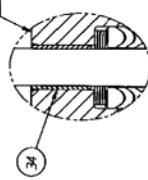


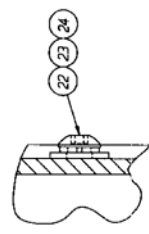


DETAIL "A"  
DISC SPRING STACKING ARRANGEMENT

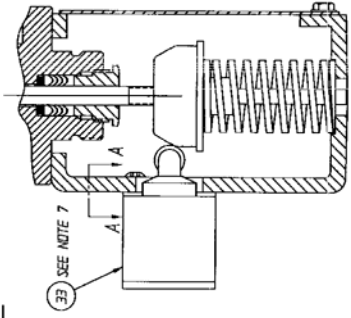
ITEM NO. 34 TO BE FLUSH WITH THIS SURFACE



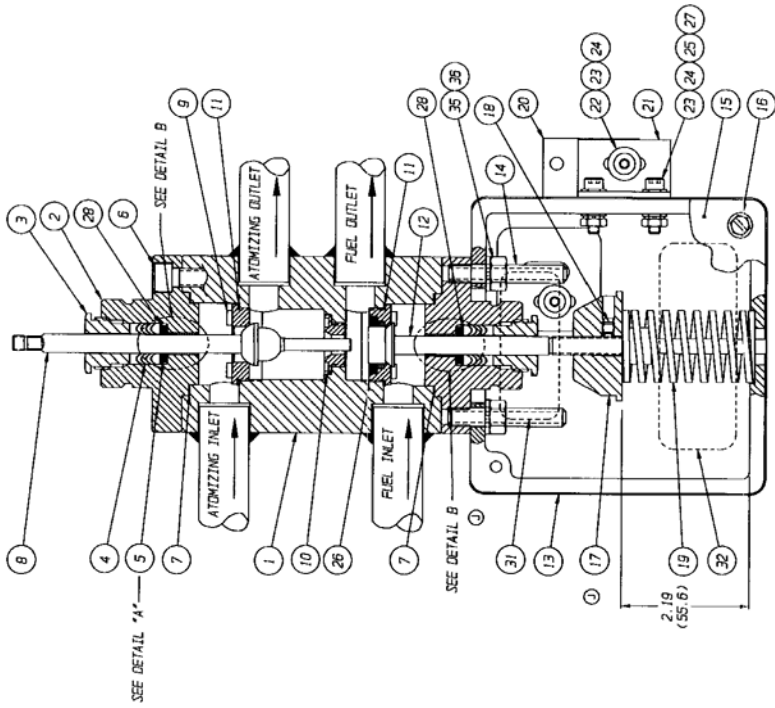
DETAIL B  
SCALE 2:1



VIEW "A-A"



SEE NOTE 7



ITEM	QTY	DESCRIPTION
1	1	VALVE BODY SUBASSEMBLY
2	1	END FLANGE
3	1	PACKING NUT
4	1	PACKING SET
5	1	DISC SPRING
6	1	0.31-18 X 1.00 LG. SOCKET HEAD CAP SCREW
7	1	BOOY GASKET
8	1	MAIN STEM
9	1	SEAL RING
10	1	SEAL RING WASHER
11	1	OIL STEM
12	1	LIMIT SWITCH BOX
13	1	LIMIT SWITCH BOX COVER
14	1	12-24 X 0.50 LG. HEX WASHER HEAD SCREW
15	1	10-32 X 0.25 LG. SOCKET HEAD SET SCREW
16	1	10-32 X 0.25 LG. SOCKET HEAD SET SCREW
17	1	10-32 X 0.25 LG. SOCKET HEAD SET SCREW
18	1	10-32 X 0.25 LG. SOCKET HEAD SET SCREW
19	1	OIL VALVE RETURN SPRING
20	1	OIL VALVE PROOF OF CLOSURE SWITCH NEMA 4
21	1	VALVE MOUNTING BRACKET (NEMA 4)
22	1	0.31-18 X 1.00 LG. HEX SOCKET HEAD CAP SCR
23	1	#10 FLAT WASHER
24	1	#10 LOCK WASHER
25	1	0-32 HEX NUT
26	1	VALVE SEAT RING ASSY
27	1	#10-32 X 0.75 LG. HEX SOCKET HD CAP SCREW
28	1	PACKING FOLLOWER WASHER
29	1	PACKING FOLLOWER WASHER
30	1	PACKING FOLLOWER WASHER
31	1	LABEL - CAUTION STEAM PACKING
32	1	LABEL - CAUTION SPRING
33	1	LABEL - PROOF OF CLOSURE
34	1	DISC SPRING
35	1	#10 LOCK WASHER
36	1	0.31-18 HEX NUT

- NOTES:
- 1) SEE ORDER SPECIFICATION FOR MAIN VALVE AND ACCESSORIES-OPTIONS SPECIFICATIONS.
  - 2) VALVE IS SHOWN IN CLOSED POSITION.
  - 3) VALVE SHOWN IS LEFT TO RIGHT FLOW. FOR RIGHT TO LEFT FLOW, INLETS/OUTLETS ARE REVERSED.
  - 4) SPECIAL TOOL IS REQUIRED TO REMOVE SEATS. CONSULT FACTORY.
  - 5) \* DENOTES RECOMMENDED SPARE PART.
  - 6) ASSEMBLE PER SPECIFICATION ES-4-0113.
  - 7) LABEL, ITEM 35, TO BE PLACED ON TOP OF SWITCH HEAD

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ECN# 5181

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.

