



Temperature / Pressure Ratings for Flanges of Stainless Steel Types 304, 316, 321, 347 & 348

Flange Table	Pressure, kPa														Maximum allowable hydrostatic test pressure kPa
	Temperature °C														
	-200 to 50	100	150	200	250	275	300	325	350	375	400	425	450	475	
D	700	700	700	650	650	600	570	550	500	450	400	350	-	-	1430
E	1400	1400	1400	1300	1300	1200	1100	1000	950	900	800	700	-	-	2850
F	2100	2100	2100	2000	1900	1800	1700	1600	1400	1300	1200	100	-	-	4350
G	3500	3500	3500	3300	3200	3100	2900	2600	2400	2200	2000	1700	1300	900	7200

Temperature / Pressure Ratings for Flanges of Stainless Steel Types 304L & 316L

Flange Table	Pressure, kPa														Maximum allowable hydrostatic test pressure kPa
	Temperature °C														
	-200 to 50	100	150	200	250	275	300	325	350	375	400	425	450	475	
D	700	700	650	600	550	550	550	550	500	450	400	350	-	-	1200
E	1400	1400	1300	1200	1100	1100	1100	1000	950	900	800	700	-	-	2400
F	2100	2100	1900	1800	1700	1600	1600	1600	1400	1300	1200	1000	-	-	3750
G	3500	3500	3200	2900	2800	2800	2800	2600	2400	2200	2000	1700	1300	900	6150

Temperature / Pressure Ratings for Flanges of Ductile Iron

Flange Table	Temperature °C							Maximum allowable hydrostatic test pressure KPA
	-18 To 232	250	275	300	325	350	375	
	D	700	660	610	570	540	490	
E	1400	1300	1200	1100	1000	950	900	2800
F	2100	2000	1800	1700	1600	1400	1300	4200
H	3500	3300	3100	2900	2600	2400	2200	7000

Temperature / Pressure Ratings for Flanges of Copper Alloy DN 15 to DN 80 Inclusive

Flange Table	Brass							Maximum allowable hydrostatic test pressure KPA
	Temperature °C							
	-200 to 120	150	175	200	225	232	250	
A	350	170	170	170	170	170	-	525
D	700	650	650	570	500	450	400	1050
E	1400	1400	1400	1200	1000	900	750	2100
F	2100	2100	2100	1800	1400	1350	1200	3150
H	3500	3500	3500	2900	2400	2300	1900	5250
J	3800	3600	3600	3100	2800	2700	2500	5700
K	4800	4600	4600	4000	3600	3500	3200	7200

Temperature / Pressure Ratings for Flanges of Copper Alloy DN 90 and Larger

Flange Table	Pressure kPa									Maximum allowable hydrostatic test pressure KPA
	Temperature °C									
	-200 to 120			150	175	200	225	232	250	
	Nominal Size									
	DN90 to DN200	DN250 to DN 600	DN650 to DN1200	DN 90 to DN 200						
A	350	350	-	170	170	170	170	170	-	525
D	700	700	-	650	600	550	500	450	400	1050
E	1200	1200	-	1100	1100	950	850	800	750	1800
F	1700	1700	-	1700	1500	1400	1200	1250	1100	2550
H	2800	2800	-	2600	2400	2200	2000	1900	1800	4200
J	3800	-	-	3600	3400	3100	2800	2700	2500	5700
K	4800	-	-	4600	4300	3900	3600	3500	3200	7200

Flange Data

DN 15 - 1/2"

Flange Type	Outside diameter r OD	Raised face diameter r RF	Raised face height RFH	Thick's Steel TS	Thick's Iron TI	Thick's Bronze TB	Pitch circle diameter r PCD	Number of holes No	Diameter of holes H DIA	Fastener size FS
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Table (AS2129)

C	95	47	1.6	6	13	13	67	4	14	M12
D	95	47	1.6	5	13	6	67	4	14	M12
E	95	47	1.6	6	13	6	67	4	14	M12
F	95	47	1.6	10	13	8	67	4	14	M12
H	115	57	1.6	13	16	10	83	4	18	M16

DIN (BS4504)

6	80	40	2	12	12	6	55	4	11	M10
10	95	45	2	14	14	8	65	4	14	M12
16	95	45	2	14	14	8	65	4	14	M12
25	95	45	2	14	16	16	65	4	14	M12
40	95	45	2	14	16	16	65	4	14	M12

ANSI (ASME B16.5)

