

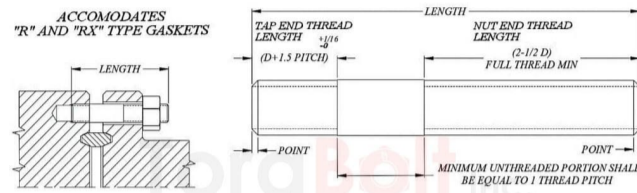
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ASTM A453 Grade 660 Class D / API 6A Tap End Stud Bolt

## ASTM A453 Grade 660 Class D API 6A Tap End Stud Bolt

For products monogrammed per **API 6A** 21st Edition, all closure bolting shall be qualified and manufactured in accordance with **API 20F** (Corrosion-Resistant Bolting Requirements).

### API 6A Tap End Stud Bolt Length for 6B Flange Connectors with "R" & "RX" Gaskets

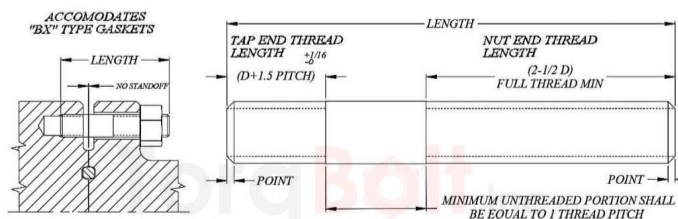


LENGTH =  $T + t + d + S + P + TL + RF$   
*T* is total flange thickness;  
*t* is plus tolerance for flange thickness;  
*d* is heavy hex nut thickness;  
*S* is flange face standoff (with "RX" gasket);  
*P* is point, max. (1.5 x pitch);  
*TL* is tap end thread length, max. [(one diameter + 1.5 pitch) + 1/16];  
*RF* add amount of raised face present on studed flanges, if not omitted, to the length of studs in table.

Flange Size Size and Pressure		Bolt and Thread	Tap End Length*	Nut End Length	Length**
2 1/16	2000	5/8 - 11 UNC	0.761	1.563	3.625
2 1/16	3000	7/8 - 9 UNC	1.042	2.188	4.625
2 1/16	5000	7/8 - 9 UNC	1.042	2.188	4.625
2 9/16	2000	3/4 - 10 UNC	0.900	1.875	4.000
2 9/16	3000	1 - 8 UNC	1.188	2.500	5.125
2 9/16	5000	1 - 8 UNC	1.188	2.500	5.125
3 1/8	2000	3/4 - 10 UNC	0.900	1.875	4.1 25
3 1/8	3000	7/8 - 9 UNC	1.042	2.188	4.625
3 1/8	5000	1 1/8 - 8 UN	1.313	2.813	5.625
4 1/16	2000	7/8 - 9 UNC	1.042	2.188	4.625
4 1/16	3000	1 1/8 - 8 UN	1.313	2.813	5.500
4 1/16	5000	1 1/4 - 8 UN	1.438	3.1 25	6.125
5 1/8	2000	1 - 8 UNC	1.188	2.500	5.250
5 1/8	3000	1 1/4 - 8 UN	1.438	3.1 25	6.000
5 1/8	5000	1 1/2 - 8 UN	1.688	3.750	7.375
7 1/16	2000	1 - 8 UNC	1.188	2.500	5.375
7 1/16	3000	1 1/8 - 8 UN	1.313	2.813	5.875
7 1/16	5000	1 3/8 - 8 UN	1.563	3.438	7.500
9	2000	1 1/8 - 8 UN	1.313	2.813	5.875
9	3000	1 3/8 - 8 UN	1.563	3.438	6.750
9	5000	1 5/8 - 8 UN	1.813	4.063	8.500
11	2000	1 1/4 - 8 UN	1.438	3.1 25	6.500
11	3000	1 3/8 - 8 UN	1.563	3.438	7.000
11	5000	1 7/8 - 8 UN	2.063	4.688	9.625
13 5/8	2000	1 1/4 - 8 UN	1.438	3.1 25	6.625
13 5/8	3000	1 3/8 - 8 UN	1.563	3.438	7.375
16 3/4	2000	1 1/2 - 8 UN	1.688	3.750	7.500
16 3/4	3000	1 5/8 - 8 UN	1.813	4.063	8.375
21 1/4	2000	1 5/8 - 8 UN	1.813	4.063	8.375
20 3/4	3000	2-8 UN	2.188	5.000	10.125

FOOTNOTES\* Tolerance on tap end thread length: + 0.063/- 0 in.\*\* Tolerance on tap end stud length: + 0.1 25/- 0 in.