ITEM NO. 03-006

REV. 1

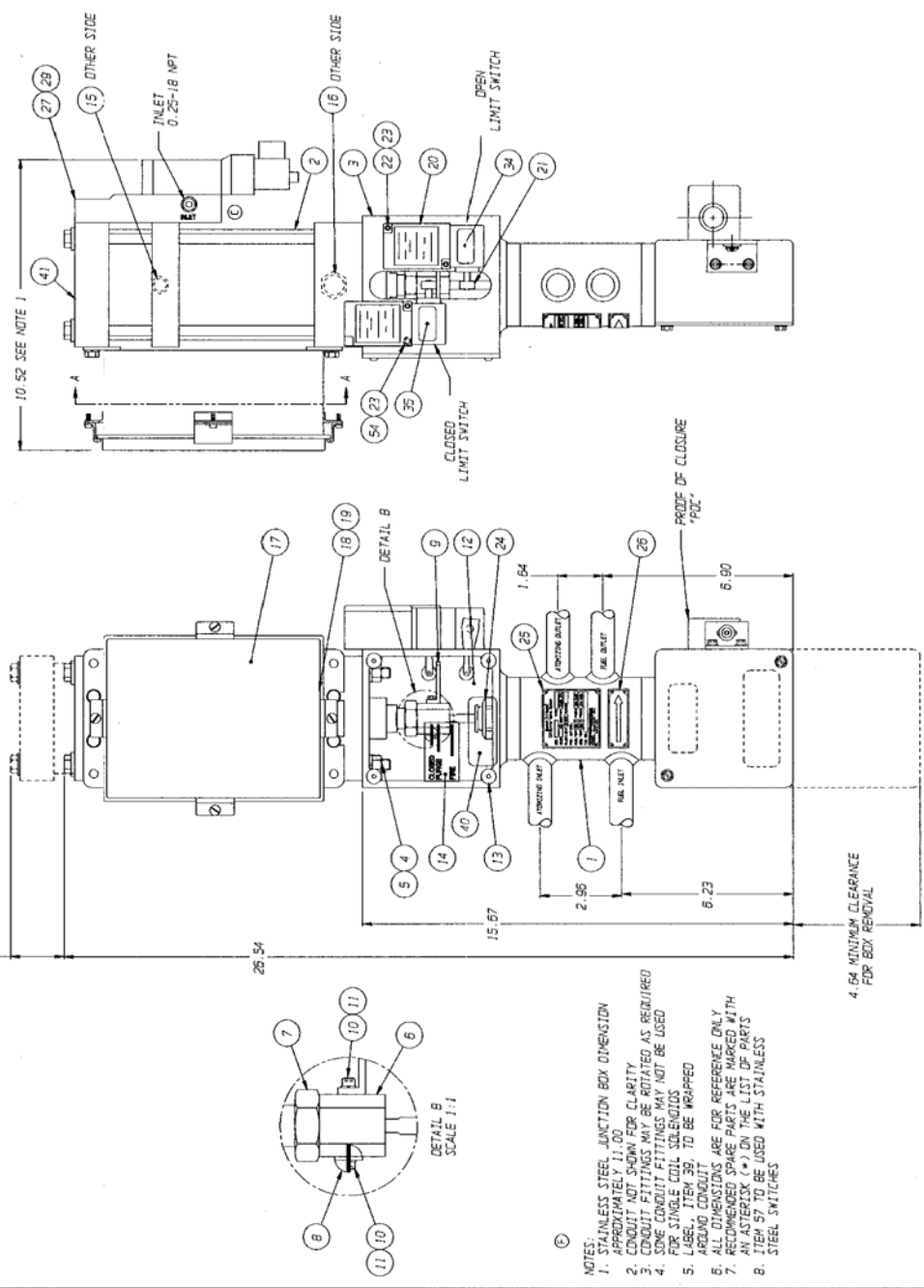
ITC INDUSTRIES, INC. LEBANON, PA. U.S.A.

