



**JABO** SUPPLY CORPORATION

---

# FLANGE PACKS



**GASKETS / BOLTS & NUTS**

# JABO SUPPLY



## 5 LOCATIONS

### **PARKERSBURG, WV**

10085 Emerson Avenue 26102  
(304) 464-4400

### **MORGANFIELD, KY**

118 Jim Veatch Road, 42437  
(270) 389-3430

### **HUNTINGTON, WV**

209 Braley Street, 25705  
(304) 736-8333

### **NORTON, VA**

205 Hawthorne Drive, 24273  
(276) 679-1224

### **BEAVER, WV (BECKLEY)**


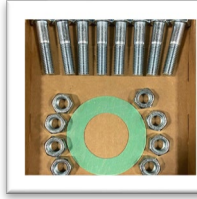

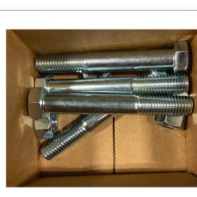










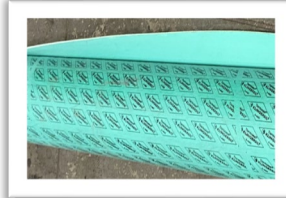
227 C&O Shop Road 25813  
(304-252-0000

SINCE 1964 SERVICE IS MORE THAN A PROMISE

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BOLTS / STUDS/ NUTS	SPECIFICATONS		
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## FLANGE PACKS

## CLASS 150 &amp; 300 FLANGE PACKS

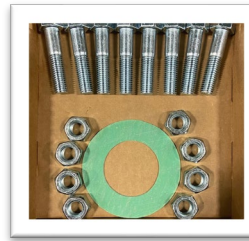
*Flange Packs only bolt to the same class flanges (150# to 150#) (300# to 300#)*

**FLANGE PACKS WILL  
NOT WORK IF  
BOLTING TO VALVE**

**150#  
RING GASKET  
1/16"**



**300#  
RING GASKET  
1/16"**



JABO PART#	FLANGE SIZE	JABO PART#	FLANGE SIZE
*	1/2"	*	1/2"
*	3/4"	*	3/4"
*	1"	*	1"
*	1-1/4"	*	1-1/4"
952-20080	1-1/2"	*	1-1/2"
952-20100	2"	952-21120	2"
952-20120	2-1/2"	952-21140	2-1/2"
952-20140	3"	952-21160	3"
*	3-1/2"	*	3-1/2"
952-20160	4"	952-21180	4"
952-20180	5"	952-21200	5"
952-20200	6"	952-21220	6"
952-20220	8"	952-21240	8"
952-20240	10"	952-21260	10"
952-20260	12"	952-21280	12"
*	14"	*	14"
*	16"	*	16"
*	18"	*	18"
*	20"	*	20"
*	24"	*	24"
<b>*NON STOCK CALL JABO</b>		<b>*NON STOCK CALL JABO</b>	



## FLANGE PACKS

## BOLTING 150 LB FLANGE TO BUTTERFLY VALVE

## 150# LUG STYLE

RING  
1/16"

**LUG STYLE** HAS THREADED LUGS ON THEIR FLANGES FOR BOLT CONNECTIONS. THIS DESIGN MAKES THEM PERFECT FOR END-OF-LINE SERVICE APPLICATIONS

## 150# WAFER STYLE

RING  
1/16"

**WAFER STYLE** BUTTERFLY VALVES LACK LUGS AND INSTEAD FEATURE FOUR HOLES THAT ALIGN WITH PIPE FLANGES




JABO PART#	VALVE SIZE	BOLT SIZE / LENGTH	JABO PART#	VALVE SIZE	BOLT SIZE/LENGT
*	2"	*	952-23020	2"	5/8"X4-1/2"
952-22030	2-1/2"	5/8"X1-1/2"	952-23020	2-1/2"	5/8"X4-1/2"
952-22030	3"	5/8"X1-1/2"	952-23020	3"	5/8"X4-1/2"
952-22040	4"	5/8"X1-3/4"	952-23040	4"	5/8"X5"
952-22060	6"	3/4"X2"	952-23068	6"	3/4"X6"
952-22080	8"	3/4"X2-1/4"	952-23068	8"	3/4"X6"
952-22100	10"	7/8"X2-1/4"	952-23102	10"	7/8"X7"
952-22120	12"	7/8"X2-1/2"	952-23102	12"	7/8"X7"
SAME PACK FITS 2-1/2"-3"			SAME PACK FITS 2"-3", 6"-8", 10"-12"		
<b>Lug pack are shorter and more</b>			<b>Wafer pack are longer bolts and nuts.</b>		
2-1/2" Shown above			2-1/2" Shown above		
*NON STOCK CALL JABO			*NON STOCK CALL JABO		

## GASKETS

**RED RUBBER RING / FULL FACE**  
GASKETS & BOLTS SOLD SEPERATELY

**150# RED RUBBER****RING GASKET****1/16"****150# RED RUBBER 1/8"****FULL FACE****1/8"****150# RED RUBBER 1/8"****FULL FACE****1/16"****RING TYPE GASKET**

Ring type gaskets have no bolts holes. These gaskets are positioned inside the flange bolts and around the pipe bore and are typically used on raised face flanges . When used on a raised face flange, the ring gasket is positioned on top of the raised surface of the flange.

