tyco Water

Flanged Fittings

Ductile Iron Pipeline Systems

Flanged fittings are manufactured to AS/NZS 2280. Flange dimensions comply with AS 4087. DN 80 – DN 750

- Ductile Iron fittings for high strength and impact resistance
- Suitable for 'in ground' or 'above ground' applications
- Fittings can be encapsulated with a thermal bonded polymeric coating or cement lined and bitumen coated to suit local utility specifications.
- Self anchoring joints. No need for external anchorages.
- Integrally cast flanges on fittings. All flange dimensions comply with AS4087.
- Alternate flange dimensions available on request.

General application

Flanged Fittings provide restrained non-flexible joints in pipelines or within pipework arrangements and are commonly used in above ground applications such as pump stations and treatment plants.

Technical data

Size Range:
DN 80 – DN 750

Allowable Operating Pressures:
1600 or 3500kPa

Standards:
AS/NZS 2280 – Ductile iron pressure pipes and fittings

Certifications:
ProductMark Licence
PRD/R61/0412/1
Certified to AS 4020 – Suitable for contact with drinking water.

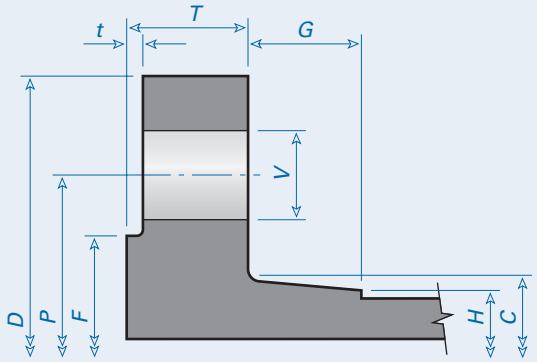
Flanged fittings
typical specifying sequence

Specifying a high pressure DN 150 fusion coated flanged tee with a DN 100 branch.

Example	150x150-100	–	FL-FLxFL	TEE	HPFC
Nominal Size					
Angle (if applicable)					
End Type(s) FL – Flange / SC – Socket / SP – Spigot					
Type of Fitting TEE / BEND / TAPER / CONN					
Extra Information TC – Figure B5 Flange / HP – Figure B6 Flange CL – Cement Lined / FC – Fusion Coated					

Specifying a 22.5 degree standard pressure DN 100 cement lined, bitumen coated bend.

Example	100	22½	FL-FL	BEND	TCCL
Nominal Size					
Angle (if applicable)					
End Type(s) FL – Flange / SC – Socket / SP – Spigot					
Type of Fitting TEE / BEND / TAPER / CONN					
Extra Information TC – Figure B5 Flange / HP – Figure B6 Flange CL – Cement Lined / FC – Fusion Coated					

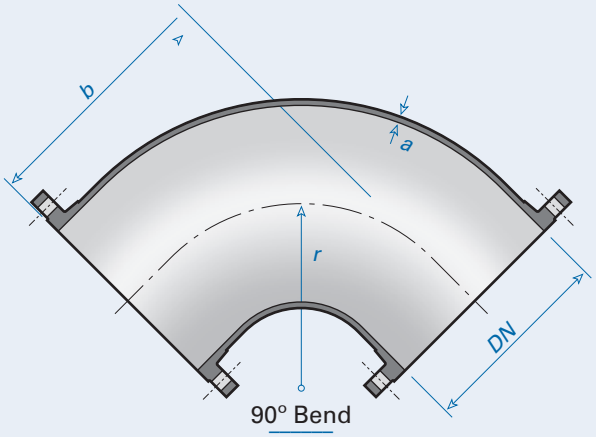


Class 16 integral flanges

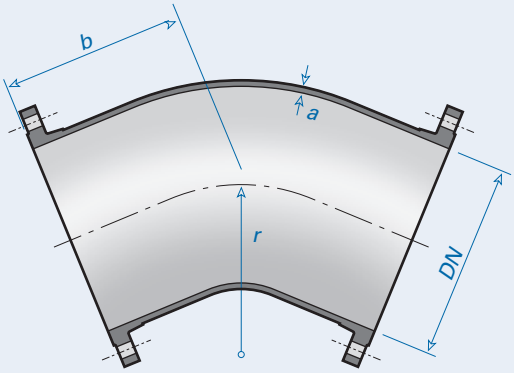
Nominal Size	**Flange Dimensions**					**Bolting Details** (to *AS 4087*)			**Neck Dimensions**		
	Diameter	Thickness	Diameter of Raised Face	Height of Raised Face	Pitch Circle Diameter	Number of Holes	Diameter of Holes	Fastener Size and Thread	Diameter of Large End	Diameter of Small End	Minimum Length of Taper
DN	*D*	*T*	*F*	*t*	*P*	*N*	*V*		*C*	*H*	*G*
80	185	18	122	3	146	4	18	M16	106	100	8
100	215	20	154	3	178	4	18	M16	136	126	11
150	280	23	211	3	235	8	18	M16	188	181	11
200	335	23	268	3	292	8	18	M16	243	236	12
225	370	24	300	3	324	8	18	M16	275	263	19
250	405	24	328	3	356	8	22	M20	307	290	26
300	455	30	378	4	406	12	22	M20	354	349	28
375	550	33	463	4	495	12	26	M24	439	430	30
450	640	33	552	4	584	12	26	M24	528	511	33
500	705	35	609	4	641	16	26	M24	581	564	34
600	825	42	720	5	756	16	30	M27	689	671	38
750	995	47	888	5	927	20	33	M30	855	830	53