ITT Industries

PATTERN NO. -

LIST OF PARTS

ITEM	QTY	DESCRIPTION
1	1	VALVE BODY
2	1	ACT PNEUM TANDER COLLIER
3	1	YOK
4	4	NUT HEX 38-24
5	2	LOCKWASHER SPRING 0.39
6	1	SOLENOID
7	1	SOLENOID
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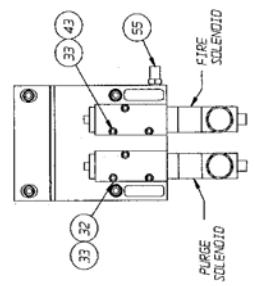
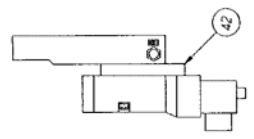
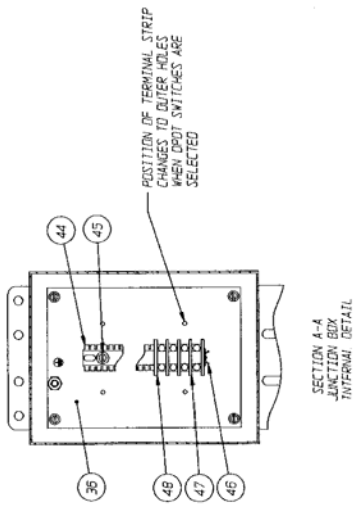
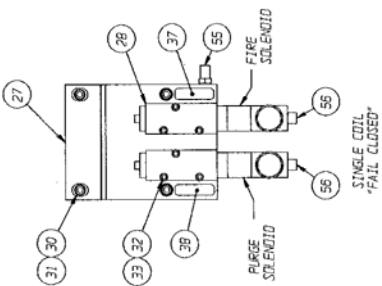
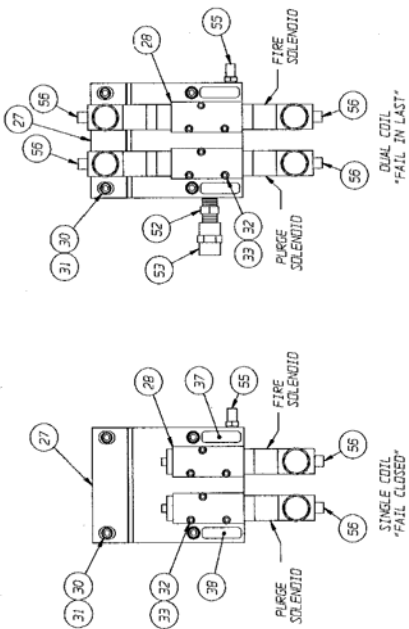
- NOTES:
1. STAINLESS STEEL FUNCTION BODY DIMENSION APPROXIMATELY 11.00
  2. CONDUIT NOT SHOWN FOR CLARITY
  3. CONDUIT FITTINGS MAY BE ROTATED AS REQUIRED
  4. SOME CONDUIT FITTINGS MAY NOT BE USED FOR SINGLE COIL SOLENOIDS
  5. LABEL, ITEM 39, TO BE WRAPPED AROUND CONDUIT
  6. ALL DIMENSIONS ARE FOR REFERENCE ONLY
  7. RECOMMENDED SPACINGS BETWEEN THE PARTS WITH CONDUIT ARE SHOWN ON THE DRAWING
  8. ITEM 57 TO BE USED WITH STAINLESS STEEL SWITCHES

ECN# 6135

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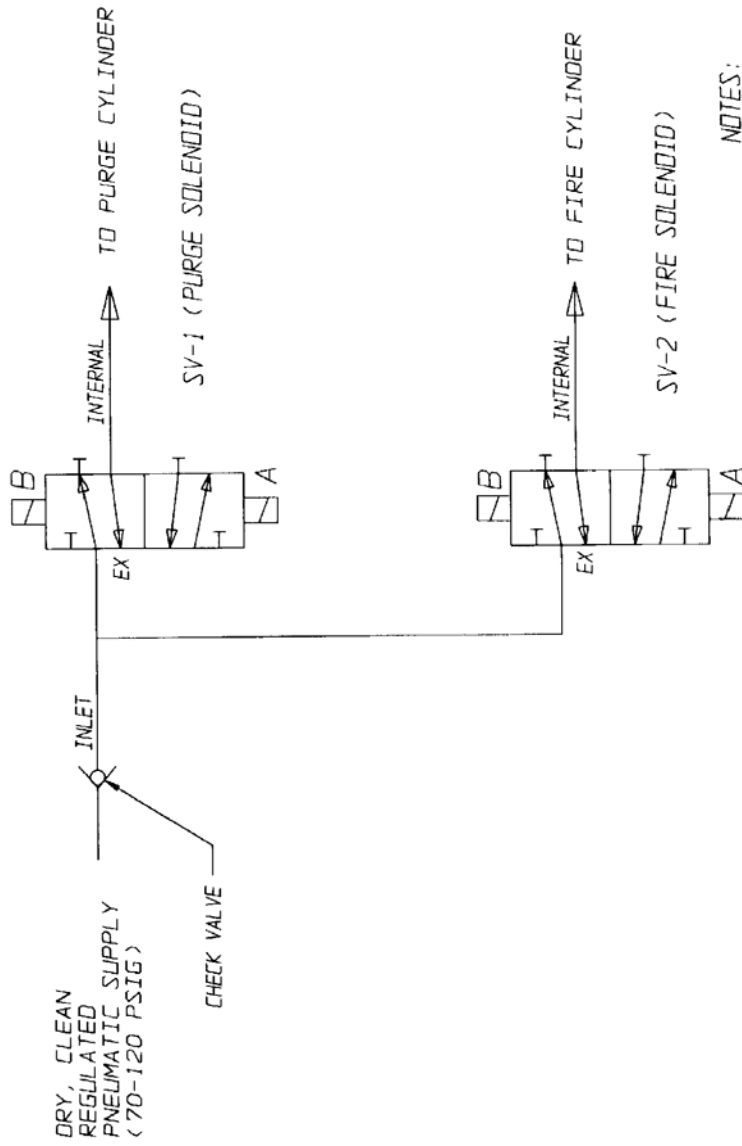