					
JABO PART#	SIZE	JABO PART#	SIZE	JABO PART#	SIZE
*	1/2"	*	1/2"	*	1/2"
*	3/4"	*	3/4"	*	3/4"
*	1"	*	1"	*	1"
*	1-1/4"	*	1-1/4"	*	1-1/4"
958-64840	1-1/2"	*	1-1/2"	*	1-1/2"
958-64850	2"	958-64010	2"	*	2"
958-64860	2-1/2"	958-64020	2-1/2"	*	2-1/2"
958-64870	3"	958-64030	3"	958-64035	3"
*	3-1/2"	*	3-1/2"	*	3-1/2"
958-64890	4"	958-64040	4"	858-64045	4"
958-64900	5"	*	5"	*	5"
958-64910	6"	958-64060	6"	958-64065	6"
958-64920	8"	958-64080	8"	958-64088	8"
958-64930	10"	958-64100	10"	958-64101	10"
958-64940	12"	*	12"	958-64120	12"
*	14"	*	14"	958-64140	14"
*	16"	*	16"	958-64160	16"
*	18"	*	18"	*	18"
*	20"	*	20"	*	20"
*	24"	*	24"	*	24"
<b>*NON STOCK CALL JABO</b>		<b>*NON STOCK CALL JABO</b>		<b>*NON STOCK CALL JABO</b>	







## GASKETS

## NON ASBESTOS GASKETS

GASKETS &amp; BOLTS SOLD SEPERATELY

<b>150# NON ASBESTOS</b>	<b>150# NON ASBESTOS</b>	<b>300# NON ASBESTOS</b>	<b>150# NON ASBESTOS</b>
<b>RING GASKET</b>	<b>RING GASKET</b>	<b>RING GASKET</b>	<b>FULL FACE</b>
<b>1/16"</b>	<b>1/8"</b>	<b>1/16"</b>	<b>1/16"</b>

							
JABO PART#	SIZE	JABO PART#	SIZE	JABO PART#	SIZE	JABO PART#	SIZE
958-65300	1/2"	*	1/2"	*	1/2"	*	1/2"
958-65310	3/4"	*	3/4"	958-65180	3/4"	*	3/4"
958-65320	1"	*	1"	958-65190	1"	*	1"
958-65330	1-1/4"	*	1-1/4"	958-65200	1-1/4"	*	1-1/4"
958-65340	1-1/2"	*	1-1/2"	958-65210	1-1/2"	958-65500	1-1/2"
958-65350	2"	958-65351	2"	958-65220	2"	958-65510	2"
958-65360	2-1/2"	*	2-1/2"	958-65230	2-1/2"	958-65520	2-1/2"
958-65370	3"	958-65371	3"	958-65240	3"	958-65530	3"
*	3-1/2"	*	3-1/2"	*	3-1/2"	*	3-1/2"
958-65390	4"	958-65391	4"	958-65250	4"	958-65550	4"
958-65400	5"	*	5"	*	5"	958-65560	5"
958-65410	6"	958-65411	6"	958-65270	6"	958-65570	6"
958-65420	8"	958-65421	8"	958-65280	8"	958-65580	8"
958-65430	10"	958-65431	10"	958-65290	10"	958-65590	10"
958-65440	12"	958-65441	12"	*	12"	958-65600	12"
958-65450	14"	*	14"	*	14"	*	14"
958-65460	16"	*	16"	*	16"	*	16"
958-65470	18"	*	18"	*	18"	*	18"
958-65480	20"	*	20"	*	20"	*	20"
958-65490	24"	*	24"	*	24"	*	24"
*NON STOCK CALL JABO							

**GASKETS**

**RED RUBBER/ NON ASBESTOS GASKET MATERIAL**

GASKETS & BOLTS SOLD SEPERATELY

**RED RUBBER GASKET  
MATERIAL**

**1/16" & 1/8"**



**NON ASBESTOS GASKET  
MATERIAL**

**1/16" & 1/8"**



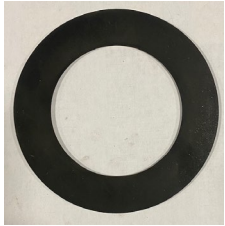
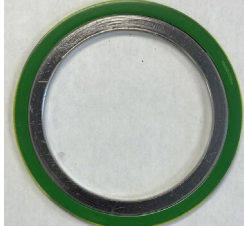
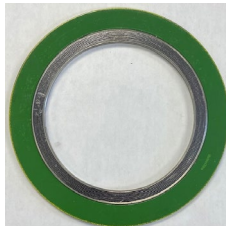
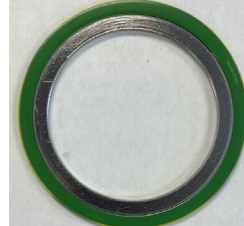
JABO PART#	SIZE	JABO PART#	SIZE
958-65810	1/16"	958-65870	1/16"
958-65820	1/8"	958-65880	1/8"

