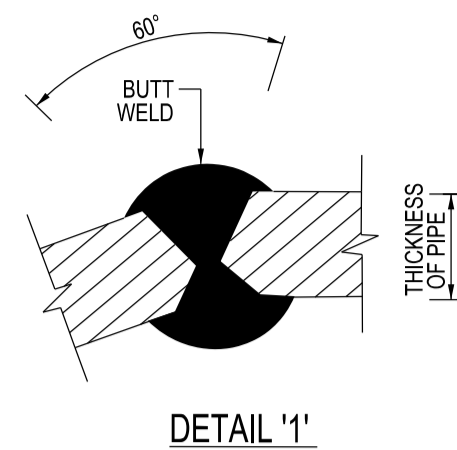
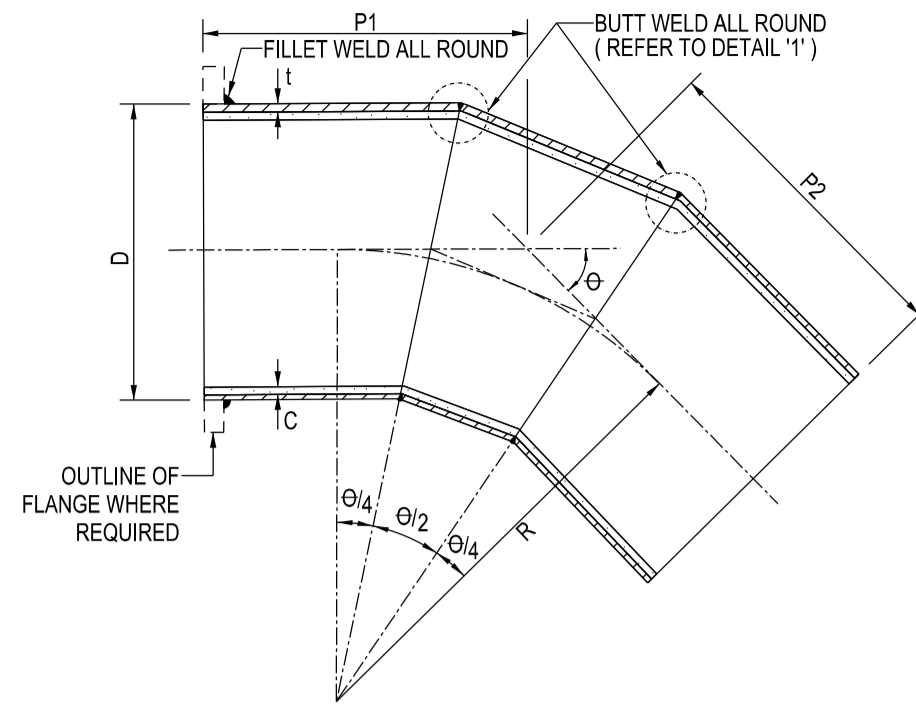


NOM. DIA. (D)	LENGTH OF LEG (N1)	LENGTH OF LEG (N2)
300	380	380
400	450	450
500	610	610
700	610	610
800	760	760
900	760	760
1200	915	915
1400	990	990
1600	1100	1100
1800	1220	1220
1900	1220	1220
2200	1525	1525