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1:178405964595588386382582106362117504	1:178405964595588386382582106362117504	INDU/ACTUATOR ASSEMBLY
1:356811929191176772765164212724235008	1:356811929191176772765164212724235008	INDU/ACTUATOR ASSEMBLY
1:713623		





**NOTES:**

1. SV-1 AND SV-2 ARE MANIFOLDED, DUAL COIL, MOMENTARY CONTACT SOLENOID VALVES.
2. VALVES SHOWN WITH COIL "B" LAST ENERGIZED.
3. PORT IDENTIFICATION REFERENCES MANIFOLD BLOCK

ECN# 3158

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TOLERANCES EXCEPT AS NOTED  
 DECIMALS ± .02  
 .XX ± .06  
 .XXX ± .08  
 ANGLES ± .05  
 HOLE AND REAMER ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED  
 SURFACES TO BE FINISHED UNLESS OTHERWISE NOTED  
 125° EXCEPT AS NOTED

WEIGHT	SCALE
-	-
DATE	BY
11/6/97	JDM
CHKD	11/21/98
APVD	11/21/98

PNEUMATIC SCHEMATIC  
 OIL BURNER VALVE  
 FAIL IN LAST POSITION

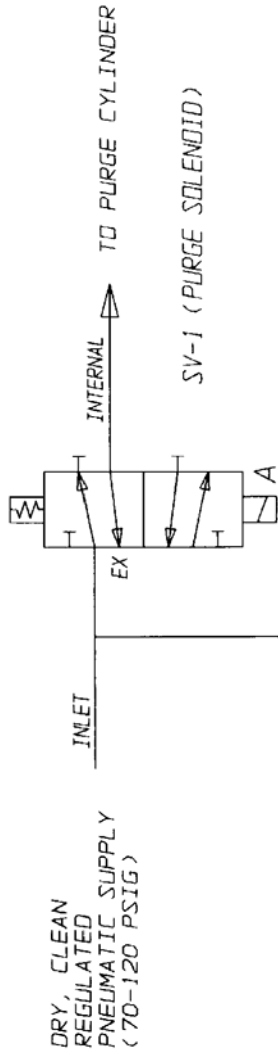
PART NO. -

PATTERN NO. -

**ITT Engineered Valves**

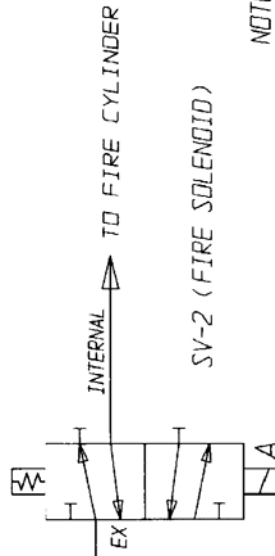
ITT Fluid Technology Corporation  
 Lancaster, Pa  
 SHEET 1 OF 1

SIZE	DRAWING NUMBER	REV
B	117485	-



DRY, CLEAN  
REGULATED  
PNEUMATIC SUPPLY  
(70-120 PSIG)

INTERNAL → TO PURGE CYLINDER  
SV-1 (PURGE SOLENOID)



INTERNAL → TO FIRE CYLINDER  
SV-2 (FIRE SOLENOID)

NOTES:

1. SV-1 AND SV-2 ARE MANIFOLDED, SINGLE COIL, SPRING RETURN MAINTAINED CONTACT SOLENOID VALVES.
2. VALVES SHOWN WITH COIL "A" DE-ENERGIZED.
3. PORT IDENTIFICATION REFERENCES MANIFOLD BLOCK