***SOLD BY SQ. FT.***

## GASKETS

## BLACK NEOPRENE &amp; SPIRASEAL

GASKETS &amp; BOLTS SOLD SEPERATELY

#150 NEOPRENE  
1/8"#150 SPIRASEAL  
304 SS300# SPIRASEAL  
304 SS#150 SPIRASEAL  
316 SS#300 SPIRASEAL  
316 SS

JABO PART#	SIZE	JABO PART#	SIZE	JABO PART#	SIZE	JABO PART#	SIZE	JABO PART#	SIZE
*	1/2"	958-67000	1/2"	958-68000	1/2"	*	1/2"	*	1/2"
*	3/4"	958-67010	3/4"	958-68100	3/4"	*	3/4"	*	3/4"
958-66060	1"	958-67020	1"	958-68200	1"	*	1"	*	1"
958-66120	1-1/4"	958-67030	1-1/4"	958-68300	1-1/4"	*	1-1/4"	*	1-1/4"
958-66140	1-1/2"	958-67040	1-1/2"	958-68400	1-1/2"	*	1-1/2"	*	1-1/2"
*	2"	958-67050	2"	958-68500	2"	958-69820	2"	958-69920	2"
*	2-1/2"	958-67060	2-1/2"	958-68600	2-1/2"	*	2-1/2"	*	2-1/2"
958-66160	3"	958-67070	3"	958-68700	3"	958-69830	3"	958-69930	3"
*	3-1/2"	*	3-1/2"	*	3-1/2"	*	3-1/2"	*	3-1/2"
958-66180	4"	958-67090	4"	958-68900	4"	958-69840	4"	958-69940	4"
*	5"	*	5"	*	5"	*	5"	*	5"
958-66200	6"	958-67120	6"	958-69200	6"	958-69860	6"	958-69960	6"
958-66220	8"	958-67130	8"	958-69300	8"	*	8"	*	8"
958-66240	10"	958-67140	10"	958-69400	10"	*	10"	*	10"
*	12"	958-67150	12"	958-69500	12"	*	12"	*	12"
*	14"	*	14"	*	14"	*	14"	*	14"
*	16"	*	16"	*	16"	*	16"	*	16"
*	18"	*	18"	*	18"	*	18"	*	18"
*	20"	*	20"	*	20"	*	20"	*	20"
*	24"	*	24"	*	24"	*	24"	*	24"
*NON STOCK CALL JABO		*NON STOCK CALL JABO		*NON STOCK CALL JABO		*NON STOCK CALL JABO		*NON STOCK CALL JABO	
General Purpose		Good for Higher Pressure & Temp		Good for Higher Pressure & Temp		Good for Higher Pressure & Temp		Good for Higher Pressure & Temp	

## \*BLACK NITRILE

Recommended for service to resist many hydrocarbons, fats, oils, greases, hydraulic fluids and chemicals.

\*NON STOCK CALL JABO SUPPLY

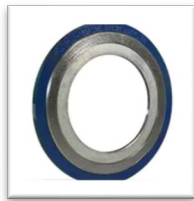
## GASKETS

## SPIRAL WOUND GASKETS

GASKETS &amp; BOLTS SOLD SEPERATELY

**SPIRAL WOUND GASKET 316 SS**  
**INNER RING, 316 SS WINDING,**  
**FLEXIBLE GRAPHITE FILLER,**  
**CARBON STEEL OUTER RING**

**#150**  
**1/8"**



JABO PART#	SIZE
*	1/2"
*	3/4"
*	1"
*	1-1/4"
*	1-1/2"
958-69700	2"
*	2-1/2"
958-69703	3"
*	3-1/2"
958-69704	4"
*	5"
958-69706	6"
*	8"
*	10"
*	12"
*	14"
*	16"
*	18"
*	20"
*	24"
<b>*NON STOCK CALL JABO</b>	

**SPIRAL WOUND GASKET 316 SS**  
**INNER RING, 316 SS WINDING,**  
**FLEXIBLE GRAPHITE FILLER, CARBON**  
**STEEL OUTER RING**

**#300 / #600**  
**1/8"**



JABO PART#	SIZE
*	1/2"
*	3/4"
*	1"
*	1-1/4"
*	1-1/2"
*	2"
*	2-1/2"
958-69714	3"
*	3-1/2"
958-69716	4"
*	5"
958-69717	6"
*	8"
*	10"
*	12"
*	14"
*	16"
*	18"
*	20"
*	24"
<b>*NON STOCK CALL JABO</b>	