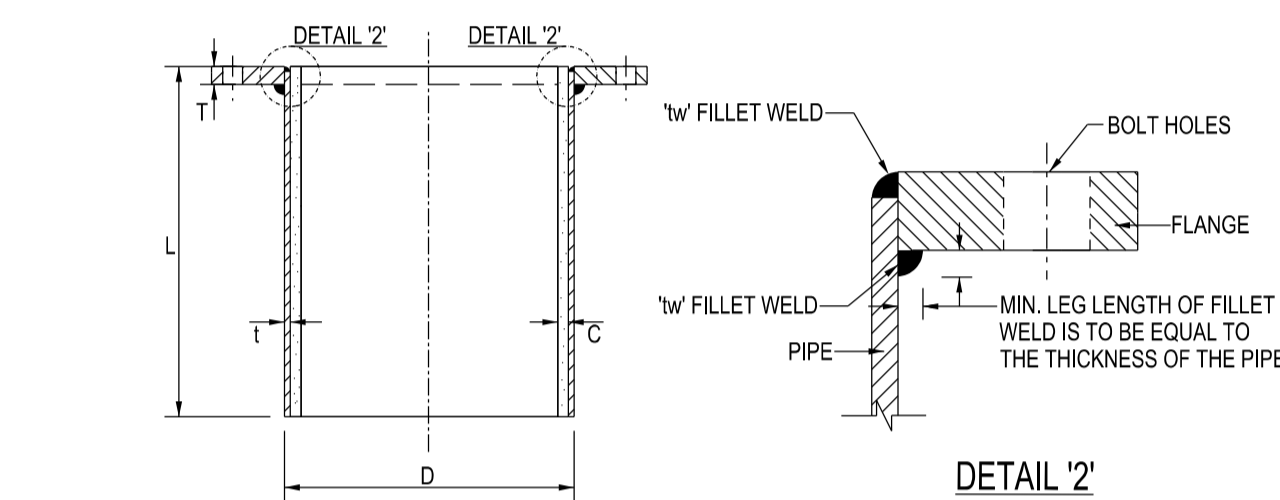


BEND θ UP TO AND INCLUDING 22.5°



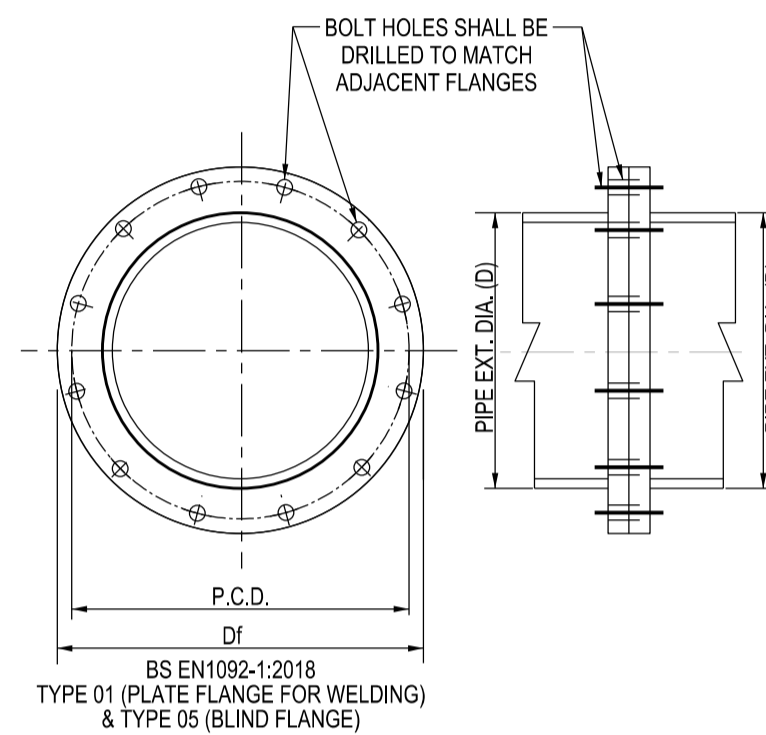
NOM. DIA. (D)	LENGTH OF LEG (P1)	LENGTH OF LEG (P2)	RADIUS (R)
500	685	685	915
700	760	760	1065
800	840	840	1220
900	915	915	1370
1200	1220	1220	1675
1400	1370	1370	1980
1600	1375	1375	2515
1800	1375	1375	2515
1900	1450	1450	2745
2200	1525	1525	2970

BEND θ EXCEEDING 22.5° UP TO AND INCLUDING 45°



FLANGE ENDED STEEL TAILPIECE
(REFER TO TABLE 4 FOR DETAILS OF STANDARD FLANGES)

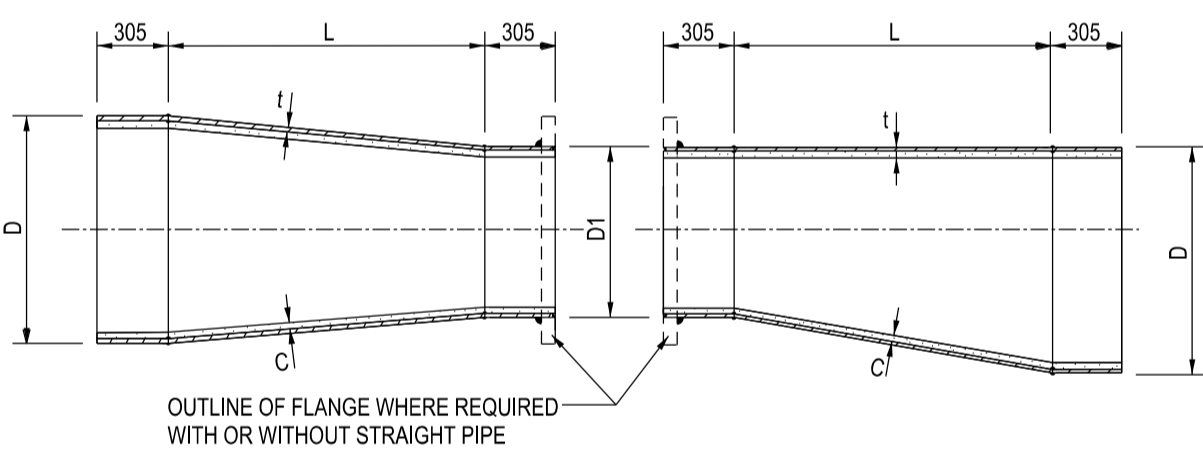
NOM. DIA. (D)	LENGTH (L)
100	455
150	455
200	535
300	535
400	535
500	535
700	610
800	610
900	610
1200	685
1400	945
1600	1100
1800	1200
1900	1300
2200	2440



