We've sometimes been asked how to draw 2 1/16 API 6A flanges in 10000# and 15000# rating using AcornPipe. This example covers a situation where an installation using XXS OD pipe and 2500# RF flanges needs to connect to a wellhead that has an API 6A 10000# flange.

First you need to tell AcornPipe that these flanges exist, because they are not included in the Master Files that ship with the program. Here's how to add them:
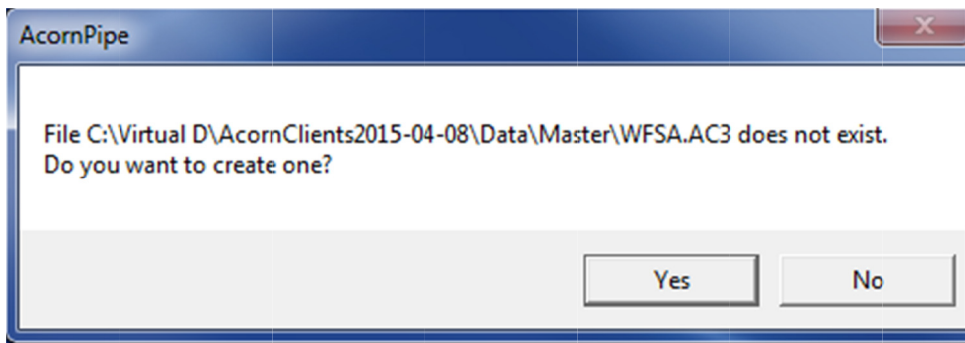
Select Edit/Master Files, then choose Weld Neck Flanges. Click on *Show Unused Rows*. Row S is blank and we are going use it for these flanges.
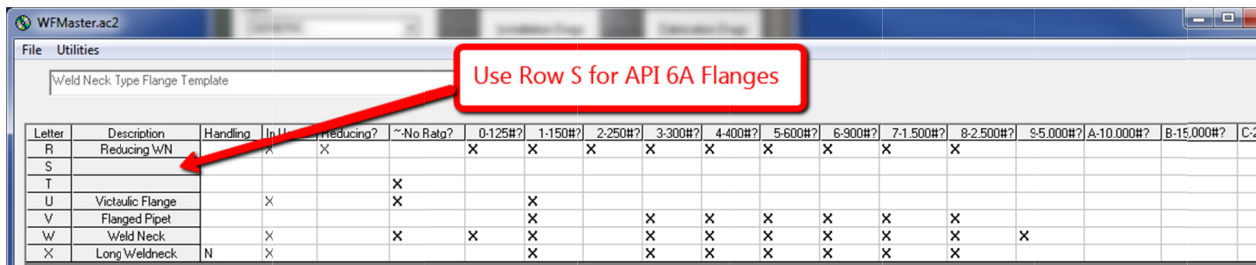
Put the focus on Row S, then select *Utilities/Add Description*. Enter API 6A WN and hit OK. Now put the focus on the 17th Column of Row S, the one headed A-10000#.
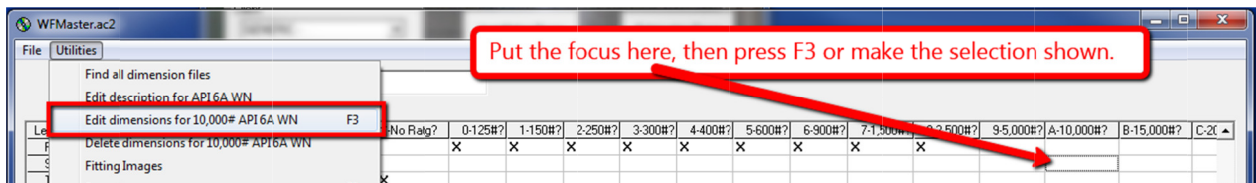
You will get a message as shown below.

Hit yes and then choose *Copy from 2500# Weld Neck*. A dimension file will be created for 10000# API 6A WN as shown below.

Data file WFSA.AC3

File   Edit

Dimensions for 10,000# API 6A WN created 07-30-2017

(These dimensions have just been copied from Dimensions for 2,500# Weld Neck created 05-16-2000)