GOOD FOR STEAM

## GASKETS

**INSULATOR NEOPRENE / TEFLON/ SANTOPRENE**

GASKETS &amp; BOLTS SOLD SEPERATELY

**150 DW E FLG  
INSULATOR NEO****150 CRT TEFLON  
ENVELOPE GSKT****SANTOPRENE GASKET**

							
JABO PART#	SIZE	JABO PART#	SIZE	JABO PART #	SIZE		
*	1/2"	958-80000	1/2"	958-59999	1-1/2"		
*	3/4"	958-80020	3/4"	958-60000	1-1/2 1.625X2.33		
*	1"	*	1"	958-60002	2"		
*	1-1/4"	*	1-1/4"	958-60003	3"		
*	1-1/2"	958-80060	1-1/2"	958-60004	3" 3.0X3.89		
958-70000	2"	958-80080	2"	958-60020	5" RAILCAR		
958-70050	2-1/2"	*	2-1/2"	<b>*NON STOCK CALL JABO</b>			
958-70100	3"	958-80100	3"				
*	3-1/2"	*	3-1/2"				
958-70120	4"	958-80120	4"				
958-70130	5"	*	5"				
958-70140	6"	958-80140	6"				
*	8"	*	8"				
*	10"	*	10"				
*	12"	*	12"				
*	14"	*	14"				
*	16"	*	16"				
*	18"	*	18"				
*	20"	*	20"				
*	24"	*	24"				
<b>*NON STOCK CALL JABO</b>		<b>*NON STOCK CALL JABO</b>					
<b>DIELECTRIC</b>		<b>GOOD FOR CHEMICALS</b>					

**BOLTS / NUTS**

GASKETS &amp; BOLTS SOLD SEPERATELY

**HEX HEAD MACHINE BOLTS**

GRADE 5 PLAIN STD		
JABO PART#	SIZE	LENGTH
952-48800	1/2"	X 2"
952-49000		X 2-1/4"
952-49160		X 2-1/2"
952-49163		2"X 4"
952-49165	5/8"	X 1-1/2"
952-49170		X 2"
952-49180		X 2-1/2"
952-49340		X 2-3/4"
952-49520		X 3"
952-49530		X 3-1/2"
952-49532		X 4"
952-49533		X 4-1/2"
952-49534		X 5"
952-49535		X 6"
952-49536	3/4"	X 1-3/4"
952-49537		X 2"
952-49538		X 2-1/2"
952-49540		X 3"
952-49880		X 3-1/2"
952-49890		X 4"
952-49900		X 4-1/2"
952-49910		X 5"
952-49920		X 5-1/2"
952-49940		X 6"
952-49950		X 7"
952-50010	7/8"	X 2-1/2"
952-50020		X 3-3/4"
952-50040		X 4"
952-50050		X 5"
952-50060		X 6"
952-50080		X 7"
952-50090		X 8"
952-50200	1"	X 2-1/2"
952-50220		X 4"
952-50250		X 5"

**PLAIN HEAVY HEX NUT**

STD NUTS	
JABO PART#	SIZE
952-65940	1/4"
952-65960	3/8"
952-65980	1/2"
952-66000	5/8"
952-66020	3/4"
952-66040	7/8"
952-66060	1"

**PLAIN FLAT WASHER**

STD WASHER	
JABO PART#	SIZE
952-76200	1/4"
952-76220	3/8"
952-76240	1/2 "
952-76260	5/8"
952-76280	3/4"
952-76300	7/8"
952-76320	1"

**JABO STOCKING BOLTS ARE COARSE THREADS**

**STOCKING BOLTS WILL WORK WITH VALVES UP TO 16" 150 LB FLANGE (BOLTS FOR LARGER VALVE 18" AND ABOVE ARE NON STOCK)**

Bolt Size	Threads Per Inch (TPI)		
	Coarse	Fine	B7
	UNC	UNF	
1/4"	20	28	20
5/16"	18	24	18
3/8"	16	24	16
7/16"	14	20	14
1/2"	13	20	13
9/16"	12	18	12
5/8"	11	18	11
3/4"	10	16	10
7/8"	9	14	9
1"	8	12*	8
1-1/8"	7	12	7
1-1/4"	7	12	7
1-1/2"	6	12	6



## STUD BOLTS , NUTS

GASKETS &amp; BOLTS SOLD SEPERATELY

## B7 STUD BOLT

STUD ONLY		
JABO PART#	SIZE	LENGTH
952-74050	1/2"	X2-1/2"
952-74100		X3"
952-74150		X3-1/2"
952-74250	5/8"	X3"
952-74300		X3-1/2"
952-74350		X4"
952-74400		X4-1/2"
952-74450		X5"
952-74500		X6"
952-74510		X7"
952-74520	3/4"	X3-1/2"
952-74550		X4"
952-74650		X4-1/2"
952-74750		X5"
952-74800		X6"
952-74850		X7"
952-74900	7/8"	X4-1/2"
952-74950		X5-1/2"
952-75000		X6"
952-75040	1"	X5-1/2"
952-75050		X6"
952-75080		X8-1/2"
952-75081		X9"
952-75085		X12"
952-75130	1-1/8"	X 6-1/2"
952-75150		X7-1/2"
952-75155		X12"
952-75199	1-1/4"	X14"
952-75200		"X8-1/2"

## GR2-H HEX NUT

HEX NUT ONLY	
JABO PART#	SIZE
952-75300	1/2"
952-75350	5/8"
952-75400	3/4"
952-75450	7/8"
952-75500	1"
952-75520	1-1/8"
952-75540	1-1/4"

