



Form No.	Issue Date	Rev. Date
F-2467	10/10/00	10/5/18

HARDWARE

Refer to the following for lists of bolts, studs and gaskets used when installing auxiliary fittings, intake extensions, relief valve extensions, etc.

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1-1/2 in. 4-Bolt Fittings

Fastener	Fitting Mounted	Part Number	Mounting Holes	Bolt / Stud		Nut Part No.	Gasket
				Part No.	Size		
Bolts	Elbows, Extensions	Various	Tapped	W 1007-20HT	7/16-14 x 1-1/4 in.	NA	51218
			Thru	W 1107-24	7/16-20 x 1-1/2 in.	W 2107-CA	51218
	Flanges	51217-A, 61473-A, 62897-A, 62939-A, 63048-A, 63205-A	Tapped	W 1007-20HT	7/16-14 x 1-1/4 in.	NA	W 3756-4
			Thru	W1107-24	7/16-20 x 1-1/2 in.	W 2107-CA	W 3756-4
		62605-A, 62605-1A	Tapped	W 1507-24	7/16-14 x 1-1/2 in.	NA	W 3756-4
			Thru	W 1607-36	7/16-20 x 2-1/4 in.	W 2107-CA	W 3756-4
		61636-A	Tapped	W 1007-40HT	7/16-14 x 1-1/4 in.	NA	W 3756-4
			Thru	W 1107-44CA	7/16-20 x 2-3/4 in.	W 2107-CA	W 3756-4
	Spacer	63049-A	Tapped	W 1007-36HT	7/16-14 x 2-1/4 in.	NA	51218
			Thru	W 1107-40CA	7/16-20 x 2-1/2 in.	W 2107-CA	51218
	Discharge Valves	Various	Tapped	W 1007-16HT	7/16-14 x 1 in.	NA	51218
			Thru	W 1107-24	7/16-20 x 1-1/2 in.	W 2107-CA	51218
Studs	Elbows, Extensions, Tees, Discharge Valves	Various	Thru	5820	7/16-14 x 7/16-20 x 1-5/8 in.	W 2107-CA	51218

2-1/2 in. 8-Bolt Fittings

Fastener	Fitting Mounted	Part Number	Mounting Holes	Bolt / Stud		Nut Part No.	Gasket
				Part No.	Size		
Bolts	Elbows, Extensions, Tees	Various	Tapped	W 1008-20HT	1/2-13 x 1-1/4 in.	NA	51195
			Thru	W 1108-28HT	1/2-20 x 1-3/4 in.	W 2108-CA	51195
	Flanges	51744-A, 51744-1A, 52556-A	Tapped	W 1008-24HT	1/2-13 x 1-1/2 in.	NA	51195
			Thru	W1108-32HT	1/2-20 x 2 in.	W 2108-CA	51195
		52042-A, 52042-1A	Thru	W 1008-20HT	1/2-13 x 1-1/4 in.	NA	51195
			Thru	W 1008-20HT	1/2-13 x 1-1/4 in.	NA	51195
		52042-2A	Thru	W 1008-20HT	1/2-13 x 1-1/4 in.	NA	W 3770-4
		72098-A, 72257-A	Tapped	W 1508-28	1/2-13 x 1-3/4 in.	NA	52108
			Thru	W 1608-36	1/2-20 x 2-1/4 in.	W 2108-CA	52108
		51744-4C	Tapped	W 1508-32	1/2-13 x 2 in.	NA	51195
			Thru	W 1608-40	1/2-20 x 2-1/2 in.	W 2108-CA	51195
	Spacer	(One) 51754-A	Tapped	W 1008-36HT	1/2-13 x 2-1/4 in.	NA	51195
			Thru	W 1108-44HT	1/2-20 x 2-3/4 in.	W 2108-CA	51195
		(Two) 51754-AA	Tapped	W 1008-52HT	1/2-13 x 3-1/4 in.	NA	51195
			Thru	W 1108-64	1/2-20 x 4 in.	W 2108-CA	51195
		(One) 52703-A	Tapped	W 1008-32HT	1/2-13 x 2 in.	NA	51195
			Thru	W 1108-40HT	1/2-20 x 2-1/2 in.	W 2108-CA	51195
	Discharge Valves	Various	Tapped	W 1008-16HT	1/2-13 x 1 in.	NA	51195
			Thru	W 1108-24HT	1/2-13 x 1-1/2 in.	W 2108-CA	51195
Studs	Elbows, Extensions, Tees	Various	Thru	51765-5	1/2-20 x 1/2-20 x 3-1/4 in.	W 2108-CA	51195
	Flanges	51744-A, 51744-1A, 51744-4C, 52556-A	Thru	51765-5	1/2-20 x 1/2-20 x 3-1/4 in.	W 2108-CA	51195
		72098-A, 72257-A	Thru	51765-5	1/2-20 x 1/2-20 x 3-1/4 in.	W 2108-CA	52108
	Spacers	(One) 51754-A	Thru	51765-5	1/2-20 x 1/2-20 x 3-1/4 in.	W 2108-CA	51195
		(Two) 51754-AA	Thru	51765-6	1/2-20 x 1/2-20 x 4-1/4 in.	W 2108-CA	51195
		(One) 52703-A	Thru	51765-6	1/2-20 x 1/2-20 x 4-1/4 in.	W 2108-CA	51195