### API 6A Tap End Stud Bolt Length for 6BX Studed Flange Connectors



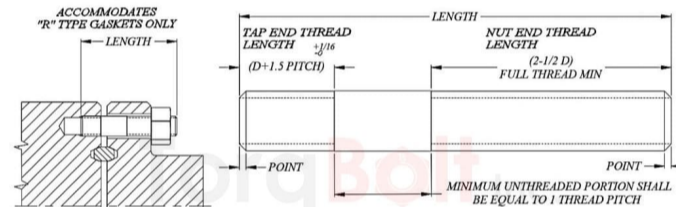
LENGTH =  $T + t + d + S + P + TL + RF$   
*T* is total flange thickness;  
*t* is plus tolerance for flange thickness;  
*d* is heavy hex nut thickness;  
*S* is flange face standoff;  
*P* is point, max. (1.5 x pitch);  
*TL* is tap end thread length, max. [(one diameter + 1.5 pitch) + 1/16];  
*RF* add amount of raised face present on studed flanges, if not omitted, to the length of studs in table.



Flange Size and Pressure	Bolt Size and Thread	Tap End Length *	Nut End Length	Length **	Flange Size and Pressure	Bolt Size and Thread	Tap End Length *	Nut End Length	Length **		
1 13/16	10,000	3/4- 10 UNC	0.900	1.875	3.750	11	10,000	1 3/4- 8 UN	1.938	4.375	9.750
1 13/16	15,000	7/8 - 9 UNC	1.042	2.188	4.1 25	11	15,000	2-8 UN	2.188	5.000	12.000
1 13/16	20,000	1 - 8 UNC	1.188	2.500	5.125	11	20,000	2 3/4- 8 UN	2.938	6.875	15.000
2 1/16	10,000	3/4- 10 UNC	0.900	1.875	3.875	13 5/8	5000	1 5/8 - 8 UN	1.813	4.063	8.375
2 1/16	15,000	7/8 - 9 UNC	1.042	2.188	4.375	13 5/8	10,000	1 7/8 - 8 UN	2.063	4.688	11.000
2 1/16	20,000	1 1/8 - 8 UN	1.313	2.813	5.750	13 5/8	15,000	2 1/4 - 8 UN	2.438	5.625	13.250
2 9/16	10,000	7/8 - 9 UNC	1.042	2.188	4.375	13 5/8	20,000	3-8 UN	3.188	7.500	18.1 25
2 9/16	15,000	1 - 8 UNC	1.188	2.500	4.875	16 3/4	5000	1 7/8 - 8 UN	2.063	4.688	9.500
2 9/16	20,000	1 1/4 - 8 UN	1.438	3.1 25	6.250	16 3/4	10,000	1 7/8 - 8 UN	2.063	4.688	11.000
3 1/16	10,000	1 - 8 UNC	1.188	2.500	5.000	18 3/4	5000	2-8 UN	2.188	5.000	11.250
3 1/16	15,000	1 1/8 - 8 UN	1.313	2.813	5.500	18 3/4	10,000	2 1/4 - 8 UN	2.438	5.625	14.000
3 1/16	20,000	1 3/8 - 8 UN	1.563	3.438	6.750	18 3/4	15,000	3-8 UN	3.188	7.500	16.750
4 1/16	10,000	1 1/8 - 8 UN	1.313	2.813	5.750	21 1/4	5000	2-8 UN	2.188	5.000	11.750
4 1/16	15,000	1 3/8 - 8 UN	1.563	3.438	6.500	21 1/4	10,000	2 1/2 - 8 UN	2.688	6.250	15.125
4 1/16	20,000	1 3/4 - 8 UN	1.938	4.375	8.375	26 3/4	2000	1 3/4 - 8 UN	1.938	4.375	9.125
5 1/8	10,000	1 1/8 - 8 UN	1.313	2.813	6.000	26 3/4	3000	2-8 UN	2.188	5.000	11.000
5 1/8	15,000	1 1/2 - 8 UN	1.688	3.750	7.625	30	2000	1 5/8 - 8 UN	1.813	4.063	9.250
7 1/16	10,000	1 1/2 - 8 UN	1.688	3.750	7.750	30	3000	1 7/8 - 8 UN	2.063	4.688	11.000
7 1/16	15,000	1 1/2 - 8 UN	1.688	3.750	8.375	-	-	-	-	-	-
7 1/16	20,000	2-8 UN	2.188	5.000	11.125	-	-	-	-	-	-
9	10,000	1 1/2 - 8 UN	1.688	3.750	8.500	-	-	-	-	-	-
9	15,000	1 7/8 - 8 UN	2.063	4.688	10.1 25	-	-	-	-	-	-
9	20,000	2 1/2 - 8 UN	2.688	6.250	13.750	-	-	-	-	-	-

FOOTNOTES\* Tolerance on bolt length: +0.1 25/-0 in. for lengths up to 1 2 in. +0.250/ - 0 in. for lengths over 1 2 in.