Bolt Size	Threads Per Inch (TPI)		
	Coarse	Fine	B7
	UNC	UNF	
1/4"	20	28	20
5/16"	18	24	18
3/8"	16	24	16
7/16"	14	20	14
1/2"	13	20	13
9/16"	12	18	12
5/8"	11	18	11
3/4"	10	16	10
7/8"	9	14	9
1"	8	12*	8
1-1/8"	7	12	7
1-1/4"	7	12	7
1-1/2"	6	12	6

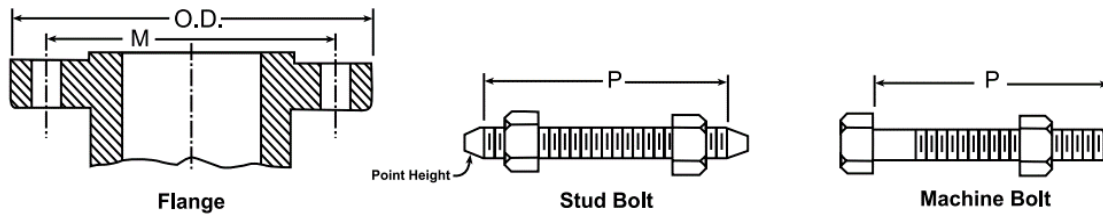
## B7 STUD BOLT &amp; 2H NUT

1-Stud , 2 Nuts		
JABO PART#	SIZE	LENGTH
952-75202	3/4"	X4-1/2"
952-75203		X4-1/4"
952-75204		X4-3/4"
952-75205		X5-1/4"
952-75206		X6"
952-75207		X6-1/2"
952-75208		X7"
952-75209		X7-1/2"
952-75210		X4-1/2"
952-75211	5/8"	X4-3/4"
952-75212		X5-1/4"
952-75213		X7"
952-75214		X7-1/4"
952-75215	7/8"	X4-3/4"
952-75216		X5"
952-75217		X6"
952-75218		X6-1/4"
952-75219		X7-1/2"

## JABO STOCKING BOLTS ARE COARSE THREADS

**STOCKING BOLTS WILL WORK WITH VALVES UP TO 16" 150 LB FLANGE (BOLTS FOR LARGER VALVE 18" AND ABOVE ARE NON STOCK)**

## CLASS 150 FLANGE BOLT PATTERN AND LENGTH

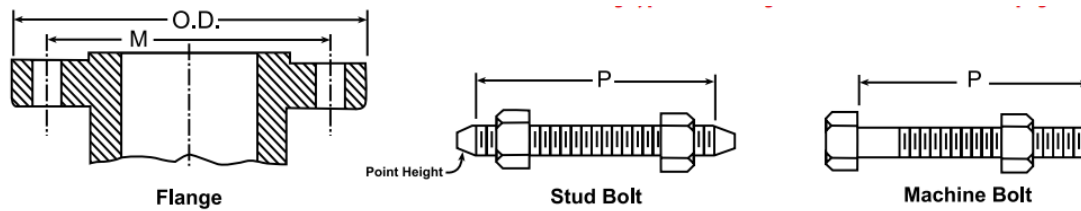


Bolting Pattern and Bolt Lengths								
Pipe Size	Outside Diameter	Drilling				Length of Bolts		
		Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt Holes	Diameter of Bolts	Stud Bolts Raised Face 0.06 in.	Stud Bolts Ring Joint	Machine Bolts Raised Face 0.06 in.
	O.D.	M				P	P	P

## ASME B16.5

1/2	3.50	2.38	5/8	4	1/2	2.25	*	2.00
3/4	3.88	2.75	5/8	4	1/2	2.50	*	2.00
1	4.25	3.12	5/8	4	1/2	2.50	3.00	2.25
1 1/4	4.62	3.50	5/8	4	1/2	2.75	3.25	2.25
1 1/2	5.00	3.88	5/8	4	1/2	2.75	3.25	2.50
2	6.00	4.75	3/4	4	5/8	3.25	3.75	2.75
2 1/2	7.00	5.50	3/4	4	5/8	3.50	4.00	3.00
3	7.50	6.00	3/4	4	5/8	3.50	4.00	3.00
3 1/2	8.50	7.00	3/4	8	5/8	3.50	4.00	3.00
4	9.00	7.50	3/4	8	5/8	3.50	4.00	3.00
5	10.00	8.50	7/8	8	3/4	3.75	4.25	3.25
6	11.00	9.50	7/8	8	3/4	4.00	4.50	3.25
8	13.50	11.75	7/8	8	3/4	4.25	4.75	3.50
10	16.00	14.25	1	12	7/8	4.50	5.00	4.00
12	19.00	17.00	1	12	7/8	4.75	5.25	4.00
14	21.00	18.75	1 1/8	12	1	5.25	5.75	4.50
16	23.50	21.25	1 1/8	16	1	5.25	5.75	4.50
18	25.00	22.75	1 1/4	16	1 1/8	5.75	6.25	5.00
20	27.50	25.00	1 1/4	20	1 1/8	6.25	6.75	5.50
24	32.00	29.50	1 3/8	20	1 1/4	6.75	7.25	6.00