Nom. Size	Metric Size	In Use?	Weight (lb)	~-No Face	A-125 AARH	B-250 AARH	F-FF	J-RTJ	R-RF
1/2	12	X	8.	0	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8
3/4	20	X	9.	0	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8
1	25	X	13.	0	3 3/4	3 3/4	3 3/4	3 3/4	3 3/4
1-1/4	30	X	20.	0	4	4	4	4 1/16	4
1-1/2	40	X	28.	0					5/8
2	50	X	42.	0					1/4
2-1/2	65	X	52.	0					7/8
3	75	X	94.	0					7/8
4	100	X	146.	0	7 3/4	7 3/4	7 3/4	7 15/16	7 3/4
5	125	X	244.	0	9 1/4	9 1/4	9 1/4	9 1/2	9 1/4
6	150	X	378.	0	11	11	11	11 1/4	11
8	200	X	576.	0	12 3/4	12 3/4	12 3/4	13 1/16	12 3/4
10	250	X	1068.	0	16 3/4	16 3/4	16 3/4	17 3/16	16 3/4
12	300	X	1608.	0	18 1/2	18 1/2	18 1/2	8 15/16	18 1/2

> **Set these dims to zero.**

> These dimensions are copied from 2500# Weld Neck. Because dims for API 6A WN vary by manufacturer, set them all to zero so that you will be prompted for them each time.

Set all the dims to zero as shown below, then hit OK.

Data file WFSA.AC3

File   Edit

Dimensions for 10,000# API 6A WN created 07-30-2017

(These dimensions have just been copied from Dimensions for 2,500# Weld Neck created 05-16-2000)

| Nom. Size	Metric Size	In Use?	Weight (lb)	~-No Face	A-125 AARH	B-250 AARH	F-FF	J-RTJ	R-RF
1/2	12	X	8.	0	0	0	0	0	0
3/4	20	X	9.	0	0	0	0	0	0
1	25	X	13.	0	0	0	0	0	0
1-1/4	30	X	20.	0	0	0	0	0	0
1-1/2	40	X	28.	0	0	0	0	0	0
2	50	X	42.	0	0	0	0	0	0
2-1/2	65	X	52.	0	0	0	0	0	0
3	75	X	94.	0	0	0	0	0	0
4	100	X	146.	0	0	0	0	0	0
5	125	X	244.	0	0	0	0	0	0
6	150	X	378.	0	0	0	0	0	0
8	200	X	576.	0	0	0	0	0	0
10	250	X	1068.	0	0	0	0	0	0
12	300	X	1608.	0	0	0	0	0	0

AcornPipe

? Save changes to Dimensions for 10,000# API 6A WN created 07-30-2017

[Yes]   [No]   [Cancel]

Choose *Yes* to save the changes.

With the focus on the 10000# Column of Row S, choose *Utilities/Fitting Images*. Enter 27 for the image number in the RTJ column of Row S as shown below, then Save.

|							
L	Orif. WN SW Taps	509	509	509	509	3561	509
M	Orif. WN TH Taps			509	509	3561	509
N	BW Red. Insert Flg	**Enter 27 here.**		3258			3258
P	Flange Bell End				2867		
R	Reducing WN	1	1		14	27	1
S	API 6A WN	1				27	1
U	Victaulic Flange	3867			3867		3867
V	Flanged Pipet	2867					
W	Weld Neck	1	1	1	14	27	1
X	Long Weldneck	79					79
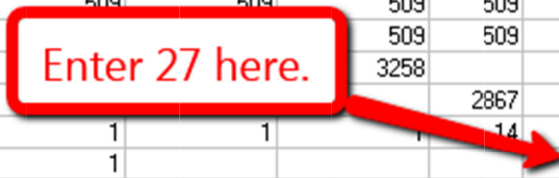
Finally, in Row S of Weld Neck Flanges, make the changes shown below. Press spacebar to display X in the In Use and the 10000# columns as shown.

P	Flange Bell End	B		X				X							
Q									X						
R	Reducing WN	F		X	X		X	X	X	X	X	X	X		
S	API 6A WN	F		X											X
T															
U	Victaulic Flange	F		X		X		X							
V	Flanged Pipet	F		X			X		X	X	X	X	X	X	
W	Weld Neck	F		X		X	X	X	X	X	X	X	X	X	X

Hit Save and Close.

