

**FIBERBOND® 20HV, 20HV-C, 20HV(FDA), 20HV(FDA)-C, 20FR-E, 20FR-EC, 20JF, 20JF-C**

Fig.46 Branch Diameter - "LS" Takeout (Projection from centerline of header pipe to end of flanged olet)

Header Dia.	1	1.5	2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36	42	48	54	
1																								
1.5	7"																							
2	7"	7"																						
3	7.5"	7.5"	7.5"																					
4	8"	8"	8"	8"																				
6	9"	9"	9"	9"	9"																			
8	10"	10"	10"	10"	10"	12"																		
10	11"	11"	11"	11"	11"	13"	13"																	
12	12"	12"	12"	12"	12"	14"	14"	16"																
14	13"	13"	13"	13"	13"	15"	15"	17"	17"															
16	14"	14"	14"	14"	14"	16"	16"	18"	18"	22"														
18	15"	15"	15"	15"	15"	17"	17"	19"	19"	23"	23"													
20	16"	16"	16"	16"	16"	18"	18"	20"	20"	24"	24"	25"												
24	18"	18"	18"	18"	18"	20"	20"	22"	22"	26"	26"	27"	28"											
26	19"	19"	19"	19"	19"	21"	21"	23"	23"	27"	27"	28"	29"	33"										
28	20"	20"	20"	20"	20"	22"	22"	24"	24"	28"	28"	29"	30"	34"	34"									
30	21"	21"	21"	21"	21"	23"	23"	25"	25"	29"	29"	30"	31"	35"	35"	35"								
32	22"	22"	22"	22"	22"	24"	24"	26"	26"	30"	30"	31"	32"	36"	36"	36"	36"							
34	23"	23"	23"	23"	23"	25"	25"	27"	27"	31"	31"	32"	33"	37"	37"	37"	37"	41"						
36	24"	24"	24"	24"	24"	26"	26"	28"	28"	32"	32"	33"	34"	38"	38"	38"	38"	42"	42"					
42	27"	27"	27"	27"	27"	29"	29"	31"	31"	35"	35"	36"	37"	41"	41"	41"	41"	45"	45"	45"				
48	30"	30"	30"	30"	30"	32"	32"	34"	34"	38"	38"	39"	40"	44"	44"	44"	44"	48"	48"	48"	48"			
54	33"	33"	33"	33"	33"	35"	35"	37"	37"	41"	41"	42"	43"	47"	47"	47"	47"	51"	51"	51"	51"	51"		
60	36"	36"	36"	36"	36"	38"	38"	40"	40"	44"	44"	45"	46"	50"	50"	50"	50"	54"	54"	54"	54"	54"	54"	54"

The above values are the takeout of the flanged olet (the "LS" value); dimensions are in inches  
 Sizes listed may not be available at the standard pressure rating of the product. Please refer to the Fittings Guide for available sizes.

Header Dia.	25	40	50	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900	1050	1200	1350	
25																								
40	178																							
50	178	178																						
80	191	191	191																					
100	203	203	203	203																				
150	229	229	229	229	229																			
200	254	254	254	254	254	305																		
250	279	279	279	279	279	330	330																	
300	305	305	305	305	305	356	356	406																
350	330	330	330	330	330	381	381	432	432															
400	356	356	356	356	356	406	406	457	457	559														
450	381	381	381	381	381	432	432	483	483	584	584													
500	406	406	406	406	406	457	457	508	508	610	610	635												
600	457	457	457	457	457	508	508	559	559	660	660	686	711											
650	483	483	483	483	483	533	533	584	584	686	686	711	737	838										
700	508	508	508	508	508	559	559	610	610	711	711	737	762	864	864									
750	533	533	533	533	533	584	584	635	635	737	737	762	787	889	889	889								
800	559	559	559	559	559	610	610	660	660	762	762	787	813	914	914	914	914							
850	584	584	584	584	584	635	635	686	686	787	787	813	838	940	940	940	940	1041						
900	610	610	610	610	610	660	660	711	711	813	813	838	864	965	965	965	965	1067	1067					
1050	686	686	686	686	686	737	737	787	787	889	889	914	940	1041	1041	1041	1041	1143	1143	1143				
1200	762	762	762	762	762	813	813	864	864	965	965	991	1016	1118	1118	1118	1118	1219	1219	1219	1219			
1350	838	838	838	838	838	889	889	940	940	1041	1041	1067	1092	1194	1194	1194	1194	1295	1295	1295	1295	1295		
1500	914	914	914	914	914	965	965	1016	1016	1118	1118	1143	1168	1270	1270	1270	1270	1372	1372	1372	1372	1372	1372	1372

The above values are the takeout of the flanged olet (the "LS" value); dimensions are in inches

**FIBERBOND® 20FR16, 20FR16-C, 20JF16, 20JF16-C**

		Fig.46 Branch Diameter - "LS" Takeout (Projection from centerline of header pipe to end of flanged outlet)																						
		1	1.5	2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36	42	48	54
1																								
1.5	7"																							
2	7"	7"																						
3	7.5"	7.5"	7.5"																					
4	8"	8"	8"	8"																				
6	9"	9"	9"	9"	10"																			
8	10"	10"	10"	10"	11"	14"																		
10	11"	11"	11"	11"	12"	15"	18"																	
12	12"	12"	12"	12"	13"	16"	19"	21"																
14	13"	13"	13"	13"	14"	17"	20"	22"	24"															
16	14"	14"	14"	14"	15"	18"	21"	23"	25"	26"														
18	15"	15"	15"	15"	16"	19"	22"	24"	26"	27"	29"													
20	16"	16"	16"	16"	17"	20"	23"	25"	27"	28"	30"	31"												
24	18"	18"	18"	18"	19"	22"	25"	27"	29"	30"	32"	33"	35"											
26	19"	19"	19"	19"	20"	23"	26"	28"	30"	31"	33"	34"	36"	40"										
28	20"	20"	20"	20"	21"	24"	27"	29"	31"	32"	34"	35"	37"	41"	41"									
30	21"	21"	21"	21"	22"	25"	28"	30"	32"	33"	35"	36"	38"	42"	42"	42"								
32	22"	22"	22"	22"	23"	26"	29"	31"	33"	34"	36"	37"	39"	43"	43"	43"								
34	23"	23"	23"	23"	24"	27"	30"	32"	34"	35"	37"	38"	40"	44"	44"	44"	44"							
36	24"	24"	24"	24"	25"	28"	31"	33"	35"	36"	38"	39"	41"	45"	45"	45"	45"	45"	45"					
42	27"	27"	27"	27"	28"	31"	34"	36"	38"	39"	41"	42"	44"	48"	48"	48"	48"	48"	48"	48"				
48	30"	30"	30"	30"	31"	34"	37"	39"	41"	42"	44"	45"	47"	51"	51"	51"	51"	51"	51"	51"	51"			
54	33"	33"	33"	33"	34"	37"	40"	42"	44"	45"	47"	48"	50"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	
60	36"	36"	36"	36"	37"	40"	43"	45"	47"	48"	50"	51"	53"	57"	57"	57"	57"	57"	57"	57"	57"	57"	57"	57"

The above values are the takeout of the flanged outlet (the "LS" value); dimensions are in inches  
 Sizes listed may not be available at the standard pressure rating of the product. Please refer to the Fittings Guide for available sizes.

		25	40	50	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900	1050	1200	1350
25																								
40	178																							
50	178	178																						
80	191	191	191																					
100	203	203	203	203																				
150	229	229	229	229	254																			
200	254	254	254	254	279	356																		
250	279	279	279	279	305	381	457																	
300	305	305	305	305	330	406	483	533																
350	330	330	330	330	356	432	508	559	610															
400	356	356	356	356	381	457	533	584	635	660														
450	381	381	381	381	406	483	559	610	660	686	737													
500	406	406	406	406	432	508	584	635	686	711	762	787												
600	457	457	457	457	483	559	635	686	737	762	813	838	889											
650	483	483	483	483	508	584	660	711	762	787	838	864	914	1016										
700	508	508	508	508	533	610	686	737	787	813	864	889	940	1041	1041									
750	533	533	533	533	559	635	711	762	813	838	889	914	965	1067	1067	1067								
800	559	559	559	559	584	660	737	787	838	864	914	940	991	1092	1092	1092	1092							
850	584	584	584	584	610	686	762	813	864	889	940	965	1016	1118	1118	1118	1118	1118						
900	610	610	610	610	635	711	787	838	889	914	965	991	1041	1143	1143	1143	1143	1143	1143					
1050	686	686	686	686	711	787	864	914	965	991	1041	1067	1118	1219	1219	1219	1219	1219	1219	1219				
1200	762	762	762	762	787	864	940	991	1041	1067	1118	1143	1194	1295	1295	1295	1295	1295	1295	1295	1295	1295		
1350	838	838	838	838	864	940	1016	1067	1118	1143	1194	1219	1270	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	
1500	914	914	914	914	940	1016	1092	1143	1194	1219	1270	1295	1346	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448

The above values are the takeout of the flanged outlet (the "LS" value); dimensions are in inches

**BERBOND® 20HV, 20HV-C, 20HV(FDA), 20HV(FDA)-C, 20FR-E, 20FR-EC, 20JF, 20JF-C, 20JF16, 20JF16-C, 20FR16, 20FR16-C, 20FR20, 20FR20-C**

**Fig.48 Branch Diameter - "H" Takeout (Projection from centerline of header pipe to end of olet)**

Header Dia.	Branch Dia.	1	1.5	2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36	42	48	54
1																								
1.5	6"																							
2	6"	6"																						
3	7"	7"	7"																					
4	8"	8"	8"	8"																				
6	10"	10"	10"	10"	10"																			
8	12"	12"	12"	12"	12"	12"																		
10	14"	14"	14"	14"	14"	14"	14"																	
12	16"	16"	16"	16"	16"	16"	16"	16"	16"															
14	18"	18"	18"	18"	18"	18"	18"	18"	18"	18"														
16	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"													
18	21"	21"	21"	21"	21"	21"	21"	21"	21"	21"	21"	21"												
20	22"	22"	22"	22"	22"	22"	22"	22"	22"	22"	22"	22"	22"											
24	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"										
26	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"									
28	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"								
30	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"							
32	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"						
34	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"					
36	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"				
42	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"			
48	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"		
54	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	
60	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"

The above values are the takeout of the PE olet (the "H" value); dimensions are in inches  
 Sizes listed may not be available at the standard pressure rating of the product. Please refer to the Fittings Guide for available sizes.

Header Dia.	Branch Dia.	25	40	50	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900	1050	1200	1350
25																								
40	152																							
50	152	152																						
80	178	178	178																					
100	203	203	203	203																				
150	254	254	254	254	254																			
200	305	305	305	305	305	305																		
250	356	356	356	356	356	356	356																	
300	406	406	406	406	406	406	406	406																
350	457	457	457	457	457	457	457	457	457															
400	508	508	508	508	508	508	508	508	508	508														
450	533	533	533	533	533	533	533	533	533	533	533													
500	559	559	559	559	559	559	559	559	559	559	559	559												
600	610	610	610	610	610	610	610	610	610	610	610	610	610											
650	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762									
700	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762								
750	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762							
800	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838						
850	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838					
900	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838				
1050	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914			
1200	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143		
1350	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	
1500	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372

The above values are the takeout of the PE olet (the "H" value); dimensions are in inches

Header Dia. → Branch Dia. → **BERBOND® 20HV, 20HV-C, 20HV(FDA), 20HV(FDA)-C, 20FR-E, 20FR-EC, 20JF, 20JF-C, 20JF16, 20JF16-C, 20FR16, 20FR16-C, 20FR20, 20FR20-C**

Fig.48 Branch Diameter - Minimum "H" Takeout (Minimum projection from centerline of header pipe to end of olet)

Header Diameter	1	1.5	2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36	42	48	54	
1																								
1.5	6"																							
2	6"	6"																						
3	7"	7"	7"																					
4	8"	8"	8"	8"																				
6	10"	10"	10"	10"	10"																			
8	12"	12"	12"	12"	12"	12"																		
10	13"	13"	13"	13"	13"	13"	14"																	
12	14"	14"	14"	14"	14"	14"	16"	16"																
14	15"	15"	15"	15"	15"	15"	17"	18"	18"															
16	16"	16"	16"	16"	16"	16"	18"	20"	20"	20"														
18	17"	17"	17"	17"	17"	17"	19"	21"	21"	21"	21"													
20	18"	18"	18"	18"	18"	18"	22"	22"	22"	22"	22"	22"												
24	20"	20"	20"	20"	20"	20"	22"	24"	24"	24"	24"	24"	24"											
26	21"	21"	21"	21"	21"	21"	23"	25"	25"	30"	30"	30"	30"	30"										
28	22"	22"	22"	22"	22"	22"	24"	26"	26"	31"	31"	30"	30"	30"	30"									
30	23"	23"	23"	23"	23"	23"	25"	27"	27"	32"	32"	30"	30"	30"	30"	30"								
32	24"	24"	24"	24"	24"	24"	26"	28"	28"	33"	33"	33"	33"	33"	33"	33"	33"							
34	25"	25"	25"	25"	25"	25"	27"	29"	29"	34"	34"	33"	33"	33"	33"	33"	33"	33"						
36	26"	26"	26"	26"	26"	26"	28"	30"	30"	35"	35"	33"	33"	33"	33"	33"	33"	33"	33"					
42	29"	29"	29"	29"	29"	29"	31"	33"	33"	38"	38"	36"	36"	36"	36"	36"	36"	36"	36"	36"				
48	32"	32"	32"	32"	32"	32"	34"	36"	36"	41"	41"	45"	45"	45"	45"	45"	45"	45"	45"	45"	45"			
54	35"	35"	35"	35"	35"	35"	37"	39"	39"	44"	44"	48"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"
60	38"	38"	38"	38"	38"	38"	40"	42"	42"	47"	47"	51"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"

The above values are the takeout of the PE olet (the "H" value); dimensions are in inches. Values in bold are less than the standard Fig.48 dimension. e.g., a 12"x6" (300x150) Fig.48 PE Olet has a minimum "H" dimension of 14" (356mm) (standard "H" dimension is 16", 406mm)

Sizes listed may not be available at the standard pressure rating of the product. Please refer to the Fittings Guide for available sizes.

Header Dia. → Branch Dia. →

Header Diameter	25	40	50	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900	1050	1200	1350	
25																								
40	152																							
50	152	152																						
80	178	178	178																					
100	203	203	203	203																				
150	254	254	254	254	254																			
200	305	305	305	305	305	305																		
250	<b>330</b>	<b>330</b>	<b>330</b>	<b>330</b>	<b>330</b>	<b>330</b>	356																	
300	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	406	406																
350	<b>381</b>	<b>381</b>	<b>381</b>	<b>381</b>	<b>381</b>	<b>381</b>	<b>432</b>	457	457															
400	<b>406</b>	<b>406</b>	<b>406</b>	<b>406</b>	<b>406</b>	<b>406</b>	<b>457</b>	508	508	508														
450	<b>432</b>	<b>432</b>	<b>432</b>	<b>432</b>	<b>432</b>	<b>432</b>	<b>483</b>	<b>533</b>	<b>533</b>	533	533													
500	<b>457</b>	<b>457</b>	<b>457</b>	<b>457</b>	<b>457</b>	<b>457</b>	<b>508</b>	<b>559</b>	<b>559</b>	559	559	559												
600	<b>508</b>	<b>508</b>	<b>508</b>	<b>508</b>	<b>508</b>	<b>508</b>	<b>559</b>	<b>610</b>	<b>610</b>	610	610	610	610											
650	<b>533</b>	<b>533</b>	<b>533</b>	<b>533</b>	<b>533</b>	<b>533</b>	<b>584</b>	<b>635</b>	<b>635</b>	662	662	662	662	662										
700	<b>559</b>	<b>559</b>	<b>559</b>	<b>559</b>	<b>559</b>	<b>559</b>	<b>610</b>	<b>660</b>	<b>660</b>	<b>787</b>	<b>787</b>	762	762	762	762									
750	<b>584</b>	<b>584</b>	<b>584</b>	<b>584</b>	<b>584</b>	<b>584</b>	<b>635</b>	<b>686</b>	<b>686</b>	<b>813</b>	<b>813</b>	762	762	762	762	762								
800	<b>610</b>	<b>610</b>	<b>610</b>	<b>610</b>	<b>610</b>	<b>610</b>	<b>660</b>	<b>711</b>	<b>711</b>	<b>838</b>	<b>838</b>	838	838	838	838	838	838							
850	<b>635</b>	<b>635</b>	<b>635</b>	<b>635</b>	<b>635</b>	<b>635</b>	<b>686</b>	<b>737</b>	<b>737</b>	<b>864</b>	<b>864</b>	838	838	838	838	838	838	838						
900	<b>660</b>	<b>660</b>	<b>660</b>	<b>660</b>	<b>660</b>	<b>660</b>	<b>711</b>	<b>762</b>	<b>762</b>	<b>889</b>	<b>889</b>	838	838	838	838	838	838	838	838					
1050	<b>737</b>	<b>737</b>	<b>737</b>	<b>737</b>	<b>737</b>	<b>737</b>	<b>787</b>	<b>838</b>	<b>838</b>	<b>965</b>	<b>965</b>	914	914	914	914	914	914	914	914	914				
1200	<b>813</b>	<b>813</b>	<b>813</b>	<b>813</b>	<b>813</b>	<b>813</b>	<b>864</b>	<b>914</b>	<b>914</b>	<b>1041</b>	<b>1041</b>	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143	1143		
1350	<b>889</b>	<b>889</b>	<b>889</b>	<b>889</b>	<b>889</b>	<b>889</b>	<b>940</b>	<b>991</b>	<b>991</b>	<b>1118</b>	<b>1118</b>	<b>1219</b>	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372
1500	<b>965</b>	<b>965</b>	<b>965</b>	<b>965</b>	<b>965</b>	<b>965</b>	<b>1016</b>	<b>1067</b>	<b>1067</b>	<b>1194</b>	<b>1194</b>	<b>1295</b>	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372

The above values are the takeout of the PE olet (the "H" value); dimensions are in inches. Values in bold are less than the standard Fig.48 dimension.