

DCS

# Automatic Switch Co.

Manufacturers of  
DEPENDABLE CONTROL  
Since 1888



FLORHAM PARK, NEW JERSEY 07932 • N.J. (201) 966-2000 • N.Y. (212) 344-3765

November 28, 1989

U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Joseph J. Petrosino  
Office of Nuclear Reactor Regulation

Subject: U.S. NRC Information Notice 89-66

99900369

Dear Joe:

Attached for your information are the final versions of the two ASCO Field Notices recently prepared to provide additional information in connection with Information Notice 89-66:

"Field Notification Concerning the  
Qualified Life of ASCO Catalog NP-1 Valves"

"Revised Field Notification  
of the Discontinuation  
of NP8323 Valve Line"

These notices have been mailed to all Nuclear Generating Stations in the United States and to ASCO's OEM and NSSS customers.

We appreciate your cooperation in reviewing and helping to finalize this notice.

If you require anything else, please feel free to call me at 201/966-2244.

Sincerely,

**AUTOMATIC SWITCH COMPANY**

John R. Shank  
Product Engineering Manager  
Valve Engineering Department

/mm

9001020095 891128  
PDR GA999 EMVAUSC  
99900369 PNU

IE07  
1/1

October 27, 1989

TO: ASCO Catalog NP-1 Valve Users

SUBJECT: U.S. NRC Information Notice Number 89-66

1. NRC Information Notice No. 89-66 "Qualification Life of Solenoid Valves" discusses a recent event at Grand Gulf Unit 1 involving ASCO NP8323A20E valves being used as main steam isolation valve (MSIV) pilots.
2. The attached two ASCO Notices provide additional information on this subject:
  - A. ASCO Notice "Field Notification Concerning the Qualified Life of ASCO Catalog NP-1 Valves" discusses the various options available when calculating qualified life of ASCO Catalog NP-1 valves and provides the latest available temperature rise data for the ASCO Catalog NP-1 valves series.
  - B. ASCO Notice "Revised Field Notification of the Discontinuation of NP8323 Valve Line" explains the current ASCO position concerning NP8323 valves used for MSIV piloting applications and discusses ASCO's policy of discontinuation of the NP8323 valve series.
3. Automatic Switch Company will do whatever we can to assist you in a smooth transition from use of the NP8323 valve to a pair of NP8320 valves in MSIV piloting applications. We also are available to provide whatever assistance we can in determining the qualified life of any ASCO Catalog NP-1 series valve.

JRS/mm

## Field Notification Concerning The Qualified Life of ASCO Catalog NP-1 Valves

1. NRC Information Notice No. 89-66 "Qualification Life of Solenoid Valves" describes a recent event involving ASCO NP8323 series valves being used to control main steam isolation valves. As reported in this NRC notice, the utility involved reported that the elastomers in these valves, which had been in service for several years, exhibited evidence of having reached an end of life condition prematurely. Thermal qualified life calculations performed by the utility indicated that the valves still had a substantial period of qualified life remaining. These Arrhenius calculations were performed prior to the availability of the applicable attached temperature profile drawing. Subsequently, Arrhenius calculations using the latest applicable temperature profile drawing and using the applicable activation energy value indicated in ASCO's Qualification Report AQR-67368/Rev. 1, yielded results that indicated the valves had already exceeded their qualified life.
2. While other non-thermal factors may have contributed to the condition of the elastomers in these valves, the important point to remember is that a calculated qualified life value may not always accurately indicate the true life of a device. For this reason, qualified life values serve best when used as service life indicators augmented with field performance history and a periodic surveillance program.
3. Thermal qualified life values may vary depending on the method used for determination as well as the data used in thermal life calculations. In the earliest ASCO qualification programs, qualified life was established as a fixed period based on the use of the 10°C Rule. Later, ASCO programs used Arrhenius calculations but were based on ambient temperatures rather than actual component temperatures. Since there are many variables that must be considered in qualified life calculations and since the NRC has not endorsed any single thermal qualified life calculation method, ASCO leaves it to each individual user to determine the appropriate qualified life calculation method for each specific application.

-continued-

4. The profile drawings attached cover various ASCO Catalog NP-1 valves. These drawings indicate the temperature that critical valve components will reach when continuously energized at various ambient temperatures. These temperatures are based on conservative testing conducted with no air circulation. When using these drawings, care should be taken to assure that the proper temperature profile drawing is chosen. Significant differences in component temperatures may exist between similarly constructed valves or between AC and DC constructions of the same valve.
5. When establishing replacement schedules for Catalog NP-1 valves, the user should consider the above information. Any request for additional information should be directed to the ASCO Valve Sales Department (Telephone: 201/966-2501, FAX 201/966-2628).

JRS:mm



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**ASCO**

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The following table shows the correct temperature profile drawing for each catalog number appearing in Catalog NP-1. The catalog number that appears on each temperature profile drawing is the specific valve that was tested. Due to similarity in constructions, the catalog numbers shown next to each drawing are applicable.

BULLETIN NUMBERS	CATALOG NUMBERS	TEMPERATURE PROFILE DRAWING NUMBER
206-380 208-266	206-380-1	208-266-1
	206-380-2	208-266-2
	206-380-3	208-266-3
	206-380-4	208-266-4
	206-380-5	208-266-5
	206-380-6	
	206-380-7	
206-381 208-446	206-381-1	208-448-1
	206-381-2	208-448-2
	206-381-3	208-448-3
	206-381-4	208-448-4
	206-381-5	208-448-5
	206-381-6	
	206-381-7	
206-832 210-036	206-832-1	210-036-1
	206-832-2	210-036-2
	206-832-3	210-036-3
	206-832-4	210-036-4
	206-832-5	210-036-5
	206-832-6	
	206-832-7	
NP8314 (AC)	NP8314C13E	NP8314C13V
	NP8314C14E	NP8314C14V
	NP8314C28E	NP8314C28V
	NP8314C29E	NP8314C29V
	NP8314C61E	NP8314C61V
	NP8314C62E	NP8314C62V
NP8314 (AC)	NP8314C13EL	NP8314C13LV
	NP8314C14EL	NP8314C14LV
	NP8314C28EL	NP8314C28LV
	NP8314C29EL	NP8314C29LV
	NP8314C61EL	NP8314C61LV
	NP8314C62EL	NP8314C62LV
NP8314 (DC)	NP8314C13E	NP8314C13V
	NP8314C14E	NP8314C14V
	NP8314C28E	NP8314C28V
	NP8314C29E	NP8314C29V
	NP8314C61E	NP8314C61V
	NP8314C62E	NP8314C62V
NP8314 (DC)	NP8314C13EL	NP8314C13LV
	NP8314C14EL	NP8314C14LV
	NP8314C28EL	NP8314C28LV
	NP8314C29EL	NP8314C29LV
	NP8314C61EL	NP8314C61LV
	NP8314C62EL	NP8314C62LV

BULLETIN NUMBERS	CATALOG NUMBERS		TEMPERATURE PROFILE DRAWING NUMBER
NP8316 (AC)	NP831654E NP831656E NP831664E NP831666E	NP831654V NP831656V NP831664V NP831666V	FV228-063
NP8316 (AC)	NP831655E NP831657E NP831665E NP831667E	NP831655V NP831657V NP831665V NP831667V	FV228-064
NP8316 (AC)	NP8316E34E NP8316E35E NP8316E36E NP8316E37E NP8316A74E NP8316A75E NP8316A76E NP8316A77E	NP8316E34V NP8316E35V NP8316E36V NP8316E37V NP8316A74V NP8316A75V NP8316A76V NP8316A77V	FV228-066
NP8316 (DC)	NP8316E34E NP8316E35E NP8316E36E NP8316E37E NP831654E NP831655E NP831656E NP831657E NP831664E NP831665E NP831666E NP831667E NP8316A74E NP8316A75E NP8316A76E NP8316A77E	NP8316E34V NP8316E35V NP8316E36V NP8316E37V NP831654V NP831655V NP831656V NP831657V NP831664V NP831665V NP831666V NP831667V NP8316A74V NP8316A75V NP8316A76V NP8316A77V	FV228-065
NP8320 (AC)	NP8320A172E NP8320A174E NP8320A176E NP8320A178E NP8320A182E NP8320A184E NP8320A186E NP8320A188E NP8320A192E NP8320A194E NP8320A196E NP8320A198E	NP8320A172V NP8320A174V NP8320A176V NP8320A178V NP8320A182V NP8320A184V NP8320A186V NP8320A188V NP8320A192V NP8320A194V NP8320A196V NP8320A198V	FV228-067
NP8320 (AC)	NP8320A173E NP8320A175E NP8320A177E NP8320A179E NP8320A183E NP8320A185E NP8320A187E NP8320A189E NP8320A193E NP8320A195E NP8320A197E NP8320A199E	NP8320A173V NP8320A175V NP8320A177V NP8320A179V NP8320A183V NP8320A185V NP8320A187V NP8320A189V NP8320A193V NP8320A195V NP8320A197V NP8320A199V	FV228-068

BULLETIN NUMBERS	CATALOG NUMBERS	TEMPERATURE PROFILE DRAWING NUMBER
NP8320 (AC)	NP832057E NP832057V	FV228-069
	NP832058E NP832058V	
	NP832059E NP832059V	
	NP832060E NP832060V	
	NP832061E NP832061V	
	NP832062E NP832062V	
	NP832063E NP832063V	
	NP832064E NP832064V	
	NP832065E NP832065V	
	NP832066E NP832066V	
	NP832067E NP832067V	
	NP832068E NP832068V	
	NP832069E NP832069V	
	NP832070E NP832070V	
	NP832093E NP832093V	
	NP832094E NP832094V	
	NP832095E NP832095V	
NP832096E NP832096V		
NP8320 (DC)	NP832057E NP832057V	FV238-403
	NP832058E NP832058V	
	NP832059E NP832059V	
	NP832060E NP832060V	
	NP832061E NP832061V	
	NP832062E NP832062V	
	NP832063E NP832063V	
	NP832064E NP832064V	
	NP832065E NP832065V	
	NP832066E NP832066V	
	NP832067E NP832067V	
	NP832068E NP832068V	
	NP832069E NP832069V	
	NP832070E NP832070V	
	NP832093E NP832093V	
	NP832094E NP832094V	
	NP832095E NP832095V	
	NP832096E NP832096V	
	NP8320A172E NP8320A172V	
	NP8320A173E NP8320A173V	
	NP8320A174E NP8320A174V	
	NP8320A175E NP8320A175V	
	NP8320A176E NP8320A176V	
	NP8320A177E NP8320A177V	
	NP8320A178E NP8320A178V	
	NP8320A179E NP8320A179V	
	NP8320A182E NP8320A182V	
	NP8320A183E NP8320A183V	
	NP8320A184E NP8320A184V	
	NP8320A185E NP8320A185V	
	NP8320A186E NP8320A186V	
	NP8320A187E NP8320A187V	
	NP8320A189E NP8320A188V	
NP8320A188E NP8320A189V		
NP8320A192E NP8320A192V		
NP8320A194E NP8320A193V		
NP8320A193E NP8320A194V		
NP8320A195E NP8320A195V		
NP8320A196E NP8320A196V		
NP8320A197E NP8320A197V		
NP8320A198E NP8320A198V		
NP8320A199E NP8320A199V		