To include an API 6A WN in a drawing, your spec needs to have it checked as an option, see below.
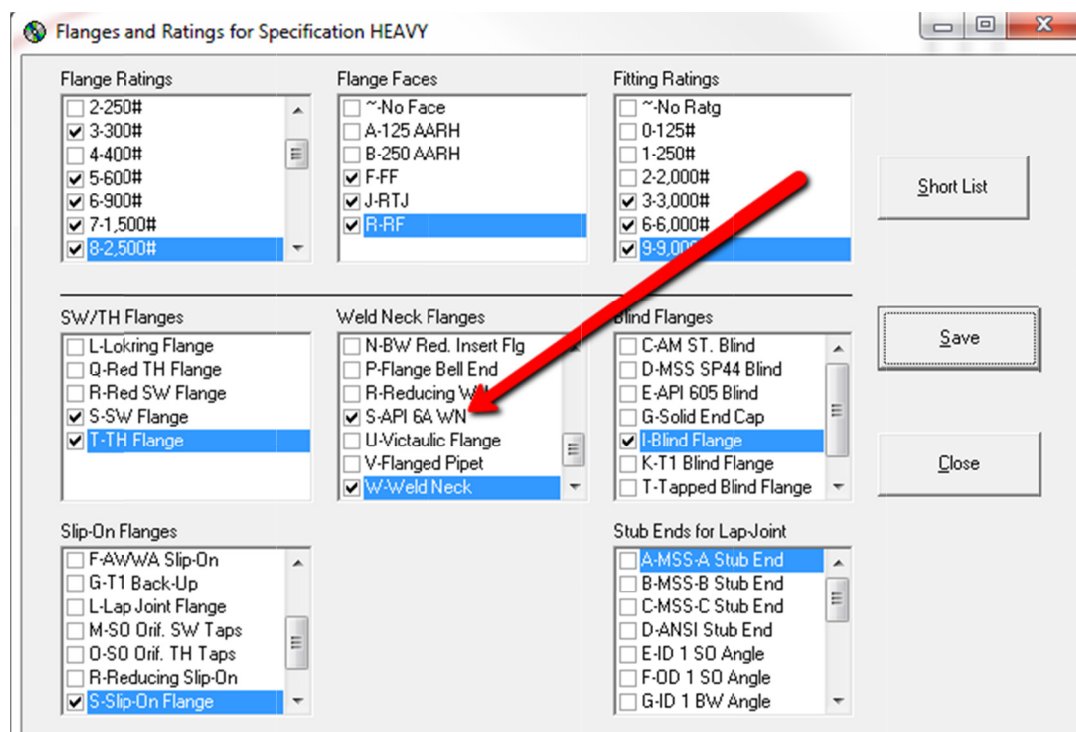
Draw the rest of the spool normally. Then when you get to the point where you need to draw the API 6A WN, select *Edit/Offspec* and select both Flange Rating and Flange Face as shown below, then hit Done.
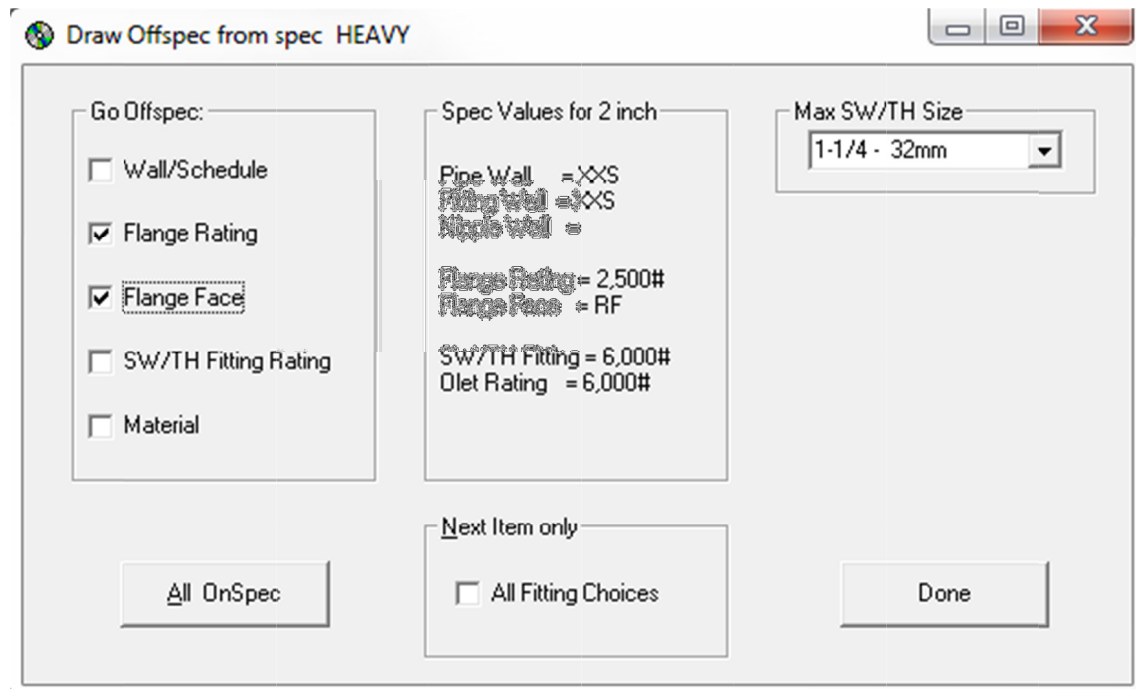

Draw a Weld Neck Flange and select API 6A WN. Choose the rating as 10000# rating and the face as RTJ. Because the dimensions were entered as zero, you will be prompted to enter the dimension for the flange.

If you do not know the dimension yet, you can enter a provisional number and add a note to that effect as shown.
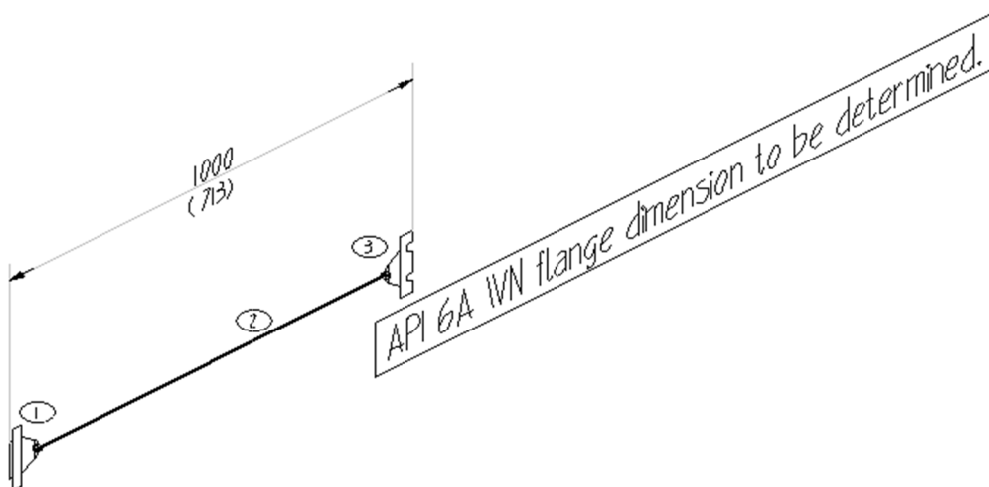
Later, when the dimension is known, you can bring up the drawing, press Ctrl-F, click on the middle of the flange, and enter the correct dimension.
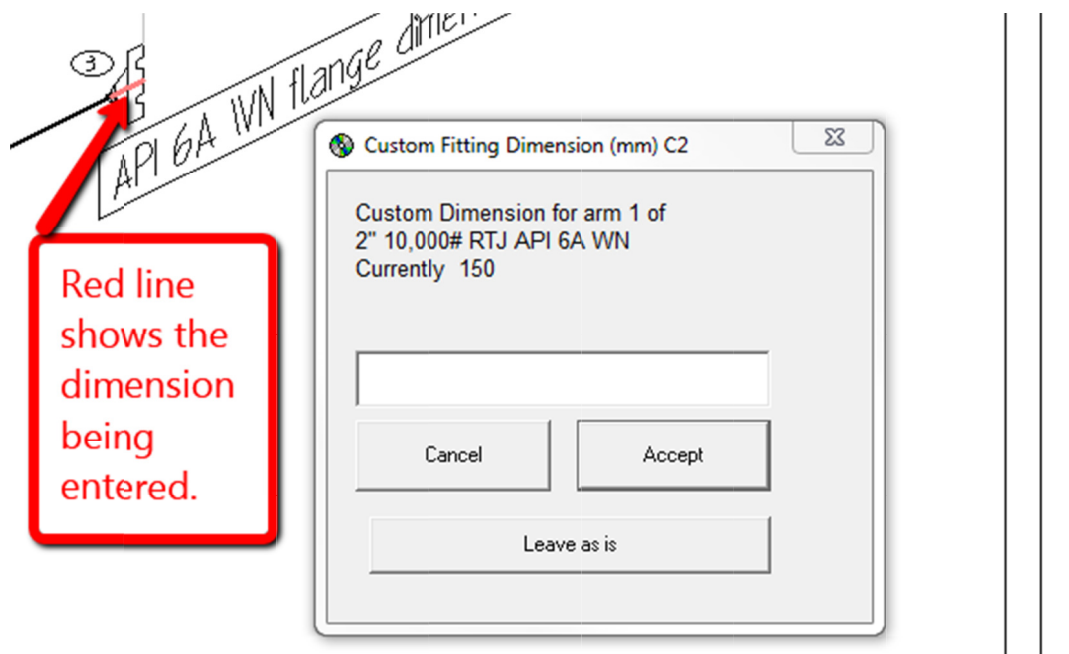
You will get a message about a change in pipe cut length. As a final check, make sure the flange dimensions, pipe cut length, plus any weld gaps add up to the overall dimension.

The flange will appear in the BOM as shown below.

If you think there will be any confusion about 2 inch size vs 2 1/16, you can select Edit/Bill of Materials and add a remark as shown below.