150	90	35	1.6	13	12	8	60.5	4	16	M12
300	95	35	1.6	14.5	18	13	66.5	4	16	M12
600	95	35	6.4	14.5 *	-	-	66.5	4	16	M12

JIS (B2214)

10	95	52	1	12	16	N/A	70	4	15	M12
20	90	52	1	14	-	-	70	4	15	M12

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity No	Fastener Size FS	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
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Table (AS2129)

Fastener Length

C	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	53
D	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	53
E	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	53
F	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	53
H	4	M16	55	65	55	N/A	N/A	N/A	N/A	N/A	65

DIN (BS4504)

Fastener Length

6	4	M10	45	45	45	N/A	N/A	N/A	N/A	N/A	39
10	4	M12	55	50	50	N/A	N/A	N/A	N/A	N/A	51
16	4	M12	55	50	50	N/A	N/A	N/A	N/A	N/A	51
25	4	M12	55	55	50	N/A	N/A	N/A	N/A	N/A	51
40	4	M12	55	55	50	N/A	N/A	N/A	N/A	N/A	51

ANSI (ASME B16.5)

Fastener Length

150	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	44.5
300	4	M12	55	65	65	N/A	N/A	N/A	N/A	N/A	44.5
600	4	M12	55	55	50	N/A	N/A	N/A	N/A	N/A	50.5

JIS (B2214)

Fastener Length

10	4	M12	50	45	45←	N/A	N/A	N/A	N/A	N/A	55
20	4	M12	55	50	50	N/A	N/A	N/A	N/A	N/A	55

All Steel Fasteners Hot Dipped Galvanised

N/A – NOT APPLICABLE

Pre – packed gasket & bolt sets available now from copamate products.
Refer to page 6 for bolt set application & identifications or refer to our website.

Flange Data

Flange Type	Outside diameter OD	Raised face diameter RF	Raised face height RFH	Thick's Steel TS	Thick's Iron TI	Thick's Bronze TB	Pitch circle diameter PCD	Number of holes No	Diameter of holes H DIA	Fastener size FS
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Table (AS2129)

C	100	53	1.6	6	13	13	73	4	14	M12
D	100	53	1.6	5	13	6	73	4	14	M12
E	100	53	1.6	6	13	6	73	4	14	M12
F	100	53	1.6	10	13	8	73	4	14	M12
H	115	57	1.6	13	16	10	83	4	18	M16

DIN (BS4504)

6	90	50	2	14	14	6	65	4	11	M10
10	105	58	2	16	16	8	75	4	14	M12
16	105	58	2	16	16	8	75	4	14	M12
25	105	58	2	16	18	16	75	4	14	M12
40	105	58	2	16	18	16	75	4	14	M12

ANSI (ASME B16.5)

150	100	43	1.6	13	12	9	70	4	16	M12
300	120	43	1.6	16	18	14	82.5	4	20	M16
600	120	43	6.4	16 *	-	-	82.5	4	20	M16

JIS (B2214)

10	100	58	1	14	18	-	75	4	15	M12
20	100	58	1	16	-	-	75	4	15	M12

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity No	Fastener Size FS	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
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Table (AS2129)
Fastener Length

C	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	59
D	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	59
E	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	59
F	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	59
H	4	M16	55	65	55	N/A	N/A	N/A	N/A	N/A	65

DIN (BS4504)
Fastener Length

6	4	M10	50	50	45	N/A	N/A	N/A	N/A	N/A	54
10	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	61
16	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	61
25	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	61
40	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	61

ANSI (ASME B16.5)
Fastener Length

150	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	54
300	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	62.5
600	4	M16	65	45	45	N/A	N/A	N/A	N/A	N/A	62.5

JIS (B2214)
Fastener Length

10	4	M12	55	55	50	N/A	N/A	N/A	N/A	N/A	60
20	4	M12	65	55	55	N/A	N/A	N/A	N/A	N/A	60

All Steel Fasteners Hot Dipped Galvanised

N/A – NOT APPLICABLE

Pre – packed gasket & bolt sets available now from copamate products.
Refer to page 6 for bolt set application & identifications or refer to our website.