STANDARD PIPES FLANGES									
PIPE NOM. DIA. (mm)	EXT. DIA. (D) (mm)	THK. MS PLATE (t) (mm)	CONC. LINING (C) (mm)	FLANGE DIA. (Df) (mm)	P.C.D. (mm)	NO. & SIZE OF BOLT HOLE (mm)	THK. OF FLANGE (T) (mm)	BOLT DIA.	
100	114.3	6.0 [#]	6.0	220	180	8 x 18	22	M16	
150	168.3	7.1 [#]	6.0	285	240	8 x 22	24	M20	
200	219.1	8.2 [#]	6.0	340	295	12 x 22	26	M20	
300	323.9	10.3 [#]	6.0	460	410	12 x 26	32	M24	
500	506.9	6.0	13.0	715	650	20 x 33	46	M30	
700	667.2	6.3	13.0	910	840	24 x 36	63	M33	
800	825.9	8.0	19.0	1025	950	24 x 39	74	M36	
900	933.5	9.5	19.0	1125	1050	28 x 39	82	M36	
1200	1244.7	12.7	19.0	1485	1390	32 x 48	95	M45	
1400	1422.4	12.7	25.0	1685	1590	36 x 48	103	M45	
1600	1549.4	12.7	25.0	1930	1820	40 x 56	115	M52	
1800	1746.3	12.7	25.0	2130	2020	44 x 56	126	M52	
1900	1911.3	15.9	25.0	2245	2130	48 x 62	133	M56	
2200	2216.2	15.9	25.0	2555	2440	52 x 62	154	M56	

NOTE:
1) FLANGES SHALL BE MANUFACTURED IN ACCORDANCE WITH BS EN 1092-1:2018.
2) FLANGES SHALL BE TYPE '1' PLATE FLANGE FOR WELDING. THE FLANGE FACE SHALL BE TYPE 'A' FLAT FACE.
3) # STEEL PIPES FROM 100MM TO 300MM DIAMETER SHALL BE PREFABRICATED STANDARD INDUSTRIAL PIPES, MANUFACTURED IN ACCORDANCE TO TABLE 4 OF API 5L.