## CLASS 300 FLANGE BOLT PATTERN AND LENGTH

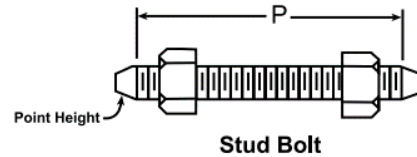
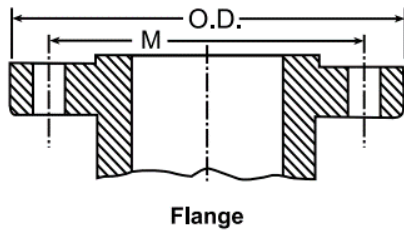


Bolting Pattern and Bolt Lengths								
Pipe Size	Outside Diameter	Drilling				Length of Bolts		
		Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt Holes	Diameter of Bolts	Stud Bolts Raised Face 0.06 in.	Stud Bolts Ring Joint	Machine Bolts Raised Face 0.06 in.
	O.D.	M				P	P	P

## ASME B16.5

1/2	3.75	2.62	5/8	4	1/2	2.50	3.00	2.25
3/4	4.62	3.25	3/4	4	5/8	3.00	3.50	2.50
1	4.88	3.50	3/4	4	5/8	3.00	3.50	2.50
1 1/4	5.25	3.88	3/4	4	5/8	3.25	3.75	2.75
1 1/2	6.12	4.50	7/8	4	3/4	3.50	4.00	3.00
2	6.50	5.00	3/4	8	5/8	3.50	4.00	3.00
2 1/2	7.50	5.88	7/8	8	3/4	4.00	4.50	3.25
3	8.25	6.62	7/8	8	3/4	4.25	4.75	3.50
3 1/2	9.00	7.25	7/8	8	3/4	4.25	5.00	3.75
4	10.00	7.88	7/8	8	3/4	4.50	5.00	3.75
5	11.00	9.25	7/8	8	3/4	4.75	5.25	4.25
6	12.50	10.62	7/8	12	3/4	4.75	5.50	4.25
8	15.00	13.00	1	12	7/8	5.50	6.00	4.75
10	17.50	15.25	1 1/8	16	1	6.25	6.75	5.50
12	20.50	17.75	1 1/4	16	1 1/8	6.75	7.25	5.75
14	23.00	20.25	1 1/4	20	1 1/8	7.00	7.50	6.25
16	25.50	22.50	1 3/8	20	1 1/4	7.50	8.00	6.50
18	28.00	24.75	1 3/8	24	1 1/4	7.75	8.25	6.75
20	30.50	27.00	1 3/8	24	1 1/4	8.00	8.75	7.25
24	36.00	32.00	1 5/8	24	1 1/2	9.00	10.00	8.00

## CLASS 600 FLANGE BOLT PATTERN &amp; LENGTH



Bolting Pattern and Bolt Lengths								
Pipe Size	Outside Diameter	Drilling				Length of Bolts		
		Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt Holes	Diameter of Bolts	Raised Face 0.25 in.	Male & Female / Tongue & Groove	Ring Joint
	O.D.	M				P	P	P

## ASME B16.5

1/2	3.75	2.62	5/8	4	1/2	3.00	2.75	3.00
3/4	4.62	3.25	3/4	4	5/8	3.50	3.25	3.50
1	4.88	3.50	3/4	4	5/8	3.50	3.25	3.50
1 1/4	5.25	3.88	3/4	4	5/8	3.75	3.50	3.75
1 1/2	6.12	4.50	7/8	4	3/4	4.25	4.00	4.25
2	6.50	5.00	3/4	8	5/8	4.25	4.00	4.25
2 1/2	7.50	5.88	7/8	8	3/4	4.75	4.50	4.75
3	8.25	6.62	7/8	8	3/4	5.00	4.75	5.00
3 1/2	9.00	7.25	1	8	7/8	5.50	5.25	5.50
4	10.75	8.50	1	8	7/8	5.75	5.50	5.75
5	13.00	10.50	1 1/8	8	1	6.50	6.25	6.50
6	14.00	11.50	1 1/8	12	1	6.75	6.50	6.75
8	16.50	13.75	1 1/4	12	1 1/8	7.50	7.25	7.75
10	20.00	17.00	1 3/8	16	1 1/4	8.50	8.25	8.50
12	22.00	19.25	1 3/8	20	1 1/4	8.75	8.50	8.75
14	23.75	20.75	1 1/2	20	1 3/8	9.25	9.00	9.25
16	27.00	23.75	1 5/8	20	1 1/2	10.00	9.75	10.00
18	29.25	25.75	1 3/4	20	1 5/8	10.75	10.50	10.75
20	32.00	28.50	1 3/4	24	1 5/8	11.25	11.00	11.50
24	37.00	33.00	2	24	1 7/8	13.00	12.75	13.25

# FLANGE BOLTING GUIDE FOR 150# KNIFE GATE VALVES

**NOTE:** While this bolting guide includes information for use of hex head bolts, It is recommends that studs be used on all mounting holes for knife gate valves. Use of studs ensures that the valve will not be damaged during installation.

**CAUTION:** Dimensions provided for flange bolting are intended only as a guide. Bolt lengths may vary due to manufacturing tolerances in valves, gaskets, flange bolts and flanges.

**WARNING:** Damage can occur to the valve if improper bolting is used. It is always recommended that studs be used for tapped blind holes typically found in the chest area of the valve. Hex head bolts can bottom out in the tapped hole when fully tightened to the valve, causing damage to the body, liners, and/or blade. Hex head bolts in the chest area must not be used. Improper bolt and stud lengths could result in leakage at the flange resulting in death or serious injury.

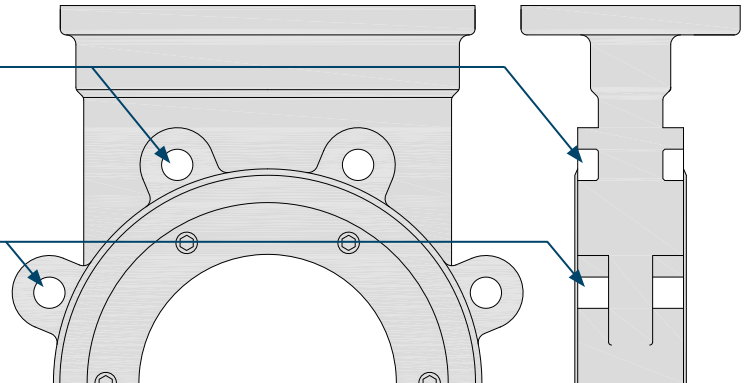
## Bolt Hole Types & Locations

### Tapped Blind Hole

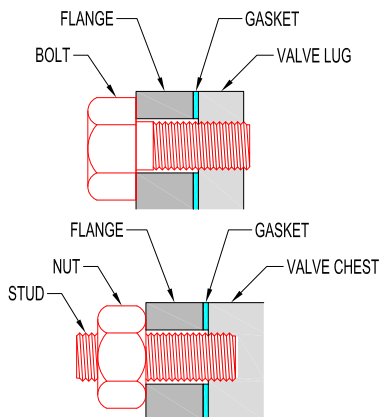
Tapped blind holes are located in the chest area of the valve. Studs must be used in this area to ensure that mechanical force is NOT imparted into the pressure containment area of the valve body, liner of lined valves, or blade.

### Tapped Through Hole

Tapped through holes are located in lugs around the perimeter of the valve body. Hex head bolts can be used in this area, but studs are still recommended.



## Typical Mounting Configuration



### Bolts

Bolts must be threaded completely through to utilize all threads available on lugs or in blind tapped holes.

### Gaskets

Use gasket material appropriate to the application.

### Washers

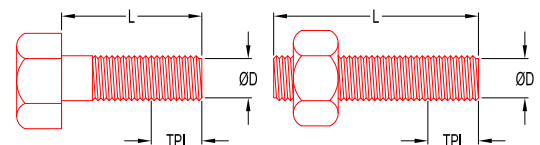
If washers are utilized, bolt or stud length should be adjusted accordingly.

**NOTE:** Due to castings, machining, and flange thickness tolerances, the body tapped hole depth may vary slightly from valve to valve. It is recommended that all knife gate valves be installed with stainless steel ASTM A-304-B8 studs or ASTM A-316-B-8M studs. The use of carbon steel class B-7 studs may also be considered. When using stainless steel bolting on stainless steel valve bodies, thread lubricant is recommended to prevent galling.

## Recommended Bolt Lengths

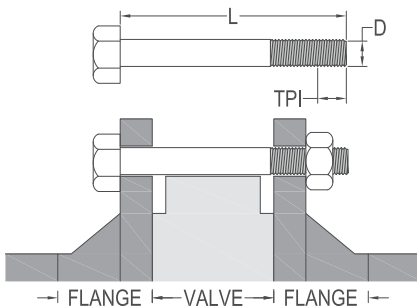
Size	ØD	TPI	L		Qty
			BOLT*	STUD	
2	5/8"	11	1-3/4"	2-3/4"	4
2½	5/8"	11	1-3/4"	2-3/4"	4
3	5/8"	11	1-3/4"	2-3/4"	4
4	5/8"	11	1-3/4"	2-3/4"	8
6	3/4"	10	2"	3"	8
8	3/4"	10	2"	3"	8
10	7/8"	9	2-1/4"	3-1/2"	12
12	7/8"	9	2-1/4"	3-1/2"	12
14	1"	8	2-1/2"	4"	12
16	1"	8	2-5/8"	4-1/4"	16
18	1-1/8"	7	3"	4-3/4"	16
20	1-1/8"	7	3-1/4"	5"	20
24	1-1/4"	7	3-1/2"	5-1/4"	20

\* Most manufactures recommends the use of stud bolts only.