Flange Data

Flange Type	Outside diameter OD	Raised face diameter RF	Raised face height RFH	Thick's Steel TS	Thick's Iron TI	Thick's Bronze TB	Pitch circle diameter PCD	Number of holes No	Diameter of holes H DIA	Fastener size FS
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Table (AS2129)

C	115	63	1.6	7	13	13	83	4	14	M12
D	115	65	1.6	5	13	8	83	4	14	M12
E	115	63	1.6	7	13	8	83	4	14	M12
F	120	63	1.6	10	13	10	87	4	18	M16
H	120	64	1.6	14	19	11	87	4	18	M16

DIN (BS4504)

6	100	60	2	14	14	8	75	4	11	M10
10	115	68	2	16	16	9	85	4	14	M12
16	115	68	2	16	16	9	85	4	14	M12
25	115	68	2	16	18	18	85	4	14	M12
40	115	68	2	16	18	18	85	4	14	M12

ANSI (ASME B16.5)

150	110	51	1.6	14.5	12	10	79.5	4	16	M12
300	125	51	1.6	17.5	18	15	89	4	20	M16
600	125	51	6.4	17.5 *	-	-	89	4	20	M16

JIS (B2214)

10	125	70	1	14	18	-	90	4	19	M16
20	125	70	1	16	-	-	90	4	19	M16

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity No	Fastener Size FS	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
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Table (AS2129)
Fastener Length

C	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	69
D	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	69
E	4	M12	50	50	45	N/A	N/A	N/A	N/A	N/A	69
F	4	M16	50	50	45	N/A	N/A	N/A	N/A	N/A	69
H	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	69

DIN (BS4504)
Fastener Length

6	4	M10	50	50	45	N/A	N/A	N/A	N/A	N/A	64
10	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	71
16	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	71
25	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	71
40	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	71

ANSI (ASME B16.5)
Fastener Length

150	4	M12	55	50	50	N/A	N/A	N/A	N/A	N/A	63.5
300	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	69
600	4	M16	65	45	45	N/A	N/A	N/A	N/A	N/A	69

JIS (B2214)
Fastener Length

10	4	M16	65	55	55	N/A	N/A	N/A	N/A	N/A	71
20	4	M16	65	60	65	N/A	N/A	N/A	N/A	N/A	71

All Steel Fasteners Hot Dipped Galvanised

N/A – NOT APPLICABLE

Pre – packed gasket & bolt sets available now from copamate products.
Refer to page 6 for bolt set application & identifications or refer to our website.

Flange Data

Flange Type	Outside diameter	Raised face diameter	Raised face height	Thick's Steel	Thick's Iron	Thick's Bronze	Pitch circle diameter	Number of holes	Diameter of holes	Fastener size
	OD	RF	RFH	TS	TI	TB	PCD	No	H DIA	FS

Table (AS2129)

C	120	67	1.6	8	16	16	87	4	14	M12
D	120	67	1.6	6	16	8	87	4	14	M12
E	120	67	1.6	8	16	8	87	4	14	M12
F	135	74	1.6	13	16	10	98	4	18	M16
H	135	76	1.6	17	22	11	98	4	18	M16

DIN (BS4504)

6	120	70	2	16	16	8	90	4	14	M12
10	140	78	2	18	18	10	100	4	18	M16
16	140	78	2	18	18	10	100	4	18	M16
25	140	78	2	18	20	18	100	4	18	M16
40	140	78	2	18	20	18	100	4	18	M16

ANSI (ASME B16.5)

150	120	64	1.6	16	13	10.5	89	4	16	M12
300	135	64	1.6	19.0	19	16	98.5	4	20	M16
600	135	64	6.4	21 *	-	-	98.5	4	20	M16

JIS (B2214)

10	135	80	2	16	20	-	100	4	19	M16
20	135	80	2	18	-	-	100	4	19	M16

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity	Fastener Size FS	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
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Table (AS2129)

Fastener Length

C	4	M12	50	50	50	N/A	N/A	N/A	N/A	N/A	73
D	4	M12	50	50	50	N/A	N/A	N/A	N/A	N/A	73
E	4	M12	50	50	50	N/A	N/A	N/A	N/A	N/A	73
F	4	M16	55	65	55	N/A	N/A	N/A	N/A	N/A	80
H	4	M16	65	75	65	N/A	N/A	N/A	N/A	N/A	80

DIN (BS4504)

Fastener Length

6	4	M12	55	55	55	N/A	N/A	N/A	N/A	N/A	76
10	4	M16	65	65	60	N/A	N/A	N/A	N/A	N/A	81
16	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	81
25	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	81
40	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	81

ANSI (ASME B16.5)

Fastener Length

150	4	M12	55	50	50	N/A	N/A	N/A	N/A	N/A	73
300	4	M16	75	75	65	N/A	N/A	N/A	N/A	N/A	75.5
600	4	M16	75	50	50	N/A	N/A	N/A	N/A	N/A	75.5

JIS (B2214)

Fastener Length

10	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	81
20	4	M16	65	65	65	N/A	N/A	N/A	N/A	N/A	81

All Steel Fasteners Hot Dipped Galvanised

N/A – NOT APPLICABLE

Pre – packed gasket & bolt sets available now from copamate products. Refer to page 6 for bolt set application & identifications or refer to our website.