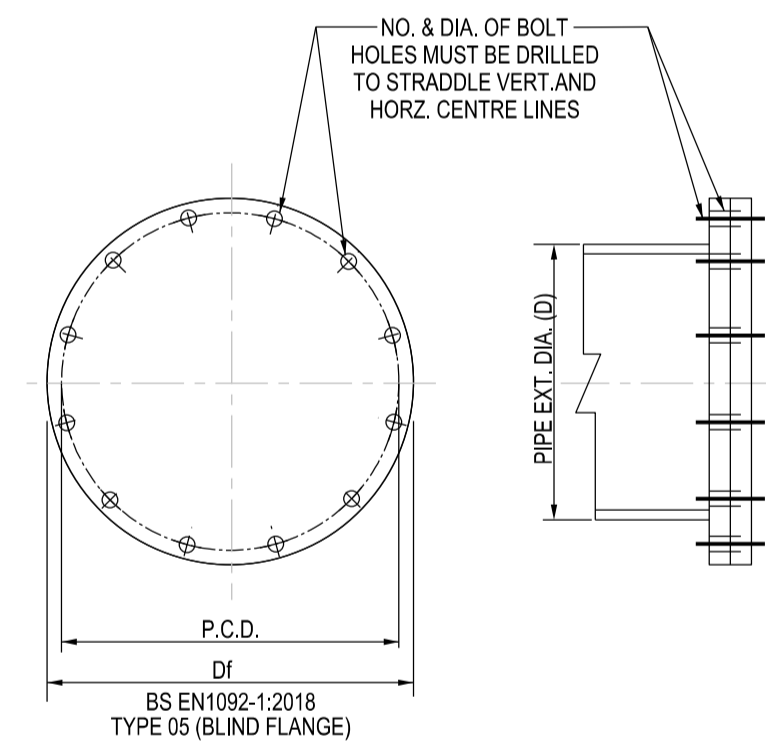
STANDARD PIPE FLANGES



LONGITUDINAL SECTION OF CONCENTRIC REDUCER
LONGITUDINAL SECTION OF ECCENTRIC REDUCER
REDUCER

NOTES:
BOLT HOLES SHALL BE DRILLED TO MATCH ADJACENT FLANGES

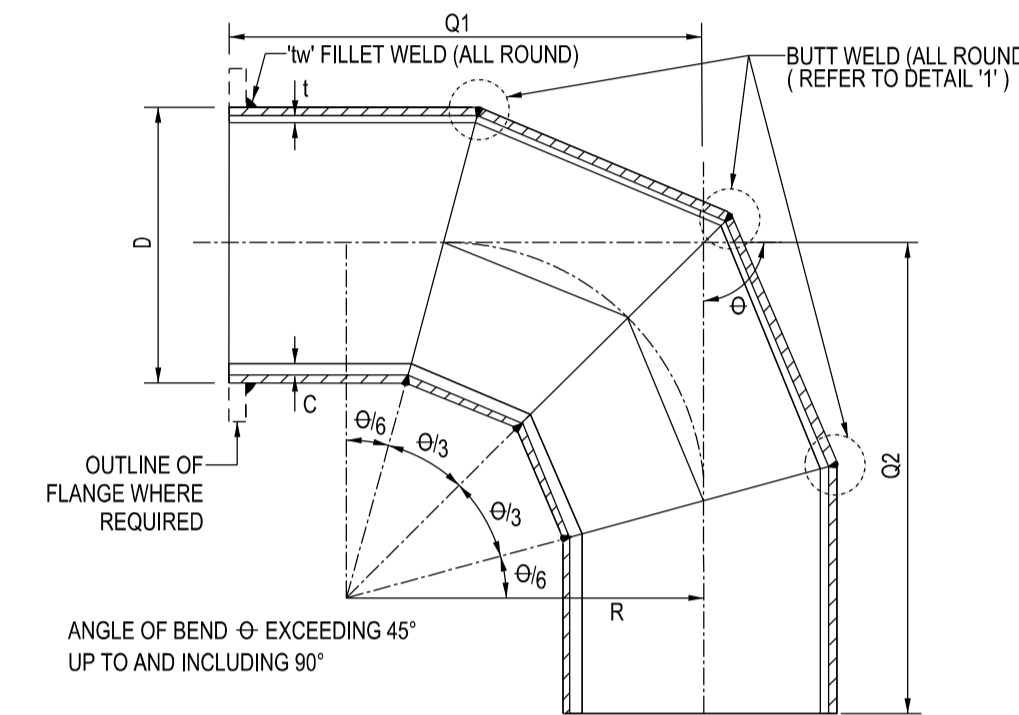
(D x D1) REDUCER NOM. END DIAMETERS	TAPERED LENGTH (L)	REMARKS
700 x 500	915	-
800 x 700	915	-
900 x 700	1830	-
900 x 800	915	-
1200 x 700	3660	-
1200 x 800	2745	-
1200 x 900	1830	-
1400 x 900	3660	-
1400 x 1200	1830	-
1500 x 1200	2745	-
1600 x 1400	1830	-
1800 x 1200	3660	-
1800 x 1400	2745	-
1800 x 1600	915	-
1900 x 1200	4570	-
1900 x 1400	3660	-
1900 x 1600	1830	-
1900 x 1800	915	-
700 x 300	1000	FOR FLUSHING PURPOSE
800 x 300	1000	-
2200 x 1800	2745	-
2200 x 1900	1830	-



STANDARD BLANK FLANGES									
PIPE NOM. DIA. (mm)	EXT. DIA. (D) (mm)	THK. MS PLATE (t) (mm)	CONC. LINING (C) (mm)	BLANK FLANGE DIA. (Df) (mm)	P.C.D. (mm)	NO. & SIZE OF BOLT HOLE (mm)	THK. OF BLANK FLANGE (T) (mm)	BOLT DIA.	
100	114.3	6.0 [#]	6.0	220	180	8 x 18	20	M16	
150	168.3	7.1 [#]	6.0	285	240	8 x 22	22	M20	
200	219.1	8.2 [#]	6.0	340	295	12 x 22	26	M20	
300	323.9	10.3 [#]	6.0	460	410	12 x 26	28	M24	
500	506.9	6.0	13.0	715	650	20 x 33	44	M30	
700	667.2	6.3	13.0	910	840	24 x 36	58	M33	
800	825.9	8.0	19.0	1025	950	24 x 39	62	M36	
900	933.5	9.5	19.0	1125	1050	28 x 39	64	M36	
1200	1244.7	12.7	19.0	1485	1390	32 x 48	72	M45	
1400	1422.4	12.7	25.0	1685	1590	36 x 48	83	M45	
1600	1549.4	12.7	25.0	1930	1820	40 x 56	95	M52	
1800	1746.3	12.7	25.0	2130	2020	44 x 56	105	M52	
1900	1911.3	15.9	25.0	2245	2130	48 x 62	126	M56	
2200	2216.2	15.9	25.0	2555	2440	52 x 62	126	M56	