## API 6A Tap End Stud Bolt Length for 6B Flange Connectors with "R" Gaskets UNSC Series



LENGTH = T + t + d + S + P + TL + RF  
 T is total flange thickness;  
 t is plus tolerance for flange thickness;  
 d is heavy hex nut thickness;  
 S is flange face standoff (with "R" gasket);  
 P is point, max. (1.5 x pitch);  
 TL is tap end thread length, max. [(one diameter + 1.5 pitch) + 1/4];  
 RF add amount of raised face present on studded flanges, if not omitted, to the length of studs in table.

Flange Size and Pressure	Bolt Size and Thread	Tap End Length*	Nut End Length	Length**	Flange Size and Pressure	Bolt Size and Thread	Tap End Length*	Nut End Length	Length**		
2 1/16	2000	5/8 - 11 UNC	0.761	1.563	3.375	7 1/16	2000	1 - 8 UNC	1.188	2.500	5.000
2 1/16	3000	7/8 - 9 UNC	1.042	2.188	4.375	7 1/16	3000	1 1/8 - 8 UN	1.313	2.813	5.625
2 1/16	5000	7/8 - 9 UNC	1.042	2.188	4.375	7 1/16	5000	1 3/8 - 8 UN	1.563	3.438	7.250
2 9/16	2000	3/4- 10 UNC	0.900	1.875	3.750	9	2000	1 1/8 - 8 UN	1.313	2.813	5.625
2 9/16	3000	1 - 8 UNC	1.188	2.500	4.750	9	3000	1 3/8 - 8 UN	1.563	3.438	6.375
2 9/16	5000	1 - 8 UNC	1.188	2.500	4.750	9	5000	1 5/8 - 8 UN	1.813	4.063	8.1 25
3 1/8	2000	3/4- 10 UNC	0.900	1.875	3.875	11	2000	1 1/4 - 8 UN	1.438	3.1 25	6.125
3 1/8	3000	7/8 - 9 UNC	1.042	2.188	4.375	11	3000	1 3/8 - 8 UN	1.563	3.438	6.625
3 1/8	5000	1 1/8 - 8 UN	1.313	2.813	5.250	11	5000	1 7/8 - 8 UN	2.063	4.688	9.250
4 1/16	2000	7/8 - 9 UNC	1.042	2.188	4.375	13 5/8	2000	1 1/4 - 8 UN	1.438	3.1 25	6.250
4 1/16	3000	1 1/8 - 8 UN	1.313	2.813	5.125	13 5/8	3000	1 3/8 - 8 UN	1.563	3.438	7.000
4 1/16	5000	1 1/4 - 8 UN	1.438	3.1 25	5.750	16 3/4	2000	1 1/2 - 8 UN	1.688	3.750	7.1 25
5 1/8	2000	1 - 8 UNC	1.188	2.500	4.875	16 3/4	3000	1 5/8 - 8 UN	1.813	4.063	8.000
5 1/8	3000	1 1/4 - 8 UN	1.438	3.1 25	5.625	21 1/4	2000	1 5/8 - 8 UN	1.813	4.063	8.000
5 1/8	5000	1 1/2 - 8 UN	1.688	3.750	7.000	20 3/4	3000	2-8 UN	2.188	5.000	9.625

FOOTNOTES\* Tolerance on tap end thread length: +0.063/- 0 in.\*\* Tolerance on tap end stud length; +0.1 25/- 0 in.

### Specifications

ASTM A453  
 ASTM A638  
 EN 10269  
 EN 10083-3  
 ISO 3506-5  
 DIN 267

### Surface Treatments

Xylan 1070 / 1014 / 1400 / 1424  
 Xylar 2 / 101  
 SermaGard 1105 / 1280  
 Dacromet 320 / 500  
 TakeCoat 1000 Ceramic  
 Magnigard  
 MolyKote

### Certifications

ISO 9001 - 2015 Certified  
 PED 2014/68/EC  
 API 6A ; API 20E; API 20F  
 NACE MR0175/ISO 15156-2  
 NORSOK M-650  
 DFAR  
 MERKBLATT AD 2000 W2/W7/W10

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