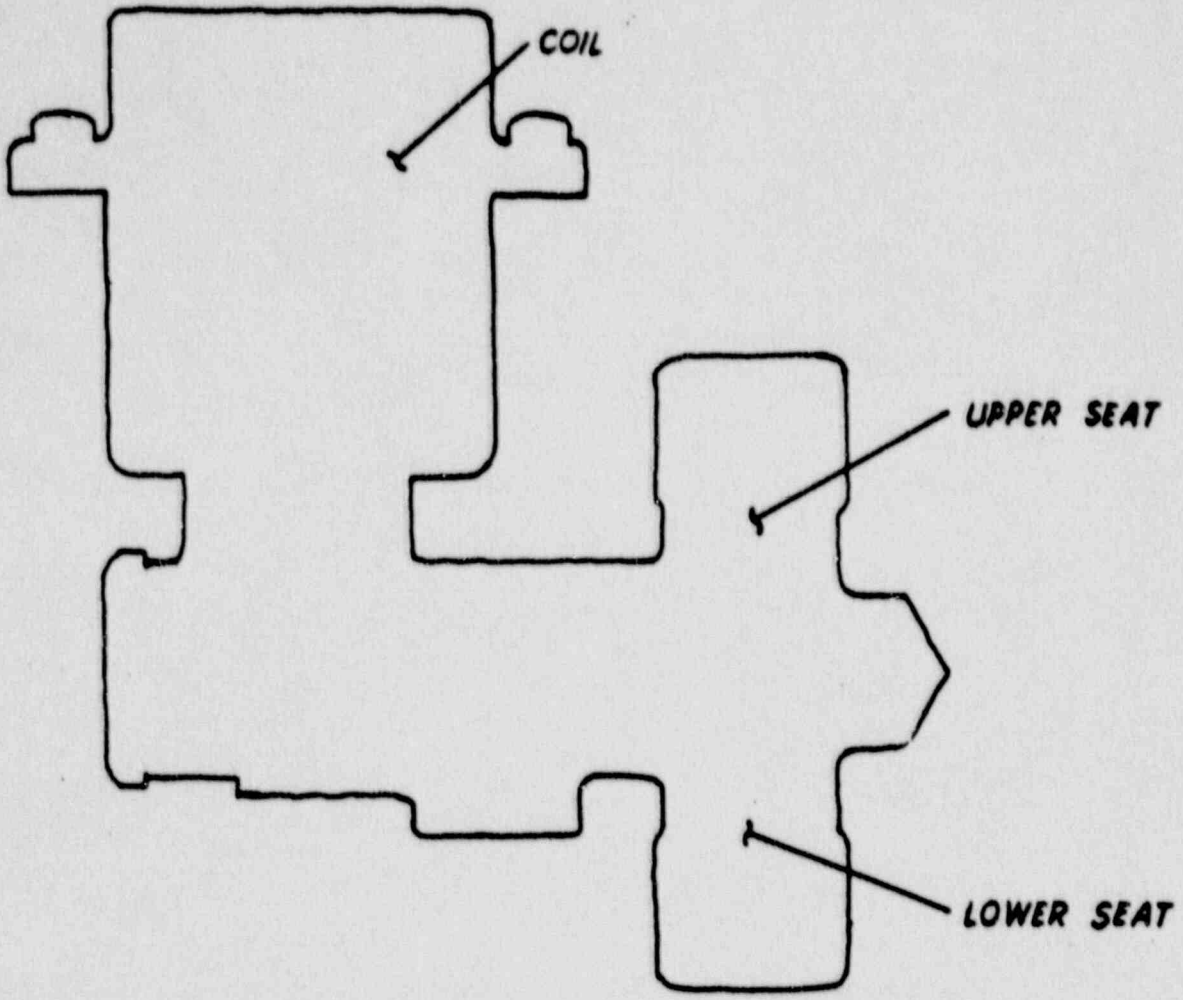
BULLETIN NUMBERS	CATALOG NUMBERS		TEMPERATURE PROFILE DRAWING NUMBER
NP8321 (AC)	NP8321A1E NP8321A2E NP8321A3E NP8321A4E	NP8321A1V NP8321A2V NP8321A3V NP8321A4V	FV228-070
NP8321 (AC)	NP8321A5E NP8321A6E NP8321A7E NP8321A8E	NP8321A5V NP8321A6V NP8321A7V NP8321A8V	FV228-071
NP8321 (DC)	NP8321A1E NP8321A2E NP8321A3E NP8321A4E NP8321A5E NP8321A6E NP8321A7E NP8321A8E	NP8321A1V NP8321A2V NP8321A3V NP8321A4V NP8321A5V NP8321A6V NP8321A7V NP8321A8V	FV228-072
NP8323 (AC/AC)	NP8323A19E NP8323A20E NP8323A21E NP8323A22E NP8323A23E NP8323A24E NP8323A27E NP8323A28E NP8323A29E NP8323A30E NP8323A31E NP8323A32E	NP8323A19V NP8323A20V NP8323A21V NP8323A22V NP8323A23V NP8323A24V NP8323A27V NP8323A28V NP8323A29V NP8323A30V NP8323A31V NP8323A32V	FV236-843
NP8323 (AC/DC)	NP8323A35E NP8323A36E NP8323A37E NP8323A38E NP8323A39E NP8323A40E NP8323A43E NP8323A44E NP8323A45E NP8323A46E NP8323A47E NP8323A48E	NP8323A35V NP8323A36V NP8323A37V NP8323A38V NP8323A39V NP8323A40V NP8323A43V NP8323A44V NP8323A45V NP8323A46V NP8323A47V NP8323A48V	FV236-844
NP8344 (AC)	NP8344B46E NP8344B50E NP8344B52E NP8344B54E NP8344B56E NP8344B58E NP8344B62E NP8344B64E NP8344B66E NP8344B68E	NP8344B46V NP8344B50V NP8344B52V NP8344B54V NP8344B56V NP8344B58V NP8344B62V NP8344B64V NP8344B66V NP8344B68V	FV236-903
NP8344 (AC)	NP8344A70E NP8344A71E NP8344A72E NP8344A73E NP8344A74E NP8344A75E NP8344A76E NP8344A77E NP8344A78E NP8344A79E	NP8344A70V NP8344A71V NP8344A72V NP8344A73V NP8344A74V NP8344A75V NP8344A76V NP8344A77V NP8344A78V NP8344A79V	FV236-905



BULLETIN NUMBERS	CATALOG NUMBERS		TEMPERATURE PROFILE DRAWING NUMBER
NP8344 (DC)	NP8344B46E	NP8344B46V	FV236-904
	NP8344B50E	NP8344B50V	
	NP8344B52E	NP8344B52V	
	NP8344B54E	NP8344B54V	
	NP8344B56E	NP8344B56V	
	NP8344B58E	NP8344B58V	
	NP8344B62E	NP8344B62V	
	NP8344B64E	NP8344B64V	
	NP8344B66E	NP8344B66V	
	NP8344B68E	NP8344B68V	
NP8344 (DC)	NP8344A70E	NP8344A70V	FV236-906
	NP8344A71E	NP8344A71V	
	NP8344A72E	NP8344A72V	
	NP8344A73E	NP8344A73V	
	NP8344A74E	NP8344A74V	
	NP8344A75E	NP8344A75V	
	NP8344A76E	NP8344A76V	
	NP8344A77E	NP8344A77V	
	NP8344A78E	NP8344A78V	
	NP8344A79E	NP8344A79V	

**FV-228-060**

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE		
	COIL	UPPER SEAT	LOWER SEAT
25° C	172° C	54° C	54° C
49° C	194° C	74° C	74° C
66° C	210° C	90° C	90° C
131° C	270° C	151° C	151° C



CATALOG NUMBER 206380 3 R F 120/60 (RESILIENT SEATS)

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

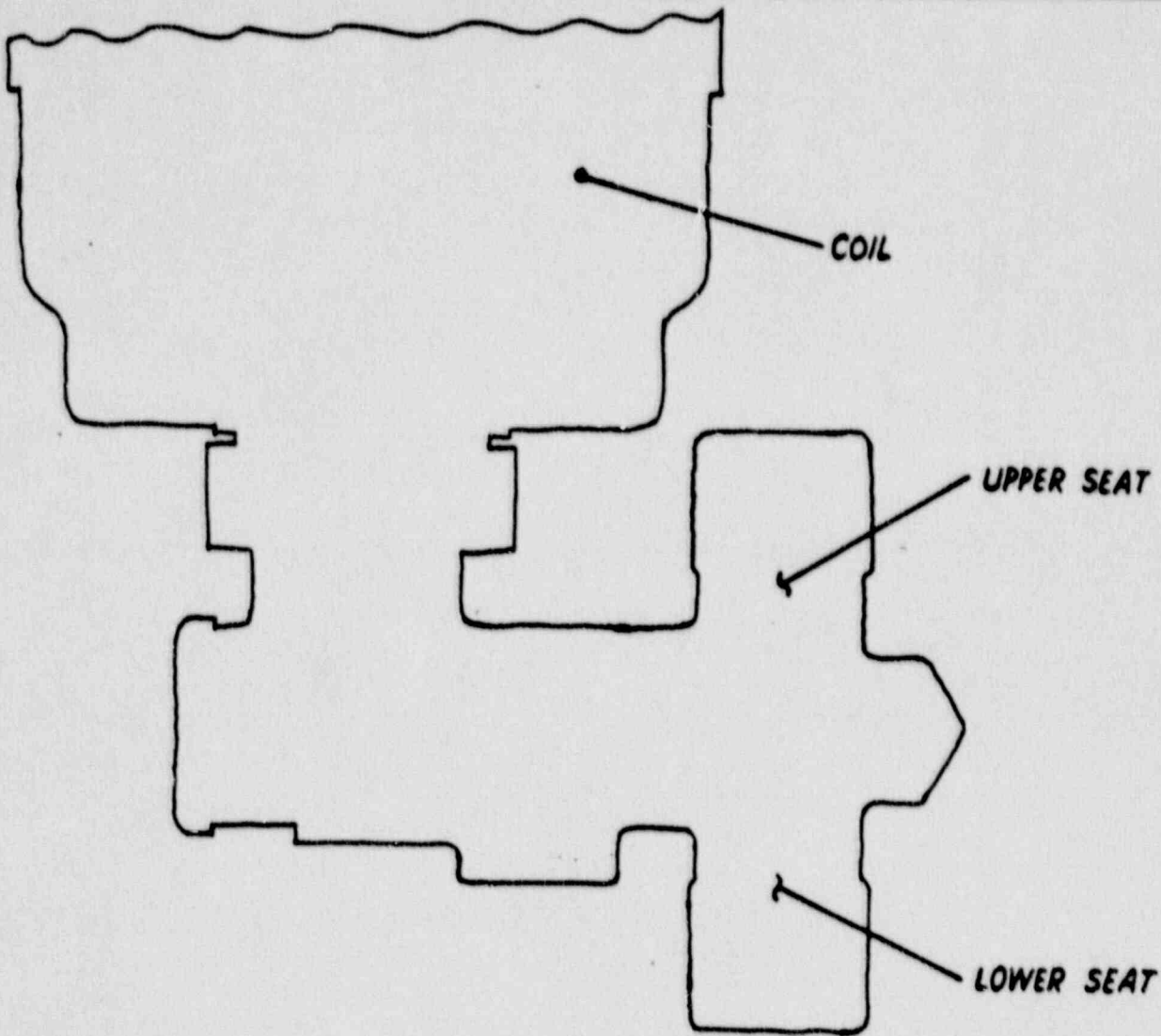
BY	DATE	SCALE	ASSY. REF. NO	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	DCW			1-30-04	NONE	206-380	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>
TRACED				CH <input type="checkbox"/>	GYC <input type="checkbox"/>	BP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>	
CHECKED				Automatic Switch Co. FLORHAM PARK, N. J.			FV-228-060		
DFTG. APVD				PRINTED IN U.S.A. FILE					
ENGRG	JCF	2/1/04		CHG	X	X	X	D	
APPL	GRS	2/2/04		LTR					

FV-228-061

**AMBIENT TEMPERATURE**

**MAXIMUM TEMPERATURE**

	COIL	UPPER SEAT	LOWER SEAT
25° C	135° C	54° C	54° C
49° C	154° C	74° C	74° C
66° C	167° C	90° C	90° C
131° C	211° C	151° C	151° C



