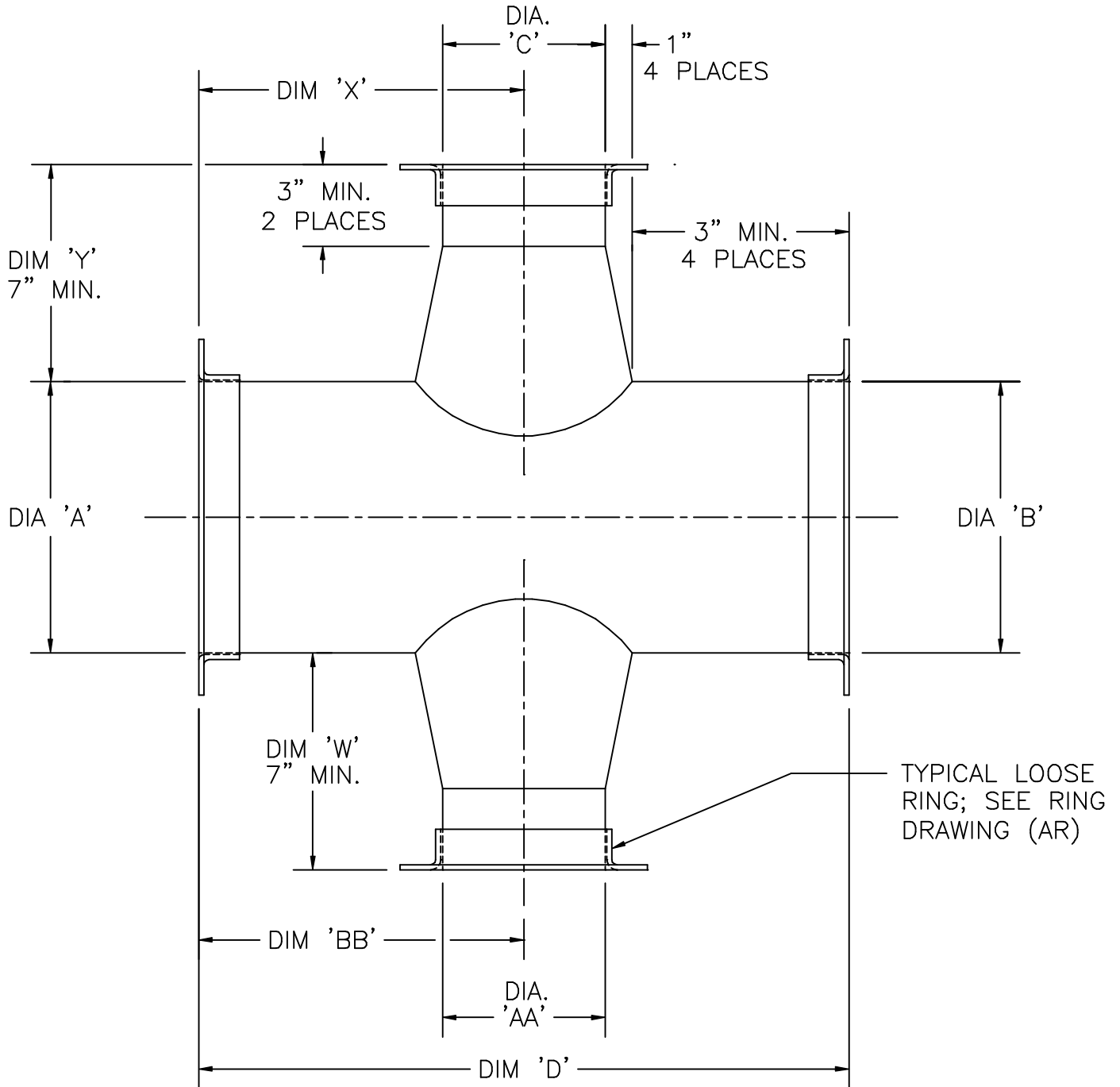


FITTING TYPE	DESIGNATION	STANDARD	ORDER SHEET
CONICAL CROSS	CTOC	10/17/95	12/03/95
CONICAL TAKEOFF	CTO	09/14/95	12/03/95
CONICAL FLAT TAP	CFT	10/01/95	12/03/95
CONICAL SADDLE TAP	CST	10/05/95	12/03/95
CONICAL SADDLE TAP W/BLASTGATE	CSTBG	10/10/95	12/03/95
CONICAL TEE W/BLASTGATE	CTBG	10/10/95	12/03/95
CONICAL DOUBLE TAKEOFF	DCTO	10/26/95	12/03/95
CONICAL TRIPLE	TCTO	12/07/95	05/12/98
CONICAL QUADRUPLE	QCTO	11/15/95	12/03/95
CONICAL QUADRUPLE @ 90	QCTO90	05/12/98	12/03/95