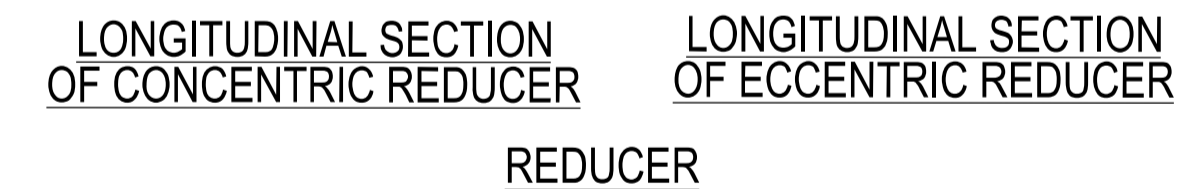
NOTE:
BLANK FLANGES (TYPE '5') SHALL BE MANUFACTURED IN ACCORDANCE WITH BS EN 1092-1:2018.

STANDARD BLANK FLANGES



NOM. DIA. (D)	LENGTH OF LEG (Q1)	LENGTH OF LEG (Q2)	RADIUS (R)
500	990	990	760
700	1220	1220	915
800	1370	1370	1065
900	1525	1525	1220
1200	1750	1750	1450
1400	1900	1900	1600
1600	2100	2100	1600
1800	2135	2135	1675
1900	2210	2210	1830
2200	2440	2440	2135

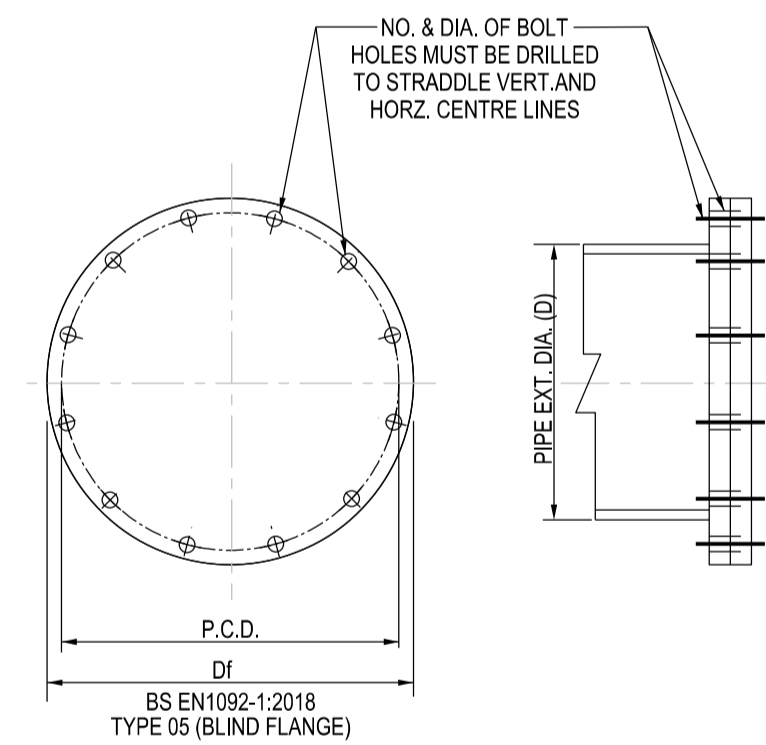
BEND θ EXCEEDING 45° UP AND INCLUDING 90°