Flange Data

Flange Type	Outside diameter	Raised face diameter	Raised face height	Thick's Steel	Thick's Iron	Thick's Bronze	Pitch circle diameter	Number of holes	Diameter of holes	Fastener size
	OD	RF	RFH	TS	TI	TB	PCD	No	H DIA	FS

Table (AS2129)

C	135	78	1.6	9	16	16	98	4	14	M12
D	135	78	1.6	6	16	10	98	4	14	M12
E	135	78	1.6	9	16	10	98	4	14	M12
F	140	81	1.6	13	16	11	105	4	18	M16
H	140	83	1.6	17	22	13	105	4	18	M16

DIN (BS4504)

6	130	80	3	16	16	9	100	4	14	M12
10	150	88	3	18	18	11	110	4	18	M16
16	150	88	3	18	18	11	110	4	18	M16
25	150	88	3	18	20	18	110	4	18	M16
40	150	88	3	18	20	18	110	4	18	M16

ANSI (ASME B16.5)

150	130	74	1.6	17.5	14.5	12	98.5	4	16	M12
300	155	74	1.6	21	21	18	114.5	4	23	M20
600	155	74	6.4	22.5 *	-	-	114.5	4	23	M20

JIS (B2214)

10	140	85	2	16	20	-	105	4	19	M16
20	140	85	2	18	-	-	105	4	19	M16

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
	No FS									

Table (AS2129) Fastener Length

C	4	M12	50	50	50	35	100	90	110	100	84
D	4	M12	50	50	50	35	100	90	110	100	53
E	4	M12	50	50	50	35	100	90	110	100	84
F	4	M16	65	65	65	40	120	110	130	110	87
H	4	M16	65	75	65	40	120	110	130	110	87

DIN (BS4504) Fastener Length

6	4	M12	55	55	55	35	110	100	120	110	86
10	4	M16	65	65	65	40	130	110	130	120	91
16	4	M16	65	65	65	40	130	110	130	120	91
25	4	M16	65	65	65	40	130	110	130	120	91
40	4	M16	65	65	65	40	130	110	130	120	91

ANSI (ASME B16.5) Fastener Length

150	4	M12	60	55	55	40	110	100	120	110	82.5
300	4	M20	75	75	75	45	140	120	150	130	91.3
600	4	M20	80	55	55	45	140	120	150	130	91.3

JIS (B2214) Fastener Length

10	4	M16	65	65	65	40	120	110	130	110	86
20	4	M16	75	65	65	45	130	110	130	120	86

All Steel Fasteners Hot Dipped Galvanised

Flange Data

Flange Type	Outside diameter	Raised face diameter	Raised face height	Thick's Steel	Thick's Iron	Thick's Bronze	Pitch circle diameter	Number of holes	Diameter of holes	Fastener size
	OD	RF	RFH	TS	TI	TB	PCD	No	H DIA	FS

Table (AS2129)

C	150	90	1.6	10	19	19	114	4	18	M16
D	150	90	1.6	8	17	10	114	4	18	M16
E	150	90	1.6	10	19	10	114	4	18	M16
F	165	103	1.6	16	19	11	127	4	18	M16
H	165	102	1.6	19	25	13	127	4	18	M16

DIN (BS4504)

6	140	90	3	16	16	11	110	4	14	M12
10	165	102	3	20	20	13	125	4	18	M16
16	165	102	3	20	20	13	125	4	18	M16
25	165	102	3	20	22	20	125	4	18	M16
40	165	102	3	20	22	20	125	4	18	M16

ANSI (ASME B16.5)

150	150	92	1.6	19	16	13	120.5	4	20	M16
300	165	92	1.6	22.5	22.5	19.	127	8	20	M16
600	165	92	6.4	25.5 *	-	-	127	8	20	M16

JIS (B2214)

10	155	100	2	16	20	-	120	4	19	M16
20	155	100	2	18	-	-	120	8	19	M16

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity	Fastener Size	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
	No	FS									