Kem-Tuff™ Concentric - CTOC Cross

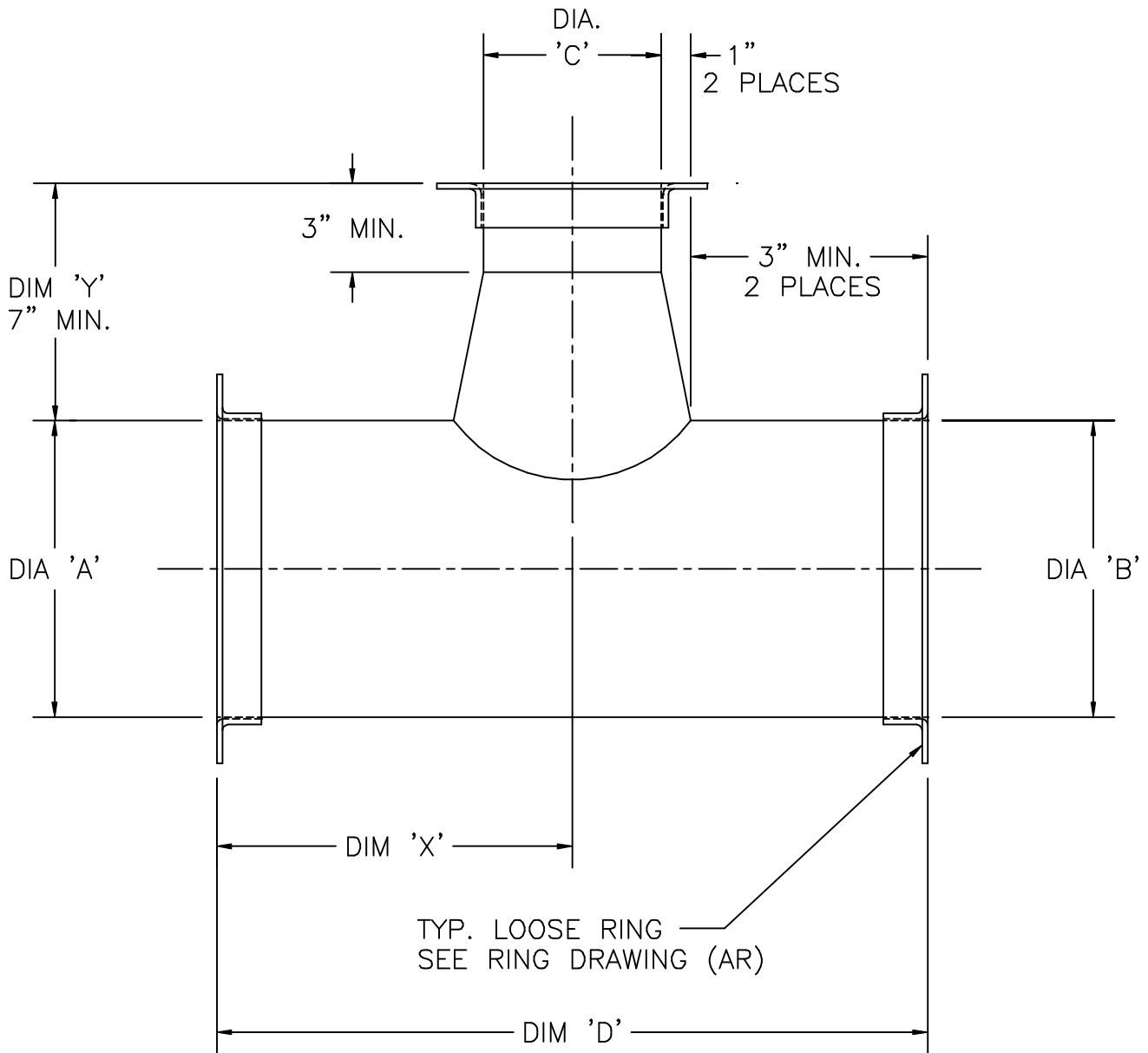


MAX. 'C' = 'A' - 4
 IF HIGHER, GO TO
 'TEE' OR 'LATERAL'

MAX. 'AA' = 'A' - 4
 IF HIGHER, GO TO
 'TEE' OR 'LATERAL'

Kem-Tuff™

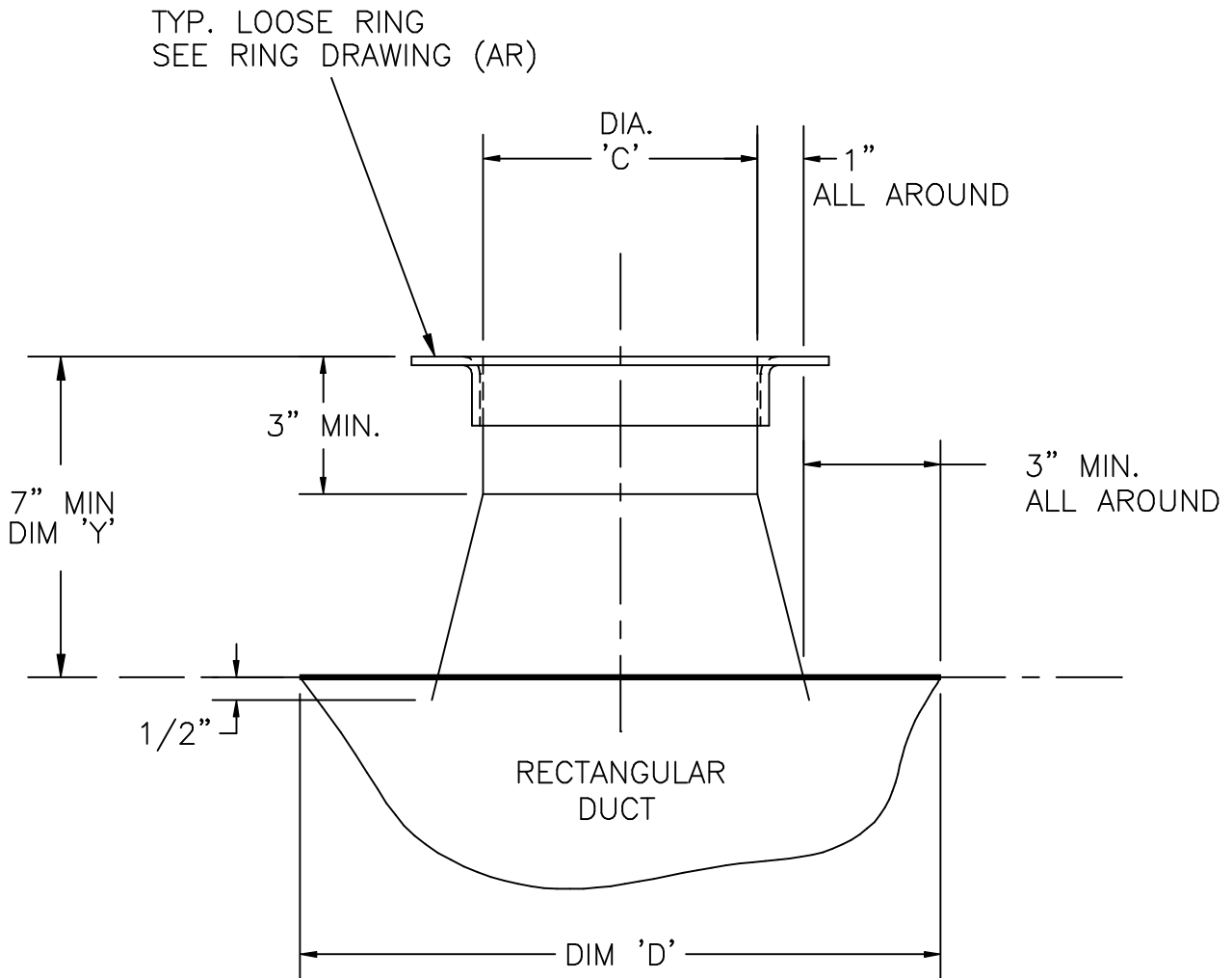
Concentric - CTO



MAX. 'C' = 'A' - 4
IF HIGHER, GO TO
'TEE' OR 'LATERAL'