LONGITUDINAL SECTION OF CONCENTRIC REDUCER
LONGITUDINAL SECTION OF ECCENTRIC REDUCER
REDUCER

NOTES:
BOLT HOLES SHALL BE DRILLED TO MATCH ADJACENT FLANGES

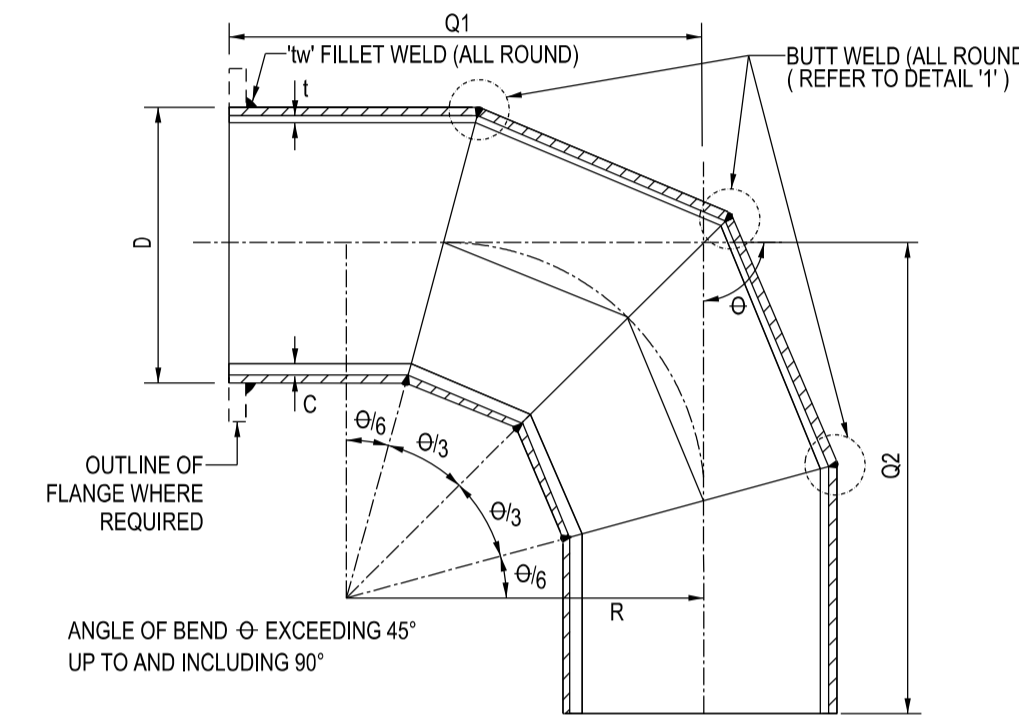
(D x D1) REDUCER NOM. END DIAMETERS	TAPERED LENGTH (L)	REMARKS
700 x 500	915	-
800 x 700	915	-
900 x 700	1830	-
900 x 800	915	-
1200 x 700	3660	-
1200 x 800	2745	-
1200 x 900	1830	-
1400 x 900	3660	-
1400 x 1200	1830	-
1500 x 1200	2745	-
1600 x 1400	1830	-
1800 x 1200	3660	-
1800 x 1400	2745	-
1800 x 1600	915	-
1900 x 1200	4570	-
1900 x 1400	3660	-
1900 x 1600	1830	-
1900 x 1800	915	-
700 x 300	1000	FOR FLUSHING PURPOSE
800 x 300	1000	-
2200 x 1800	2745	-
2200 x 1900	1830	-



STANDARD BLANK FLANGES									
PIPE NOM. DIA. (mm)	EXT. DIA. (D) (mm)	THK. MS PLATE (t) (mm)	CONC. LINING (C) (mm)	BLANK FLANGE DIA. (Df) (mm)	P.C.D. (mm)	NO. & SIZE OF BOLT HOLE (mm)	THK. OF BLANK FLANGE (T) (mm)	BOLT DIA.	
100	114.3	6.0 [#]	6.0	220	180	8 x 18	20	M16	
150	168.3	7.1 [#]	6.0	285	240	8 x 22	22	M20	
200	219.1	8.2 [#]	6.0	340	295	12 x 22	26	M20	
300	323.9	10.3 [#]	6.0	460	410	12 x 26	28	M24	
500	506.9	6.0	13.0	715	650	20 x 33	44	M30	
700	667.2	6.3	13.0	910	840	24 x 36	58	M33	
800	825.9	8.0	19.0	1025	950	24 x 39	62	M36	
900	933.5	9.5	19.0	1125	1050	28 x 39	64	M36	
1200	1244.7	12.7	19.0	1485	1390	32 x 48	72	M45	
1400	1422.4	12.7	25.0	1685	1590	36 x 48	83	M45	
1600	1549.4	12.7	25.0	1930	1820	40 x 56	95	M52	
1800	1746.3	12.7	25.0	2130	2020	44 x 56	105	M52	
1900	1911.3	15.9	25.0	2245	2130	48 x 62	126	M56	
2200	2216.2	15.9	25.0	2555	2440	52 x 62	126	M56	

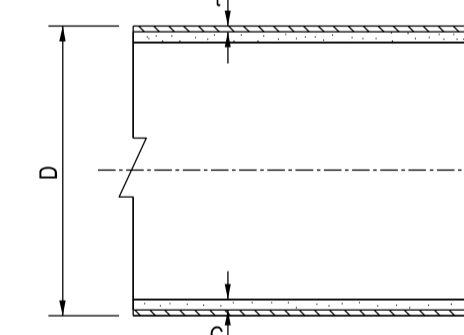
NOTE:
BLANK FLANGES (TYPE '5') SHALL BE MANUFACTURED IN ACCORDANCE WITH BS EN 1092-1:2018.