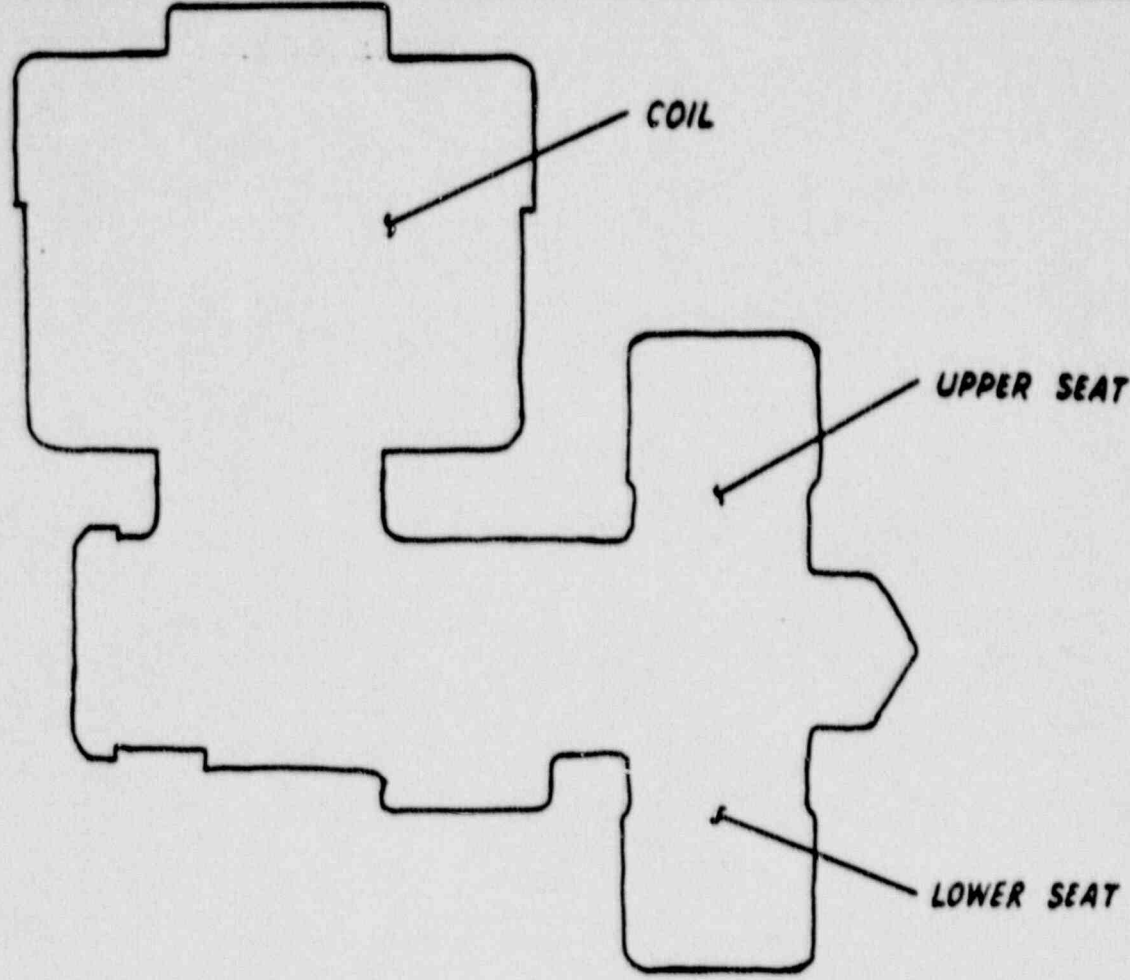
CATALOG NUMBER 206381 6 R F 125/DC (RESILIENT SEATS)

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	SCALE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	DCW 7-30-84							NONE
TRACED		ASSY. REF. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>	
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-061				
DFTG APVD		PRINTED IN U.S.A. FILE						
ENGRG	JCF 2/1/84							
APPVL	SRS 2/2/84							
			CHG LTR	<del>X</del>	<del>X</del>	<del>X</del>	D	

FV-228-062

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE		
	COIL	UPPER SEAT	LOWER SEAT
25° C	172° C	54° C	54° C
49° C	194° C	74° C	74° C
66° C	210° C	90° C	90° C
131° C	270° C	151° C	151° C



CATALOG NUMBER 206832 3 R F 120/60 (RESILIENT SEATS)

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS

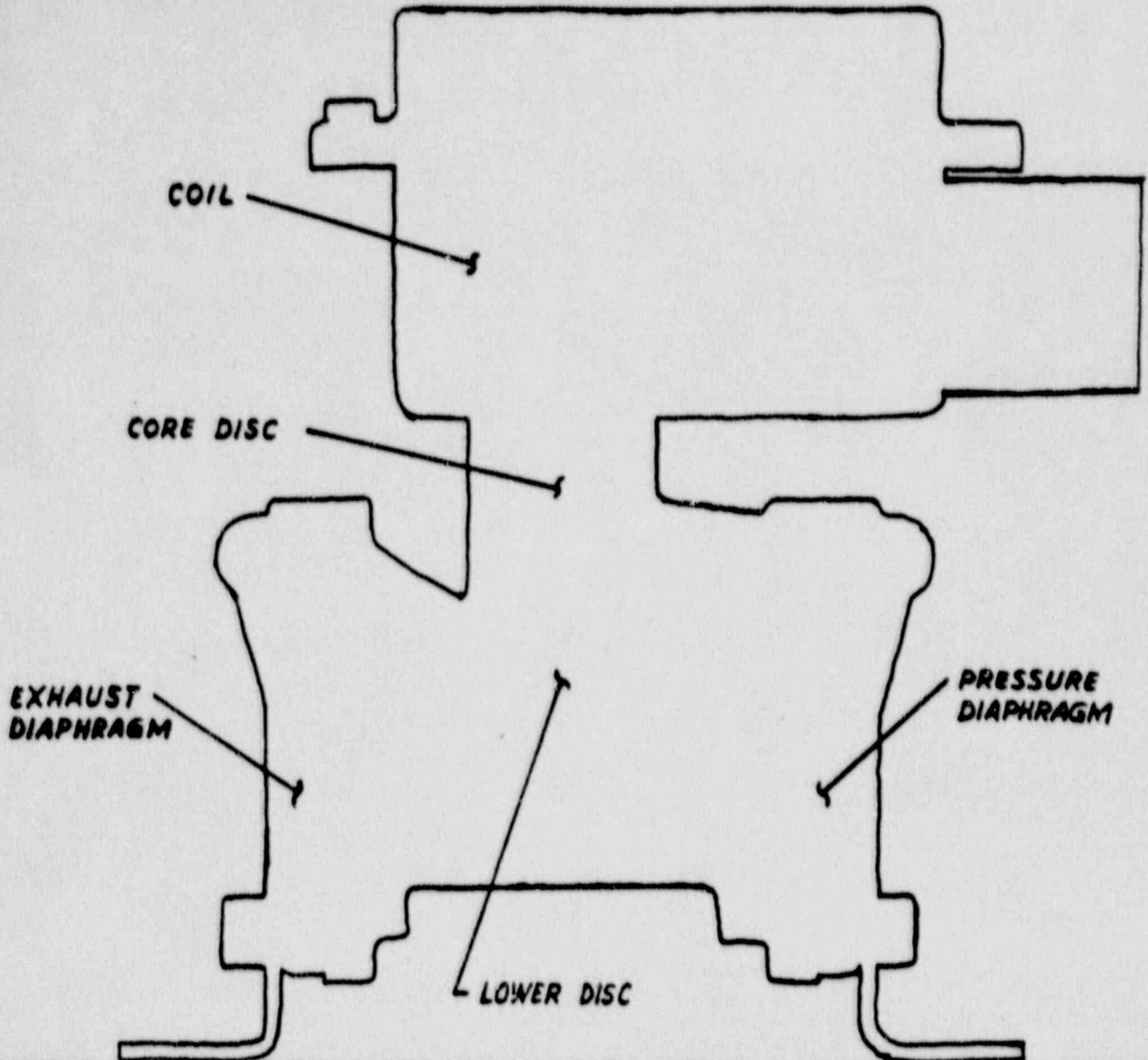
WITH VALVE ENERGIZED AND NO FLOW


BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	DCW 1-30-84		206-832	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED		SCALE	ASSY. REP. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-062				
DFTG APVD		PRINTED IN U.S.A. FILE						
ENGRD	JCE 3/1/84			CHG	X	X	X	D
APPVL	SXS 2/2/84			LTR				



FV-228-063

CATALOG NUMBER NP 8316 54E 120/60



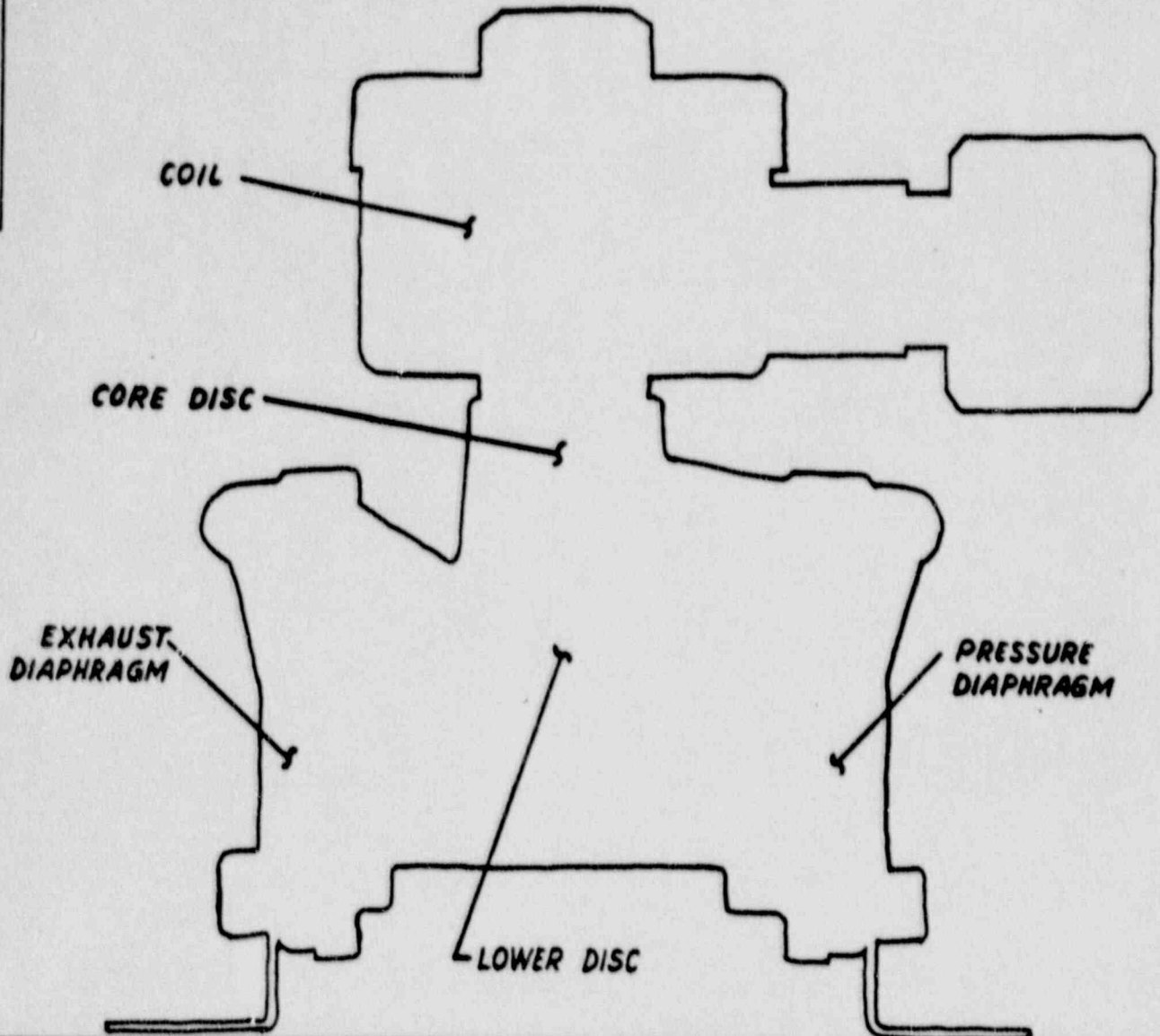
131°C	212°C	163°C	143°C	134°C	134°C
66°C	153°C	105°C	84°C	75°C	75°C
49°C	139°C	90°C	69°C	60°C	60°C
25°C	117°C	69°C	48°C	38°C	38°C
AMBIENT TEMPERATURE	COIL	CORE DISC	LOWER DISC	PRESSURE DIAPH.	EXHAUST DIAPH.
MAXIMUM TEMPERATURE					

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW.

BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	OCW 1-30-84		206-384	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED		SCALE	ASSY. REF. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	A6 <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-063				
DFTG. APVD		PRINTED IN U.S.A. FILE						
ENGRG APPVL	JCF 2/1/84			CHG LTR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	D
	GRS 2/2/84							

FV-228-064

CATALOG NUMBER NP8316 55E 120/60



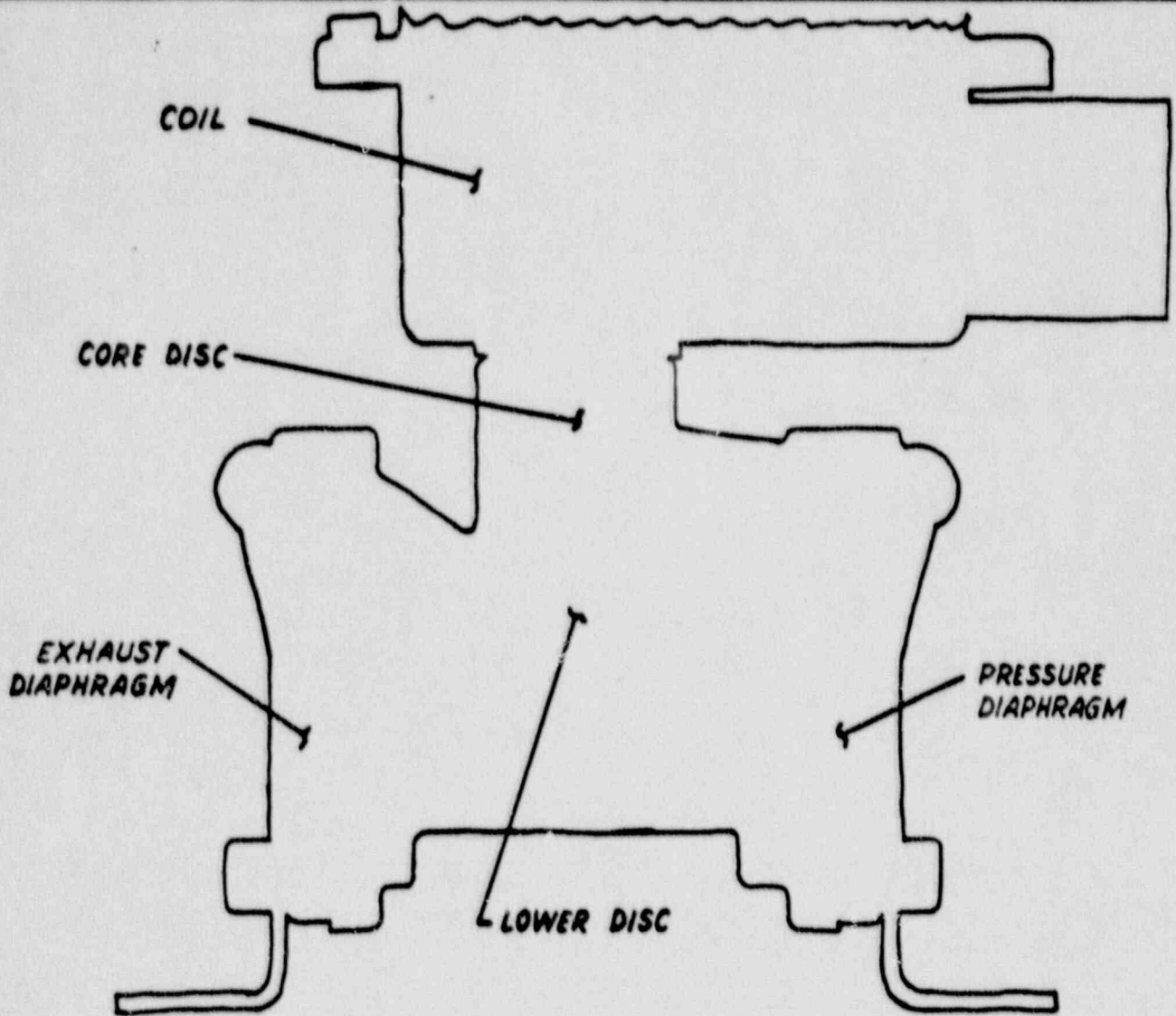
131°C	212°C	163°C	143°C	134°C	134°C
66°C	153°C	105°C	84°C	75°C	75°C
49°C	139°C	90°C	69°C	60°C	60°C
25°C	117°C	69°C	48°C	38°C	38°C
AMBIENT TEMPERATURE	COIL	CORE DISC	LOWER DISC	PRESSURE DIAPH.	EXHAUST DIAPH.
MAXIMUM TEMPERATURE					

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	NONE SCALE	208-400 ASSY. REF. NO	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	OCW 1-30-64			AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>	
TRACED				CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>	
CHECKED				Automatic Switch Co. FLORHAM PARK, N. J. PRINTED IN U.S.A. FILE		FV-228-064			
DFTG.APVD				CHG LTR	X	X	X	D	
ENGRG APPVL	JCF 2/1/64								
	GKS 2/2/64								

FV-228-065

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE				
	COIL	CORE DISC	LOWER DISC	PRESSURE DIAPH.	EXHAUST DIAPH.
25°C	135°C	69°C	48°C	38°C	38°C
49°C	159°C	90°C	69°C	60°C	60°C
66°C	183°C	105°C	84°C	75°C	75°C
131°C	212°C	165°C	143°C	134°C	134°C



CATALOG NUMBER NP 8316 54E 125/DC

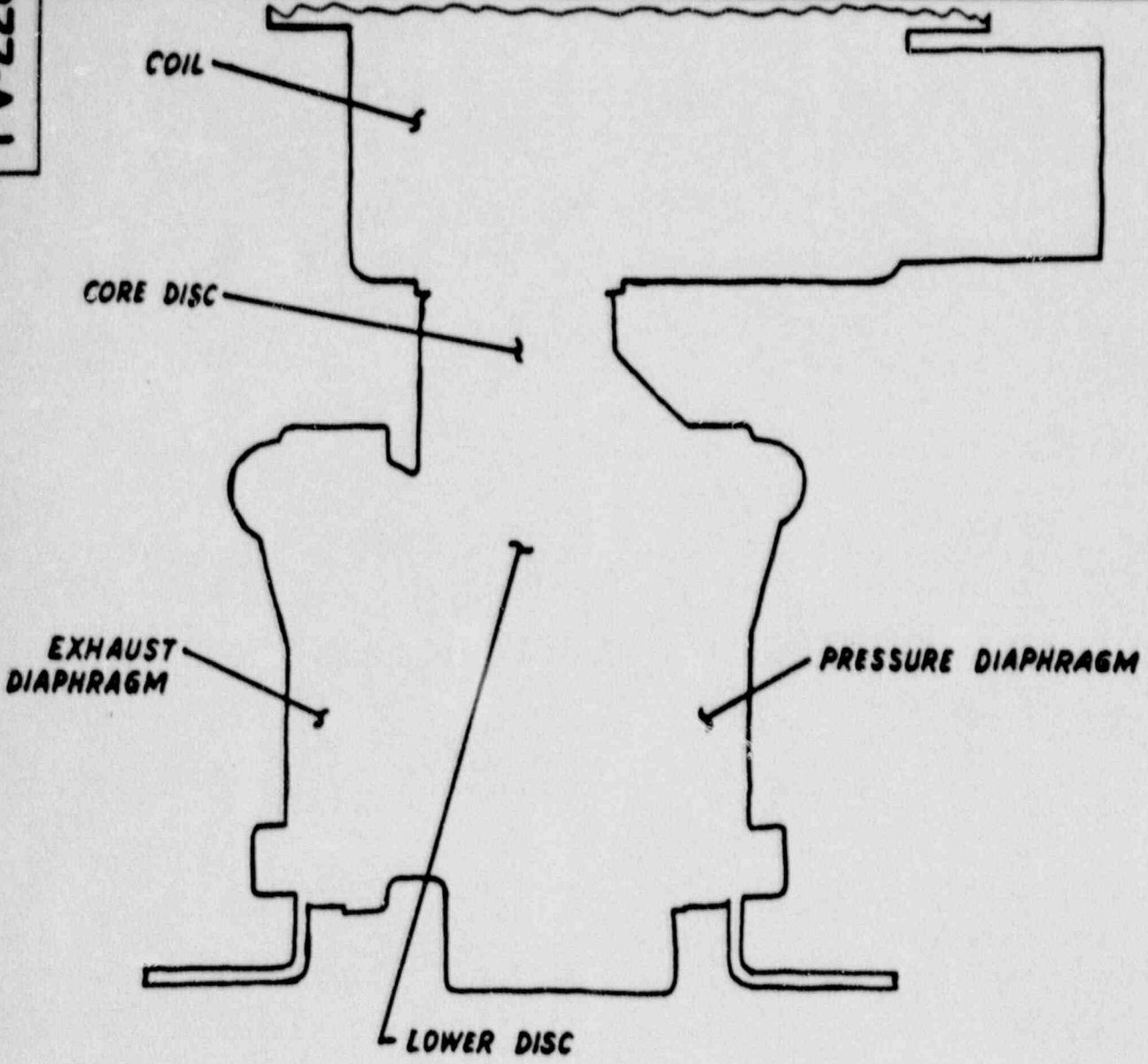
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW


BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	OCW 1-30-84		206-384	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED		SCALE	ASSY. REF. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	D° <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-065				
DFTG APVD		PRINTED IN U.S.A. FILE						
ENGRG APPV.	JCC 3/1/84			CHG LTR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	D
	CS 2/2/84							



FV-228-066

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE				
	COIL	CORE DISC	LOWER DISC	PRESSURE DIAPH.	EXHAUST DIAPH.
25° C	117° C	67° C	48° C	38° C	35° C
49° C	59° C	90° C	69° C	60° C	60° C
66° C	153° C	105° C	81° C	75° C	78° C
191° C	212° C	165° C	143° C	154° C	154° C



CATALOG NUMBER NP 8316 A 74E 120/60

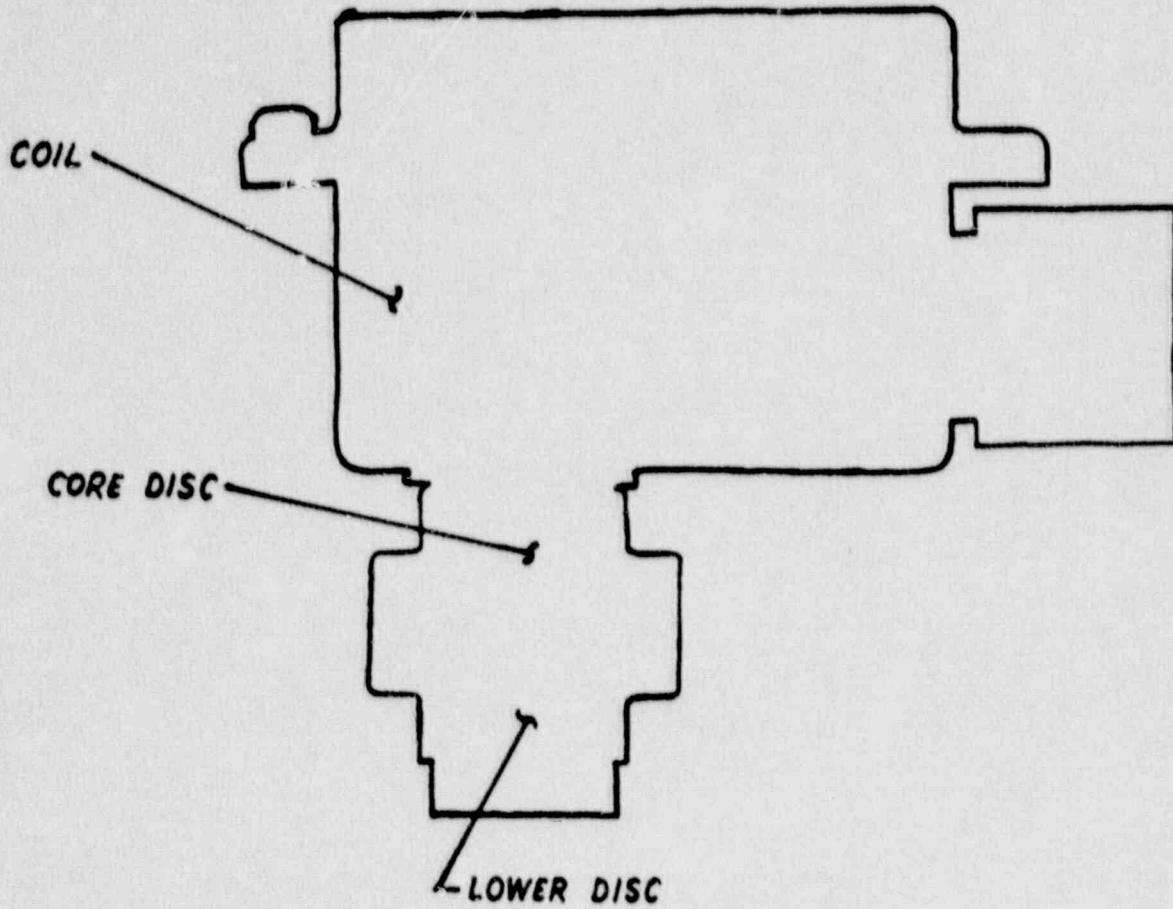
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	DCW 1-31-84		208-279	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED		SCALE	ASSY. REF. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-066				
DFTG. APVD		PRINTED IN U.S.A. FILE						
ENGRG	JCE 2/1/84			CHG	X	X	X	D
APPV	GKS 2/2/84			LTR				