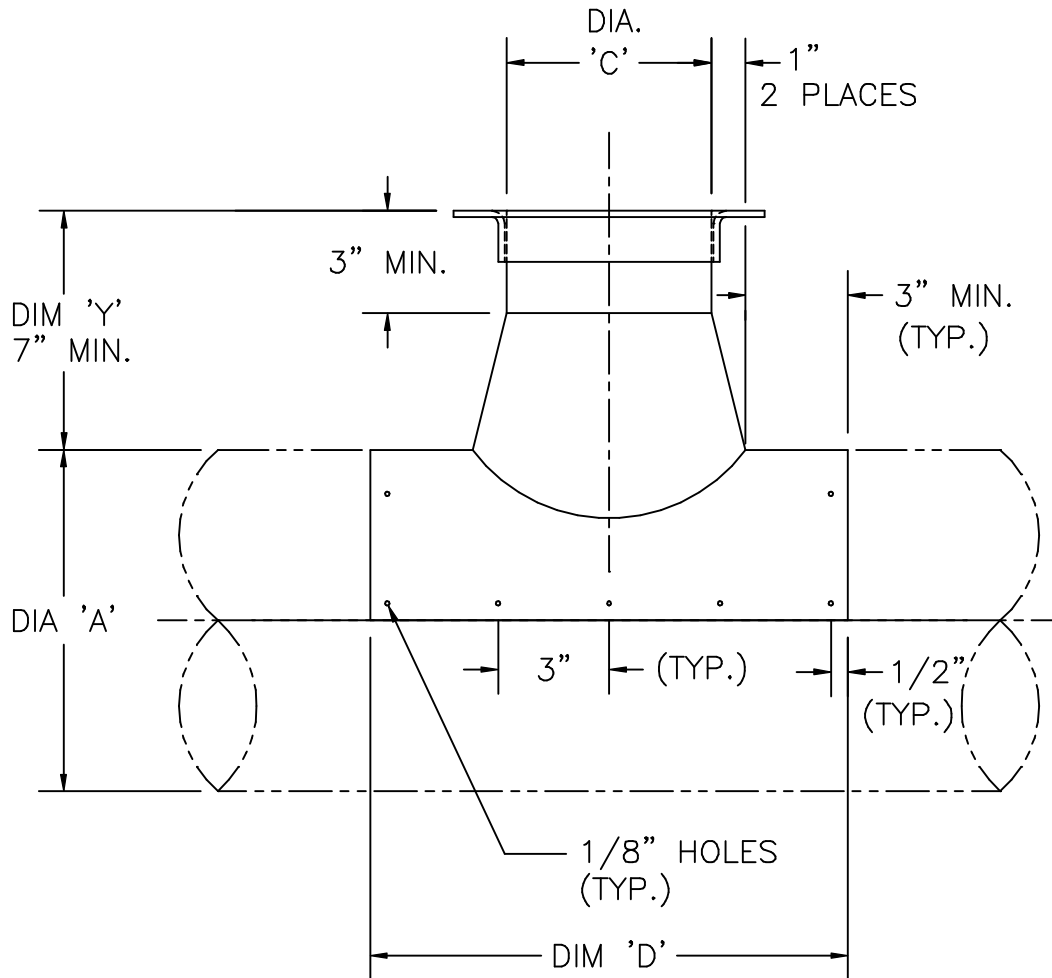
Kem-Tuff™

Conical Flat Tap - CFT



FOR USE IN TAPPING FIBERGLASS DUCT SYSTEMS

Kem-Tuff™ Conical Saddle Tap - CST

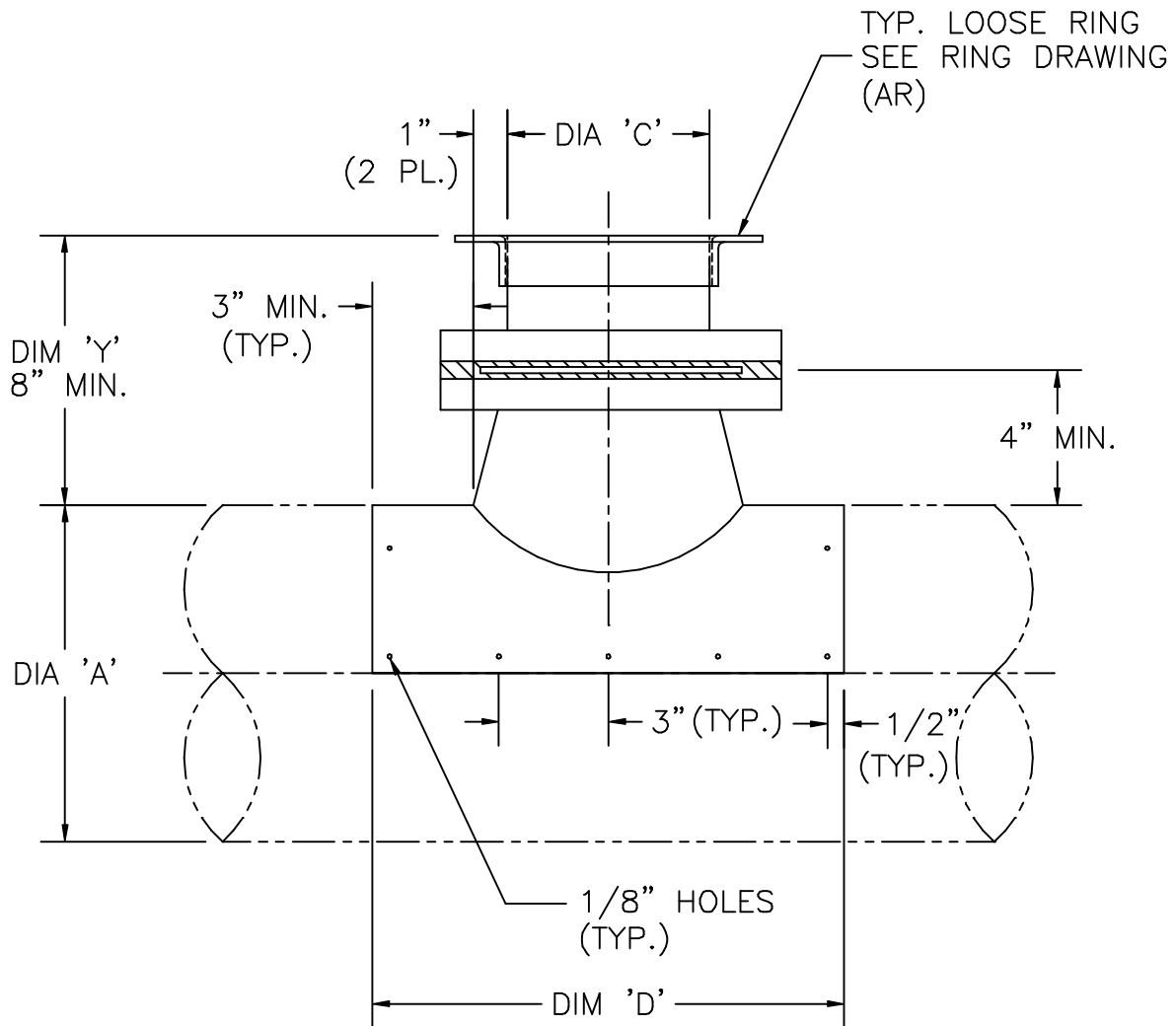


$$\text{MAX. 'C'} = \text{'A'} - 4$$

FOR USE IN TAPPING FIBERGLASS DUCT SYSTEM

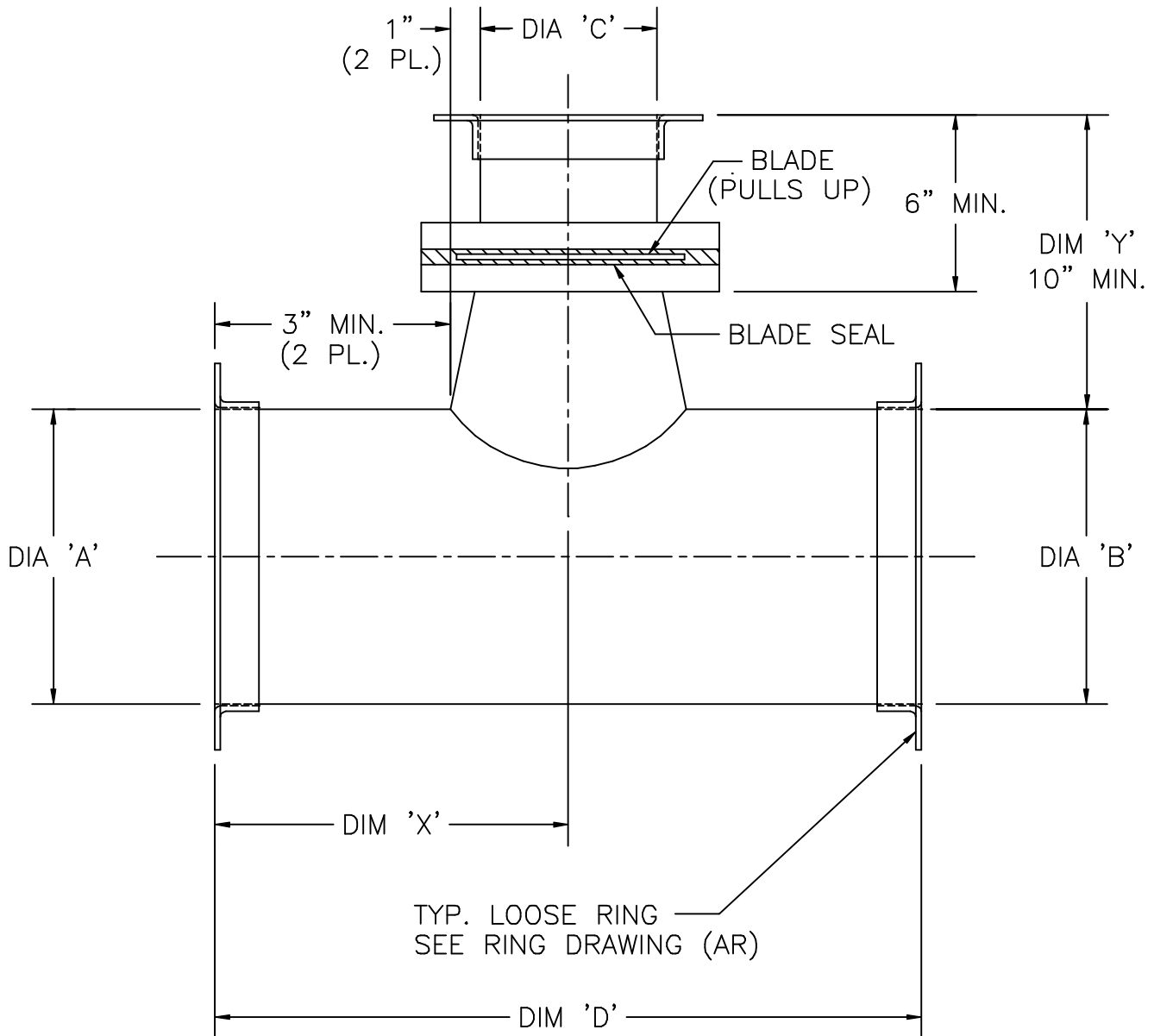