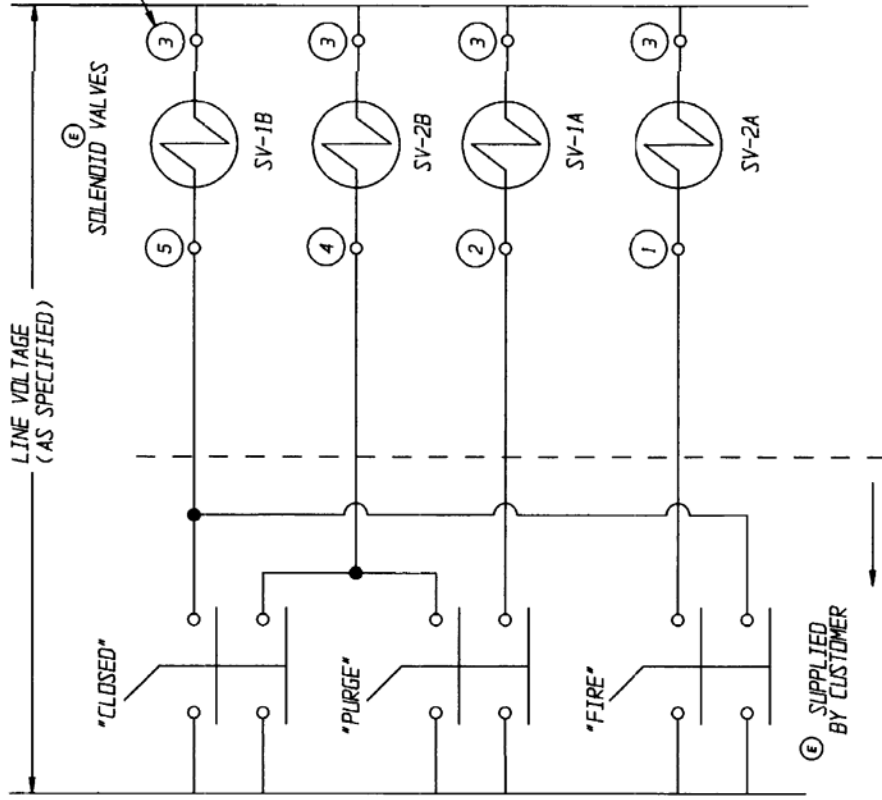
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ECN# 3158

PART NO. -

PATTERN NO. -

<p>THIS DOCUMENT IS THE PROPERTY OF ITT ENGINEERED VALVES AND IS LOANED SUBJECT TO RETURN. IT IS ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED, OR COPIED, OR DISCLOSED IN WHOLE OR IN PART, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALES OF APPARATUS WITHOUT THE EXPRESS WRITTEN CONSENT OF ITT ENGINEERED VALVES.</p>		<p>TOLERANCES EXCEPT AS NOTED DECIMALS ± 0.005 XXX ± 0.005 ANGLES ± 0.50° HOLEES ALL SURFACES BEFORE ALL BURS AND SHARP EDGES ALL MACHINED SURFACES TO BE 125° EXCEPT AS NOTED</p>		<p>WEIGHT - SCALE - DATE 11/6/97 BY JDM CHKD 1/21/98 APVD 1/21/98</p>		<p>PNEUMATIC SCHEMATIC OIL BURNER VALVE FAIL CLOSED</p>		<p>ITT Engineered Valves ITT Fluid Technology Corporation Lancaster, Pa SHEET 1 OF 1</p>	
<p>ECN# 3158</p>				<p>SIZE B</p>		<p>DRAWING NUMBER 117486</p>		<p>REV -</p>	
<p>THIS IS A FACTORY MUTUAL CONTROLLED DOCUMENT. CHANGES MUST BE APPROVED BY FM PRIOR TO IMPLEMENTING.</p>				<p>ECN# 3158</p>		<p>PART NO. -</p>		<p>PATTERN NO. -</p>	



- ⑤ NOTES:
1. COILS SV-1A AND SV-1B FORM A DUAL COIL SOLENOID VALVE CONTROLLING PURGE FLOW.
  2. COILS SV-2A AND SV-2B FORM A DUAL COIL SOLENOID VALVE CONTROLLING FUEL FLOW.
  3. SWITCHES ARE MOMENTARY CONTACT TYPE.
  4. O - REPRESENTS A WIRE NUMBER.
  5. SEE ORDER SPECIFICATION FOR SOLENOID VOLTAGE RATING.
  6. APPLICATION: ALL FAIL IN LAST OIL VALVES.
  7. DO NOT ENERGIZE SOLENOID COILS SV-1A AND SV-1B OR SV-2A AND SV-2B SIMULTANEOUSLY OR SOLENOID DAMAGE CAN OCCUR.
  8. WIRE MARKER NUMBERS SHOWN ARE FOR AC SOLENOIDS. SEE DRAWING 60-009 FOR DC WIRE MARKER NUMBERS.

**FILE COPY**

WR# - \_\_\_\_\_ PATTERN NO. - \_\_\_\_\_

ELECTRICAL SCHEMATIC		Engineered Valves	
OIL BURNER VALVE		ITT Fluid Technology Corporation	
PNEUMATIC - FAIL IN LAST		Lancaster, Pa	
-		SHEET 1 OF 1	
SIZE	DRAWING NUMBER	REV	E
B	60-003		

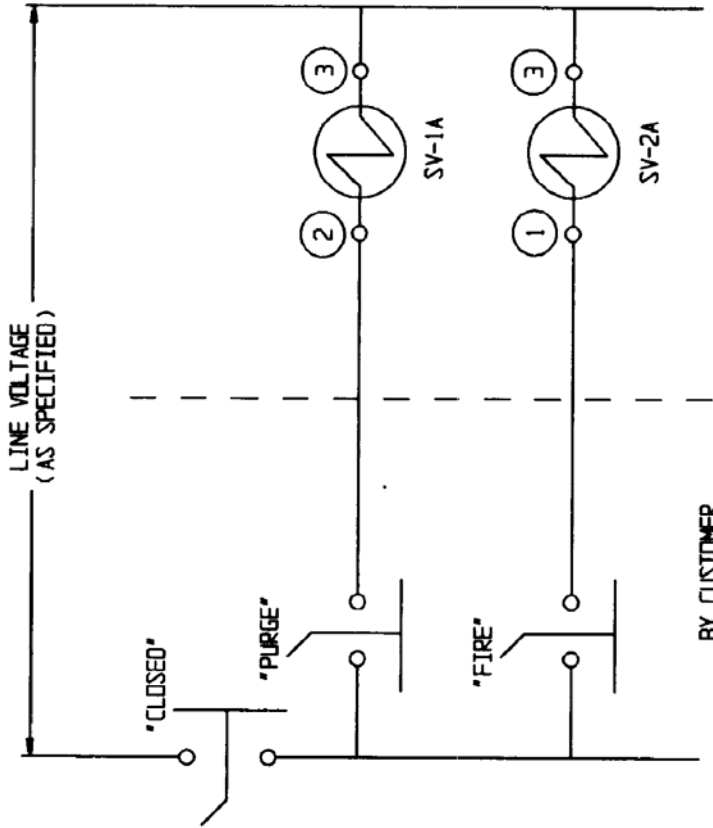
WEIGHT	SCALE	DATE	BY	DATE	BY	DATE	BY
-	-	10/90	GCS	10/90	JRB	10/90	JRB
CHKD	APVD	CHKD	APVD	CHKD	APVD	CHKD	APVD

TOLERANCES EXCEPT AS NOTED: .XX ± .02, .XXX ± .005. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED. ALL SURFACES TO BE UNLESS OTHERWISE SPECIFIED. U.S. EXCEPT AS NOTED.

REV	DATE	V.P.	BY	CHKD	APVD
E	10/90	255	JRB	JRB	JRB

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- NOTES: 1) SV-1A AND SV-2A ARE MANIFOLDED SINGLE COIL SPRING RETURN SOLENOID VALVES.  
 2) SWITCHES ARE MAINTAINED CONTACT TYPE.  
 3) ○ REPRESENTS A WIRE NUMBER.  
 4) WIRE NUMBERS ARE FOR A.C. SOLENOIDS. SEE 60-009 FOR D.C. SOLENOID WIRE NUMBERS.  
 5) SV-1A CONTROLS PURGE FLOW. SV-2A CONTROLS FUEL OR FUEL AND ATOMIZING FLOW.  
 6) SEE ORDER SPECIFICATION FOR SOLENOID VOLTAGE RATING.

Ⓐ THIS IS A FACTORY MUTUAL CONTROLLED DOCUMENT, CHANGES MUST BE APPROVED BY FM PRIOR TO IMPLEMENTING.

**FILE COPY**

WR# - PART NO. 60-004 PATTERN NO. -

REV	DATE	ECN	BY	CHKD	APVD	TOLERANCES EXCEPT AS NOTED DECIMALS .XX ± .02 .XXX ± .005 ANGLES ± 0.50° REMOVE ALL BURRS AND SHARP EDGES ALL MACHINED SURFACES TO BE 125 EXCEPT AS NOTED	WEIGHT N/A	SCALE N/A	DATE	BY
A	11/03/94	1057	WBR	APVD	APVD		DWN	10/90	GCS	JRB
							CHKD	10/90		
							APVD			

ELECTRICAL SCHEMATIC OIL BURNER VALVE PNEUMATIC - FAIL CLOSED  
 SUPERSEDES:-

**ITT Engineered Valves**  
 ITT Fluid Technology Corporation  
 Lancaster, Pa

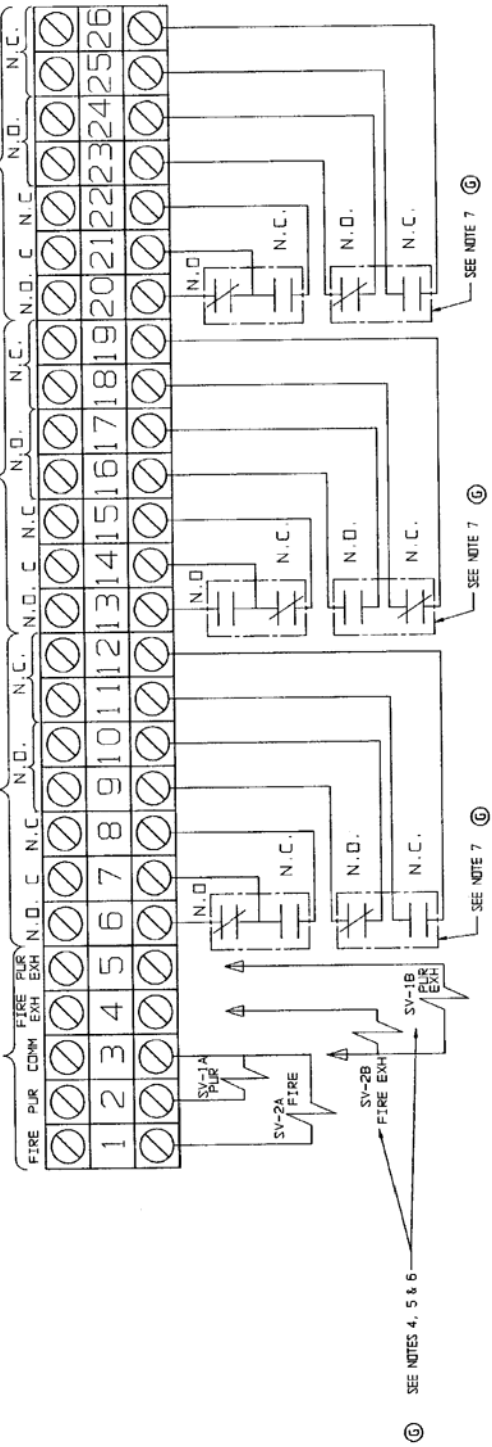
SIZE: A DRAWING NUMBER: 60-004 REV: A  
 SHEET 1 OF 1

ACTUATOR WIRING

CLOSED ACTUATOR LIMIT SWITCH

OPEN ACTUATOR LIMIT SWITCH

OIL VALVE PROOF OF CLOSURE LIMIT SWITCH



SWITCH LOGIC

SWITCH TYPE	CLOSED ACTUATOR (SPOT)	CLOSED ACTUATOR (SPOT)	CLOSED ACTUATOR (SPOT)	OPEN ACTUATOR (SPOT)	OPEN ACTUATOR (SPOT)	OPEN ACTUATOR (SPOT)	P.O.C. (SPOT)	P.O.C. (SPOT)	OIL VALVE P.D.C. (DPOT)												
TERMINALS	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	
POSITION: CLOSE	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
POSITION: PURGE	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
POSITION: FIRE	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

- NOTES:
- SOLENOID VOLTAGE IS A.C.
  - ALL SWITCHES SHOWN WITH MAIN VALVE IN CLOSED POSITION.
  - SEE ORDER SPECIFICATION FOR SOLENOID VOLTAGE RATING.
  - FOR T506, T1006 & T2006 DELETE SV-1B & SV-2B.
  - FOR T505, T1005 & T2005 INCORPORATE SV-1B & SV-2B.
  - FOR T1007 INCORPORATE SV-2B. DELETE SV-1B.
  - WIRING SHOWN FOR DPOT SWITCHES. FOR SPOT SWITCHES, DELETE WIRE NO.'S 9, 10, 11, 12, 16, 17, 18, 19, 23, 24, 25 & 26.
  - FOR PURGE INDICATION, WIRE N.C. CONTACTS OF OPEN ACTUATOR AND CLOSED ACTUATOR LIMIT SWITCHES IN SERIES.
  - PUR = PURGE.