Table (AS2129)
Fastener Length

C	4	M16	55	65	65	35	110	100	120	100	96
D	4	M16	55	65	55	35	110	100	120	100	96
E	4	M16	55	65	65	35	110	100	120	100	96
F	4	M16	65	65	65	40	120	110	130	110	109
H	4	M16	75	75	75	40	130	110	130	120	109

DIN (BS4504)
Fastener Length

6	4	M12	55	55	55	35	110	100	120	110	96
10	4	M16	75	75	65	40	130	110	140	120	106
16	4	M16	75	75	65	40	130	110	140	120	106
25	4	M16	75	75	75	40	130	110	140	120	106
40	4	M16	75	75	75	40	130	110	140	120	106

ANSI (ASME B16.5)
Fastener Length

150	4	M16	75	65	60	40	130	110	130	120	100.5
300	8	M16	75	75	75	45	130	120	140	120	107
600	8	M16	80	55	55	45	140	120	150	130	107

JIS (B2214)
Fastener Length

10	4	M16	65	65	65	40	120	110	130	110	101
20	8	M16	65	65	65	45	130	110	130	120	101

All Steel Fasteners Hot Dipped Galvanised

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Flange Data

Flange Type	Outside diameter	Raised face diameter RF	Raised face height RFH	Thick's Steel TS	Thick's Iron TI	Thick's Bronze TB	Pitch circle diameter PCD	Number of holes No	Diameter of holes H DIA	Fastener size FS
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Table (AS2129)

C	165	103	1.6	8	19	19	127	4	18	M16
D	165	103	1.6	8	17	11	127	4	18	M16
E	165	103	1.6	10	19	11	127	4	18	M16
F	185	122	1.6	16	19	13	146	8	18	M16
H	185	114	1.6	19	25	14	146	8	18	M16

DIN (BS4504)

6	160	110	3	16	16	13	130	4	14	M12
10	185	122	3	20	20	13	145	4	18	M16
16	185	122	3	20	20	20	145	4	18	M16
25	185	122	3	22	24	20	145	8	18	M16
40	185	122	3	22	24	20	145	8	18	M16

ANSI (ASME B16.5)

150	180	105	1.6	22.5	18	14.5	139.5	4	20	M16
300	190	105	1.6	25.5	25.5	21	149.0	8	23	M20
600	190	105	6.4	29*	-	-	149.0	8	23	M20

JIS (B2214)

10	175	120	2	18	22	-	140	4	19	M16
20	175	120	2	20	-	-	140	8	19	M16

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity No FS	Fastener Size	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
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Table (AS2129)

Fastener Length

C	4	M16	55	65	65	35	120	100	120	110	109
D	4	M16	55	65	55	35	120	100	120	110	109
E	4	M16	55	65	65	35	120	100	120	110	109
F	8	M16	65	65	65	40	120	110	130	110	128
H	8	M16	75	75	75	40	130	110	140	120	128

DIN (BS4504)

Fastener Length

6	4	M12	55	55	55	40	110	100	120	110	116
10	4	M16	75	50	45	45	130	120	140	120	126
16	4	M16	75	75	65	45	130	120	140	120	126
25	8	M16	75	75	75	45	140	120	140	130	126
40	8	M16	75	75	75	45	140	120	140	130	126

ANSI (ASME B16.5)

Fastener Length

150	4	M16	75	75	65	45	140	120	140	130	119.5
300	8	M20	90	90	80	50	150	130	175	140	126
600	8	M20	100	65	65	55	175	140	175	140	126

JIS (B2214)

Fastener Length

10	4	M16	65	65	65	45	130	110	130	120	121
20	8	M16	75	75	65	50	130	120	140	120	121

^ All Steel Fasteners Hot Dipped Galvanised

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Flange Data

Flange Type	Outside diameter	Raised face diameter	Raised face height	Thick's Steel	Thick's Iron	Thick's Bronze	Pitch circle diameter	Number of holes	Diameter of holes	Fastener size
	OD	RF	RFH	TS	TI	TB	PCD	No	H DIA	FS

Table (AS2129)

C	185	122	1.6	11	19	19	146	4	18	M16
D	185	122	1.6	10	19	13	146	4	18	M16
E	185	122	1.6	11	19	13	146	4	18	M16
F	205	141	1.6	16	19	14	165	8	18	M16
H	205	127	1.6	22	29	16	165	8	18	M16

DIN (BS4504)

6	190	128	3	18	18	13	150	4	18	M16
10	200	138	3	20	22	13	160	8	18	M16
16	200	138	3	20	22	20	160	8	18	M16
25	200	138	3	24	26	22	160	8	18	M16
40	200	138	3	24	26	22	160	8	18	M16