Kem-Tuff™

Conical Saddle Tap - CSTBG w/ Blastgate



- NOTES* MAX. 'C' = 'A' - 4
 BLADE PULLS PERPENDICULAR TO PIPE
 SEE BGH STANDARD FOR BLASTGATE DETAIL
 FOR USE IN TAPPING FIBERGLASS DUCT SYSTEM

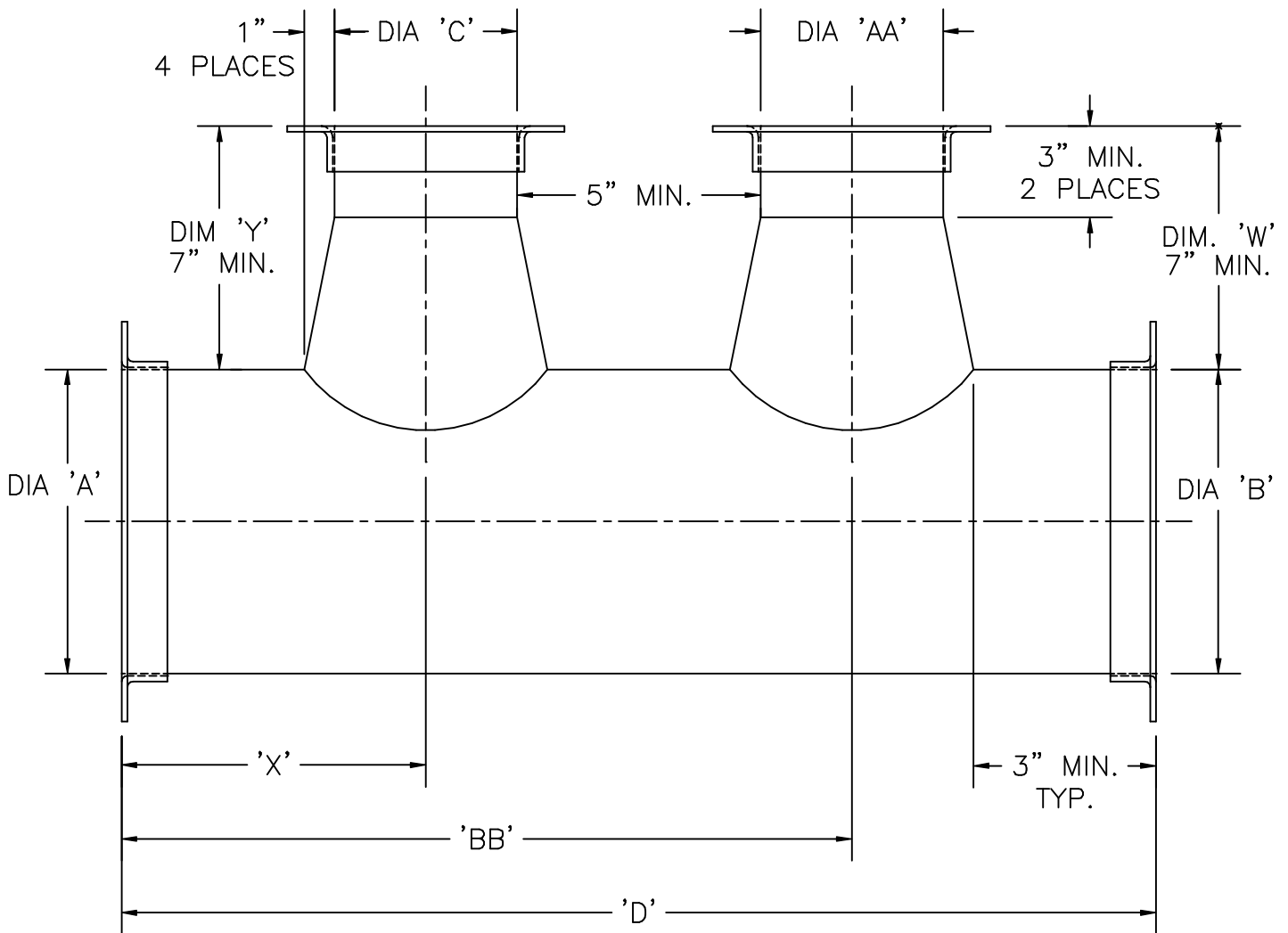
Kem-Tuff™ Conical Tee - CTBG w/Blastgate