FV-228-067

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE		
	COIL	CORE DISC	LOWER DISC
25° C	117° C	69° C	48° C
49° C	139° C	90° C	69° C
66° C	153° C	105° C	84° C
131° C	212° C	163° C	143° C



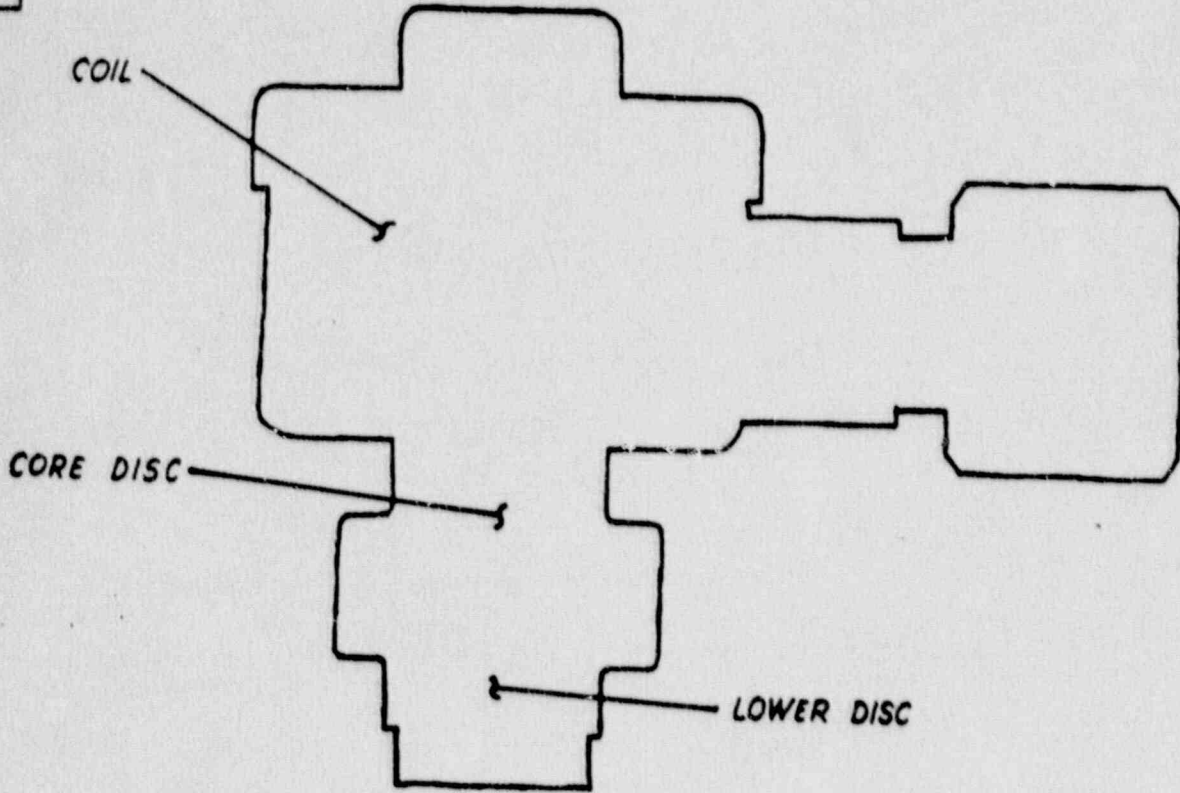
CATALOG NUMBER NP 8320 A 184E 120/60

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	OCW 1-31-84		206-385	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED		SCALE	ASSY. REF. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	P <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-067				
DFTG/APVD		PRINTED IN U.S.A.		FILE				
ENGRG	JCF 2/1/84			CHG LTR				
APPVL	GRS 2/3/84			<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				

FV-228-068

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE		
	COIL	CORE DISC	LOWER DISC
25° C	117° C	69° C	48° C
49° C	139° C	90° C	69° C
66° C	153° C	105° C	89° C
131° C	212° C	163° C	143° C



CATALOG NUMBER NP 8320 A 185E 120/60

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW


BY	DATE
DRAWN OCW	1-31-84
TRACED	
CHECKED	
DFTG.APVD	
ENGRG APPVL	
JCF	2/1/84
SRS	2/2/84

NONE  
 SCALE 210-450  
 ASSY. REF. NO. 210-450  
**Automatic Switch Co.** FLORHAM PARK, N. J.  
 PRINTED IN U.S.A. FILE

ER NO.	ITEM CHGD	CHG	DATE	APVD
AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>

FV-228-068

CHG LTR	X	B	C	D				
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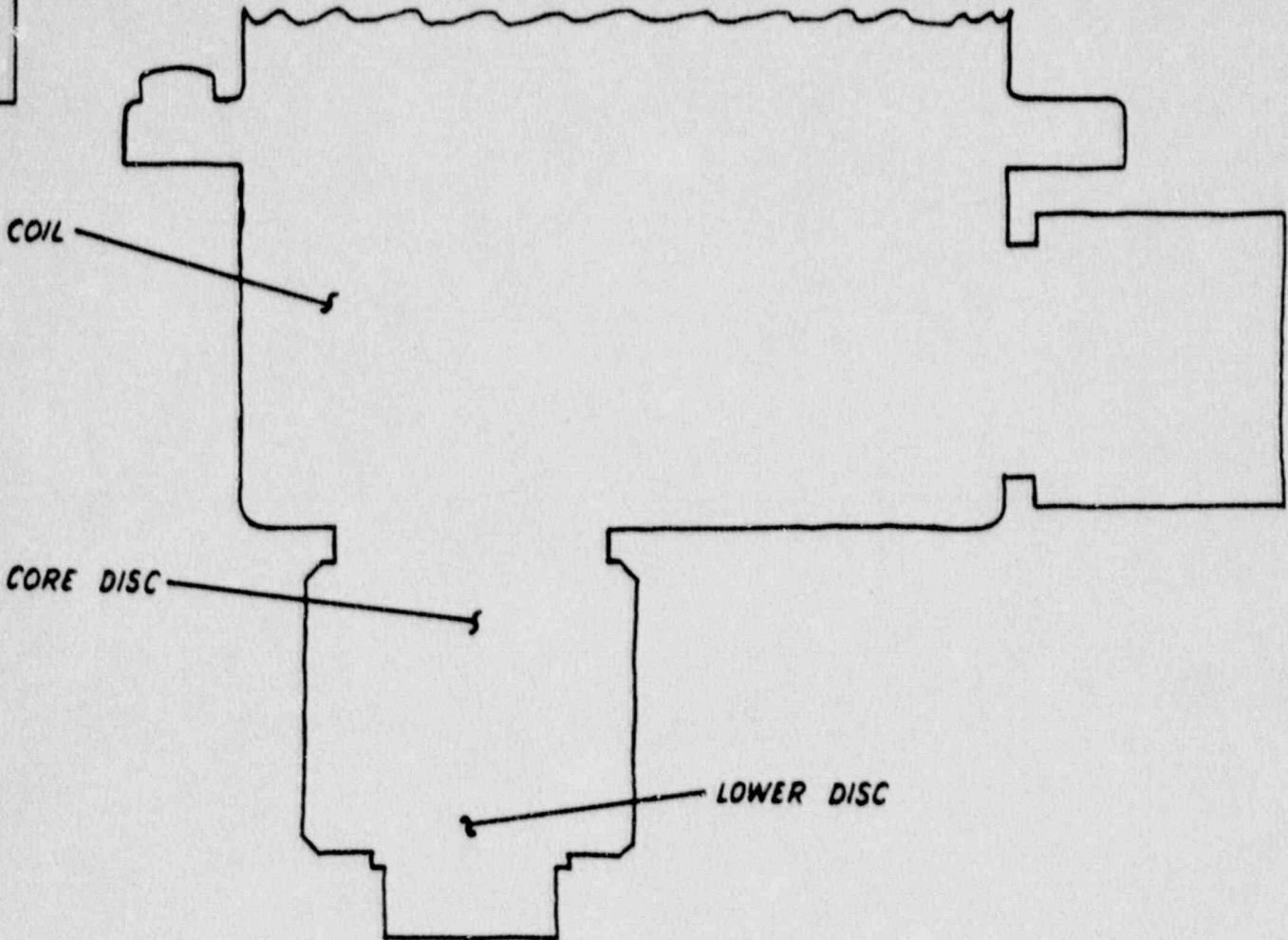


FV-228-069

AMBIENT TEMPERATURE

MAXIMUM TEMPERATURE

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE		
	COIL	CORE DISC	LOWER DISC
25° C	117° C	69° C	45° C
49° C	139° C	90° C	69° C
66° C	153° C	105° C	84° C
131° C	212° C	163° C	143° C



CATALOG NUMBER NP 8320 65E 120/60

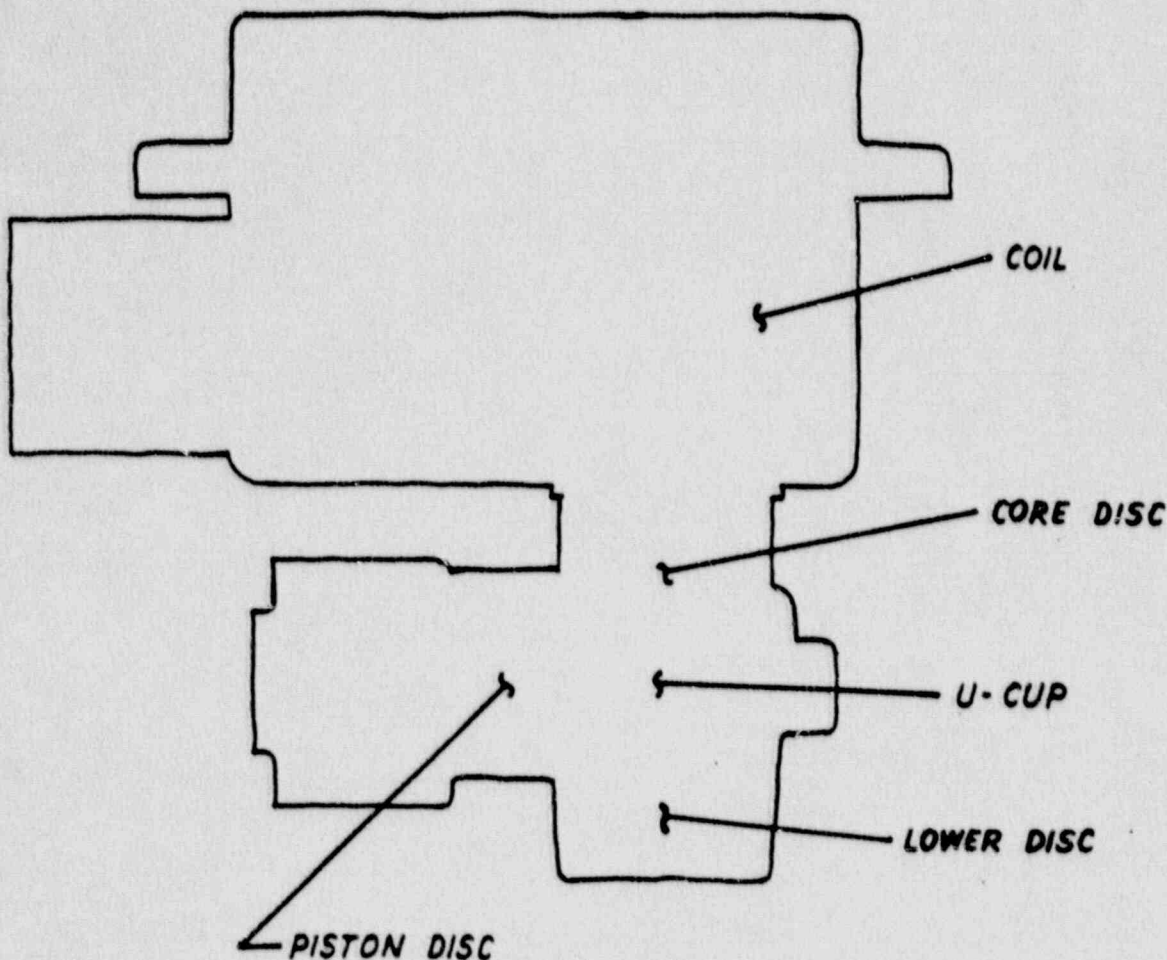
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	OCW 1-31-84		208-153	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED		SCALE	ASSY. REF. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-069				
DFTG APVD		PRINTED IN U.S.A. FILE						
ENGRG	JCF 3/1/84			CHG	X	R	C	D
APPVL	9/8 2/2/84			LTR				