Fittings Mounted Directly on Center Discharge Flange

Fitting Mounted	Qty of 51754 Spacers	Hardware Req'd			
		Item	Qty	Part No.	Size
71597 Elbow	None	Studs	2	50985	1/2-13 x 1/2-20 x 2 in.
		Bolts	6	W 1008-20HT	1/2-13 x 1-1/4 in.
		Nuts	2	W 2108-CA	1/2-20 UNF
		Gaskets	1	51195	NA
	1	Studs	2	51268	1/2-13 X 1/2-20 X 3-1/4 in.
		Bolts	6	W 1008-36HT	1/2-13 x 2-1/4 in.
		Nuts	2	W 2108-CA	1/2-20 UNF
		Gaskets	2	51195	NA
	2	Studs	2	50746	1/2-13 x 1/2-20 x 4-1/4 in.
		Bolts	6	W 1008-52HT	1/2-13 x 3-1/4 in.
		Nuts	2	W 2108-CA	1/2-20 UNF
		Gaskets	3	51195	NA
	3	Studs	2	50746-3	1/2-13 x 1/2-20 x 5-1/4 in.
		Bolts	6	W 1008-68HT	1/2-13 x 4-1/4 in.
		Nuts	2	W 2108-CA	1/2-20 UNF
		Gaskets	4	51195	NA
80827, 80827-1 Run Flange Down	None	Studs	4	50985	1/2-13 x 1/2-20 x 2 in.
		Bolts	4	W 1008-20HT	1/2-13 x 1-1/4 in.
		Nuts	4	W 2108-CA	1/2-20 UNF
		Gaskets	1	51195	NA
	1	Studs	4	51268	1/2-13 x 1/2-20 x 3-1/4 in.
		Bolts	4	W 1008-36HT	1/2-13 x 2-1/4 in.
		Nuts	4	W 2108-CA	1/2-20 UNF
		Gaskets	2	51195	NA
	2	Studs	4	50746	1/2-13 x 1/2-20 x 4-1/4 in.
		Bolts	4	W 1008-52HT	1/2-13 x 3-1/4 in.
		Nuts	4	W 2108-CA	1/2-20 UNF
		Gaskets	3	51195	NA
	3	Studs	4	50746-3	1/2-13 x 1/2-20 x 5-1/4 in.
		Bolts	4	W 1008-68HT	1/2-13 x 4-1/4 in.
		Nuts	4	W 2108-CA	1/2-20 UNF
		Gaskets	4	51195	NA

Fittings Mounted Directly on Center Discharge Flange (Cont.)

Fitting Mounted	Qty of 51754 Spacers	Hardware Req'd			
		Item	Qty	Part No.	Size
80827, 80827-1 Branch Flange Down	None	Studs	6	50985	1/2-13 x 1/2-20 x 2 in.
		Bolts	2	W 1008-20HT	1/2-13 x 1-1/4 in.
		Nuts	6	W 2108-CA	1/2-20 UNF
		Gaskets	1	51195	NA
	1	Studs	6	51268	1/2-13 X 1/2-20 X 3-1/4 in.
		Bolts	2	W 1008-36HT	1/2-13 x 2-1/4 in.
		Nuts	6	W 2108-CA	1/2-20 UNF
		Gaskets	2	51195	NA
	2	Studs	6	50746	1/2-13 x 1/2-20 x 4-1/4 in.
		Bolts	2	W 1008-52HT	1/2-13 x 3-1/4 in.
		Nuts	6	W 2108-CA	1/2-20 UNF
		Gaskets	3	51195	NA
	3	Studs	6	50746-3	1/2-13 x 1/2-20 x 5-1/4 in.
		Bolts	2	W 1008-68HT	1/2-13 x 4-1/4 in.
		Nuts	6	W 2108-CA	1/2-20 UNF
		Gaskets	4	51195	NA
51744, 51744-1	NA	Bolts	8	W 1008-24HT	1/2-13 x 1-1/2 in.
		Gaskets	1	51195	NA
52042	NA	Bolts	8	W 1008-20HT	1/2-13 x 1-1/4 in.
		Gaskets	1	51195	NA
72098, 72257	NA	Bolts	8	W 1508-28	1/2-13 x 1-3/4 in.
		Gaskets	1	52108	NA
51744-4	NA	Bolts	8	W 1508-32	1/2-13 x 2 in.
		Gaskets	1	51195	NA
Discharge Valves	NA	Bolts	8	W 1008-16HT	1/2-13 x 1 in.
		Gaskets	1	51195	NA

Intake Extensions

Fastener	Type	Extension Length	Mounting Hole	Part No.	Size	Nuts	Gasket
Bolts	CM, CS, CGG (STD)	1 in. (5002-A)	Tapped	W 1008-36HT	1/2-13 x 2-1/4 in.	NA	6002
			Thru	W 1108-44HT	1/2-20 x 2-3/4 in.	W 2108-CA	6002
		2 in. (5003-A)	Tapped	W 1008-52HT	1/2-13 x 3-1/4 in.	NA	6002
			Thru	W 1108-64	1/2-20 x 4 in.	W 2108-CA	6002
		4 in. (5005-A)	Tapped	W 1008-24HT	1/2-13 x 1-1/2 in.	NA	6002
			Thru	W 1108-32HT	1/2-20 x 2 in.	W 2108-CA	6002
		6 in. (5004-A)	Tapped	W 1008-24HT	1/2-13 x 1-1/2 in.	NA	6002
			Thru	W 1108-32HT	1/2-20 x 2 in.	W 2108-CA	6002
	CMU, CSU, (Large)	4 in. (7241-A)	Tapped	W 1008-24HT	1/2-13 x 1-1/2 in.	NA	6787
		1 In. (73616-A)	Tapped	W 1008-36HT	1/2-13 x 2-1/4 in.	NA	6787
Studs	CM, CS, CGG (STD)	1 in. (5002-A)	Tapped	51268	1/2-13 x 1/2-20 x 3-1/4 in.	NA	6002
			Thru	51765-5	1/2-20 x 1/2-20 x 3-1/4 in.	W 2108-CA	6002
		2 in. (5003-A)	Tapped	50746	1/2-13 x 1/2-20 x 4-1/4 in.	NA	6002
			Thru	51765-6	1/2-20 x 1/2-20 x 4-1/4 in.	W 2108-CA	6002
		4 in. (5005-A)	Tapped	NA	NA	NA	6002
			Thru	NA	NA	NA	6002
		6 in. (5004-A)	Tapped	NA	NA	NA	6002
			Thru	NA	NA	NA	6002
	CMU, CSU, (Large)	4 in. (7241-A)	Tapped	NA	NA	NA	6787
		1 In. (73616-A)	Tapped	51268	1/2-13 x 1/2-20 x 3-1/4 in.	W 2108-CA	6787

Relief Valve Extensions

Fastener	Extension Length	Mounting Hole	Part No.	Size	Nuts	Gasket
Bolts	1 in. (61647-A)	Tapped	W 1007-20HT	7/16-14 x 2-1/2 in.	NA	W 3754-4
		Thru	W 1107-40CA	7/16-20 x 2-1/2 in.	W 2107-CA	
	2 in. (61647-AA)	Tapped	W 1007-56HT	7/16-14 x 3-1/2 in.	NA	W 3754-4
		Thru	W 1107-56	7/16-20 x 3-1/2 in.	W 2107-CA	
	4 in. (61646-A)	Tapped	W 1007-24HT	7/16-14 x 1-1/2 in.	NA	W 3754-4
		Thru	W 1107-28	7/16-20 x 1-3/4 in.	W 2107-CA	
	6 in. (61645-A)	Tapped	W 1007-24HT	7/16-14 x 1-1/2 in.	NA	W 3754-4
		Thru	W 1107-28	7/16-20 x 1-3/4 in.	W 2107-CA	
	1 In. (63842-A)	Tapped	W 1010-36	5/8-11 x 2-1/4 in.	NA	W 3772-4
		Thru	W 1010-4SP	5/8-11 x 2-1/2 in.	NA	
Studs	1 in. (61647-A)	Tapped	51268	1/2-13 x 1/2-20 x 3-1/4 in.	NA	W 3754-4
		Thru	51387	7/16-20 x 7/16-20 x 3-3/8 in.	W 2107-CA	
	2 in. (61647-AA)	Tapped	51312-1	7/16-14 x 7/16-20 x 3-3/4 in.	NA	W 3754-4
		Thru	51388	7/16-20 x 7/16-20 x 4-3/8 in.	W 2107-CA	
	4 in. (61646-A)	Tapped	52010	7/16-14 x 7/16-20 x 2 in.	NA	W 3754-4
		Thru	51387-1	7/16-20 x 7/16-20 x 2-1/8 in.	W 2107-CA	
	6 in. (61645-A)	Tapped	52010	7/16-14 x 7/16-20 x 2 in.	NA	W 3754-4
		Thru	51387-1	7/16-20 x 7/16-20 x 2-1/8 in.	W 2107-CA	

Nipples on 6 in. ANSI Flanged Intake Fittings

Threaded Nipple	Butterfly Valve Mounted	Fitting Length	Mounted Hole	Bolts and Nuts					Gasket
				Qty	Part. No.	Size	Nuts	Lock Washer	
Without Dump Valve Flange	No	6.75 in.	Tapped	8	W 1012-16HT	3/4-10 x 1 in.	NA	NA	51719
			Thru	8	W 1112-32HT	3/4-16 x 2 in.	W 2112	NA	
		10.62 in.	Thru	8	W 1012-32HT	3/4-10 x 2 in.	W 2012	NA	
	Yes	6.75 in.	Tapped	8	W 1012-52HT	3/4-10 x 3-1/4	NA	NA	910902 (see note)
			Thru	8	W 1012-60CA	3/4-10 x 3-3/4	W 2012	NA	
		10.62 in.	Thru	8	W 1012-76HTCA	3/4-10 x 4-3/4	W 2012	NA	
With Dump Valve Flange	No	6.75 in.	Tapped	6	W 1012-20HT	3/4-10 x 1-1/4	NA	NA	51719
				2	W 1012-52HT	3/4-10 x 3-1/4	NA	W 4112	
			Thru	6	W 1012-32HT	3/4-10 x 2 in.	W 2012	NA	
				2	W 1012-56HT	3/4-10 x 3-1/2	W 2012	NA	
		10.62 in.	Thru	6	W 1012-32HT	3/4-10 x 2 in.	W 2012	NA	
				2	W 1012-56HT	3/4-10 x 3-1/2	W 2012	NA	
	Yes	6.75 in.	Tapped	6	W 1012-52HT	3/4-10 x 3-1/4	NA	NA	910902 (see note)
				2	W 1012-84HT	3/4-10 x 5-1/4	NA	W 4112	
		10.62 in.	Thru	6	W 1012-60CA	3/4-10 x 3-3/4	W 2012	NA	
				2	W 1012-96HTCA	3/4-10 x 6	W 2012	NA	

Note: 910902 gasket only used with Jamesbury Valves. Akron Valves have gaskets molded into the valve flanges.

Stud Listing by Size

Thread Type	Size	Thread	Length (Inches)	Part Number
Coarse x Fine	7/16 in.	7/16-14 x 7/16-20	1-5/8	5820
			2	52010
			2-1/2	51312-2
			2-3/4	51312
			3-3/4	51312-1
	1/2 in.	1/2-13 x 1/2-20	2	50985
			2-1/2	50746-9
			3-1/4	51268
			4-1/4	50746
			4-1/2	50746-1
			4-3/4	50746-2
			5-1/4	50746-3
			5-3/4	50746-8
			6-1/2	50746-6
			7-1/2	50746-5
			7-3/4	50746-4
			8-3/4	50746-7
			9-1/2	50746-10
Fine x Fine	7/16 in.	7/16-20 x 7/16-20	2-1/8	51387-1
			3-3/8	51387
			4-3/8	51388
			5-1/4	51387-2
	1/2 in.	1/2-20 x 1/2-20	2-1/4	51765-4
			2-3/4	51765-15
			3-1/4	51765-5
			3-1/2	51765-10
			4-1/4	51765-6
			4-3/4	51765-1
			5	51765-2
			5-3/8	51765-3
			6	51765-12
			6-1/4	51765-14
			7	51765-9
			8	51765-8
			8-3/8	51765-7
			9-1/2	51765-11
			10	51765-13
Coarse x Coarse	7/16 in.	7/16-14 x 7/16-14	2-3/4	W 1807-44
	1/2 in.	1/2-13 x 1/2-13	2-1/4	W 1808-36
			2-1/2	W 1806-40
	5/8 in.	5/8-11 x 5/8-11	2-1/4	W 1810-36
	3/4 in.	3/4-10 x 3/4-10	2-1/2	W 1810-40

Stud Listing by Part No.

Part Number	Length (Inches)	Size	Thread	Thread Type
5820	1-5/8	7/16 in.	7/16-14 x 7/16-20	Coarse x Fine
50746	4-1/4	1/2 in.	1/2-13 x 1/2-20	
50746-1	4-1/2			
50746-10	9-1/2			
50746-2	4-3/4			
50746-3	5-1/4			
50746-4	7-3/4			
50746-5	7-1/2			
50746-6	6-1/2			
50746-7	8-3/4			
50746-8	5-3/4			
50746-9	2-1/2			
50985	2			
51268	3-1/4			
51312	2-3/4	7/16 in.	7/16-14 x 7/16-20	
51312-1	3-3/4			
51312-2	2-1/2			
51387	3-3/8	7/16 in.	7/16-20 x 7/16-20	Fine x Fine
51387-1	2-1/8			
51387-2	5-1/4			
51388	4-3/8			
51765-1	4-3/4	1/2 in.	1/2-20 x 1/2-20	
51765-2	5			
51765-3	5-3/8			
51765-4	2-1/4			
51765-5	3-1/4			
51765-6	4-1/4			
51765-7	8-3/8			
51765-8	8			
51765-9	7			
51765-10	3-1/2			
51765-11	9-1/2			
51765-12	6			
51765-13	10			
51765-14	6-1/4			
51765-15	2-3/4			
52010	2	7/16 in.	7/16-14 x 7/16-20	Coarse x Fine
W 1807-44	2-3/4	7/16 in.	7/16-20 x 7/16-20	Coarse x Coarse
W 1808-36	2-1/4	1/2 in.	1/2-13 x 1/2-13	
W 1808-40	2-1/2			
W 1810-36	2-1/4	5/8 in.	5/8-11 x 5/8-11	
W 1812-40	2-1/2	3/4 in.	3/4-10 x 3/4-10	