# FLANGE BOLTING GUIDE FOR FIGURE HP BUTTERFLY VALVES

## Wafer Valve & Cap Screws



Size	D	TPI	L	Qty
3	5/8"	11	4-3/4"	8
4	5/8"	11	5"	16
5	3/4"	10	5-1/2"	16
6	3/4"	10	5-1/2"	16
8	3/4"	10	6"	16
10	7/8"	9	6-1/2"	24
12	7/8"	9	7-1/4"	24
14	1"	8	8"	24
16	1"	8	8-1/2"	32
18	1-1/8"	8	9-1/2"	32
20	1-1/8"	8	10-1/4"	32
24	1-1/4"	8	2-3/4"	8
			12"	32
			3-1/4"	8

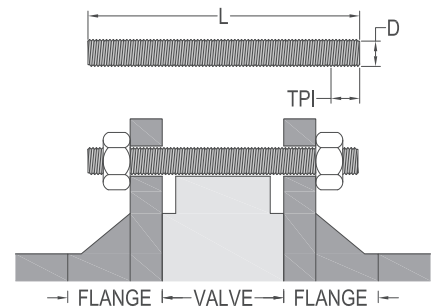
**WARNING:** Improper bolt and stud lengths could result in leakage at the flange resulting in damage, serious injury, or death.

**CAUTION:** Dimensions provided for flange bolting are intended only as a guide. Bolt lengths may vary due to manufacturing tolerances in valves, gaskets, flange bolts and flanges.

**NOTE:** Measurement are designed to fit between ANSI B16.5 class 150 flanges. Lengths are based on the minimum flange thickness of weld neck flanges per ANSI B16.5 and use of standard 1/16" gaskets. Stud lengths also assume heavy hex nut heights per ANSI B18.2.2.

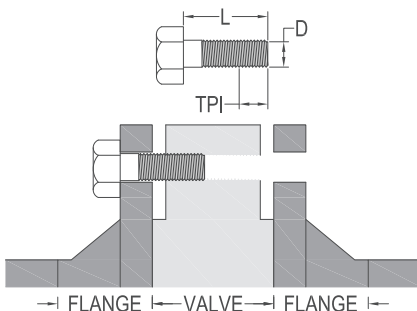
**GASKETS:** When using metallic spiral wound gaskets, add 1/8" to bolt and stud length dimension L.

## Wafer Valve & Stud Bolts



Size	D	TPI	L	Qty
3	5/8"	11	5-3/4"	8
4	5/8"	11	6"	16
5	3/4"	10	6-1/2"	16
6	3/4"	10	6-1/2"	16
8	3/4"	10	7"	16
10	7/8"	9	7-3/4"	24
12	7/8"	9	8-1/4"	24
14	1"	8	9-1/2"	24
16	1"	8	10"	32
18	1-1/8"	8	11"	32
20	1-1/8"	8	11-3/4"	32
24	1-1/4"	8	4-1/2"	8
			13-1/2"	32
			5-1/4"	8

## Lug Valve & Cap Screws

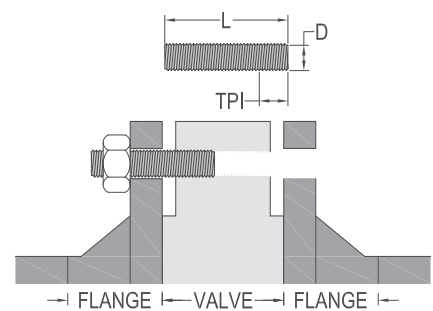


Size	D	TPI	L	Qty
3	5/8"	11	1-3/4"	8
4	5/8"	11	1-7/8"	16
5	3/4"	10	2"	16
6	3/4"	10	2"	16
8	3/4"	10	2-1/4"	16
10	7/8"	9	2-1/2"	24
12	7/8"	9	2-3/4"	24
14	1"	8	3"	24
16	1"	8	2-1/2"	32
18	1-1/8"	8	2-3/4"	32
20	1-1/8"	8	3"	32
24	1-1/4"	8	2-3/4"	8
			3-1/4"	32
			3-1/4"	8

**STEM JOURNAL HOLES:** The 20" and 24" Wafer and Lug pattern valves have tapped blind holes near the stem journal (upper and lower). These sizes list a second length for these holes only. Standard lengths must be used on all other flange holes.

**CALL YOUR JABO CSR WHEN ORDERING A BUTTERFLY VALVE. WE CAN ENSURE THAT WE MATCH UP THE RIGHT FLANGE, GASKET AND BOLTS.**

## Lug Valve & Stud Bolts



Size	D	TPI	L	Qty
3	5/8"	11	3"	8
4	5/8"	11	3"	16
5	3/4"	10	3-1/4"	16
6	3/4"	10	3-1/4"	16
8	3/4"	10	3-1/2"	16
10	7/8"	9	4"	24
12	7/8"	9	4-1/4"	24
14	1"	8	4-3/4"	24
16	1"	8	4-1/4"	32
18	1-1/8"	8	4-3/4"	32
20	1-1/8"	8	4-3/4"	32
24	1-1/4"	8	4-1/2"	8
			5-1/4"	32
			5-1/4"	8





# FLANGE PACKS / GASKETS / BOLTS



JABO SUPPLY SINCE 1964 SERVICE IS MORE THAN A PROMISE

(304)-736-8333