STANDARD BLANK FLANGES



NOM. DIA. (D)	LENGTH OF LEG (Q1)	LENGTH OF LEG (Q2)	RADIUS (R)
500	990	990	760
700	1220	1220	915
800	1370	1370	1065
900	1525	1525	1220
1200	1750	1750	1450
1400	1900	1900	1600
1600	2100	2100	1600
1800	2135	2135	1675
1900	2210	2210	1830
2200	2440	2440	2135

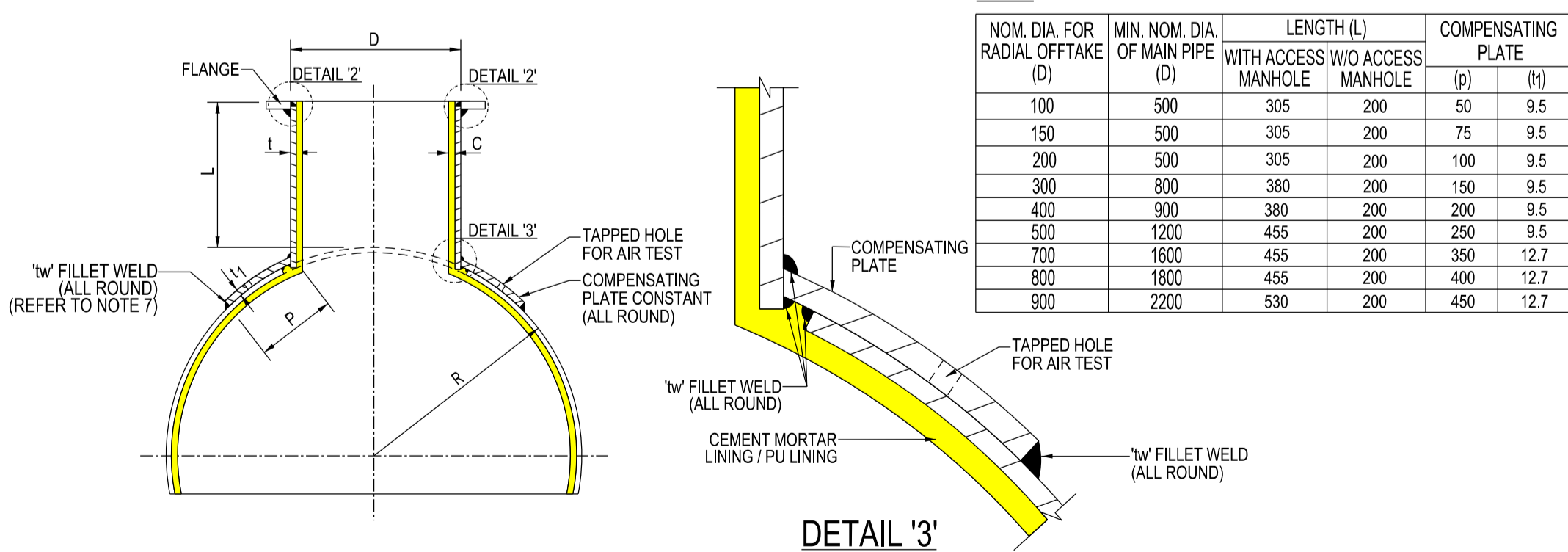
BEND θ EXCEEDING 45° UP AND INCLUDING 90°



STANDARD STRAIGHT PIPES			
NOM. DIA. (mm)	EXT. DIA. (D) (mm)	THK. MS PIPE (t) (mm)	CONC. LINING (C) (mm)
100	114.3 [#]	6.0 [#]	6.0
150	168.3 [#]	7.1 [#]	6.0
200	219.1 [#]	8.2 [#]	6.0
300	329.9 [#]	10.3 [#]	6.0
500	506.9	6.0	13.0
700	667.2	6.3	13.0
800	825.9	8.0	19.0
900	933.5	9.5	19.0
1200	1244.7	12.7	19.0
1400	1422.4	12.7	25.0
1600	1549.4	12.7	25.0
1800	1746.3	12.7	25.0
1900	1911.3	15.9	25.0
2200	2216.2	15.9	25.0