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ECN#8319

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WIRING DIAGRAM  
OIL BURNER VALVE  
PNEUMATIC - AC SOLENOIDS

IT Industries  
Engineered Valves  
Lancaster, PA USA

SIZE: DRAWING NUMBER: 60-008  
SHEET: 1 OF 1  
REV: 5

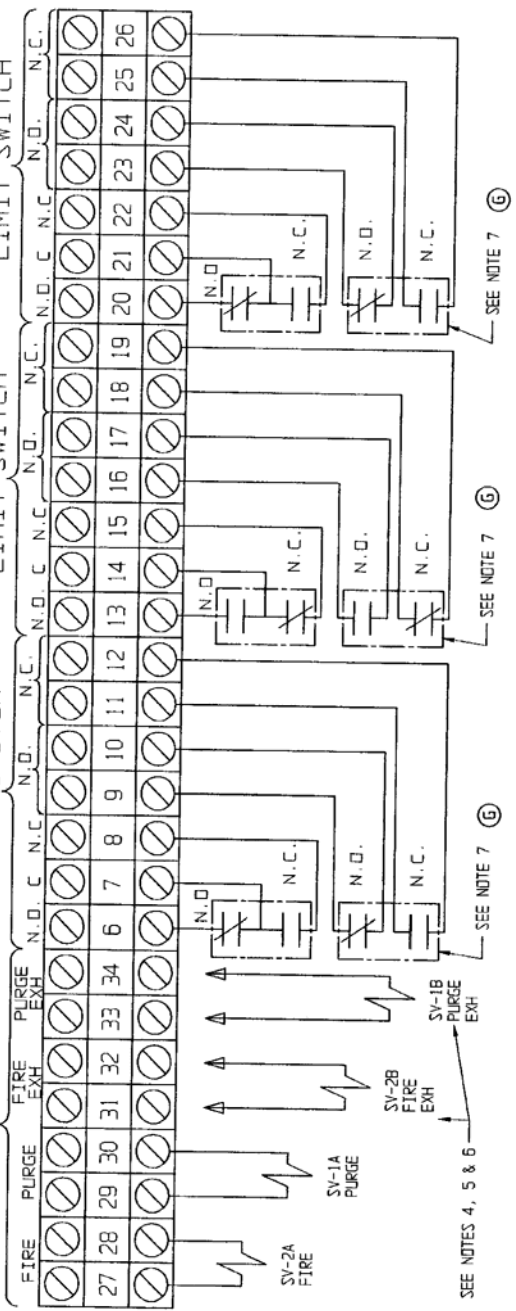
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. SURFACES TO BE BY EXCEPT AS NOTED.

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. SURFACES TO BE BY EXCEPT AS NOTED.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. SURFACES TO BE BY EXCEPT AS NOTED.

ACTUATOR WIRING



SWITCH LOGIC

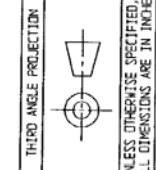
SWITCH TYPE	CLOSED ACTUATOR (SPOT)	CLOSED ACTUATOR (SPOT)	OPEN ACTUATOR (SPOT)	OPEN ACTUATOR (SPOT)	P.D.C. SPOT	P.D.C. (DPOT)
TERMINALS	6-7	7-8	9-10	11-12	13-14	14-15
POSITION: CLOSE	—	—	—	—	—	—
POSITION: PURGE	—	—	—	—	—	—
POSITION: FIRE	—	—	—	—	—	—

- NOTES:
- SOLENOID VOLTAGE IS D.C.
  - ALL SWITCHES SHOWN WITH MAIN VALVE IN CLOSED POSITION.
  - SEE ORDER SPECIFICATION FOR SOLENOID VOLTAGE RATING.
  - FOR T506, T1006 OR T2006, FAIL CLOSED, SV-1B & SV-2B (EXHAUST COILS) ARE NOT SUPPLIED. SOLENOIDS REQUIRE MAINTAINED CONTACT SWITCHES.
  - FOR T505, T1005 OR T2005, FAIL IN LAST POSITION, SV-1B & SV-2B (EXHAUST COILS) ARE SUPPLIED. SOLENOIDS REQUIRE MOMENTARY CONTACT SWITCHES.
  - FOR T1007, FAIL IN LAST FIRE, FAIL CLOSED PURGE, SV-1B (EXHAUST COIL) IS NOT SUPPLIED. PURGE SOLENOID REQUIRES MAINTAINED CONTACT SWITCH, FIRE SOLENOID REQUIRES MOMENTARY CONTACT SWITCH.
  - WIRING SHOWN FOR DPOT SWITCHES FOR SPOT SWITCHES DELETE WIRE NO'S 9, 10, 11, 12, 16, 17, 18, 19, 23, 24, 25, 26.
  - FOR PURGE INDICATION, WIRE N.C. CONTACTS OF OPEN ACTUATOR AND CLOSED ACTUATOR LIMIT SWITCHES IN SERIES.

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SCALE: 1" = 1" (1:1)	SCALE: 1" = 1" (1:1)
DATE: 5-17-94	DATE: 5-17-94
BY: [Signature]	BY: [Signature]
CHECKED: 5-18-94	CHECKED: 5-18-94
APPROVED: [Signature]	APPROVED: [Signature]

WIRING DIAGRAM  
OIL BURNER VALVE  
PNEUMATIC - DC SOLENOIDS

ITT Industries  
Engineered Valves  
Lancaster, PA USA

SIZE	60-009	SHEET	1 OF 1	REV	G
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