Class 35 integral flanges

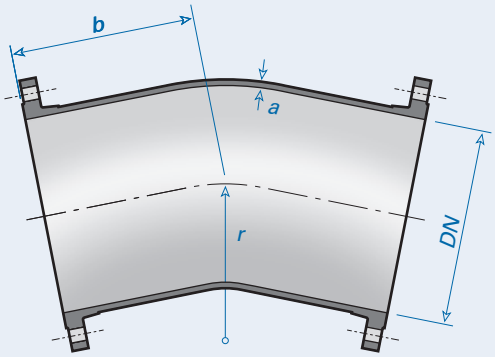
Nominal Size	**Flange Dimensions**					**Bolting Details** (to *AS 4087*)			**Neck Dimensions**		
	Diameter	Thickness	Diameter of Raised Face	Height of Raised Face	Pitch Circle Diameter	Number of Holes	Diameter of Holes	Fastener Size and Thread	Diameter of Large End	Diameter of Small End	Minimum Length of Taper
DN	*D*	*T*	*F*	*t*	*P*	*N*	*V*		*C*	*H*	*G*
80	205	22	141	3	165	8	18	M16	110	100	11
100	230	22	167	3	191	8	18	M16	137	126	13
150	305	27	232	3	260	12	22	M20	198	181	20
200	370	31	296	3	324	12	22	M20	257	236	27
225	405	34	324	3	356	12	26	M24	290	263	33
250	430	34	349	3	381	12	26	M24	315	290	33
300	490	38	406	4	438	16	26	M24	376	349	38
375	580	42	485	4	521	16	30	M27	459	430	42
450	675	46	571	4	610	20	33	M30	542	511	48
500	735	49	634	4	673	24	33	M30	602	564	60
600	850	54	739	5	781	24	36	M33	710	671	66
750	1015	59	898	5	940	28	36	M33	870	830	73



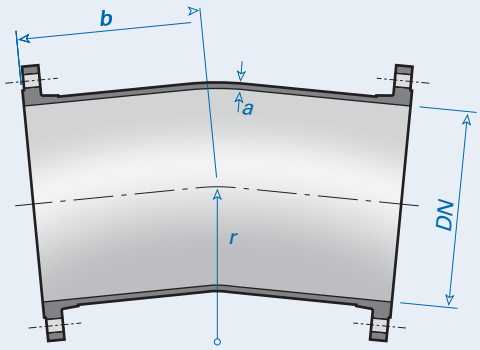
90° Bend



45° Bend



22½° Bend



11¼° Bend

Symbol

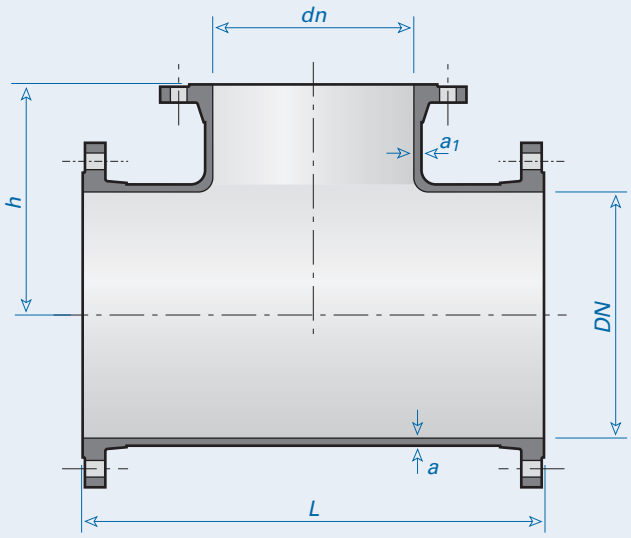
Flanged Bends

Nominal size			Dimensions *b*			
DN	*a*	*r*	*90°*	*45°*	*22½°*	*11¼°*
80	*8*	*140*	*229*	*140*	*140*	*125*
100	*5*	*152*	*241*	*152*	*152*	*152*
150	9	190	279	190	190	190
200	10	203	305	203	203	203
225	10	229	330	229	229	229
250	10	254	356	254	254	254
300	11	305	406	305	305	305
375	12	381	495	381	381	381
450	13	457	572	457	457	457
500	14	508	622	508	508	508
600	15	610	737	610	610	610
750	18	765	905	460	295	230

