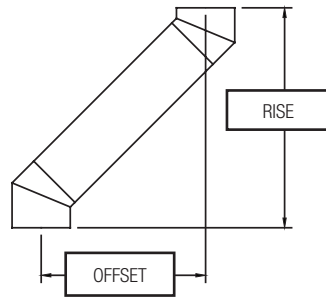


# ULTRABlack Offset Tables

<b>45° ELBOWS</b>		
UB OFFSET TABLE - Use this table if you are not installing a slip length (UBSF) between the elbows.		
LENGTH BETWEEN ELBOWS	45° Elbows	
	RISE	OFFSET
<b>6 INCH Ø</b>		
NO LENGTH	8 1/4	3 1/2
5" Length	11	6 1/4
6" slip Length	11	6 1/4
12" Length	16	11 1/4
18" Length	20 1/4	15 1/2
24" Length	24 1/2	19 3/4
36" Length	33	28 1/4
UBAF min	36 1/2	31 3/4
UBAF max	56 1/4	51 1/2
<b>7 INCH Ø</b>		
NO LENGTH	9	3 3/4
5" Length	11 3/4	6 1/2
6" slip Length	11 3/4	6 1/2
12" Length	16 3/4	11 1/2
18" Length	21	15 3/4
24" Length	25 1/4	20
36" Length	33 3/4	28 1/2
UBAF min	37 1/4	32
UBAF max	57	51 3/4
<b>8 INCH Ø</b>		
NO LENGTH	9 3/4	4
5" Length	12 1/2	7
6" slip Length	12 1/2	7
12" Length	17 1/2	11 3/4
18" Length	21 3/4	16
24" Length	26	20 1/4
36" Length	34 1/2	28 3/4
UBAF min	38	32 1/4
UBAF max	57 3/4	52 1/4

All measurements are in inches



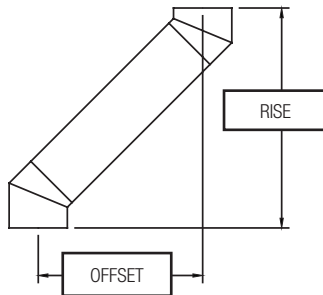
<b>45° ELBOWS</b>		
UB OFFSET TABLE - Use this table if you are installing an adjustable length between the elbows.		
LENGTH BETWEEN 45 ELBOWS	45° Elbows	
	RISE	OFFSET
<b>6 INCH Ø</b>		
NO LENGTH + UB6SF	9 1/4 - 11	4 1/2 - 6 1/4
5" LENGTH + UB6SF	12 - 14	7 1/4 - 9 1/4
5" LENGTH + UB12SF	16 - 18 1/4	11 1/4 - 13 1/2
12" LENGTH + UB12SF	17 - 23	12 1/4 - 18 1/4
18" LENGTH + UB12SF	21 1/4 - 27 1/4	16 1/2 - 22 1/2
24" LENGTH + UB18SF	25 1/2 - 35 3/4	20 3/4 - 31
UBAF min + UB6SF	37 1/2 - 39 1/4	32 3/4 - 34 1/2
UBAF min + UB18SF	37 1/2 - 47 3/4	32 3/4 - 43
UBAF max + UB18SF	57 1/4 - 67 3/4	52 1/2 - 63
36"+36"+12" + UB18SF	66 1/2 - 76 3/4	61 3/4 - 72
36"+36"+24" + UB18SF	75 - 85 1/4	70 1/4 - 80 1/2
36"+36"+36" + UB18SF	83 1/2 - 93 3/4	78 3/4 - 89
<b>7 INCH Ø</b>		
NO LENGTH + UB6SF	10 - 11 3/4	4 3/4 - 6 1/2
5" LENGTH + UB6SF	12 3/4 - 14 3/4	7 1/2 - 9 1/2
5" LENGTH + UB12SF	16 3/4 - 19	7 1/2 - 13 3/4
12" LENGTH + UB12SF	17 3/4 - 23 3/4	12 1/2 - 18 1/2
18" LENGTH + UB12SF	22 - 28	16 3/4 - 22 3/4
24" LENGTH + 18UBSF	26 1/4 - 36 1/2	21 - 31 1/4
UBAF min + UB6SF	38 1/4 - 40	33 - 34 3/4
UBAF min + UB18SF	38 1/4 - 48 1/2	33 - 43 1/4
UBAF max + UB18SF	58 - 68 1/2	52 3/4 - 63 1/4
36"+36"+12" + UB18SF	67 1/4 - 77 1/2	62 - 72 1/4
36"+36"+12" + UB18SF	75 3/4 - 86	70 1/2 - 80 3/4
36"+36"+12" + UB18SF	84 1/4 - 94 1/2	79 - 89 1/4
<b>8 INCH Ø</b>		
NO LENGTH + UB6SF	10 1/2 - 12 1/2	5 - 7
5" LENGTH + UB6SF	13 1/2 - 15 1/4	7 3/4 - 9 3/4
5" LENGTH + UB12SF	17 1/2 - 19 1/2	7 3/4 - 14
12" LENGTH + UB12SF	18 1/4 - 24 1/2	12 3/4 - 19
18" LENGTH + UB12SF	22 1/2 - 28 3/4	17 - 23 1/4
24" LENGTH + 18UBSF	26 3/4 - 37 1/4	21 1/4 - 31 3/4
UBAF min + UB6SF	38 3/4 - 40 3/4	33 1/4 - 35 1/4
UBAF min + UB18SF	38 3/4 - 49 1/4	33 1/4 - 43 3/4
UBAF max + UB18SF	58 3/4 - 69	53 - 63 1/2
36"+36"+12" + UB18SF	67 3/4 - 78 1/4	62 1/4 - 72 3/4
36"+36"+12" + UB18SF	76 1/4 - 86 3/4	70 3/4 - 81 1/4
36"+36"+12" + UB18SF	84 3/4 - 95 1/4	79 1/4 - 89 1/2

# ULTRABlack Offset Tables

## 30° ELBOWS

UB OFFSET TABLE- Use this table when a slip length (UBSF) is not installed between the elbows.

LENGTH BETWEEN OFFSETS	30° Elbows	
	RISE	OFFSET
<b>6 INCH Ø</b>		
NO LENGTH	7 1/4	2
5" Length	10 1/2	4
6" Slip Length	10 1/2	4
12" Length	16 3/4	7 1/2
18" Length	21 3/4	10 1/2
24" Length	27	13 1/2
36" Length	37 1/2	19 1/2
UBAF min	41 3/4	22
UBAF max	66	36
<b>7 INCH Ø</b>		
NO LENGTH	7 3/4	2
5" Length	11	4
6" Slip Length	11	4
12" Length	17 1/4	7 1/2
18" Length	22 1/4	10 1/2
24" Length	27 1/2	13 1/2
36" Length	38	19 1/2
UBAF min	42 1/4	22
UBAF max	66 1/2	36
<b>8 INCH Ø</b>		
NO LENGTH	8 1/4	2 1/4
5" Length	11 3/4	4 1/4
6" Slip Length	11 3/4	4 1/4
12" Length	17 3/4	7 3/4
18" Length	23	10 3/4
24" Length	28 1/4	13 3/4
36" Length	38 1/2	19 3/4
UBAF min	43	22 1/4
UBAF max	67 1/4	36 1/4



All measurements are in inches

## 30° ELBOWS

UB OFFSET TABLE- Use this table if you are installing an adjustable length between the elbows.

LENGTH BETWEEN ELBOWS	30° Elbows	
	RISE	OFFSET
<b>6 INCH Ø</b>		
NO LENGTH + UB6SF	8 1/4 - 10 1/2	2 3/4 - 4
5" LENGTH + UB6SF	11 3/4 - 14	4 3/4 - 6
5" LENGTH + UB12SF	16 3/4 - 19 1/4	7 1/2 - 9
12" LENGTH + UB12SF	17 3/4 - 25 1/4	8 1/4 - 12 1/2
18" LENGTH + UB12SF	23 - 30 1/2	11 1/4 - 15 1/2
24" LENGTH + UB18SF	28 1/4 - 41	14 1/4 - 21 1/2
UBAF min + UB6SF	42 3/4 - 45 1/4	22 3/4 - 24
UBAF min + UB18SF	42 3/4 - 55 1/2	22 3/4 - 30
UBAF max + UB18SF	67 - 79 3/4	36 3/4 - 44
36"+36"+12" + UB18SF	78 1/4 - 91 1/4	43 1/4 - 50 1/2
36"+36"+24" + UB18SF	88 3/4 - 101 1/2	49 1/4 - 56 1/2
36"+36"+36" + UB18SF	99 1/4 - 112	55 1/4 - 62 1/2
<b>7" INCH Ø</b>		
NO LENGTH + UB6SF	8 3/4 - 11	2 3/4 - 4
5" LENGTH + UB6SF	12 1/4 - 14 1/2	4 3/4 - 6
5" LENGTH + UB12SF	17 1/4 - 19 3/4	7 1/2 - 9
12" LENGTH + UB12SF	18 1/4 - 25 3/4	8 1/4 - 12 1/2
18" LENGTH + UB12SF	23 1/2 - 31	11 1/4 - 15 1/2
24" LENGTH + 18UBSF	28 3/4 - 41 1/2	14 1/4 - 21 1/2
UBAF min + UB6SF	43 1/4 - 45 3/4	22 3/4 - 24
UBAF min + UB18SF	43 1/4 - 56	22 3/4 - 30
UBAF max + UB18SF	67 1/2 - 80 1/4	36 3/4 - 44
36"+36"+12" + UB18SF	78 3/4 - 91 3/4	43 1/4 - 50 1/2
36"+36"+12" + UB18SF	89 1/4 - 102	49 1/4 - 56 1/2
36"+36"+12" + UB18SF	99 3/4 - 112 1/2	55 1/4 - 62 1/2
<b>8" INCH Ø</b>		
NO LENGTH + UB6SF	9 1/4 - 11 3/4	3 - 4 1/4
5" LENGTH + UB6SF	12 3/4 - 15 1/4	5 - 6 1/4
5" LENGTH + UB12SF	17 3/4 - 20 1/4	7 3/4 - 9 1/4
12" LENGTH + UB12SF	18 3/4 - 26 1/2	8 1/2 - 12 3/4
18" LENGTH + UB12SF	24 - 31 3/4	11 1/2 - 15 3/4
24" LENGTH + 18UBSF	29 1/4 - 42	14 1/2 - 21 3/4
UBAF min + UB6SF	44 - 46 1/4	23 - 24 1/4
UBAF min + UB18SF	44 - 56 3/4	23 - 30 1/4
UBAF max + UB18SF	68 1/4 - 81	37 - 44 1/4
36"+36"+12" + UB18SF	79 1/2 - 92 1/4	43 1/2 - 50 3/4
36"+36"+12" + UB18SF	89 3/4 - 102 3/4	49 1/2 - 56 3/4
36"+36"+12" + UB18SF	100 1/4 - 113	55 1/2 - 62 3/4

All measurements are in inches