NOTES* BLADE PULLS UP PERPENDICULAR TO PIPE
SEE BGH STANDARD FOR BLASTGATE DETAIL
X IS ALWAYS FROM 'A' END

Kem-Tuff™

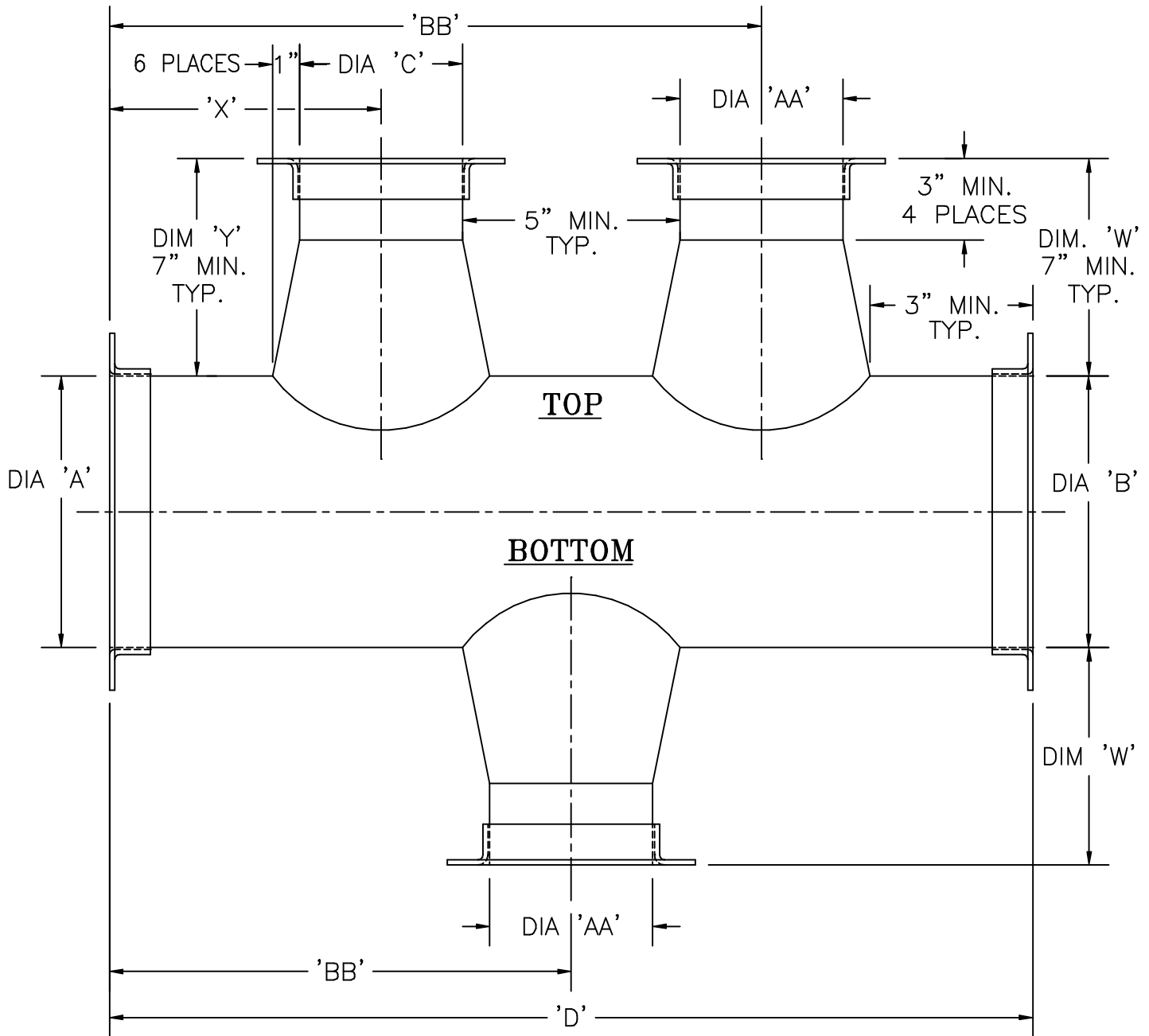
Double Concentric - DCTO Takeoff



MAX. 'C' = 'A' - 4
 IF HIGHER, GO TO
 'TEE' OR 'LATERAL'

MAX. 'AA' = 'A' - 4
 IF HIGHER, GO TO
 'TEE' OR 'LATERAL'

Kem-Tuff™

Triple
Concentric - TCTO
Takeoff

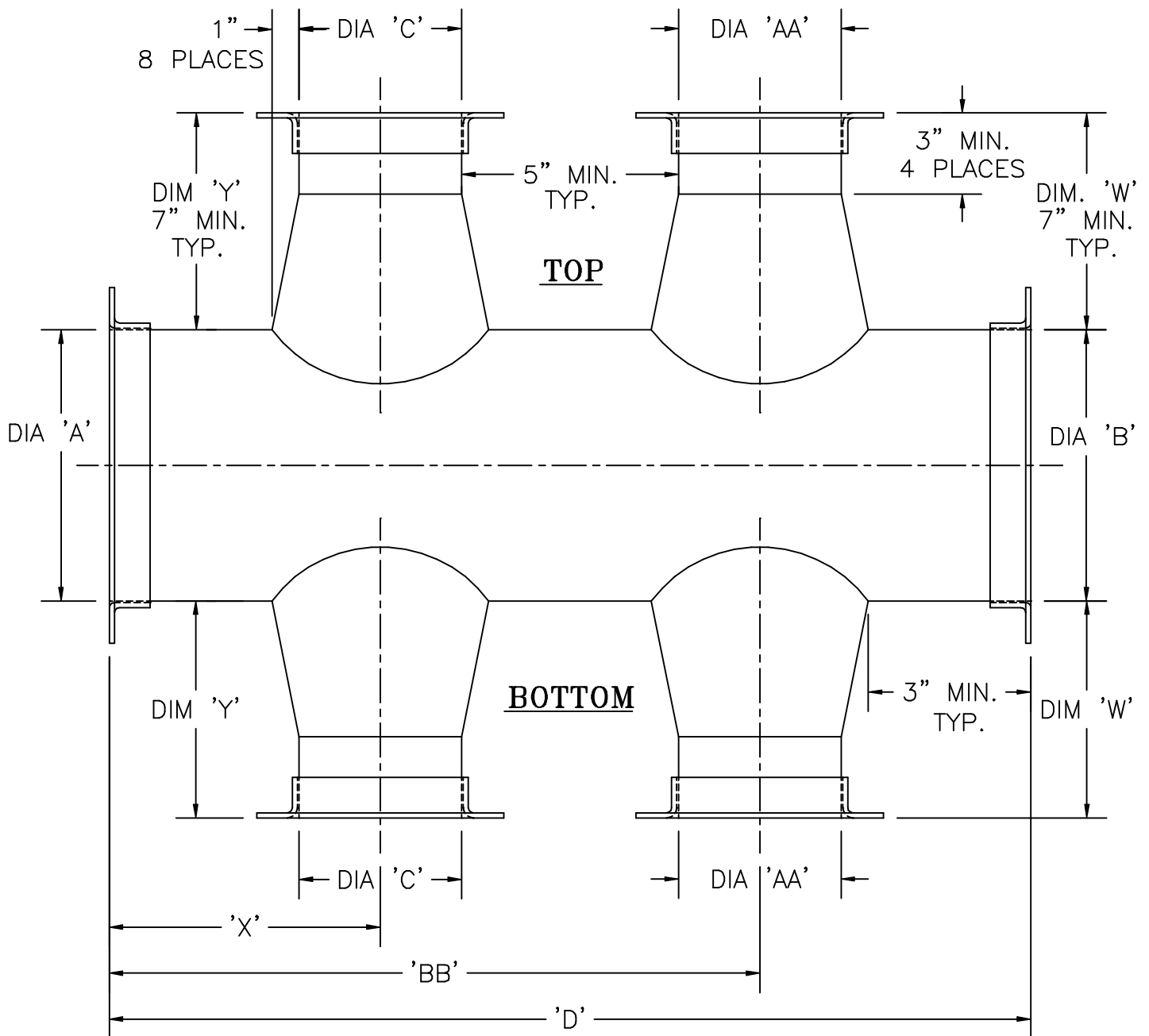
PLEASE NOTE *

- 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) MAX. 'C' = 'A' - 4. IF HIGHER, GO TO 'TEE' OR 'LATERAL'.
- 7) MAX. 'AA' = 'A' - 4. IF HIGHER, GO TO 'TEE' OR 'LATERAL'.
- 8) MAX. 'D' = 47" 6"Ø AND HIGHER; MAX. 'D' = 36" 4"Ø
- 9) MAX. 'D' = THE LONGER OF: TOP: 'C' + 'AA' + 15, OR BOTTOM: 'AA' + 8.

Kem-Tuff™

Quadruple Concentric - QCTO

Takeoff



PLEASE NOTE *

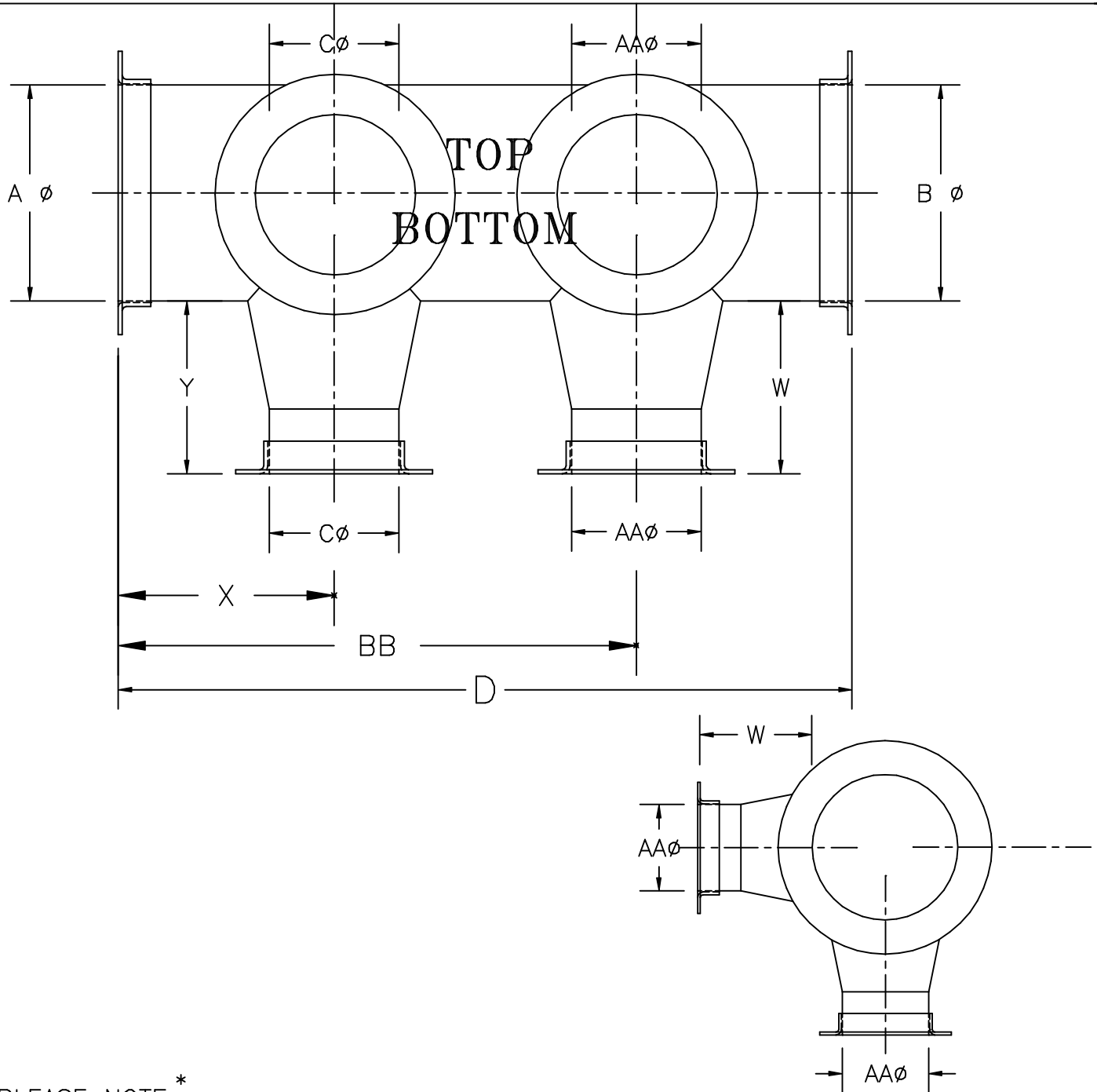
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- 2) SPECIFY BOTTOM DIMENSIONS (WITH SAME DESIGNATION) IN SECOND ROW.
- 3) TOP & BOTTOM DIM'S WITH SAME LETTERS CAN BE DIFFERENT.
- 4) DIM'S 'X' AND 'BB' APPLY SEPARATELY TO TOP & BOTTOM.
- 5) ALL 'TYPICAL' DIMENSIONS APPLY TO BOTH TOP AND BOTTOM.

MAX. 'C' = 'A' - 4
IF HIGHER, GO TO
'TEE' OR 'LATERAL'

MAX. 'AA' = 'A' - 4
IF HIGHER, GO TO
'TEE' OR 'LATERAL'

Kem-Tuff™

Quadrant Concentric - QCT090 Takeoff



PLEASE NOTE *

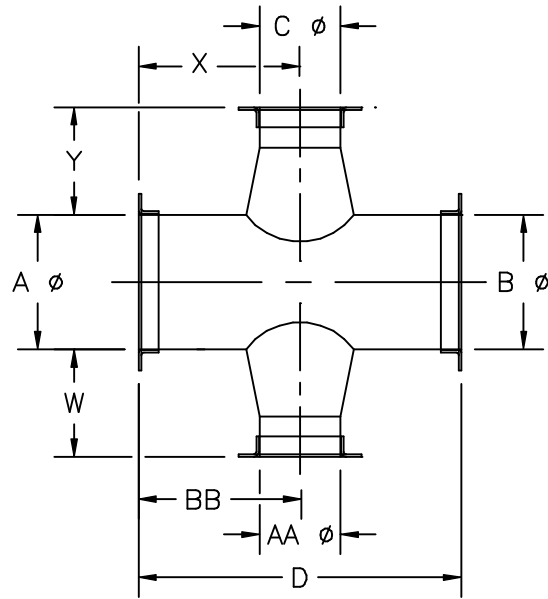
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MAX. 'C' = 'A' - 4
IF HIGHER, GO TO
'TEE' OR 'LATERAL'

MAX. 'AA' = 'A' - 4
IF HIGHER, GO TO
'TEE' OR 'LATERAL'

Kem-Tuff™

NOTE* When ordering, refer to CTOC STANDARDS sheet



Concentric Cross - CTOC

FITTING #	A ϕ	B ϕ	AA ϕ	BB	C ϕ	D	W	X	Y	CONNECTIONS* REFER TO LEGEND				USE FOR NON-STANDARD FLANGES ONLY				REMARKS			
										STANDARD*	"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 #: _____

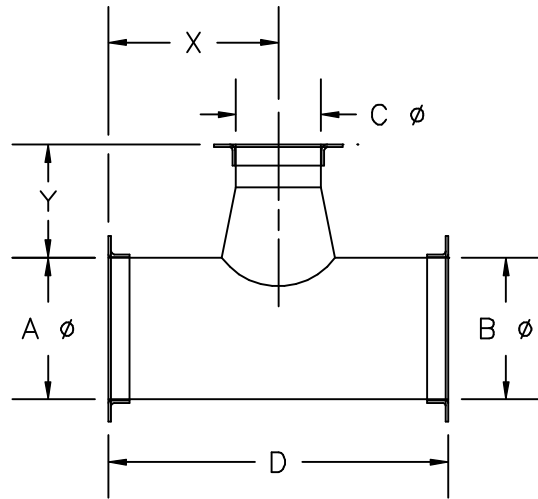
CONNECTION LEGEND

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 ϕ TO 18 ϕ ONLY

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

Kem-Tuff™

NOTE* When ordering, refer to CTO STANDARDS sheet



Concentric - CTO Takeoff

CONNECTIONS* REFER TO LEGEND

FITTING #	A ϕ	B ϕ	C ϕ	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 #: _____

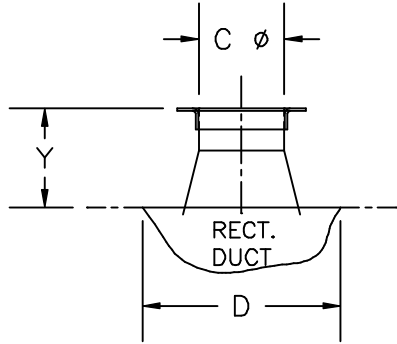
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TYPE	MATERIAL
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FB = FLAT BAR	GAL. = HRS GALVANIZED
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	*BLACK CHROME AVAILABLE IN 4 ϕ TO 18 ϕ ONLY

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

Kem-Tuff™

NOTE* When ordering, refer to Flat Tap (CFT) STANDARDS sheet.



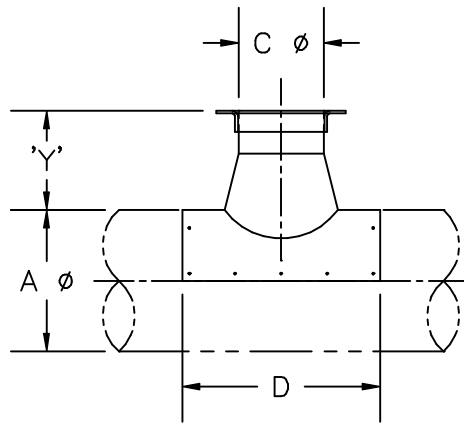
Conical Flat Tap - CFT

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

Pressure Class in w.g.	+	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16														
Company Name: _____												*CONNECTION LEGEND*																			
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.												<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>KF = NW-ISO-KF</td> <td>316 = STAINLESS</td> </tr> <tr> <td>CF = SERIES 88 CF</td> <td>304 = STAINLESS</td> </tr> <tr> <td>FB = FLAT BAR</td> <td>GAL. = HRS GALVANIZED</td> </tr> <tr> <td>AR = ANGLE RING</td> <td>SPEC = FB 304 S.S. ONLY</td> </tr> <tr> <td>RAW = NO FLANGE</td> <td>BC = HRS BLACK CHROME*</td> </tr> <tr> <td></td> <td>*BLACK CHROME AVAILABLE IN 4ϕ TO 18ϕ ONLY</td> </tr> </tbody> </table>						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 ϕ TO 18 ϕ ONLY
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	*BLACK CHROME AVAILABLE IN 4 ϕ TO 18 ϕ ONLY																														

Kem-Tuff™

NOTE* When ordering, refer to CST STANDARDS sheet



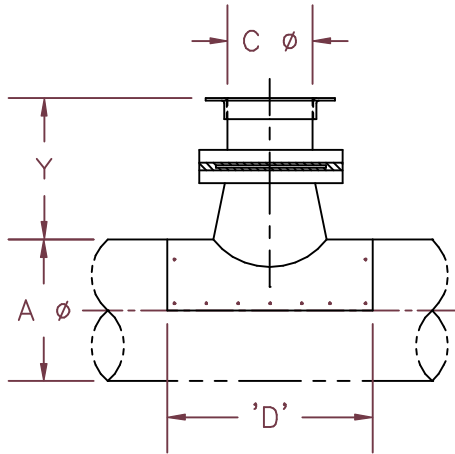
Conical Saddle Tap - CST

FITTING #	A ϕ	C ϕ	D	Y	CONNECTIONS* REFER TO LEGEND						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 #: _____																													
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	*BLACK CHROME AVAILABLE IN 4 ϕ TO 18 ϕ ONLY																												

Kem-Tuff™

NOTE* When ordering, refer to CSTBG STANDARDS sheet



Conical Saddle Tap w/ Blastgate

CSTBG

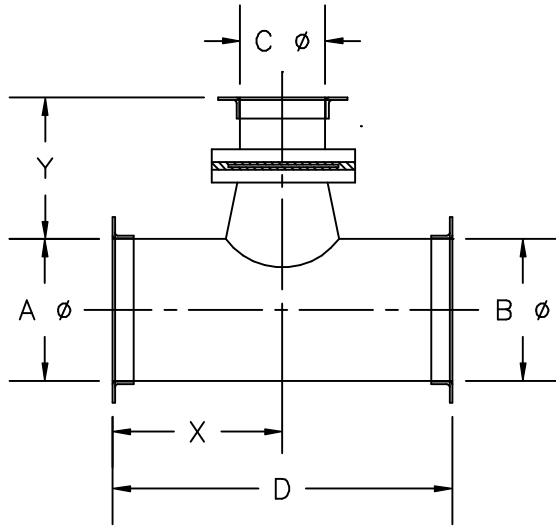
FITTING #	A ϕ	C ϕ	D	Y	CONNECTIONS* REFER TO LEGEND							REMARKS
					STANDARD*	USE FOR NON-STANDARD FLANGES ONLY						
					"C"	SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES	
					"C"	"C"						
					"C"							
					"C"							
					"C"							

Pressure Class in w.g.	+	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16														
Company Name: _____										<p align="center">*CONNECTION LEGEND*</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>KF = NW-ISO-KF</td> <td>316 = STAINLESS</td> </tr> <tr> <td>CF = SERIES 88 CF</td> <td>304 = STAINLESS</td> </tr> <tr> <td>FB = FLAT BAR</td> <td>GAL. = HRS GALVANIZED</td> </tr> <tr> <td>AR = ANGLE RING</td> <td>SPEC = FB 304 S.S. ONLY</td> </tr> <tr> <td>RAW = NO FLANGE</td> <td>BC = HRS BLACK CHROME*</td> </tr> <tr> <td></td> <td>*BLACK CHROME AVAILABLE IN 4ϕ TO 18ϕ ONLY</td> </tr> </tbody> </table>									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 ϕ TO 18 ϕ ONLY
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Contact Name: _____ Phone# _____																																
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Project #: _____ GDS Project #: _____																																
Specify under "Connections" STD column: flange type and material if other than std 304 S.S.																																