ANSI (ASME B16.5)

150	190	127	1.6	24	19	16	152.5	4	20	M16
300	210	127	1.6	28.5	28.5	23.5	168.5	8	23	M20
600	210	127	6.4	32*	-	-	168.5	8	23	M20

JIS (B2214)

10	185	130	2	18	22	-	150	8	19	M16
20	200	135	2	22	-	-	160	8	23	M20

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity	Fastener Size	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
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Table (AS2129)

Fastener Length

C	4	M16	55	65	65	35	120	100	140	120	128
D	4	M16	55	65	65	35	120	100	140	120	128
E	4	M16	55	65	65	35	120	100	140	120	128
F	8	M16	65	65	65	40	120	110	150	130	147
H	8	M16	75	80	80	45	140	120	160	140	147

DIN (BS4504)

Fastener Length

6	4	M16	65	75	65	40	130	110	150	140	131
10	8	M16	75	75	75	45	130	120	175	140	141
16	8	M16	75	75	75	45	130	120	175	140	141
25	8	M16	80	80	80	45	140	120	175	140	141
40	8	M16	80	80	80	45	140	120	175	150	141

ANSI (ASME B16.5)

Fastener Length

150	4	M16	80	75	75	45	140	120	175	150	132.5
300	8	M20	90	90	90	50	175	140	200	175	145.5
600	8	M20	100	65	65	55	175	140	200	175	145.5

JIS (B2214)

Fastener Length

10	8	M16	70	65	65 ←	45	130	110	150	140	131
20	8	M23	80	75	75	50	140	120	175	150	137

All Steel Fasteners Hot Dipped Galvanised

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Flange Data

Flange Type	Outside diameter	Raised face diameter	Raised face height	Thick's Steel	Thick's Iron	Thick's Bronze	Pitch circle diameter	Number of holes	Diameter of holes	Fastener size
	OD	RF	RFH	TS	TI	TB	PCD	No	H DIA	FS

Table (AS2129)

C	215	154	1.6	11	22	22	178	4	18	M16
D	215	154	1.6	10	19	16	178	4	18	M16
E	215	154	1.6	13	22	16	178	8	18	M16
F	230	167	1.6	19	22	17	191	8	18	M16
H	230	152	1.6	25	32	19	191	8	18	M16

DIN (BS4504)

6	210	148	3	18	18	16	170	4	18	M16
10	220	162	3	22	24	16	180	8	18	M16
16	220	162	3	22	24	20	180	8	18	M16
25	235	162	3	26	28	22	190	8	22	M20
40	235	162	3	26	28	22	190	8	22	M20

ANSI (ASME B16.5)

150	230	158	1.6	24	24	18	190.5	8	20	M16
300	255	158	1.6	32	32	27	200	8	23	M20
600	275	158	6.4	38.5*	-	-	216	8	26	M24

JIS (B2214)

10	210	155	2	18	24	-	175	8	19	M16
20	225	160	2	24	-	-	185	8	23	M20

* RAISED FACE HEIGHT INCLUDED IN FLANGE THICKNESS

Gasket & Bolt Set Data

Flange Type	Fastener Quantity	Fastener Size FS	Bolt Set 1	Bolt Set 2	Bolt Set 3	Bolt Set 4	Stud Set 5	Bolt Set 6	Stud Set 7	Bolt Set 8	Wafer Valve (OD)
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Table (AS2129) Fastener Length

C	4	M16	55	65	65	40	120	110	140	120	160
D	4	M16	55	65	65	40	120	110	140	120	160
E	8	M16	55	65	65	40	120	110	140	130	160
F	8	M16	75	75	75	45	140	120	150	140	173
H	8	M16	80	90	90	50	150	130	175	150	173

DIN (BS4504) Fastener Length

6	4	M16	65	65	65	45	130	120	150	140	151
10	8	M16	75	75	75	50	140	130	175	140	161
16	8	M16	75	75	75	50	140	130	175	140	161
25	8	M20	90	90	80	50	150	130	175	150	167
40	8	M20	90	90	90	50	175	140	175	175	167

ANSI (ASME B16.5) Fastener Length

150	8	M16	80	75	75	50	150	130	175	150	170.5
300	8	M20	100	100	100	60	175	150	200	175	177
600	8	M24	120	75	75	65	200	175	225	200	190

JIS (B2214) Fastener Length

10	8	M16	65	65	65↔	50	130	120	150	140	156
20	8	M20	90	80	80	60	150	130	175	150	162

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