AUSLITE fittings are indicated in blue italics

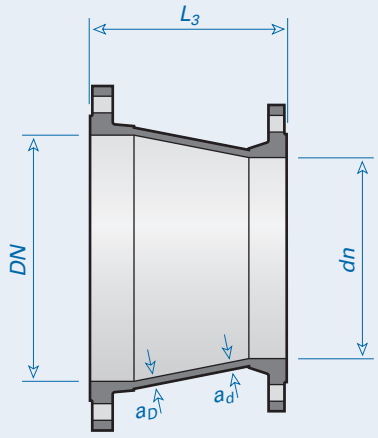
Flanged Tees

Nominal size					
Body	Branch	Dimensions			
DN	*dn*	*a*	a_1	*h*	*L*
100	80	8	8	178	356
100	100	8	8	178	356
150	100	9	8	203	406
150	150	9	9	203	406
200	100	10	8	241	484
200	150	10	9	241	484
200	200	10	10	241	484
225	100	10	8	254	508
225	150	10	9	254	508
225	200	10	10	254	508
225	225	10	10	254	508
250	100	10	8	267	534
250	150	10	9	267	534
250	200	10	10	267	534
250	225	10	10	267	534
250	250	10	10	267	534
300	100	11	8	305	610
300	150	11	9	305	610
300	200	11	10	305	610
300	225	11	10	305	610
300	250	11	10	305	610
300	300	11	11	305	610
375	200	12	10	356	738
375	225	12	10	356	738
375	250	12	10	356	738
375	300	12	11	356	738
375	375	12	12	368	738
450	250	13	10	394	814
450	300	13	11	394	814
450	375	13	12	406	814
450	450	13	13	406	814



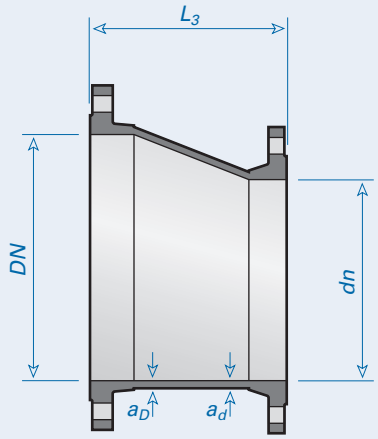
Symbol

Nominal size					
Body	Branch	Dimensions			
DN	*dn*	*a*	a_1	*h*	*L*
500	250	14	10	432	890
500	300	14	11	432	890
500	375	14	12	444	890
500	450	14	13	444	890
500	500	14	14	444	890
600	300	15	11	483	1016
600	375	15	12	495	1016
600	450	15	13	495	1016
600	500	15	14	495	1016
600	600	15	15	508	1016
750	300	18	11	615	890
750	375	18	12	645	1000
750	450	18	13	655	1080
750	500	18	14	680	1160
750	600	18	15	695	1260
750	750	18	18	725	1450



Concentric

Symbol



Eccentric

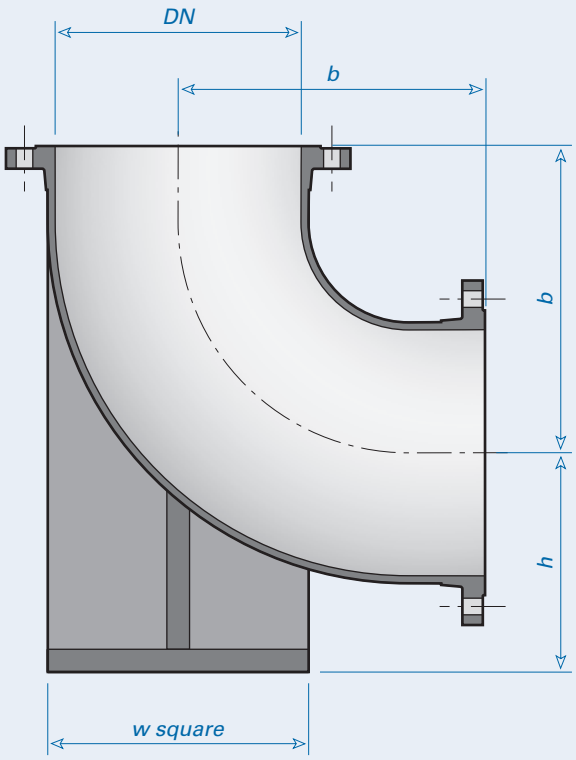
Symbol

Flanged Tapers

Nominal size		Dimensions		
DN	*dn*	a_D	*ad*	L_3
100	80	8	8	165
150	80	9	8	298
150	100	9	8	235
200	100	10	8	368
200	150	10	9	248
225	100	10	8	432
225	150	10	9	311
225	200	10	10	190
250	100	10	8	495
250	150	10	9	375
250	200	10	10	254
250	225	10	10	190
300	100	11	8	629
300	150	11	9	508
300	200	11	10	387
300	225	11	10	324
300	250	11	10	260
375	200	12	10	584
375	225	12	10	521
375	250	12	10	457
375	300	12	11	337
450	250	13	10	660
450	300	13	11	540
450	375	13	12	356
500	250	14	10	787
500	300	14	11	667
500	375	14	12	483
500	450	14	13	305
600	300	15	11	934
600	375	15	12	749
600	450	15	13	572
600	500	15	14	444
750	375	18	12	1180
750	450	18	13	1000
750	500	18	14	885
750	600	18	15	645

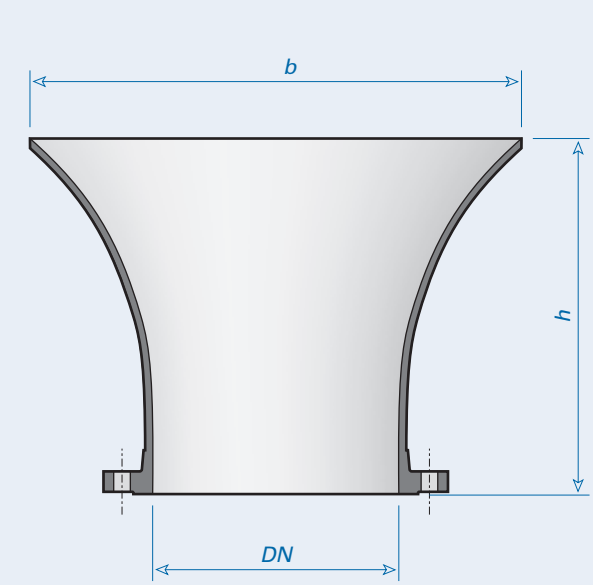
Duckfoot bends

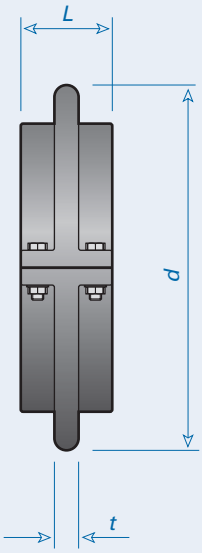
Nominal size	Dimensions		
DN	*b*	*w*	*h*
80	229	165	114
100	241	185	133
150	279	190	165
200	305	235	197
225	330	260	216
250	356	290	229
300	406	345	260
375	495	425	311
450	572	500	356
500	622	560	394
600	737	665	457



Flanged Bellmouths

Nominal size	Dimensions	
DN	*b*	*h*
100	200	152
150	245	152
200	374	305
225	425	305
250	445	380
300	650	470
375	755	525
450	765	590
500	770	650
600	840	725
750	1250	845





Puddle (weep) flanges

Nominal size	Dimensions			Ultimate shear force*
DN	*d*	*t*	*L*	*kN*
80	205	25	55	90
100	230	25	55	116
150	305	27	55	171
200	370	31	55	226
225	405	34	55	253
250	430	34	55	280
300	483	32	120	481
375	578	32	120	891
450	667	35	120	1061
500	730	38	140	1172
600	851	41	140	1397
750	1020	40	155	2881

* The ultimate shear force is a theoretical value which assumes the mode of failure to be caused by shear of the circumferential pipe wall groove. The flange is assumed to remain bolted together and the shear area is calculated over a 45˚ circumferential plane with its root at the base of the pipe groove. Mating dimensions from AS/NZS 2280 are adopted.

Note. It is recommended that puddle flanges are factory fitted onto pipes. AS/NZS 2280 calls for a machine groove to be cut into the outside surface of the pipe and the puddle flange machined accordingly to provide a nominal interference fit. An epoxy resin is utilised to prevent seepage along the outside surface of the pipe.