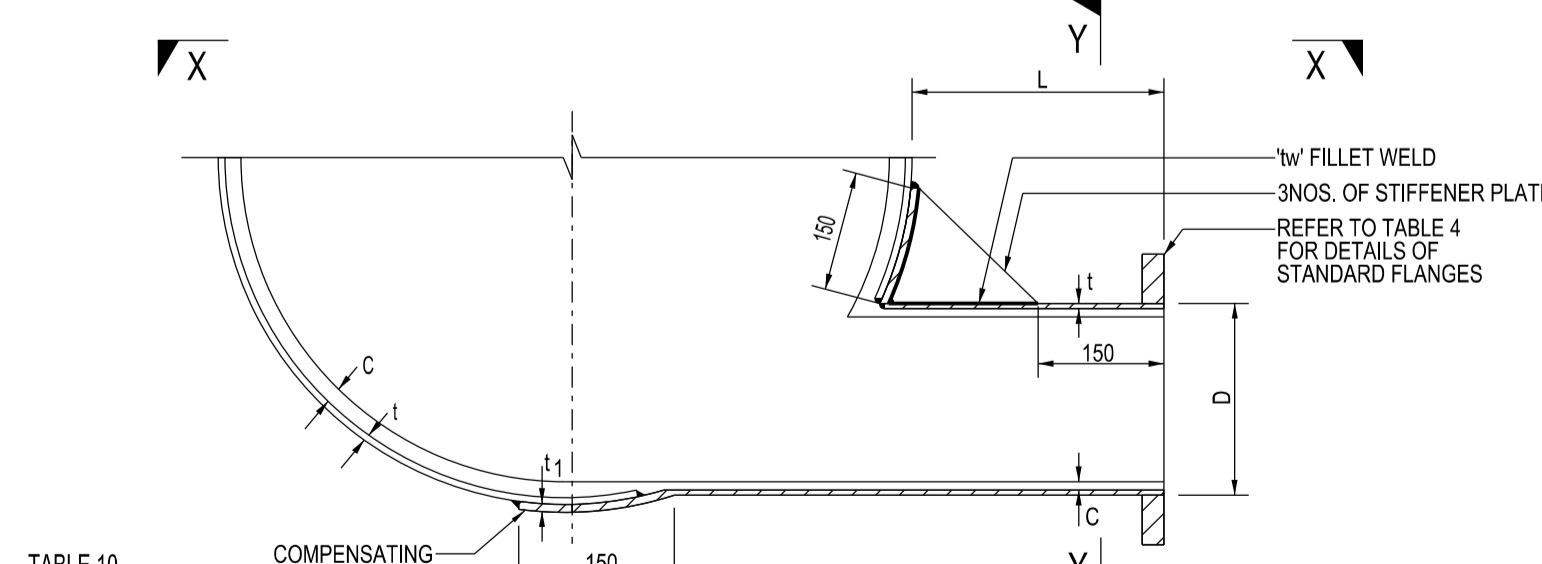
NOTE:
FOR STANDARD INDUSTRIAL PREFABRICATED STEEL PIPES FROM 100MM TO 300MM DIAMETER THAT ARE MANUFACTURED IN ACCORDANCE TO TABLE 4 BASED ON API 5L.

DIMENSIONS OF PUB STANDARD STRAIGHT PIPES



RADIAL OFFTAKE

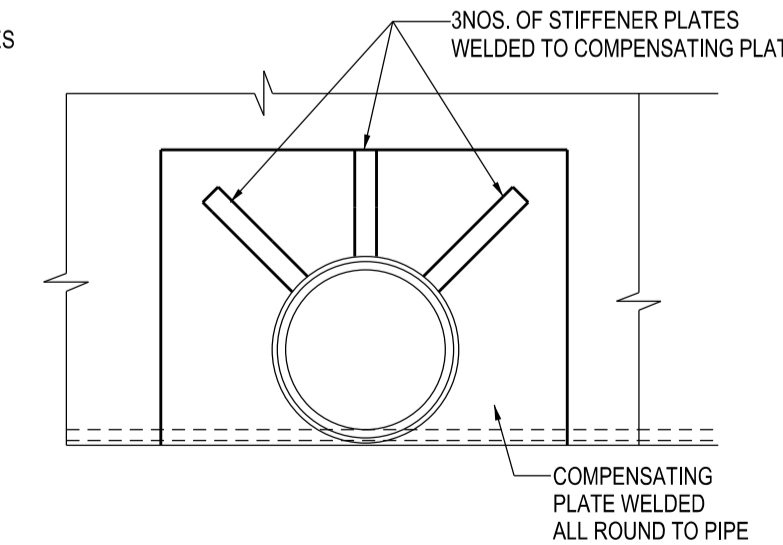
NOM. DIA. FOR RADIAL OFFTAKE (D)	MIN. NOM. DIA. OF MAIN PIPE (D)	LENGTH (L)		COMPENSATING PLATE	
		WITH ACCESS/ MANHOLE	W/O ACCESS/ MANHOLE	(p)	(q)
100	500	305	200	50	9.5
150	500	305	200	75	9.5
200	500	305	200	100	9.5
300	800	380	200	150	9.5
400	900	380	200	200	9.5
500	1200	455	200	250	9.5
700	1600	455	200	350	12.7
800	1800	455	200	400	12.7
900	2200	530	200	450	12.7



NOM. DIA. (D)	LENGTH (L)	THK. OF COMPENSATING PLATE (t)	THK. OF STIFFENER PLATE (ts)
100	500	9.5	22
150	500	9.5	24
200	500	9.5	26
300	500	9.5	32

SECTION X - X

TANGENTIAL OFFTAKE



SECTION Y - Y

ISSUED: SEP 2020

SCALE

DRAWING NO.

LAST REVIEWED: