

APPLICATION FOR RENEWAL OF APPROVAL FOR VALVES AND FITTINGS

1. AAR APPROVAL No. PRD-181006
 2. Date of Application 3/23/18
 3. Previous AAR Approval PRD-081006

4. Applicant: American Railcar Industries
 5. Address: 100 Clark Street, St. Charles, MO 63301
 6. Drawing No. 4-V-2072 thru 4-V-2077 7. Latest rev. E1,D1,C,G,F,C1 8. Date of latest rev. 9-25-08, 2-18-09, 12-10-99, 10-12-15, 6-02-10, 12-21-11
 9. Description of device: Pressure relief valve 10. Device ID No. HP1108 A thru F

CERTIFICATION: The subject device is **unchanged** from the previous approval, and conforms with the latest revision of AAR Specifications for Tank Cars, Appendix A. The device conforms with drawing listed above.

11. By: _____ Title: _____

If device is **changed** since latest approval, fill in the following blanks

12. Reference Previous Drawing	New Drawing	If on Service Trial
No. <u>4-V-2072</u> Rev. <u>E1</u> Date <u>9-25-08</u>	No. _____ Rev. _____ Date _____	S.T. No. _____
No. <u>4-V-2073</u> Rev. <u>D1</u> Date <u>2-18-09</u>	No. _____ Rev. _____ Date _____	S.T. No. _____
No. <u>4-V-2074</u> Rev. <u>C</u> Date <u>12-10-99</u>	No. _____ Rev. _____ Date _____	S.T. No. _____
No. <u>4-V-2075</u> Rev. <u>F</u> Date <u>9-8-08</u>	No. <u>4-V-2075</u> Rev. <u>G</u> Date <u>10-12-15</u>	S.T. No. _____
No. <u>4-V-2076</u> Rev. <u>D</u> Date <u>12-10-99</u>	No. <u>4-V-2076</u> Rev. <u>F</u> Date <u>6-02-10</u>	S.T. No. _____
No. <u>4-V-2077</u> Rev. <u>C</u> Date <u>12-10-99</u>	No. <u>4-V-2077</u> Rev. <u>C1</u> Date <u>12-21-11</u>	S.T. No. _____

13. New drawing supersedes previous one or does not obsolete it

CHANGES

REASONS FOR CHANGES

14. a. Administrative only, or gasket material a. Administrative only, or gasket material
 b. _____ b. _____
 c. _____ c. _____

(if needed use supplemental sheet)

15. Normal operational effect of changes of device: None


16. Drawing submitted with this application: 4-V-2072 thru 4-V-2077

CERTIFICATION: The above data is correct and conforms with AAR Specifications for Tank Cars, Appendix A. The device conforms with drawing listed above.

17. By:  Title: Manager Product Engineering

APPROVAL AAR Tank Car Committee:

Date Approved: 5/23/2018


 (Signature) on behalf of Committee



AMERICAN RAILCAR INDUSTRIES

100 Clark Street, St. Charles, Missouri 63301-2075, (636) 940-6000
www.americanrailcar.com

March 23, 2018

Mr. Kenneth Dorsey
Executive Director of Tank Car Safety
Association of American Railroads
425 3rd Street, SW, Suite 1000
Washington, DC 20024

Subject: Valve Re-Approval, AAR Application No. PRD181006

Dear Mr. Dorsey,

Attached is a form 4-7 and the assembly drawings for ARI's pressure relieve devices. ARI is requesting reapproval of these valves.

Enclosed is a check in the amount of \$415.00 to cover the cost of the application.

Sincerely,

Roger Dalske
Director Tank Car Engineering

PRD181006

Enclosures

4-7 form PRD181006

Drawings No. 4-V-2072 Rev.E1, 4-V-2073 Rev.D1, 4-V-2074 Rev. C, 4-V-2075 Rev. G,
4-V-2076 Rev. F, 4-V-2077 Rev. C1

LINE	PART NO.	ACT TYPE	PSI	TEMP	FLW	MATERIAL	O-RINGS	REPORTING	PLATE
00	4V207200	HP1108A	225	48.7	2721 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
01	4V207201	SP1108A	225	48.7	2721 SCFM	ALL SST	NITRILE 70	TONGUE & GROOVE	STANDARD
02	4V207202	HP1108A	225	48.7	2721 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	8 INCH
03	4V207203	SP1108A	225	48.7	2721 SCFM	ALL SST	NITRILE 70	TONGUE & GROOVE	8 INCH
04	4V207204	HP1108A	225	48.7	2721 SCFM	PLATED SPRING	NITRILE 70	TONGUE & GROOVE	STANDARD
05	4V207205	HP1108A	225	48.7	2721 SCFM	CS BODY	VITON A	TONGUE & GROOVE	STANDARD

- NOTES:
- 1 ASSMABLE PER ARI ENGINEERING STANDARD ES-1070.
 - 2 TORQUE TO 30 ±5 FT. LB.
 - 3 LIGHT LUBE BETWEEN MATING THREADS.
 - 4 APPLY ARI MONOGRAM TO SEAL.
 - 5 SEE ARI ENGINEERING STANDARD ES-2000
 - 6 VALVES CAN BE SUPPLIED EITHER TONGUE AND GROOVE OR FLAT FACE

REV	DATE	BY	CHK	DESCRIPTION	QTY	UNIT	STATUS	REVISION
1	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
2	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
3	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
4	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
5	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
6	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
7	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
8	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
9	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
10	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
11	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
12	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
13	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
14	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
15	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
16	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
17	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
18	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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20	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
21	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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23	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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25	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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29	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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31	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
32	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	

NOTICE

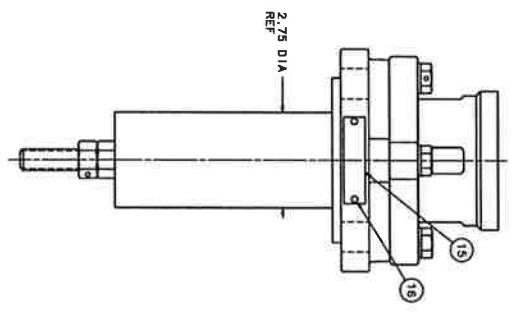
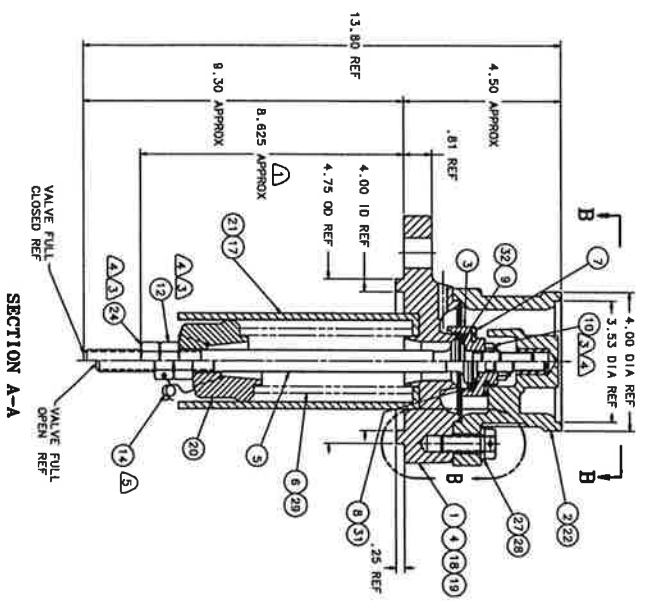
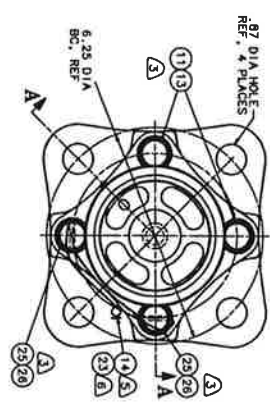
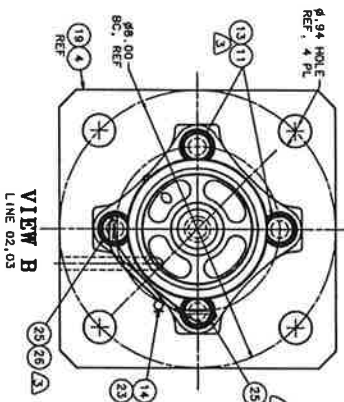
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9	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
10	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
11	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
12	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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14	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
15	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
16	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
17	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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23	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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26	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
27	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
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29	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
30	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
31	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	
32	08/11/2011	SSS		REVISED TO 1/2" NPT	1	EA	REVISED	

UNLESS OTHERWISE NOTED ALL DIMS ARE IN INCHES

VALVE ARRGT-HP1108A SAFETY

4-V-2072



LINE	PART NO.	ACF TYPE	PSI	FLOW	MATERIAL	ORIENTING
00	4V207300	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
01	4V207301	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
02	4V207302	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & 8 INCH
03	4V207303	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & 8 INCH
04	4V207304	SP#1108B	247.5 3.7.4	2890 SCFM	ALL SST	TONQUE & STANDARD
05	4V207305	HP1108B	247.5 3.7.4	2270 SCFM	CS 900V	TONQUE & STANDARD

LINE	PART NO.	ACF TYPE	PSI	FLOW	MATERIAL	ORIENTING
06	4V207306	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
07	4V207307	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
08	4V207308	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & 8 INCH
09	4V207309	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & 8 INCH
10	4V207310	SP#1108B	247.5 3.7.4	2890 SCFM	ALL SST	TONQUE & STANDARD
11	4V207311	HP1108B	247.5 3.7.4	2270 SCFM	CS 900V	TONQUE & STANDARD
12	4V207312	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
13	4V207313	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
14	4V207314	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
15	4V207315	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
16	4V207316	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
17	4V207317	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
18	4V207318	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
19	4V207319	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
20	4V207320	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
21	4V207321	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
22	4V207322	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
23	4V207323	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
24	4V207324	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
25	4V207325	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
26	4V207326	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
27	4V207327	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
28	4V207328	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD
29	4V207329	SP#1108B	247.5 3.7.4	2270 SCFM	SS1 TRIM	TONQUE & STANDARD
30	4V207330	HP1108B	247.5 3.7.4	2890 SCFM	CS 900V	TONQUE & STANDARD

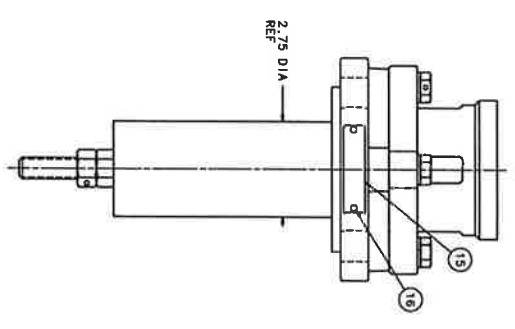
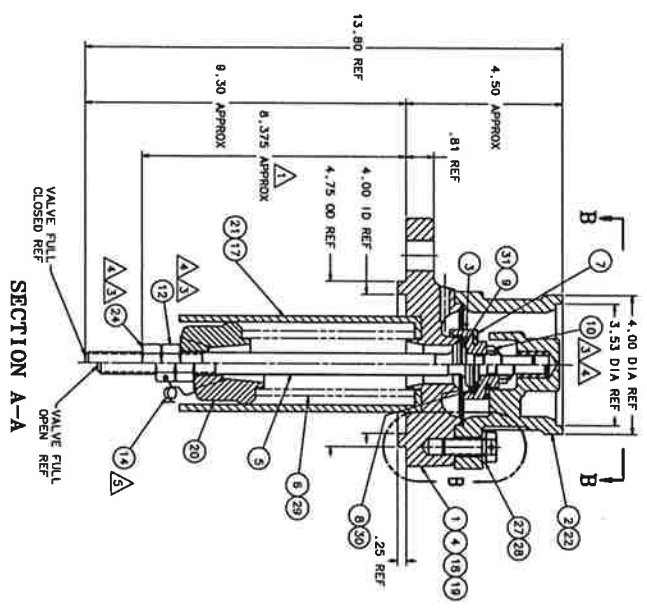
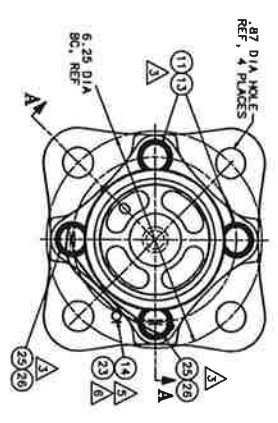
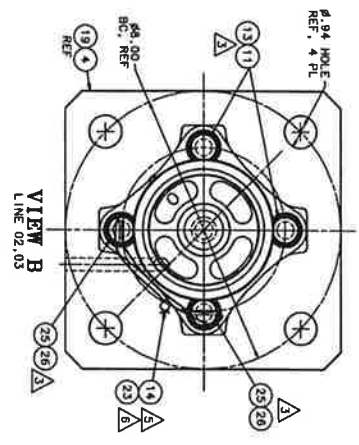
NOTES:

- 1 ASSEMBLE PER ACF ENGINEERING STANDARD ES-1070.
- 2 TORQUE TO 30-45 FT LB.
- 3 LIGHT LUBE BETWEEN MATING THREADS.
- 4 APPLY RAIN MONOGRAPH TO SEAL.
- 5 SEE ACF ENGINEERING STANDARD ES-2000
- 6 VALVES CAN BE SUPPLIED EITHER TONGUE AND GROOVE OR FLAT FACE

NOTICE:
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REV	DATE	BY	CHK	DESCRIPTION	REV	DATE	BY	CHK	DESCRIPTION
1	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	1	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
2	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	2	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
3	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	3	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
4	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	4	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
5	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	5	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
6	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	6	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
7	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	7	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
8	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	8	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
9	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	9	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
10	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	10	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
11	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	11	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
12	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	12	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
13	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	13	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
14	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	14	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
15	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	15	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
16	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	16	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
17	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	17	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
18	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	18	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
19	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	19	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
20	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	20	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
21	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	21	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
22	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	22	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
23	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	23	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
24	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	24	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
25	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	25	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
26	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	26	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
27	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	27	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
28	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	28	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
29	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	29	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014
30	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014	30	01-02-18-08	CEB		ISSUED LINE 05 - EFF 107-28-2014

UNLESS OTHERWISE NOTED ALL DIMS ARE IN INCHES
 American Roller
 VALVE ARRO-
 HP1108B SAFETY
 4-V-2073
 SCALE 3/4"=1'-0"



D1	REV	SCALE	3/4" = 1"	SHEET	2 OF 2
American Reilear Industrial					
4-V-2073					
E					

SECTION A-A

DWG NO. 4-V-2074
 RV SCALE 3/4 SHEET 2 OF 2

REF DWG: 4-K-8048

LINE	PART NO.	ACF TYPE	SEPT PRESSURE	FLOW CFM (AIR)	MATERIAL	O-RINGS	MOUNTING SURFACE	PLANGE
00	4V207400	HP1108C	255 ± 7.6 PSI	307.4 SCFM	CS BODY SST TRIM	NITRILE 70	TONGUE & GROOVE	STANDARD
01	4V207401	SHP1108C	255 ± 7.6 PSI	307.4 SCFM	ALL SST	NITRILE 70	TONGUE & GROOVE	STANDARD
02	4V207402	HP1108C	255 ± 7.6 PSI	307.4 SCFM	CS BODY SST TRIM	NITRILE 70	TONGUE & GROOVE	8 INCH
03	4V207403	SHP1108C	255 ± 7.6 PSI	307.4 SCFM	ALL SST	NITRILE 70	TONGUE & GROOVE	8 INCH

NOTES:

- 1 ASSEMBLE PER ACF ENGINEERING STANDARD ES-1070.
- 2
- 3 TORQUE TO 30 ± 5 FT. LB.
- 4 LIGHT LUBE BETWEEN MATING THREADS.
- 5 APPLY ARI MONOGRAM TO SEAL.
- 6 SEE ACF ENGINEERING STANDARD ES-2000
- 7 VALVES CAN BE SUPPLIED EITHER TONGUE AND GROOVE OR FLAT FACE

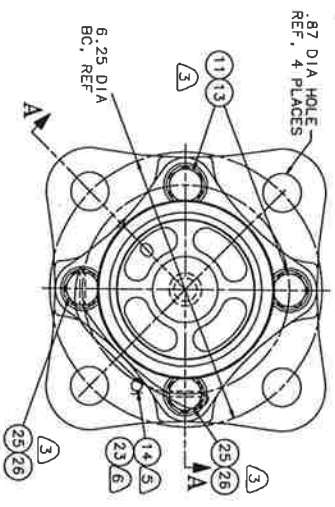
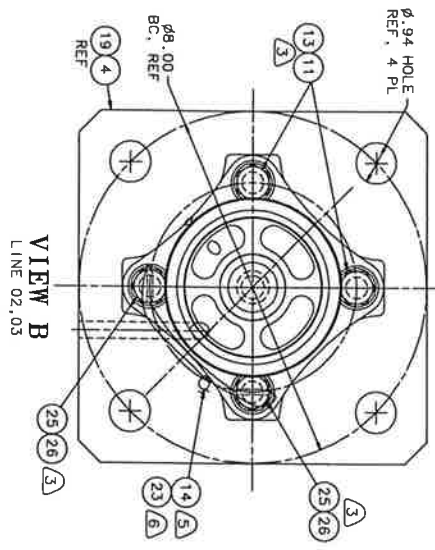
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REV	DATE	BY	CHK	DESCRIPTION
1	12-10-99	MUL		ITEM 14 WAS 50092567, CHG'D PER CR 2533
2	12-29-98	NEW		JLP ADDED ITEMS 4, 19, LINES 02, 03
3	4-23-94	RJM		CANCEL ITEM 6 LINE 1 ADD ITEM 29
4				ORIGINAL ISSUE

LINE NO. & QTY	PART NO.	QTY	DESCRIPTION & UNIT	NOTE
0.3 102	4K805200	1	4-K-8052-00 BODY - CARBON STEEL ASSY	1
1	2V127900	1	2-V-1279-00 COVER ASSY-CARBON STEEL	2
1	3V120900	1	3-V-1209-00 RETAINER-STLS STL COR RES	3
1	50952400	5	5-U-9524-00 BODY-CARBON STEEL ASSY	4
1	3K805500	3	3-K-8055-00 STEM-STAINLESS STEEL	5
1	2V092400	2	2-V-0924-00 SPRING-CARBON STEEL	6
1	60092400	2	6-U-0924-00 O-RING 2-1/2" NITRILE 70	7
1	60034898	1	O-RING 2-1/4" NITRILE 70	8
1	60034890	1	O-RING 2-21/4" NITRILE 70	9
1	90002617	1	90002617 LOCKNUT-5/8 ESNA NO	10
1	90018773	1	90018773 HEX HD CAP SCREW 1/2-13 UNF-2A X 1.25 LG ASTM A307, GRADE A ZINC OR CD PL	11
1	90002618	1	90002618 HEX NUT 5/8-11 UNF-2B ASTM A194 GRADE 9M, SST	12
2	90018772	2	90018772 HEX HD CAP SCR 1/2-13 UNF-2A X 1.25 LG ASTM A193, GR B8-SST	13
2	90018208	2	90018208 LEAD SEAL TYPE U, METAL L.C., SST	14
2	3K805700	3	3-K-8057-00 LABEL SAFETY VALVE DRIVE SOLEM-NO. 2 X 1/4 LONG	15
1	3K805201	1	3-K-8052-01 SPRING GUIDE-CARBON STEEL	16
1	50952401	1	5-U-9524-01 BODY ASSY-STAINLESS STEEL	17
1	4U-9524-01	1	4-U-9524-01 BODY ASSY-STAINLESS STEEL	18
1	3K805701	1	3-K-8057-01 FOLGWERK-STAINLESS STEEL	19
1	3K805701	1	3-K-8057-01 SPRING GUIDE-STAINLESS STEEL	20
1	3V127801	1	3-V-1278-01 COVER-STAINLESS STEEL	21
1	91000001	1	91000001 TAG METAL	22
1	90002623	1	90002623 SEAL-NUT	23
1	90014889	1	90014889 SEAL-BOLT	24
2	90034890	2	90034890 O-RING 2-1/4" NITRILE 70	25
2	90004452	2	90004452 WASHER-LOCK 1/2 REGULAR SPRING, B-633 S02, ZINC PLATE	26
4	90004303	4	90004303 HELICAL SPRING TYPE 316 SST	27
1	2V229400	1	2-V-2294-00 HELICAL SPRING TYPE 316 SST	28
1		1		29

ACF INDUSTRIES
 VALVE ARRGT-
 HP1108C SAFETY

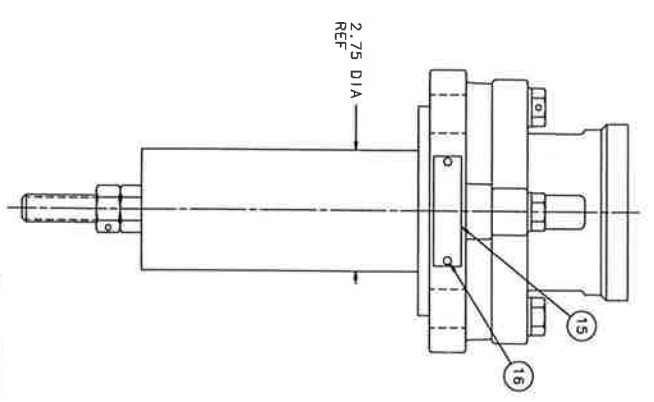
4-V-2074
 SHEET 1 OF 2



SECTION A-A

VALVE FULL OPEN REF

VALVE FULL CLOSED REF



ACF INDUSTRIES
INCORPORATED

DWG. NO. 4-V-2074

RV. SCALE 3/4 SHEET 2 OF 2

SIZE D

REV	DATE	BY	CHKD	DESCRIPTION
1	03/02/01	001		0.31 021 01100
2	04/05/00	4-K-8052-00		BODY-CARBON STEEL ASSY
3	02/29/00	2-V-1279-00		COVER ASSY-CARBON STEEL
4	03/01/00	3-V-1209-00		RETAINER-STLS STL COR RES
5	05/24/00	5-U-9524-00		BODY-CARBON STEEL ASSY
6	05/01/00	3-K-8055-00		STEM-STAINLESS STEEL
7	05/01/00	2-V-0525-00		SPRING-CARBON STEEL

REF DWG: 4-K-8048

LINE	PART NO.	ACF TYPE	PRESTRESS	FLAT (L/B)	MATERIAL	O-RINGS	WELDING	PLANCE
00	4V207500	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
01	4V207501	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
02	4V207502	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
03	4V207503	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
04	4V207504	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
05	4V207505	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
06	4V207506	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
07	4V207507	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
08	4V207508	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD
09	4V207509	HP1108D	280 PSI	33/74 SCFM	CS BODY	NITRILE 70	TONGUE & GROOVE	STANDARD

- NOTES:
- 1. ASSEMBLE PER API ENGINEERING STANDARD ES-1070.
 - 2. TORQUE TO 30-45 FT. LB.
 - 3. LIGHT LUBE BETWEEN MATING THREADS.
 - 4. APPLY API MONORAMA TO SEAL.
 - 5. SEE API ENGINEERING STANDARD ES-2000.
 - 6. VALVES CAN BE SUPPLIED EITHER TONGUE AND GROOVE OR FLAT FACE.

LINE NO.	REV.	DATE	BY	CHK	DESCRIPTION
1	1	08-10-13
2	2	08-10-13
3	3	08-10-13
4	4	08-10-13
5	5	08-10-13
6	6	08-10-13
7	7	08-10-13
8	8	08-10-13
9	9	08-10-13
10	10	08-10-13
11	11	08-10-13
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13	13	08-10-13
14	14	08-10-13
15	15	08-10-13
16	16	08-10-13
17	17	08-10-13
18	18	08-10-13
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26	26	08-10-13
27	27	08-10-13
28	28	08-10-13
29	29	08-10-13
30	30	08-10-13
31	31	08-10-13
32	32	08-10-13
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35	35	08-10-13
36	36	08-10-13
37	37	08-10-13

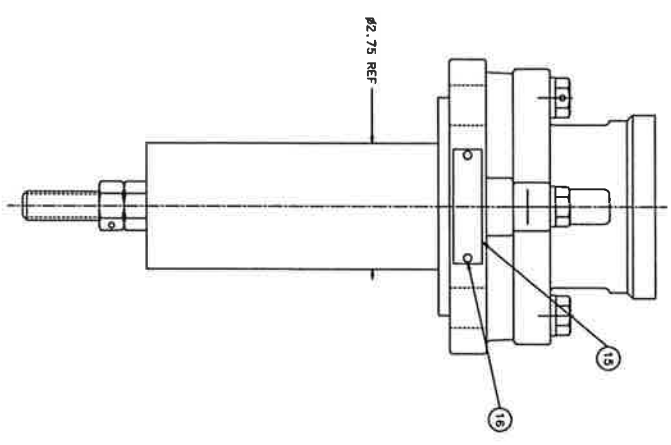
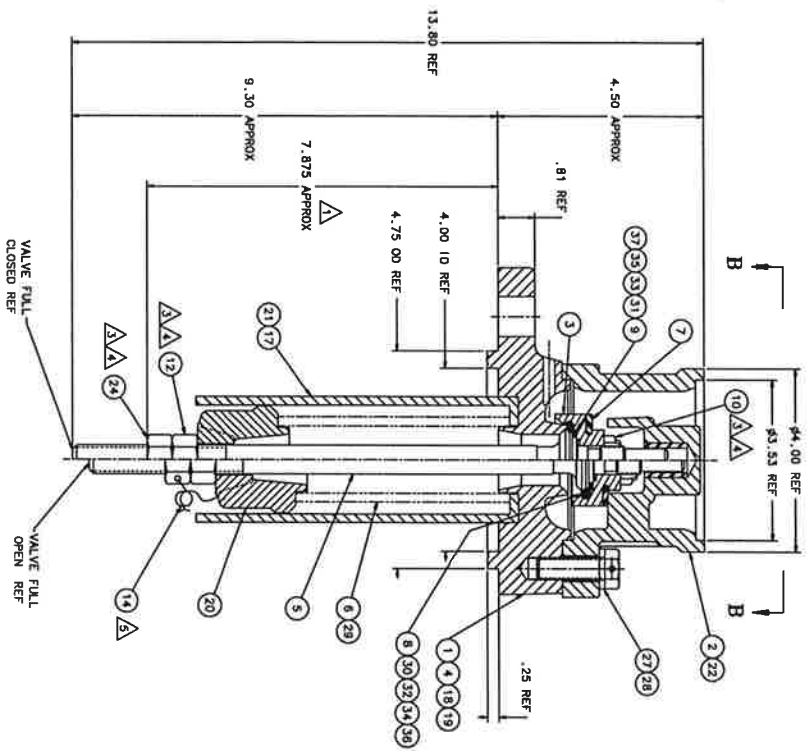
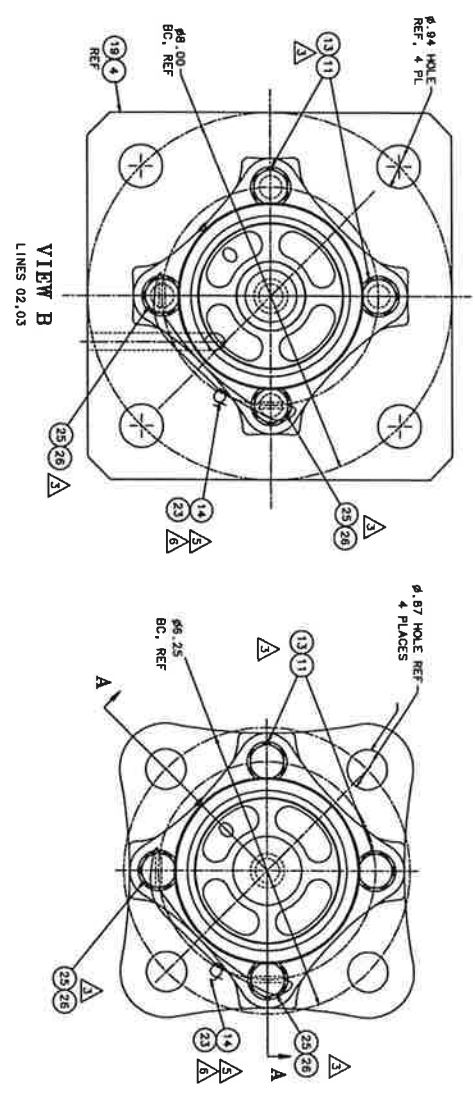
NOTICE:

THIS DRAWING IS THE PROPERTY OF API. THE DRAWING IS TO BE USED FOR THE DESIGNING OF THE EQUIPMENT AND THE PROVISION OF API. THE DRAWING IS TO BE USED FOR THE DESIGNING OF THE EQUIPMENT AND THE PROVISION OF API. THE DRAWING IS TO BE USED FOR THE DESIGNING OF THE EQUIPMENT AND THE PROVISION OF API.

DATE: 08-10-13
 BY: [Signature]
 CHK: [Signature]

UNLESS OTHERWISE NOTED, ALL DIMS. ARE IN INCHES.

LOT NO. [Blank]
 VALVE ARRG-T-HP1108D SAFETY
 4-V-2075



LINE ITEM NO.	QTY	UNIT	DESCRIPTION	QTY	UNIT	DESCRIPTION	QTY	UNIT	DESCRIPTION
00	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
01	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
02	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
03	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
04	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
05	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
06	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
07	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB
08	1	EA	300 LB	1	EA	300 LB	1	EA	300 LB

NOTES:

- △ ASSEMBLE PER ARI ENGINEERING STANDARD ES-1070.
- △ TORQUE TO 30.45 FT LB.
- △ LIGHT LUBE BETWEEN MATING THREADS.
- △ APPLY ARI MONOGRAM TO SEAL.
- △ SEE ARI ENGINEERING STANDARD ES-2000
- △ VALVES CAN BE SUPPLIED EITHER TONGUE AND GROOVE OR FLAT FACE

LINE NO.	QTY	UNIT	DESCRIPTION	QTY	UNIT	DESCRIPTION
1	1	EA	300 LB	1	EA	300 LB
2	2	EA	300 LB	2	EA	300 LB
3	1	EA	300 LB	1	EA	300 LB
4	1	EA	300 LB	1	EA	300 LB
5	1	EA	300 LB	1	EA	300 LB
6	1	EA	300 LB	1	EA	300 LB
7	1	EA	300 LB	1	EA	300 LB
8	1	EA	300 LB	1	EA	300 LB
9	1	EA	300 LB	1	EA	300 LB
10	1	EA	300 LB	1	EA	300 LB
11	1	EA	300 LB	1	EA	300 LB
12	1	EA	300 LB	1	EA	300 LB
13	1	EA	300 LB	1	EA	300 LB
14	1	EA	300 LB	1	EA	300 LB
15	1	EA	300 LB	1	EA	300 LB
16	1	EA	300 LB	1	EA	300 LB
17	1	EA	300 LB	1	EA	300 LB
18	1	EA	300 LB	1	EA	300 LB
19	1	EA	300 LB	1	EA	300 LB
20	1	EA	300 LB	1	EA	300 LB
21	1	EA	300 LB	1	EA	300 LB
22	1	EA	300 LB	1	EA	300 LB

NOTICE: CONSULT THE DRAWING FOR THE LOCATION OF THE VALVE AND THE LOCATION OF THE VALVE IN THE SYSTEM. THE VALVE SHALL BE INSTALLED IN THE SYSTEM AS SHOWN ON THE DRAWING.

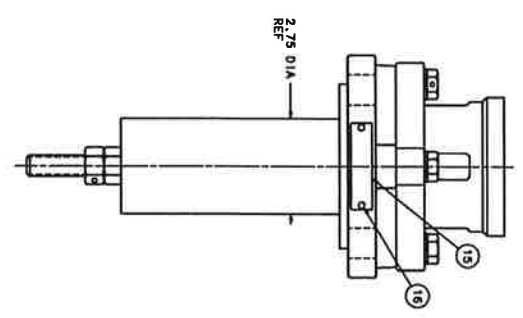
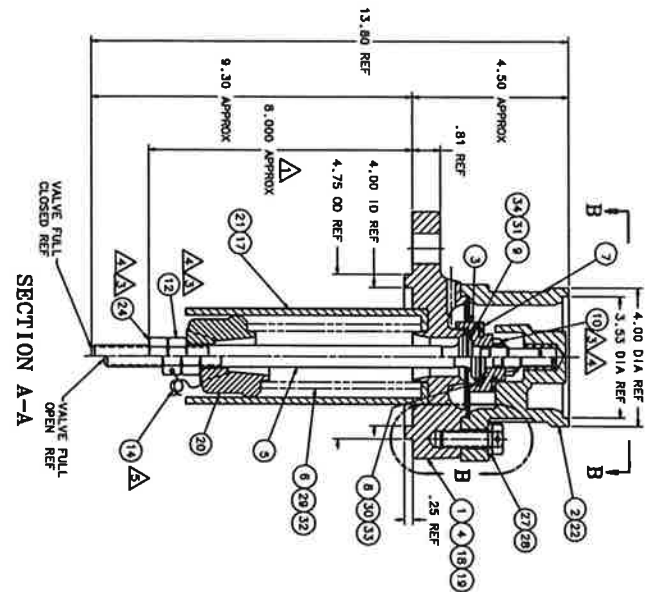
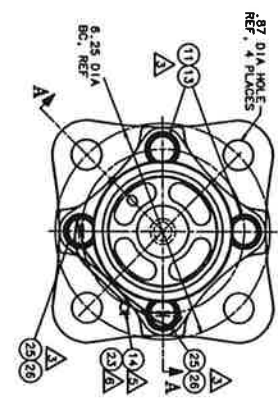
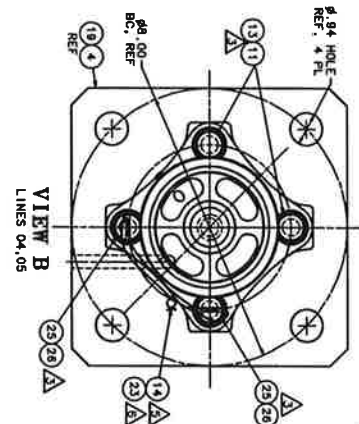
REV	DATE	BY	DESCRIPTION
1	08-22-10
2	08-22-10
3	08-22-10
4	08-22-10
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7	08-22-10
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13	08-22-10
14	08-22-10
15	08-22-10
16	08-22-10
17	08-22-10
18	08-22-10
19	08-22-10
20	08-22-10
21	08-22-10
22	08-22-10

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN INCHES.

VALVE ARRGT- HP110BE SAFETY

HP110BE SAFETY

4-V-2076



SECTION A-A

DWG NO. 4-V-2077
 REV SCALE 3/4"=1" SHEET 2 OF 2
 SIZE A

17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---

LINE	PART NO.	ACF TYPE	SEAL PRESSURE	FLOW GPM (AIR)	MATERIAL	O-RINGS	MOUNTING STRAP & GROOVE	FLANGE
00	4V207700	HP1108F	330 ±9.9 PSI	4077 SCFM	CS BODY SST TRIM	NITRILE 70	TONQUE & GROOVE	STANDARD
01	4V207701	SHP1108F	330 ±9.9 PSI	4077 SCFM	ALL SST	NITRILE 70	TONQUE & GROOVE	STANDARD
02	4V207702	HP1108F	330 ±9.9 PSI	4077 SCFM	CS BODY SST TRIM	NITRILE 70	TONQUE & GROOVE	8 INCH
03	4V207703	SHP1108F	330 ±9.9 PSI	4077 SCFM	ALL SST	NITRILE 70	TONQUE & GROOVE	8 INCH
04	4V207704	HP1108F	330 ±9.9 PSI	4077 SCFM	CS BODY SST TRIM	VITON A	TONQUE & GROOVE	STANDARD

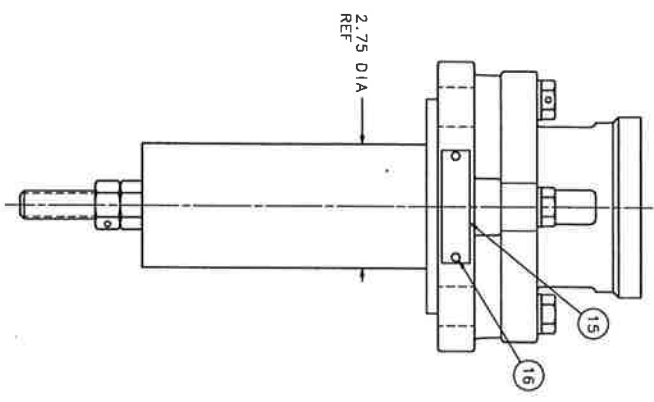
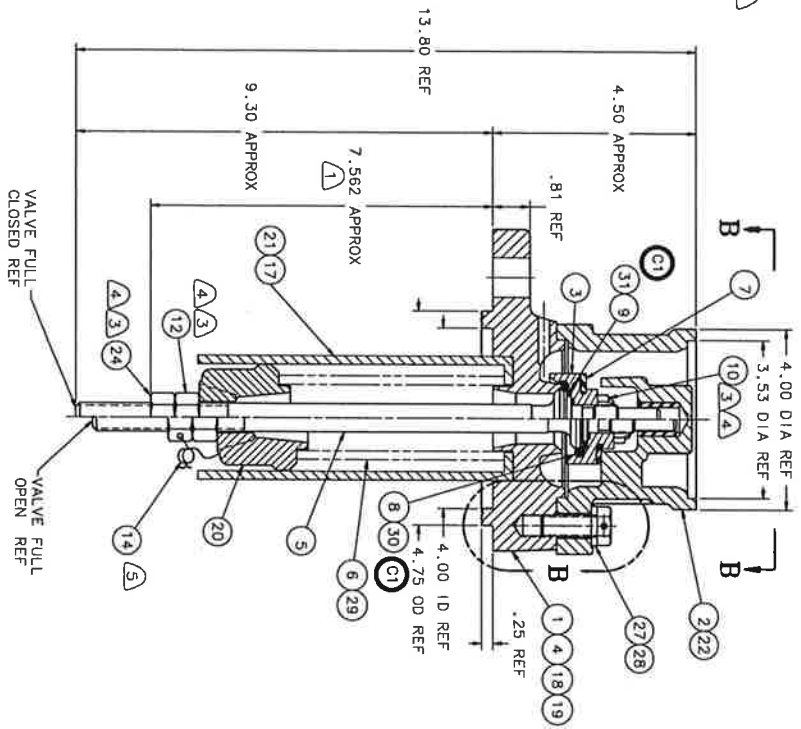
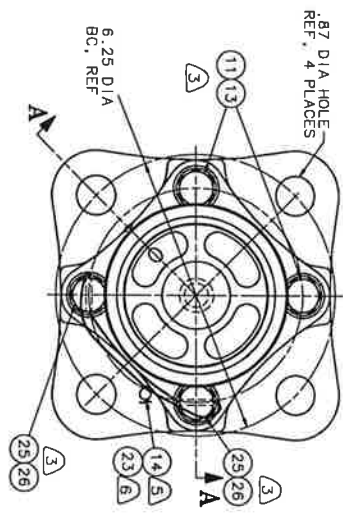
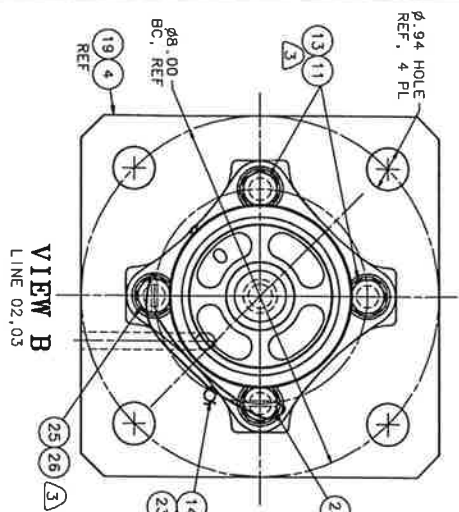
LINE NO. & REV	DATE	BY	APP'D	DESCRIPTION	QTY	UNIT	WEIGHT	DESCRIPTION	QTY	UNIT	WEIGHT
04 03102 01 00	4/8/05	JLP		4-K-8052-00 BODY-CARBON STEEL ASSY	1	ASSEMBLY	1.128				
1	2/12/00	JLP		2-V-1276-00 COVER ASSY-CARBON STEEL	2	ASSEMBLY	1.128				
1	1/1/01	JLP		1-V-1209-00 RETAINER-SST COR RES	3	ASSEMBLY	1.128				
1	5/19/00	JLP		5-U-9524-00 BODY-CARBON STEEL ASSY	4	ASSEMBLY	1.128				
1	1/1/01	JLP		3-K-8055-00 STEEL-STAINLESS STEEL	5	ASSEMBLY	1.128				
1	2/05/00	JLP		2-V-0525-00 SPRING-CARBON STEEL	6	ASSEMBLY	1.128				
1	1/1/01	JLP		1-50092548 2-K-8058-00 GUSSET	7	ASSEMBLY	1.128				
1	1/1/01	JLP		1-500938899 O-RING 2-3/4" NITRILE 70	8	ASSEMBLY	1.128				
1	1/1/01	JLP		1-90038700 O-RING 2-21/4" NITRILE 70	10	ASSEMBLY	1.128				
1	1/1/01	JLP		1-90002617 LOCKNUT-5/8 ESN A NO. 79NTE-108, STAINLESS STEEL	10	ASSEMBLY	1.128				
2	2	JLP		2 90018773 HEX HD CAP SCREW 1/2-13 UNC-2A X 1.25 LONG-ASTM A307, GRADE A ZINC OR CD PL	11	ASSEMBLY	1.128				
1	1/1/01	JLP		1 90002618 HEX NUT 5/8-11 UNC-2B ASTM A194 GRADE B/A SST	12	ASSEMBLY	1.128				
1	1/1/01	JLP		1 90002618 HEX HD CAP SCW 1/2-13 UNC-2A X 1.25 LONG-ASTM A307, OR B6-SST	13	ASSEMBLY	1.128				
2	2	JLP		2 90002617 LEAD SEALRY VALVE DRIVE SCREW-ND 2 X 1/4 LONG TYPE "U" METALLIC SST	14	ASSEMBLY	1.128				
2	2	JLP		2 91000217 1-B-5524-00 SPRING GUIDE-CARBON STEEL	15	ASSEMBLY	1.128				
1	1/1/01	JLP		1 50098533 4-K-8052-01 BODY ASSY-STAINLESS STEEL	16	ASSEMBLY	1.128				
1	1/1/01	JLP		1 3K805700 3-K-8057-00 SPRING GUIDE-CARBON STEEL	17	ASSEMBLY	1.128				
1	1/1/01	JLP		1 4K805201 4-K-8052-01 BODY ASSY-STAINLESS STEEL	18	ASSEMBLY	1.128				
1	1/1/01	JLP		1 5U952401 5-U-9524-01 FOLLOWER-STAINLESS STEEL	19	ASSEMBLY	1.128				
1	1/1/01	JLP		1 4U467501 4-U-4675-01 SPRING GUIDE-STAINLESS STEEL	20	ASSEMBLY	1.128				
1	1/1/01	JLP		1 3K805701 3-K-8057-01 COVER-STAINLESS STEEL	21	ASSEMBLY	1.128				
1	1/1/01	JLP		1 3V127801 3-V-1278-01 YAG METAL	22	ASSEMBLY	1.128				
1	1/1/01	JLP		1 91000001 SEAL-NUT	23	ASSEMBLY	1.128				
1	1/1/01	JLP		1 90002623 2-U-1338-00 SEAL-BOLT	24	ASSEMBLY	1.128				
2	2	JLP		2 90034889 2-U-1339-01 WASHER-LOOK 1/2 REGULAR SPRING-108, STAINLESS STEEL	25	ASSEMBLY	1.128				
2	2	JLP		2 90034890 2-U-1339-01 SEAL-BOLT SST	26	ASSEMBLY	1.128				
4	4	JLP		4 90004452 WASHER-LOOK 1/2 REGULAR SPRING-108, STAINLESS STEEL	27	ASSEMBLY	1.128				
4	4	JLP		4 90004303 WASHER-LOOK 1/2 REGULAR SPRING-108, STAINLESS STEEL	28	ASSEMBLY	1.128				
1	1/1/01	JLP		1 2V229400 2-V-2294-00 O-RING 2-21/4" VITON A	29	ASSEMBLY	1.128				
1	1/1/01	JLP		1 91004228 O-RING 2-21/4" VITON A	30	ASSEMBLY	1.128				
1	1/1/01	JLP		1 91004228 O-RING 2-21/4" VITON A	31	ASSEMBLY	1.128				

- NOTES:
- ASSEMBLE PER ACF ENGINEERING STANDARD ES-1070.
 -
 - TORQUE TO 30 ±5 FT LB.
 - LIGHT LUBE BETWEEN MATING THREADS.
 - APPLY ARI MONOGRAM TO SEAL.
 - SEE ACF ENGINEERING STANDARD ES-2000
 - VALVES CAN BE SUPPLIED EITHER TONGUE AND GROOVE OR FLAT FACE

NOTICE
 THIS DRAWING AND THE INFORMATION CONTAINED THEREIN ARE CONFIDENTIAL AND THE PROPERTY OF ARI. NO USE OR DISCLOSURE OF THE DRAWING SHALL BE MADE WITHOUT PRIOR WRITTEN CONSENT OF ARI.

REV	DATE	BY	APP'D	DESCRIPTION	REV	DATE	BY	APP'D	DESCRIPTION
1	11-21-11	JLP		TC-ARI-041	1	11-21-11	JLP		TC-ARI-041
2	10-09-11	JLP		ADDED LINE 4: UPDATED TITLE BLOCK: EFF	2	10-09-11	JLP		ADDED LINE 4: UPDATED TITLE BLOCK: EFF
3	10-09-11	JLP		ITEM 14 WAS 50092567, CHG'D PER CR 2533	3	10-09-11	JLP		ITEM 14 WAS 50092567, CHG'D PER CR 2533
4	10-09-11	JLP		ADDED ITEMS 4, 19, LINES 07, 03	4	10-09-11	JLP		ADDED ITEMS 4, 19, LINES 07, 03
5	10-09-11	JLP		CANCEL ITEM 6 LINE 1 ADD ITEM 29	5	10-09-11	JLP		CANCEL ITEM 6 LINE 1 ADD ITEM 29
6	10-09-11	JLP		ORIGINAL ISSUE	6	10-09-11	JLP		ORIGINAL ISSUE

VALVE ARRGT-
 HP1108F SAFETY
 4-V-2077
 SCALE 3/4"=1" SHEET 1 OF 2



American Roller Industries

DWG NO. 4-V-2077

SIZE D

RV SCALE 3/4 SHEET 2 OF 2

LINE NO.	REV	DATE	BY	CHKD	DESCRIPTION
04	03	102	DT	00	
1	-	-	-	-	4K8052001 4-K-8052-00 BODY-CARBON STEEL ASSY
1	-	-	-	-	2V1279001 2-V-1279-00 COVER ASSY-CARBON STEEL
1	-	-	-	-	3V1290001 3-V-1290-00 RETAINING-SSST GNR PFS