

# Laterals

<b>FITTING TYPE</b>	DESIGNATION	STANDARD	ORDER SHEET
LATERAL DOUBLE TAKEOFF	DLAT 45	10/24/95	12/03/95
LATERAL CROSS	LATC 45	10/15/95	12/03/95
LATERAL TAKEOFF	LAT 45	10/15/95	12/03/95
LATERAL TAKEOFF VERTICAL	LTOV	09/14/95	12/03/95
LATERAL TAP	LAT TP	06/12/97	12/03/95
LATERAL TAKEOFF QUADRUPLE	QLAT 45	11/18/95	12/03/95
LATERAL TAKEOFF TRIPLE	TLAT 45	11/22/95	12/03/95
LATERAL WYE	WYE	10/22/95	12/03/95

Kem-Tuff™

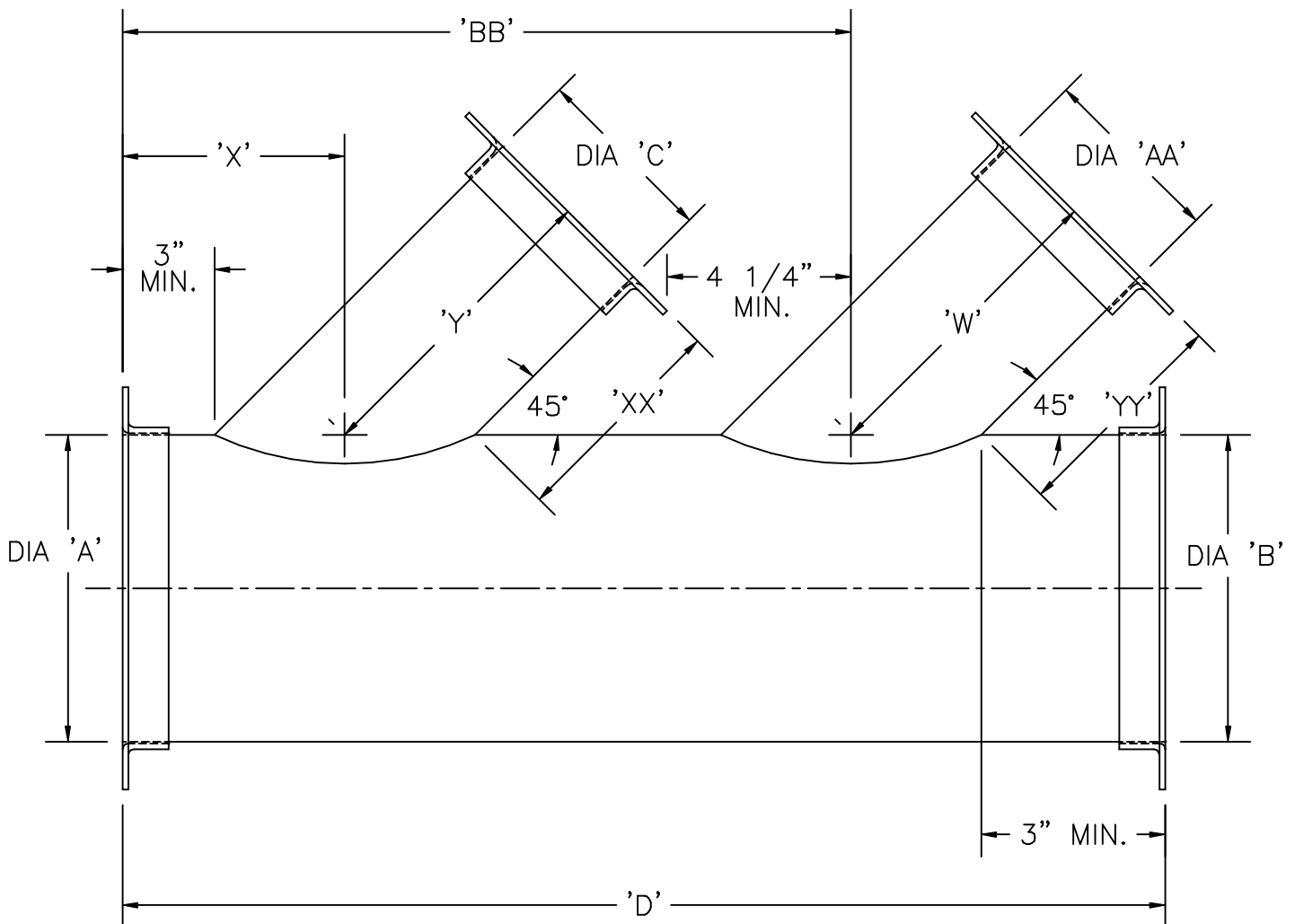
# Double Lateral - DLAT 45 Takeoff

$$'Y' = (1/2 \times 'C') + 'XX'$$

$$\text{MIN. FOR 'Y' = } 'C'/2 + 3-1/2$$

$$'W' = (1/2 \times 'AA') + 'YY'$$

$$\text{MIN. FOR 'W' = } 'AA'/2 + 3-1/2$$



MAX. 'D' = 47" 6"ø AND HIGHER

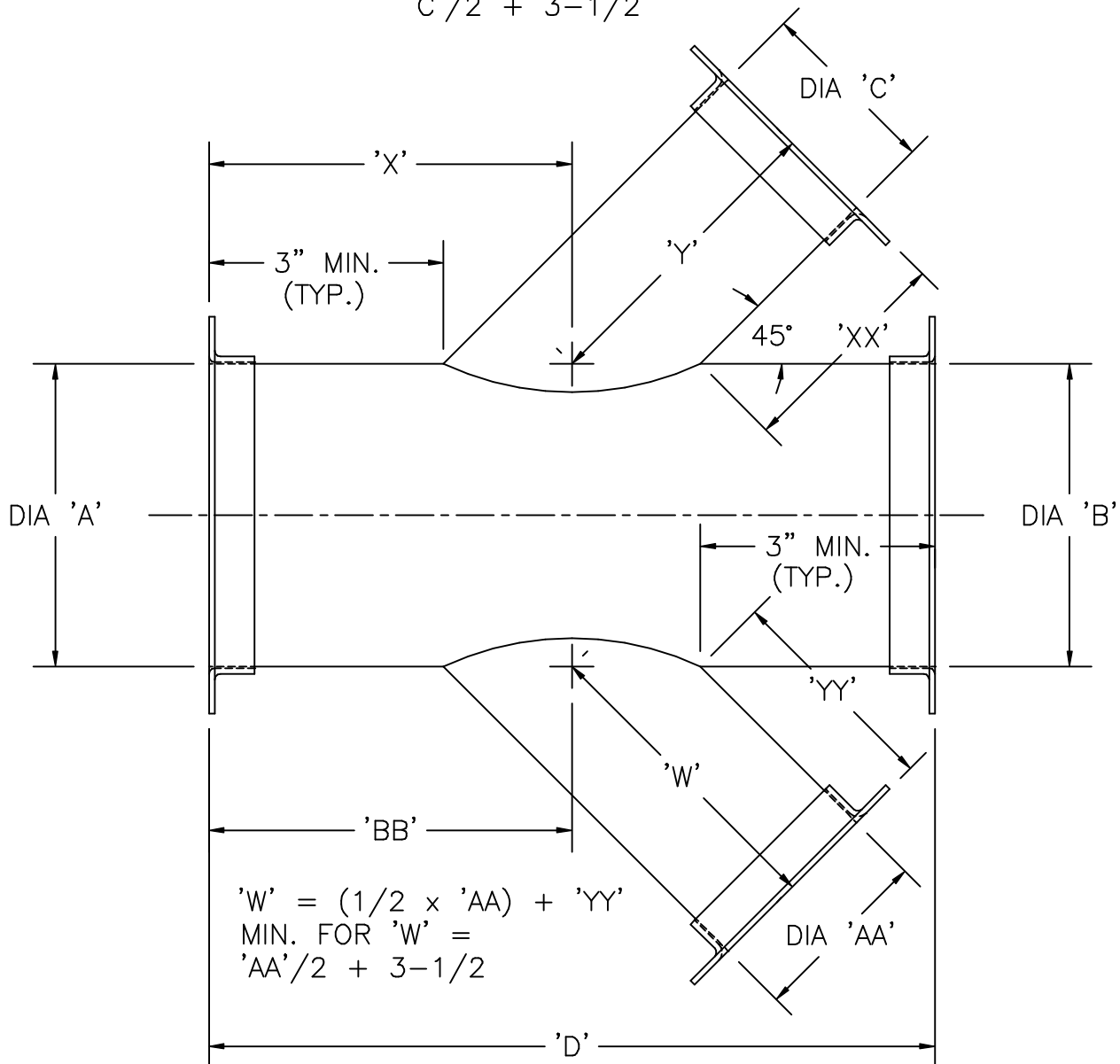
MAX. 'D' = 36" 4"ø

IF 'B' = 'A', MIN. FOR 'D' = (('C' + 'AA') x 1.414) + 11.375 + ('XX' x .707)

# Kem-Tuff™ Lateral Cross - LATC 45

$$'Y' = (1/2 \times 'C') + 'XX'$$

$$\text{MIN. FOR } 'Y' = 'C'/2 + 3-1/2$$



MAX. 'D' = 47" 6"φ AND HIGHER

MAX. 'D' = 36" 4"φ

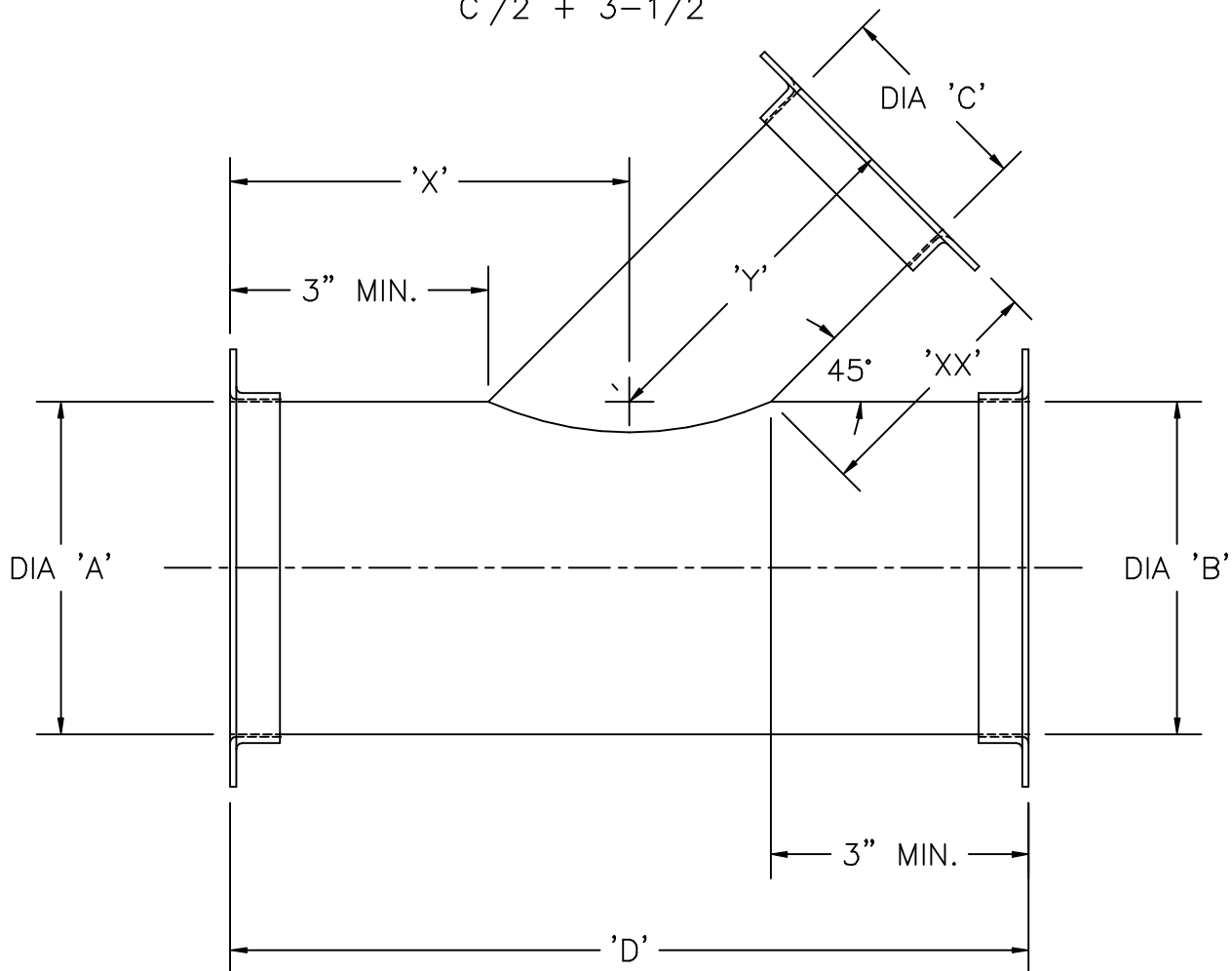
IF 'B' = 'A', MIN. FOR 'D' = THE LARGER OF 'C' OR 'AA' × 1.414 + 6

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Lateral  
Takeoff - LAT 45

$$'Y' = (1/2 \times 'C') + 'XX'$$

$$\text{MIN. FOR 'Y' = } \\ 'C'/2 + 3-1/2$$



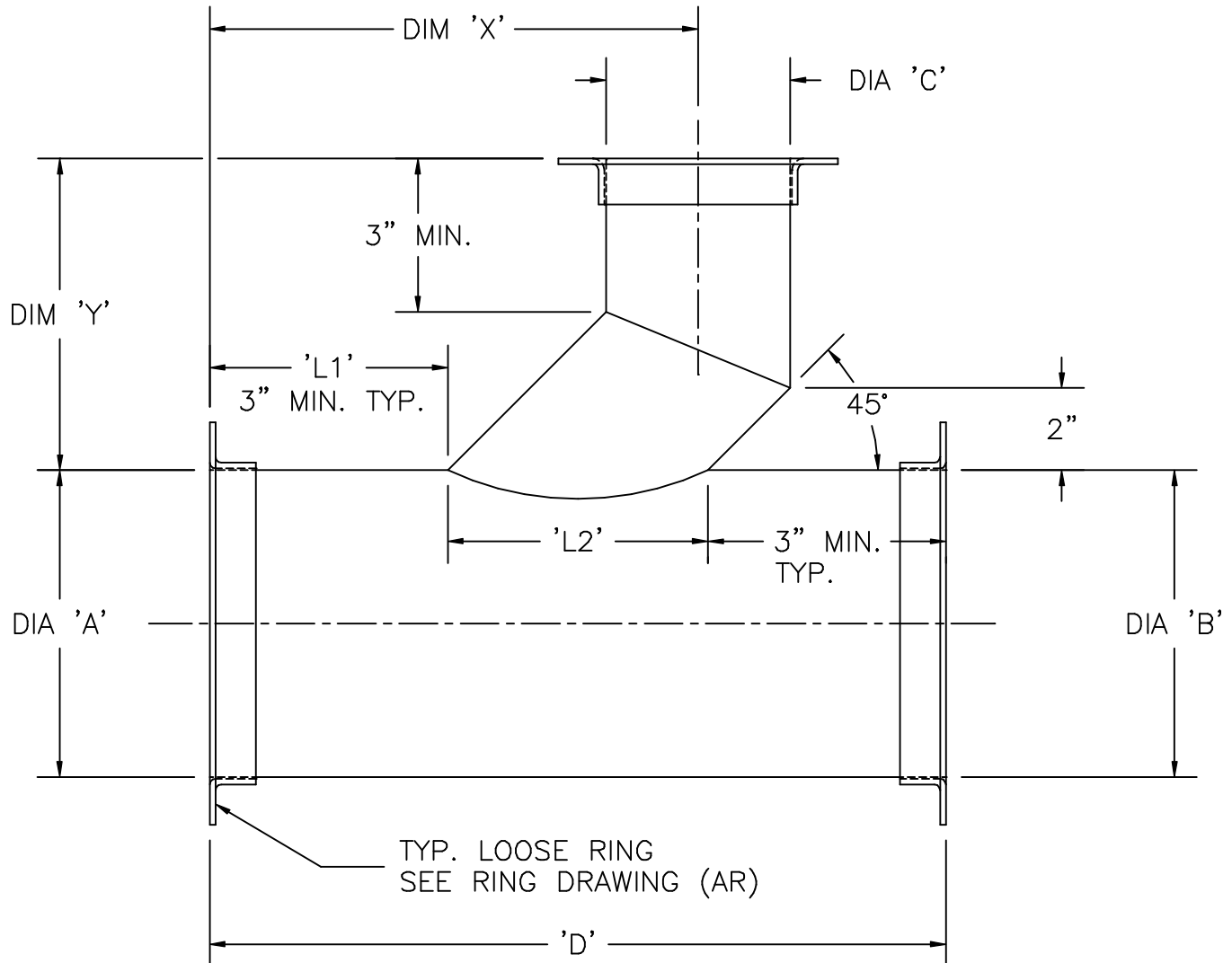
MAX. "D" = 47" 6"ø AND HIGHER

MAX. "D" = 36" 4"ø

IF "B" = "A", MIN. FOR "D" = "C" x 1.414 + 6

# Kem-Tuff™ Lateral Takeoff - Vertical

## - LTOV



## NOTES:

1.  $'L2' = 'C' \times 1.4142$
2. MAX.  $'D' = 47''$
3. MIN.  $'Y' = ('C' \times .4142) + 5$
4.  $'X' = 'L1' + ('L2' \times .6085) + (1/2 \times 'C')$
5. MIN.  $'X' = ('L2' \times .6085) + (1/2 \times 'C') + 3$
6. MIN.  $'C' = 4''\phi$       MAX.  $'C' = 'B'$

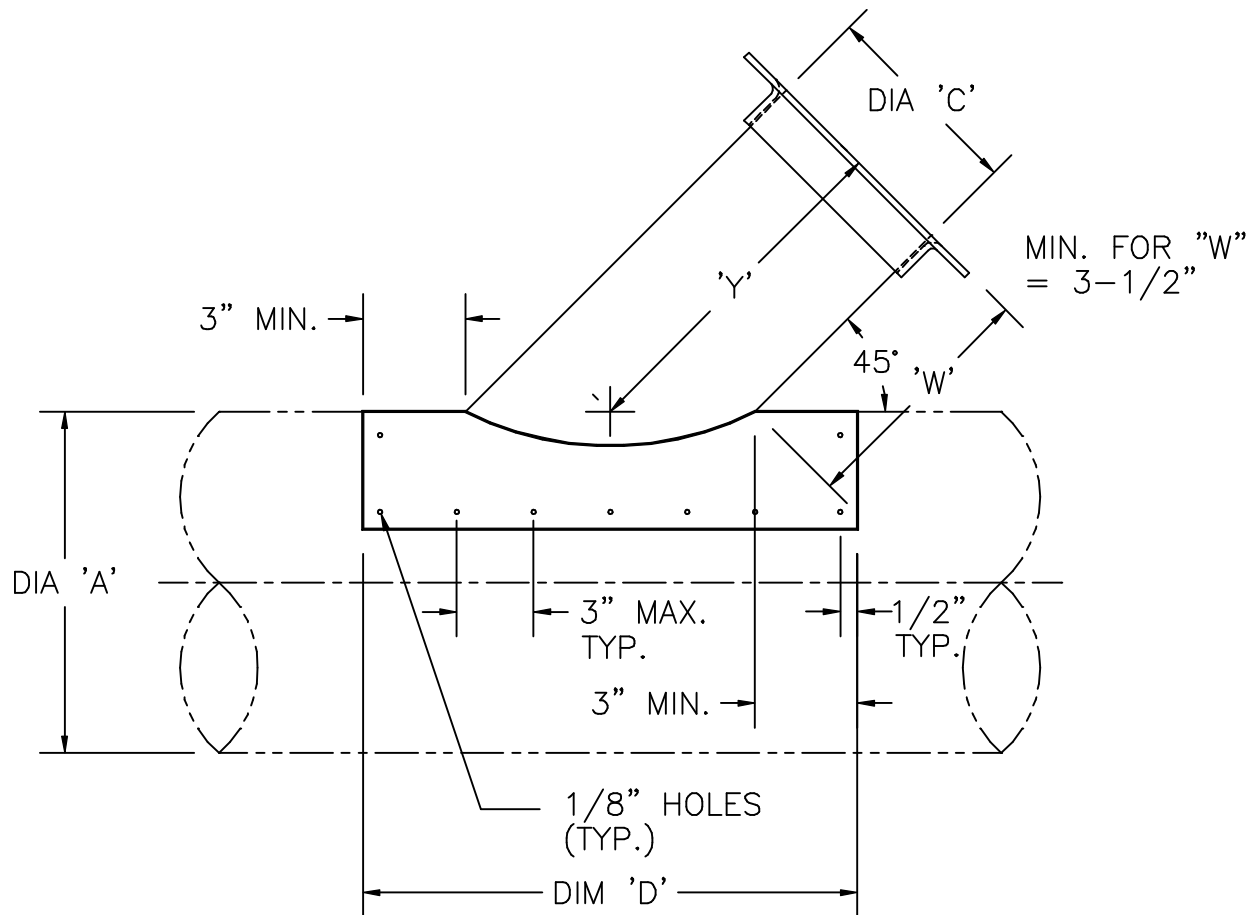
Kem-Tuff™

Lateral Tap - LAT TP

$$'Y' = (1/2 \times 'C') + 'W'$$

MIN. FOR 'Y' =

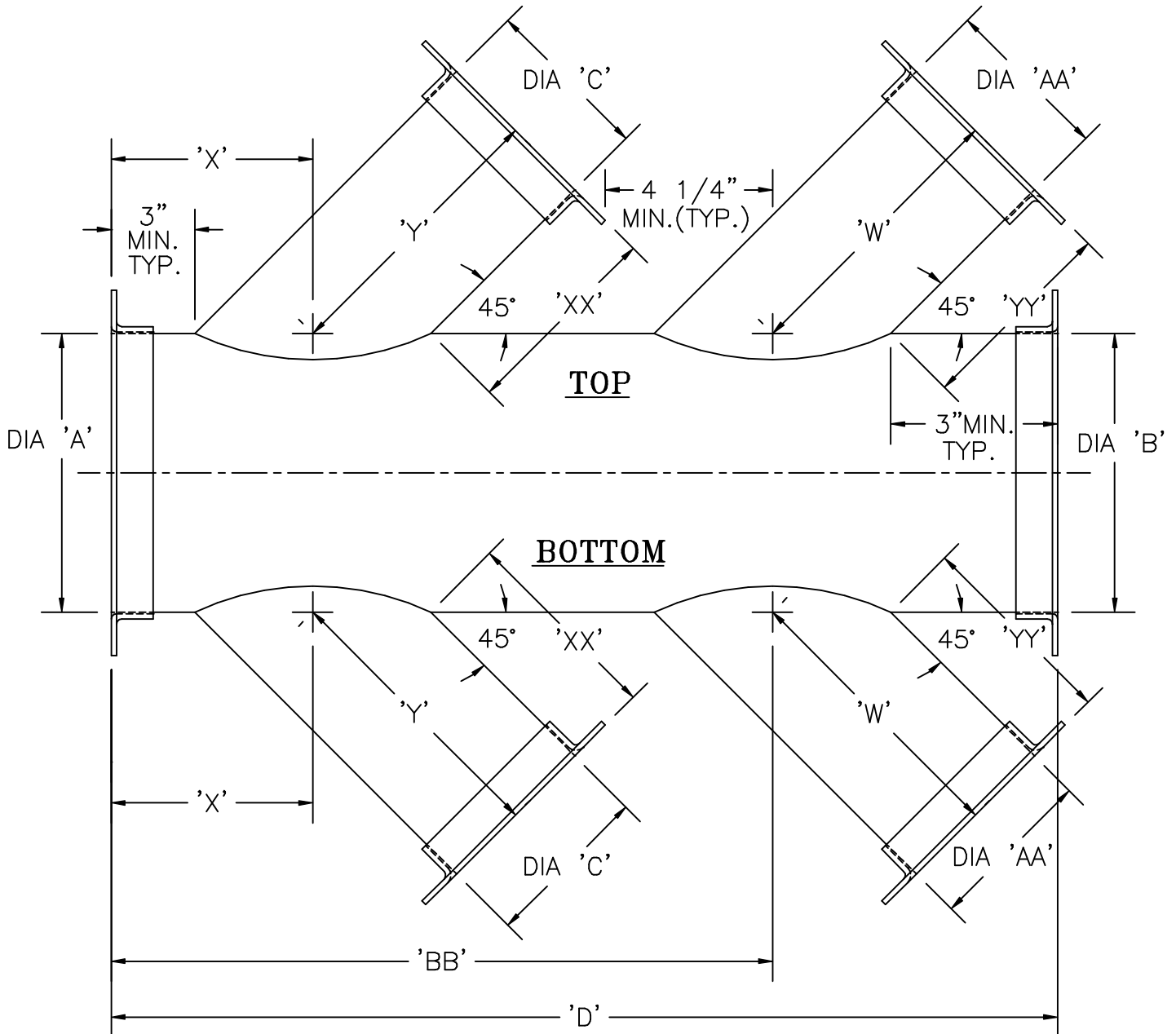
$$'C'/2 + 3-1/2$$



FOR USE IN TAPPING FIBERGLASS DUCT SYSTEMS

Kem-Tuff™

# Quadruple Lateral - QLAT 45 Takeoff



## PLEASE NOTE \*

- 1) WHEN USING ORDER SHEET, SPECIFY TOP DIMENSIONS IN FIRST ROW.
- 2) SPECIFY BOTTOM DIMENSIONS (WITH SAME DESIGNATION) IN SECOND ROW.
- 3) TOP & BOTTOM DIM'S WITH SAME LETTERS CAN BE DIFFERENT.
- 4) DIM'S 'X' AND 'BB' APPLY SEPARATELY TO TOP & BOTTOM.
- 5) ALL 'TYPICAL' DIMENSIONS APPLY TO BOTH TOP AND BOTTOM.
- 6) IF 'B' = 'A', MIN. FOR 'D' =  $((\text{'C'} + \text{'AA'}) \times 1.414) + 11.375 + (\text{'XX'} \times .707)$
- 7) MAX. 'D' = 47" 6"Ø AND HIGHER;      MAX. 'D' = 36" 4"Ø

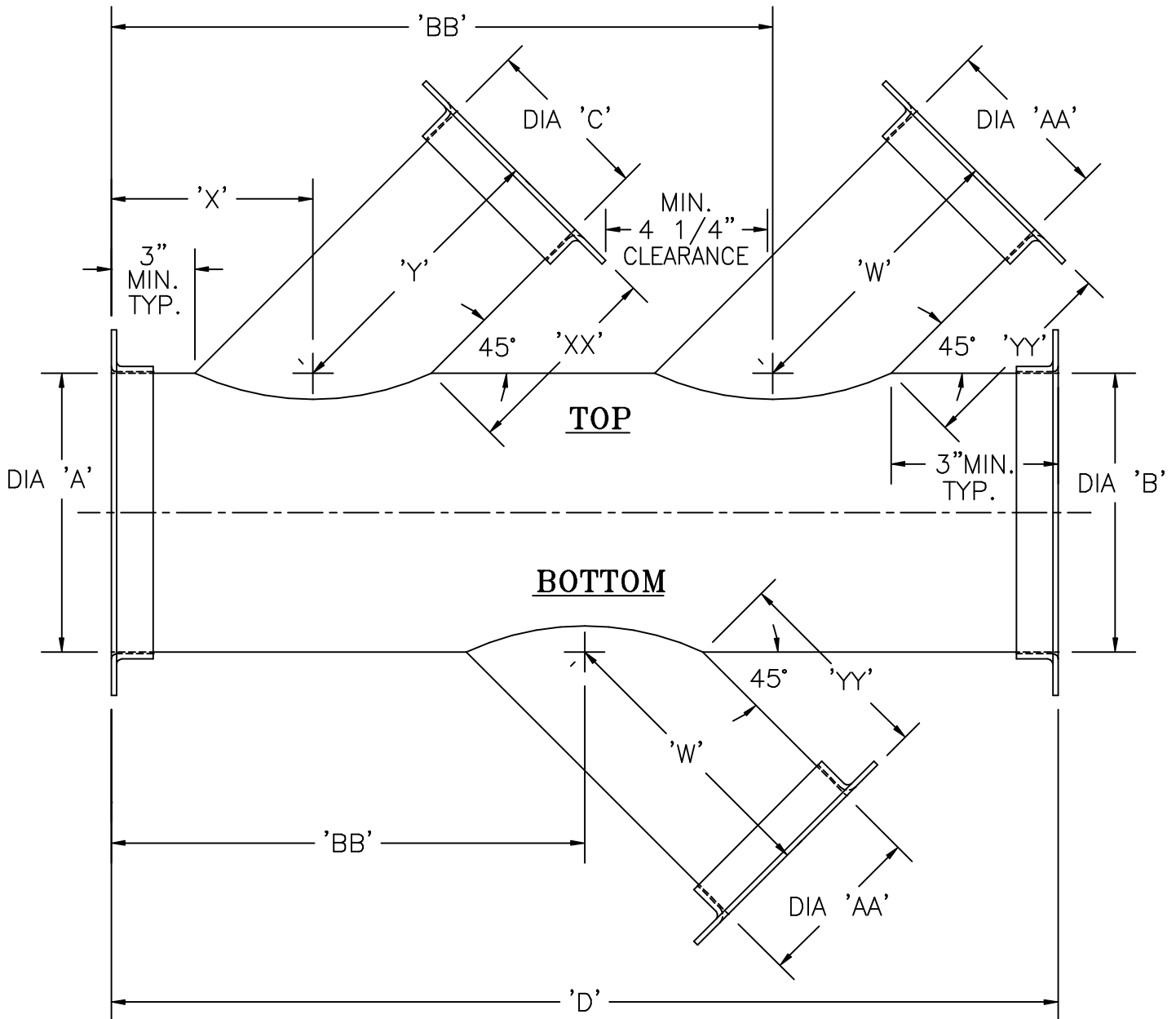
$$\text{'Y'} = (1/2 \times \text{'C'}) + \text{'XX'}$$

$$\text{MIN. FOR 'Y'} = \text{'C'}/2 + 3-1/2$$

$$\text{'W'} = (1/2 \times \text{'AA'}) + \text{'YY'}$$

$$\text{MIN. FOR 'W'} = \text{'AA'}/2 + 3-1/2$$

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Triple  
Lateral - TLAT 45  
Takeoff

## PLEASE NOTE \*

- 1) WHEN USING ORDER SHEET, SPECIFY TOP DIMENSIONS IN FIRST ROW.
- 2) SPECIFY BOTTOM DIMENSIONS (WITH SAME DESIGNATION) IN SECOND ROW.
- 3) TOP & BOTTOM DIM'S WITH SAME LETTERS CAN BE DIFFERENT.
- 4) DIM 'BB' APPLIES SEPARATELY TO TOP & BOTTOM.
- 5) ALL 'TYPICAL' DIMENSIONS APPLY TO BOTH TOP AND BOTTOM.
- 6) IF 'B' = 'A', MIN. FOR 'D' = THE LONGER OF:

TOP:  $(('C' + 'AA') \times 1.414) + 11.375 + ('XX' \times .707)$  OR BOTTOM:  $('AA' \times 1.414) + 6$

7) MAX. 'D' = 47" 6"Ø AND HIGHER;

MAX. 'D' = 36" 4"Ø

'Y' =  $(1/2 \times 'C') + 'XX'$

'W' =  $(1/2 \times 'AA') + 'YY'$

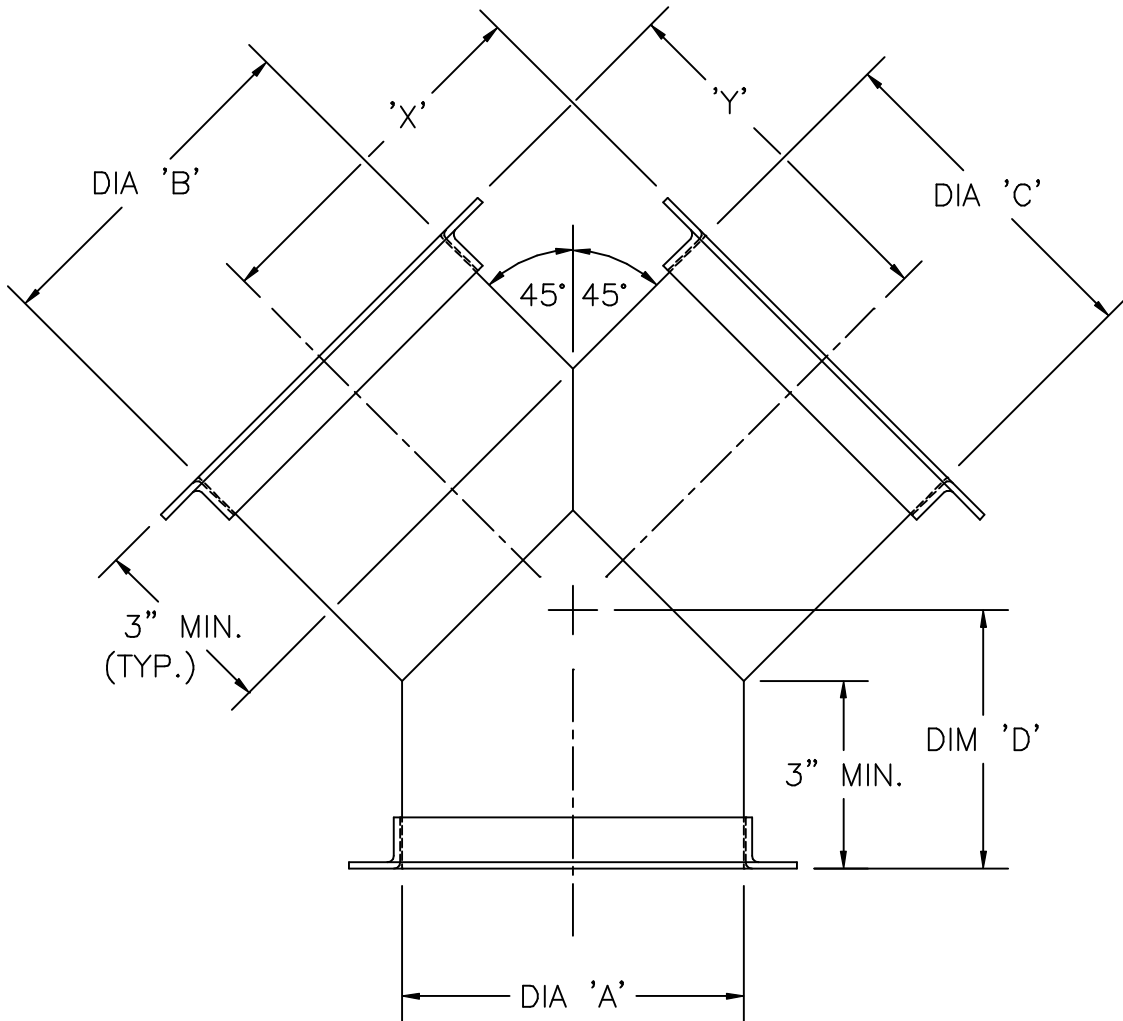
MIN. FOR 'Y' =  $'C'/2 + 3-1/2$

MIN. FOR 'W' =  $'AA'/2 + 3-1/2$



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**Wye - WYE**

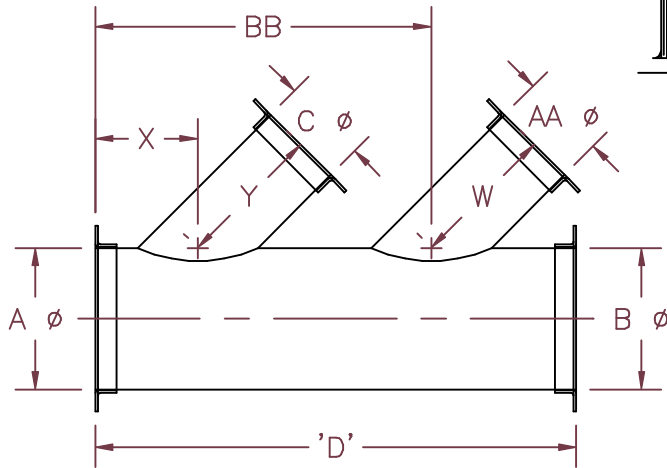


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NOTE\* When ordering, refer to DLAT 45 STANDARDS sheet

## Double Lateral Takeoff

### DLAT 45



CONNECTIONS*				REFER TO LEGEND			
STANDARD*				USE FOR NON-STANDARD FLANGES ONLY			

FITTING #	A $\phi$	B $\phi$	AA $\phi$	BB	C $\phi$	D	W	X	Y	"A"	"B"	"AA"	"C"	SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES	REMARKS	
														"A"							
														"B"							
														"AA"							
														"C"							
														"A"							
														"B"							
														"AA"							
														"C"							

Pressure Class in w.g.	+	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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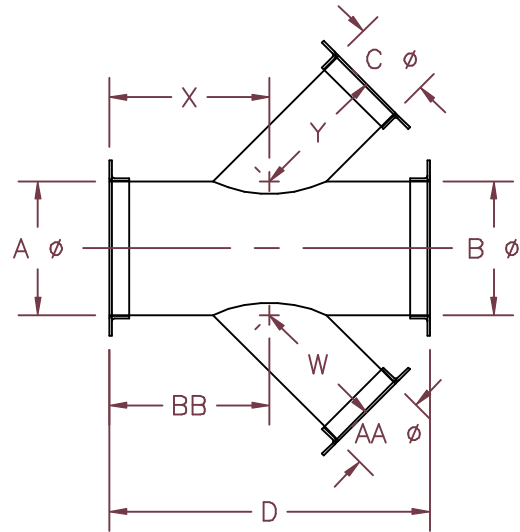
Company Name: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

*CONNECTION LEGEND*	
TYPE	MATERIAL
KF = NW-ISO-KF	316 = STAINLESS
CF = SERIES 88 CF	304 = STAINLESS
FB = FLAT BAR	GAL. = HRS GALVANIZED
AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 $\phi$ TO 18 $\phi$ ONLY

Specify under "Connections" STD column: flange type and material if other than std 304 S.S.

# Kem-Tuff™

NOTE\* When ordering, refer to LATC 45 STANDARDS sheet



## Lateral Cross - LATC 45

FITTING #	A $\phi$	B $\phi$	AA $\phi$	BB	C $\phi$	D	W	X	Y	CONNECTIONS* REFER TO LEGEND				USE FOR NON-STANDARD FLANGES ONLY				REMARKS						
										"A"	"B"	"AA"	"C"	SPEC	I.D.	O.D.	B.C.		HOLE SIZE	# OF HOLES				
														"A"										
														"B"										
														"AA"										
														"C"										
														"A"										
														"B"										
														"AA"										
														"C"										

Pressure Class in w.g.	+	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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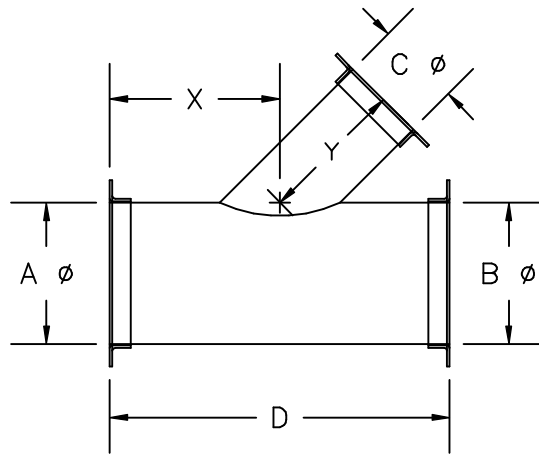
Company Name: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

*CONNECTION LEGEND*	
TYPE	MATERIAL
KF = NW-ISO-KF	316 = STAINLESS
CF = SERIES 88 CF	304 = STAINLESS
FB = FLAT BAR	GAL. = HRS GALVANIZED
AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 $\phi$ TO 18 $\phi$ ONLY

Specify under "Connections" STD column: flange type and material if other than std 304 S.S.

# Kem-Tuff™

NOTE\* When ordering, refer to LAT 45 STANDARDS sheet



## Lateral Takeoff

- LAT 45

CONNECTIONS\* REFER TO LEGEND

STANDARD\*

USE FOR NON-STANDARD FLANGES ONLY

FITTING #	A $\phi$	B $\phi$	C $\phi$	D	X	Y	CONNECTIONS*			SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES	REMARKS
							"A"	"B"	"C"							
										"A"						
										"B"						
										"C"						
										"A"						
										"B"						
										"C"						
										"A"						
										"B"						
										"C"						

Pressure Class in w.g.    +    -    1    2    3    4    5    6    7    8    9    10    11    12    13    14    15    16

Company Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

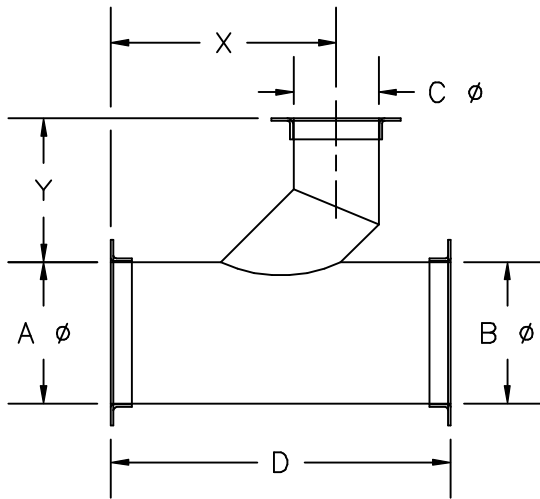
Specify under "Connections" STD column: flange type and material if other than std 304 S.S.

\*CONNECTION LEGEND\*

TYPE	MATERIAL
KF = NW-ISO-KF	316 = STAINLESS
CF = SERIES 88 CF	304 = STAINLESS
FB = FLAT BAR	GAL. = HRS GALVANIZED
AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 $\phi$ TO 18 $\phi$ ONLY

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NOTE\* When ordering, refer to LTOV STANDARDS sheet



# Lateral Takeoff - LTOV Vertical

CONNECTIONS\* REFER TO LEGEND

STANDARD\*

USE FOR NON-STANDARD FLANGES ONLY

FITTING #	A φ	B φ	C φ	D	X	Y	CONNECTIONS*			SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES	REMARKS
							"A"	"B"	"C"							
										"A"						
										"B"						
										"C"						
										"A"						
										"B"						
										"C"						
										"A"						
										"B"						
										"C"						

Pressure Class in w.g.    +    -    1    2    3    4    5    6    7    8    9    10    11    12    13    14    15    16

Company Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

Specify under "Connections" STD column: flange type and material if other than std 304 S.S.

\*CONNECTION LEGEND\*

TYPE

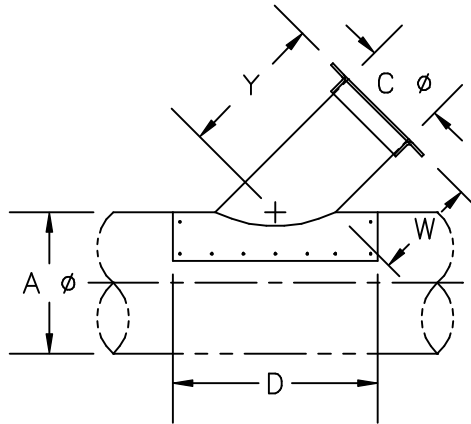
MATERIAL

KF = NW-ISO-KF  
 CF = SERIES 88 CF  
 FB = FLAT BAR  
 AR = ANGLE RING  
 RAW = NO FLANGE

316 = STAINLESS  
 304 = STAINLESS  
 GAL. = HRS GALVANIZED  
 SPEC = FB 304 S.S. ONLY  
 BC = HRS BLACK CHROME\*  
 \*BLACK CHROME AVAILABLE IN 4φ TO 18φ ONLY

# Kem-Tuff™

NOTE\* When ordering, refer to LAT TP STANDARDS sheet



## Lateral Tap - LAT TP

CONNECTIONS\* REFER TO LEGEND

STANDARD\* USE FOR NON-STANDARD FLANGES ONLY

FITTING #	A $\phi$	C $\phi$	D	W	Y	CONNECTIONS*						REMARKS		
						STANDARD*	USE FOR NON-STANDARD FLANGES ONLY							
						"C"	SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES		
							"C"							
								X						
							"C"							
								X						
							"C"							
								X						
							"C"							
								X						

Pressure Class in w.g.    +    -    1    2    3    4    5    6    7    8    9    10    11    12    13    14    15    16

Company Name: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

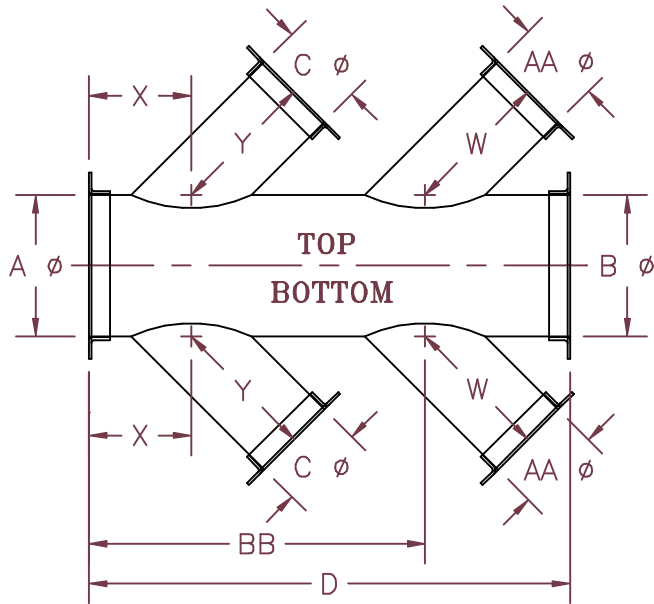
\*CONNECTION LEGEND\*

TYPE	MATERIAL
KF = NW-ISO-KF	316 = STAINLESS
CF = SERIES 88 CF	304 = STAINLESS
FB = FLAT BAR	GAL. = HRS GALVANIZED
AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 $\phi$ TO 18 $\phi$ ONLY

Specify under "Connections" STD column: flange type and material if other than std 304 S.S.

**Kem-Tuff™**

NOTE\* When ordering, refer to QLAT 45 STANDARDS sheet



# Quadruple Lateral Takeoff

**QLAT 45**

CONNECTIONS* REFER TO LEGEND														
STANDARD*				USE FOR NON-STANDARD FLANGES ONLY										
"A"	"B"	"AA"	"C"	SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES	REMARKS				
				"A"										
				"B"										
				"AA"										
				"C"										
				"AA"										
				"C"										

FITTING #	A $\phi$	B $\phi$	AA $\phi$	BB	C $\phi$	D	W	X	Y
<b>TOP</b>									
<b>BOTTOM</b>									

Pressure Class in w.g.	+	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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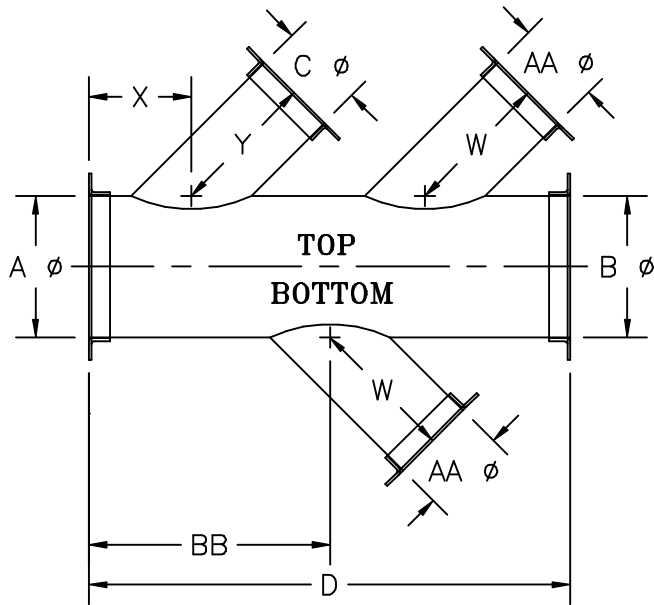
Company Name: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

*CONNECTION LEGEND*	
TYPE	MATERIAL
KF = NW-ISO-KF	316 = STAINLESS
CF = SERIES 88 CF	304 = STAINLESS
FB = FLAT BAR	GAL. = HRS GALVANIZED
AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 $\phi$ TO 18 $\phi$ ONLY

Specify under "Connections" STD column: flange type and material if other than std 304 S.S.

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NOTE\* When ordering, refer to TLAT 45 STANDARDS sheet



# Triple Lateral Takeoff

- TLAT 45

FITTING #	A $\phi$	B $\phi$	AA $\phi$	BB	C $\phi$	D	W	X	Y	CONNECTIONS* REFER TO LEGEND				USE FOR NON-STANDARD FLANGES ONLY					REMARKS			
										"A"	"B"	"AA"	"C"	SPEC	I.D.	O.D.	B.C.	HOLE SIZE		# OF HOLES		
														"A"								
														"B"								
														"AA"								
														"C"								
<b>TOP</b>														"C"								
<b>BOTTOM</b>														"AA"								
														"C"								

Pressure Class in w.g.	+	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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Company Name: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

*CONNECTION LEGEND*	
TYPE	MATERIAL
KF = NW-ISO-KF	316 = STAINLESS
CF = SERIES 88 CF	304 = STAINLESS
FB = FLAT BAR	GAL. = HRS GALVANIZED
AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 $\phi$ TO 18 $\phi$ ONLY

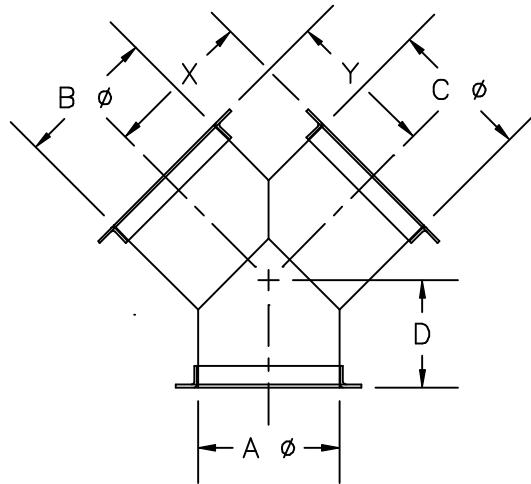
Specify under "Connections" STD column: flange type and material if other than std 304 S.S.



# ORDER SHEET

## Kem-Tuff™

NOTE\* When ordering, refer to WYE STANDARDS sheet



# Wye - WYE

CONNECTIONS\* REFER TO LEGEND

STANDARD\*

USE FOR NON-STANDARD FLANGES ONLY

FITTING #	A $\phi$	B $\phi$	C $\phi$	D	X	Y	STANDARD*			USE FOR NON-STANDARD FLANGES ONLY						REMARKS	
							"A"	"B"	"C"	SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES		
										"A"							
										"B"							
										"C"							
										"A"							
										"B"							
										"C"							
										"A"							
										"B"							
										"C"							

Pressure Class in w.g.    +    -    1    2    3    4    5    6    7    8    9    10    11    12    13    14    15    16

Company Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Phone# \_\_\_\_\_

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project #: \_\_\_\_\_ GDS Project #: \_\_\_\_\_

Specify under "Connections" STD column: flange type and material if other than std 304 S.S.

\*CONNECTION LEGEND\*

TYPE

MATERIAL

KF = NW-ISO-KF  
 CF = SERIES 88 CF  
 FB = FLAT BAR  
 AR = ANGLE RING  
 RAW = NO FLANGE

316 = STAINLESS  
 304 = STAINLESS  
 GAL. = HRS GALVANIZED  
 SPEC = FB 304 S.S. ONLY  
 BC = HRS BLACK CHROME\*  
 \*BLACK CHROME AVAILABLE IN 4 $\phi$  TO 18 $\phi$  ONLY