Kem-Tuff™

NOTE* When ordering, refer to CTBG STANDARDS sheet

Conical Tee w/ Blastgate - CTBG



CONNECTIONS* REFER TO LEGEND

STANDARD*

USE FOR NON-STANDARD FLANGES ONLY

FITTING #	A ϕ	B ϕ	C ϕ	D	X	Y	CONNECTIONS*			REFER TO LEGEND						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 #: _____

CONNECTION LEGEND

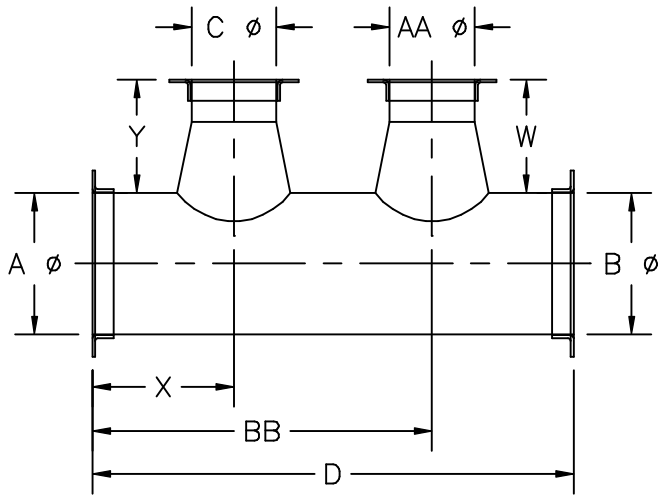
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	*BLACK CHROME AVAILABLE IN 4 ϕ TO 18 ϕ ONLY

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

Kem-Tuff™

NOTE* When ordering, refer to DCTO STANDARDS sheet

Double Concentric - DCTO Takeoff



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"									
				"A"									
				"B"									
				"AA"									
				"C"									

FITTING #	A ϕ	B ϕ	AA ϕ	BB	C ϕ	D	W	X	Y

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# _____
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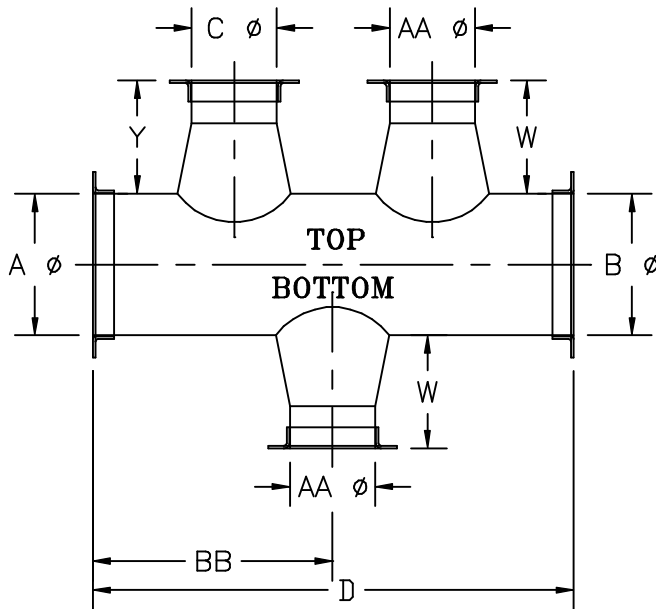
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TYPE	MATERIAL
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AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 ϕ TO 18 ϕ ONLY

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

Kem-Tuff™

NOTE* When ordering, refer to TCTO STANDARDS sheet

Triple Concentric - TCTO Takeoff



CONNECTIONS* REFER TO LEGEND

FITTING #	A φ	B φ	AA φ	BB	C φ	D	W	X	Y	STANDARD*				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"								
TOP														"A"								
BOTTOM														"AA"								
														"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# _____
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 Project #: _____ GDS Project #: _____

CONNECTION LEGEND

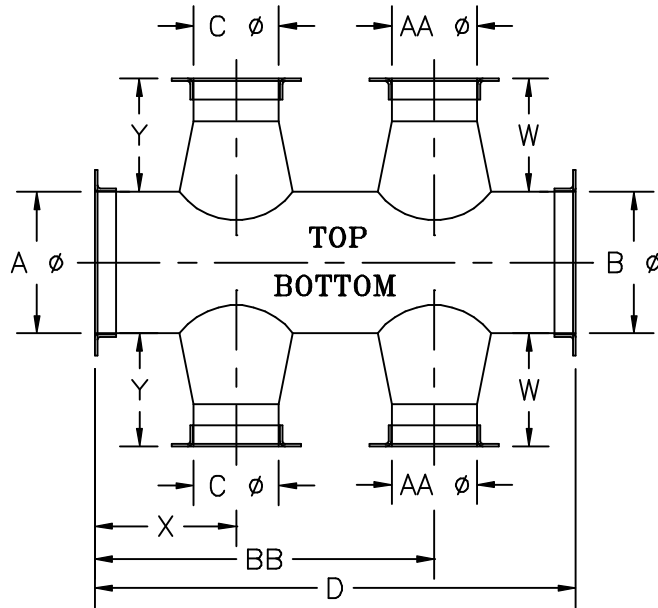
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CF = SERIES 88 CF	304 = STAINLESS
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AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4φ TO 18φ ONLY

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

Kem-Tuff™

NOTE* When ordering, refer to QCTO STANDARDS sheet

Quadruple Concentric - QCTO Takeoff



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 ϕ	B ϕ	AA ϕ	BB	C ϕ	D	W	X	Y	"A"	"B"	"AA"	"C"	SPEC	I.D.	O.D.	B.C.	HOLE SIZE	# OF HOLES	REMARKS
TOP																				
BOTTOM																				

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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 Contact Name: _____ Phone# _____
 Project Name: _____ Date: _____
 Project #: _____ GDS Project #: _____

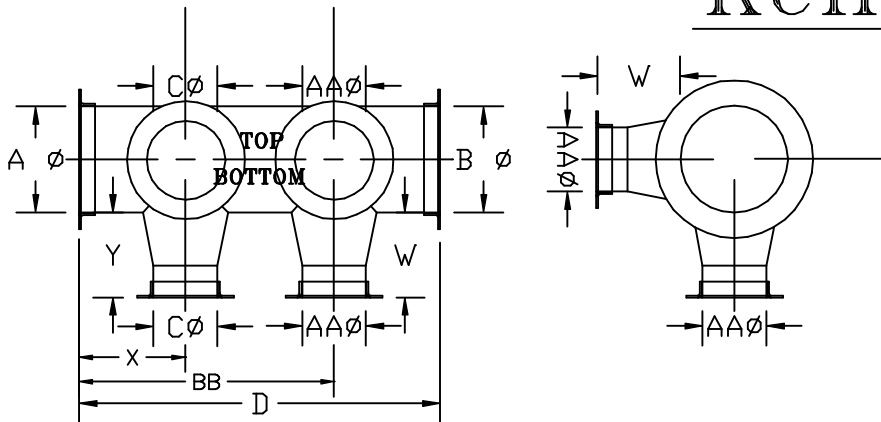
CONNECTION LEGEND	
TYPE	MATERIAL
KF = NW-ISO-KF	316 = STAINLESS
CF = SERIES 88 CF	304 = STAINLESS
FB = FLAT BAR	GAL. = HRS GALVANIZED
AR = ANGLE RING	SPEC = FB 304 S.S. ONLY
RAW = NO FLANGE	BC = HRS BLACK CHROME*
	*BLACK CHROME AVAILABLE IN 4 ϕ TO 18 ϕ ONLY

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

Kem-Tuff™

NOTE* When ordering, refer to QCT090 STANDARDS sheet

Quadruple Concentric - QCT090 Takeoff @90°



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

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