FV-228-070

CATALOG NUMBER NP 8321 A 2E 120/60



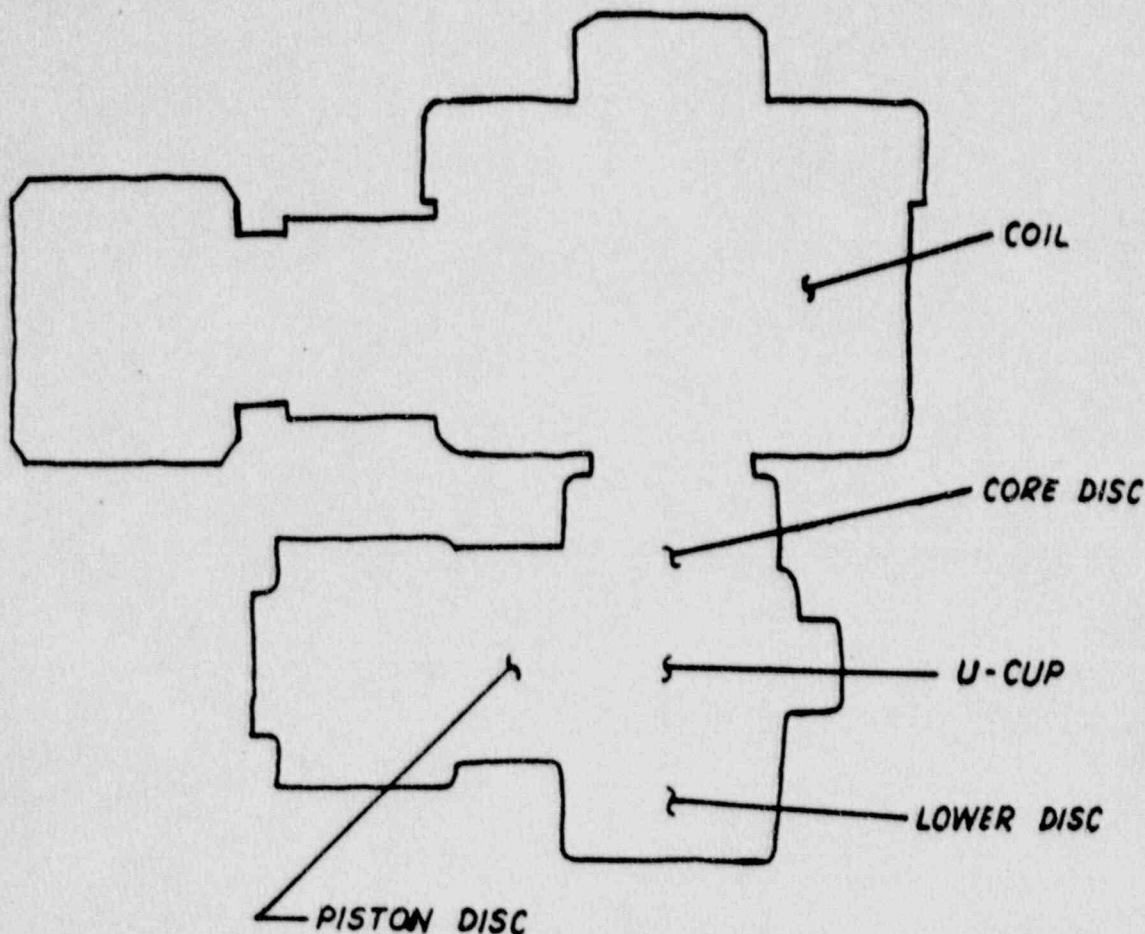
131° C	212° C	163° C	143° C	145° C	145° C
66° C	153° C	105° C	84° C	86° C	86° C
49° C	139° C	90° C	69° C	71° C	71° C
25° C	117° C	69° C	48° C	50° C	50° C
AMBIENT TEMPERATURE	COIL	CORE DISC	LOWER DISC	PISTON DISC	U-CUP
	MAXIMUM TEMPERATURE				

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD	
DRAWN	OCW 1-31-84		206-386	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED		SCALE	ASSY. REF. NO	CH <input type="checkbox"/>	CTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-070				
DFTG. APVD		PRINTED IN U.S.A. FILE						
ENGRG APPVL	JCF 3/1/84 GRS 2/2/84			CHG LTR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

FV-228-071

CATALOG NUMBER NP 8321 A 6E 120/60



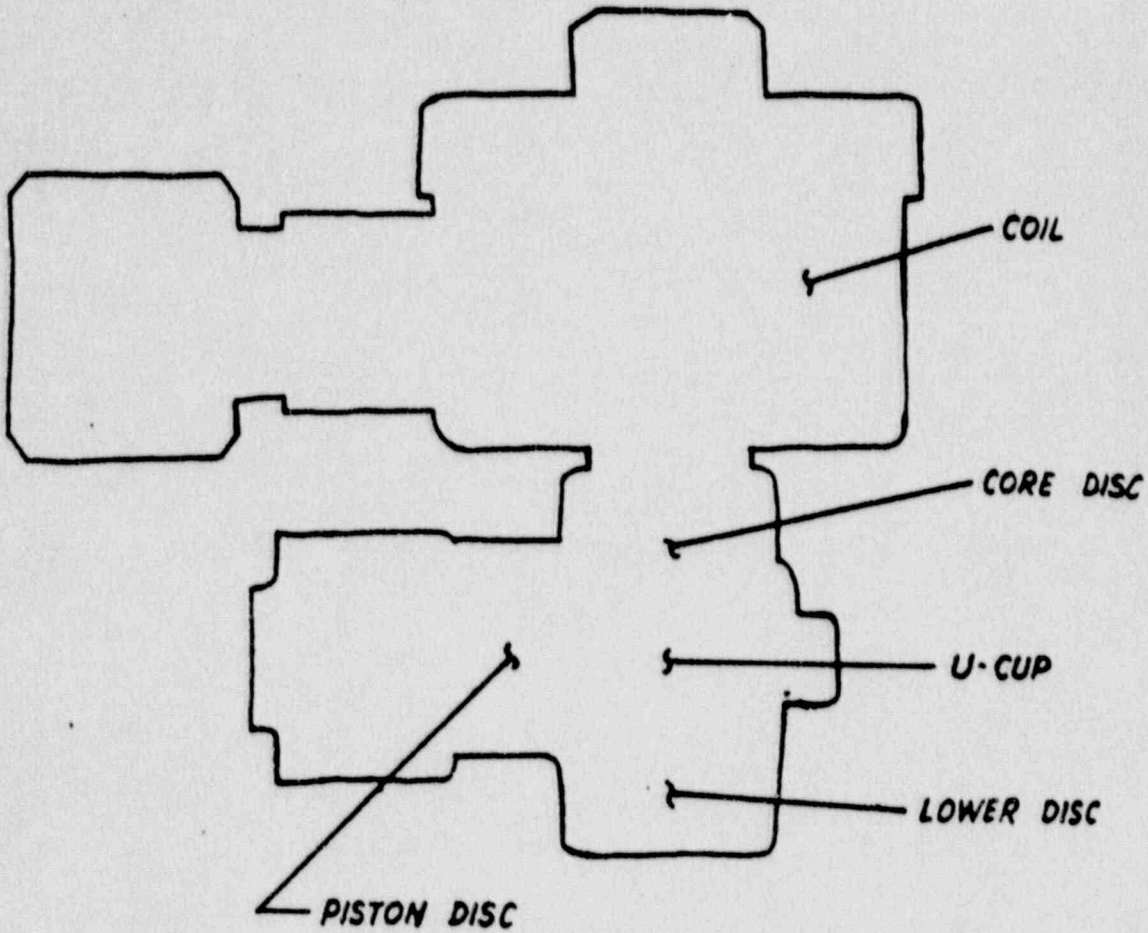
131° C	212° C	163° C	143° C	145° C	145° C
66° C	153° C	105° C	84° C	86° C	86° C
49° C	139° C	90° C	69° C	71° C	71° C
25° C	117° C	69° C	48° C	50° C	50° C
AMBIENT TEMPERATURE	COIL	CORE DISC	LOWER DISC	PISTON DISC	U-CUP
	MAXIMUM TEMPERATURE				

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD		
DRAWN	OCW		1-31-84	210-477	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
TRACED			ASSY. REF. NO	CH <input type="checkbox"/>	GTC <input type="checkbox"/>	DP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>	
CHECKED			Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-071				
DFTG APVD			PRINTED IN U.S.A. FILE						
ENGRG APPVL	JCE	2/1/84			CHG LTR	<del>X</del>	<del>X</del>	<del>X</del>	D
	SRS	2/2/84							

FV-228-072

CATALOG NUMBER NP 8321 A 6E 125/DC



131°C	211°C	163°C	143°C	145°C	145°C
66°C	167°C	105°C	84°C	86°C	86°C
49°C	154°C	90°C	69°C	71°C	71°C
25°C	135°C	69°C	48°C	50°C	50°C
AMBIENT TEMPERATURE	COIL	CORE DISC	LOWER DISC	PISTON DISC	U-CUP
MAXIMUM TEMPERATURE					

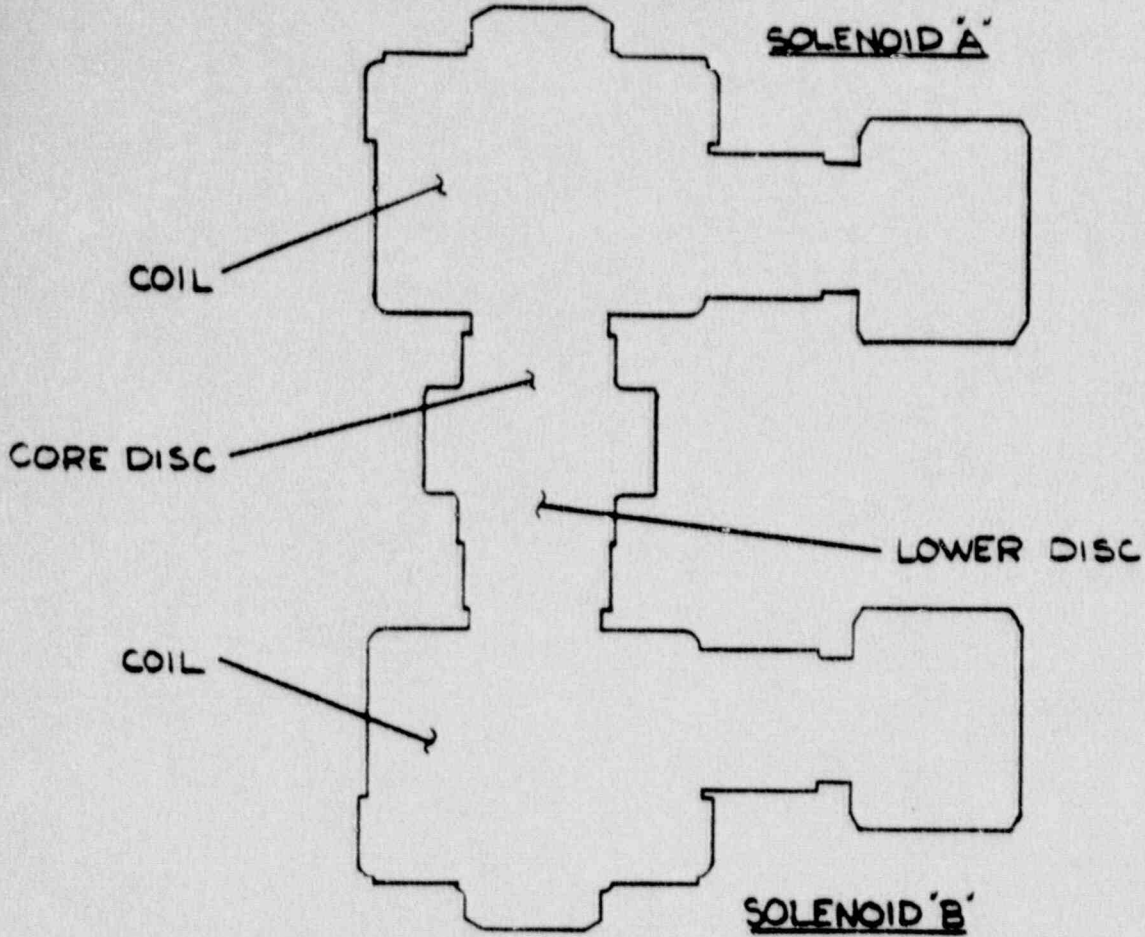
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW

BY	DATE	NONE	ER NO.	ITEM CHGD	CHG	DATE	APVD
OCW	1-31-84		210-477	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>
TRACED		SCALE	CH	BTG <input type="checkbox"/>	BP <input type="checkbox"/>	LA <input type="checkbox"/>	AG <input type="checkbox"/>
CHECKED		Automatic Switch Co. FLORHAM PARK, N. J.		FV-228-072			
DFTG. APVD		PRINTED IN U.S.A. FILE					
ENGRG	JEF	2/1/84			CHG	A B C D	
APPVL	OCW	2/2/84			LTR		



FV 236843

CATALOG NUMBER NP 8323 A20E AC/AC

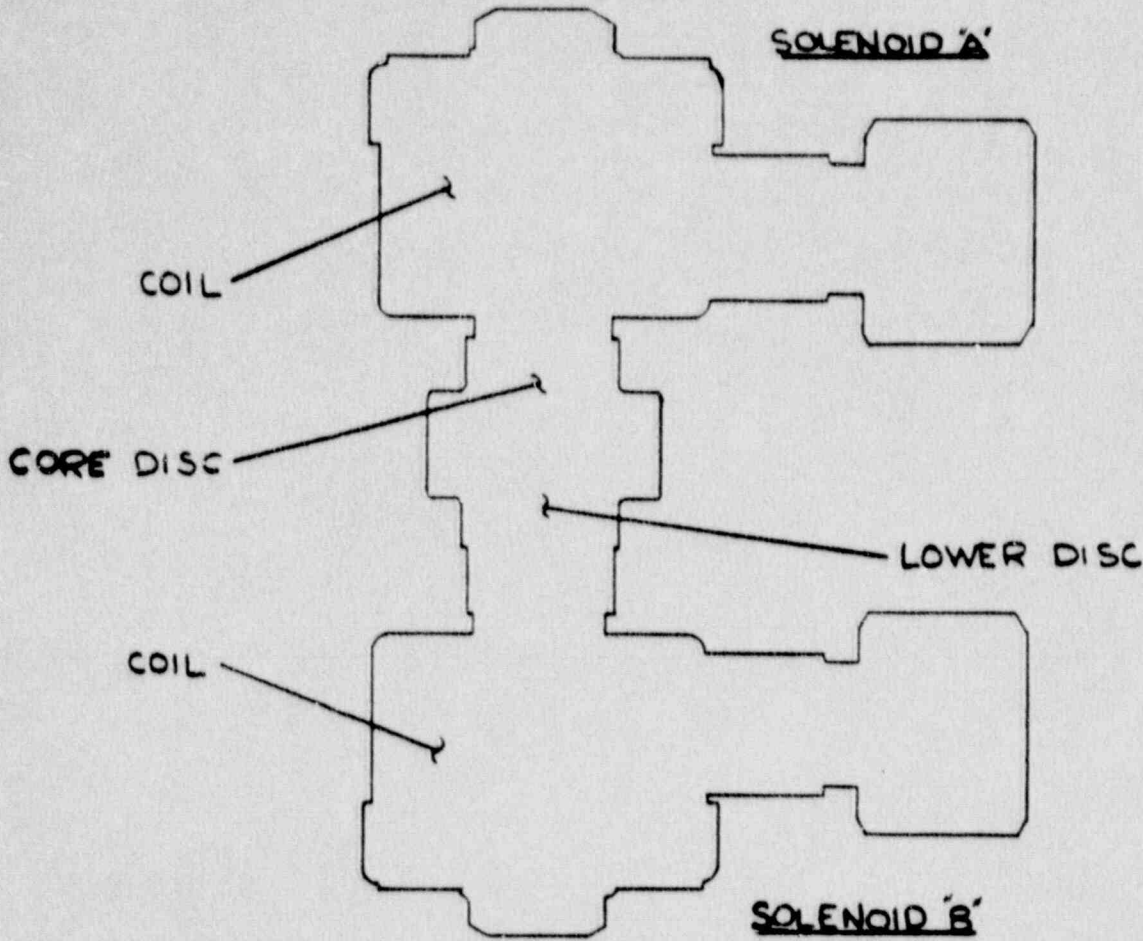


131°C	219°C	227°C	176°C	170°C
66°C	163°C	175°C	121°C	113°C
49°C	147°C	160°C	108°C	99°C
25°C	126°C	141°C	88°C	77°C
AMBIENT TEMP	COIL-SOL. 'A'	COIL-SOL. 'B'	CORE DISC	LOWER DISC
MAXIMUM TEMPERATURE				

ITEM									
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW									
					ER NO.	BY	DATE	APP	DATE
DRAWN	BY	DATE	SCALE		AE	AN	AL	AM	AJ
PROJ. APP.	BWB	7-7-87	NONE		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CHECKED	S.V.	7-7-87	210651		CH	AV	AR	AA	PS
DFT. APP.			ASSEM REF NO		AG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ENG. APP.	JCF	7/7/87	CRT		FV 236843				
	GRS	7/10/87	<input type="checkbox"/>						
<b>Automatic Switch Co. e</b> FLORHAM PARK, NEW JERSEY 07932 Printed in U.S.A.					CHANGE LETTER	A			
					FILE				

FV 236844

CATALOG NUMBER NP 8323 A36E AC/DC



131°C	219°C	223°C	174°C	165°C
66°C	163°C	177°C	122°C	112°C
49°C	147°C	164°C	108°C	97°C
25°C	126°C	150°C	88°C	77°C
AMBIENT TEMP	COIL-SOL. 'A'	COIL-SOL. 'B'	CORE DISC	LOWER DISC
MAXIMUM TEMPERATURE				

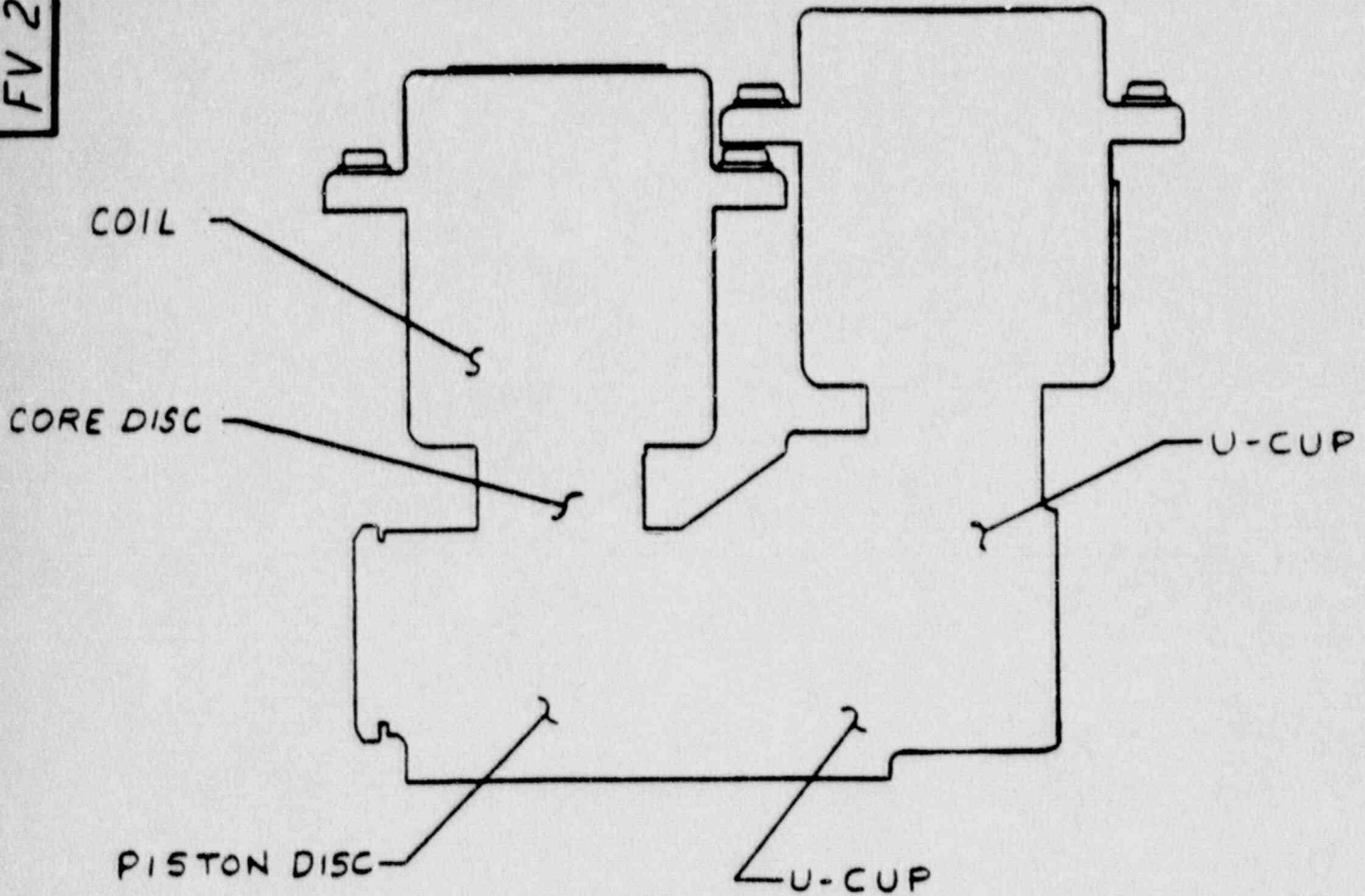
ITEM									
<div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> <p>MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW</p>									
ER NO.	BY	DATE	APP	DATE					

DRAWN	BY	DATE	SCALE	ASSEM REF NO	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
PROJ. APP.					CH <input type="checkbox"/>	AV <input type="checkbox"/>	AR <input type="checkbox"/>	AA <input type="checkbox"/>	PS <input type="checkbox"/>
CHECKED	G.V.	7-7-87			AG <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DFT. APP.					CRT <input type="checkbox"/>	FV 236844			
ENG. APP.	JCF	7/7/87	Automatic Switch Co.		FILE	CHANGE LETTER	A		
			FLORHAM PARK, NEW JERSEY 07932						

1. U. Dwg. 1709 R11

FV 236903

BULLETIN NP8344 AC



131°C	212°C	163°C	145°C	145°C
66°C	153°C	105°C	86°C	86°C
49°C	139°C	90°C	71°C	71°C
25°C	117°C	69°C	50°C	50°C
AMBIENT TEMPERATURE	COIL	CORE DISC	PISTON DISC	U-CUP
	MAXIMUM TEMPERATURE			

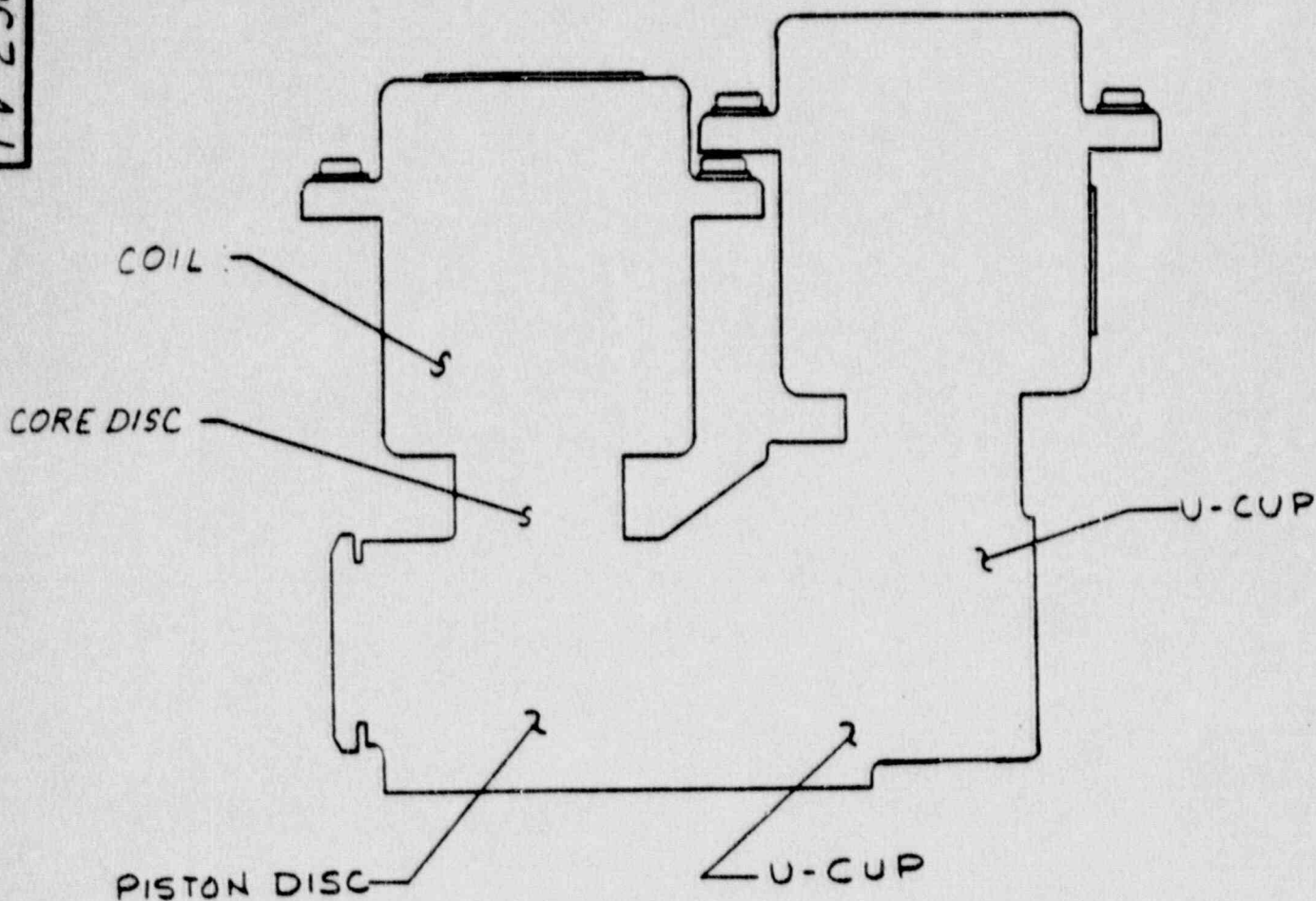
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW (DUAL SOLENOID)

BY	DATE	NONE	JVA 206390	ER NO.	BY	DATE	APP	DATE
DRAWN	J.H.G. 7-13-87			SCALE	ASSEM REF N°	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>
PROJ. APP.				CH <input type="checkbox"/>	AV <input type="checkbox"/>	AR <input type="checkbox"/>	AA <input type="checkbox"/>	PS <input type="checkbox"/>
CHECKED				AG <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DFT. APP.	RJS 7-22-87			CRT <input type="checkbox"/>	FV 236903			
ENG. APP.	EF 7/23/87 SBS 7/23/87	Automatic Seals, Co. FLORHAM PARK, NEW JERSEY 07932 PHILADELPHIA, U.S.A.		CHANGE LETTER	A			
				FILE				



FV 236904

BULLETIN NP8344 DC



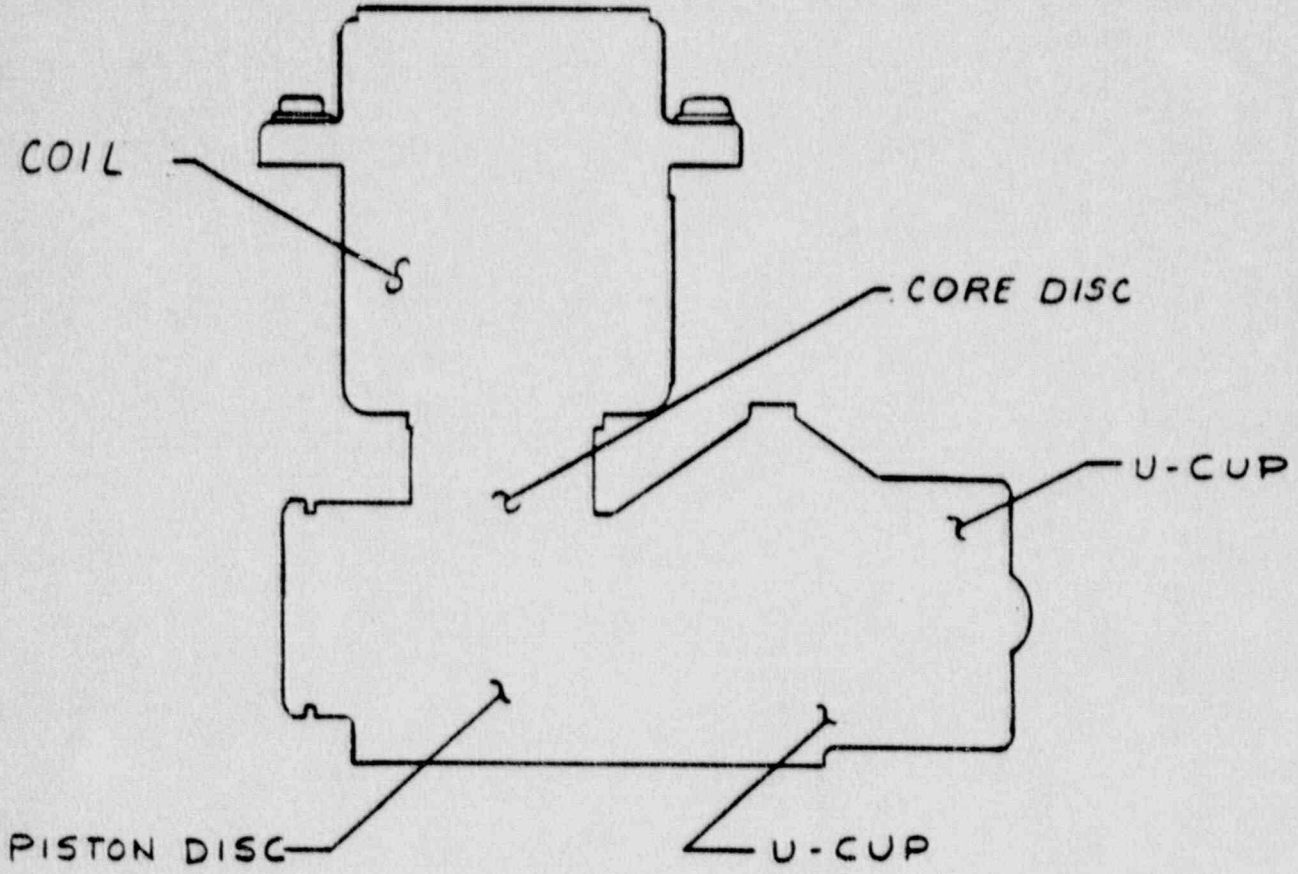
131°C	211°C	163°C	145°C	145°C
66°C	167°C	105°C	86°C	86°C
49°C	154°C	90°C	71°C	71°C
25°C	135°C	69°C	50°C	50°C
AMBIENT	COIL	CORE DISC	PISTON DISC	U-CUP
TEMPERATURE	MAXIMUM TEMPERATURE			

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW (DUAL SOLENOID)

BY	DATE	SCALE	NONE	JVA 206390	ER NO.	BY	DATE	APP	DATE
AE <input type="checkbox"/>	AN <input type="checkbox"/>				AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>	CH <input type="checkbox"/>	AV <input type="checkbox"/>
DRAWN	J.M.G 7-14-87				AG <input type="checkbox"/>				
PROJ. APP.					FV 236904				
CHECKED					CHANGE LETTER A				
DFT. APP.	RJS 7-27-87				FILE				
ENG. APP.	JCF 7/23/87	Automatic Switch Co.			FLORHAM PARK, NEW JERSEY 07932 Printed in U.S.A.				
	SRS 7/23/87								

FV 236905

BULLETIN NP8344 AC



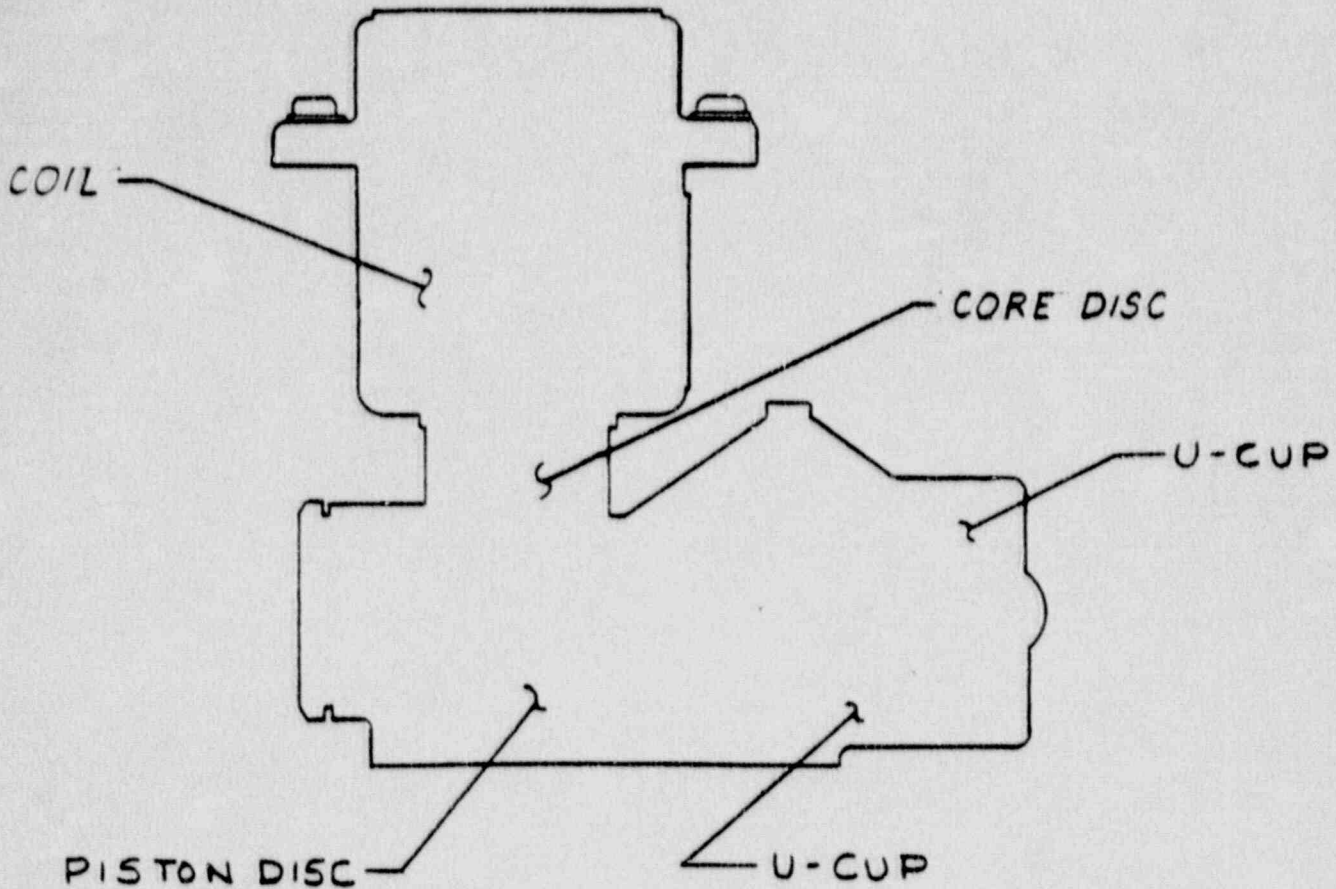
131°C	212°C	163°C	145°C	145°C
66°C	153°C	105°C	86°C	86°C
49°C	139°C	90°C	71°C	71°C
25°C	117°C	69°C	50°C	50°C
AMBIENT TEMPERATURE	COIL	CORE DISC	PISTON DISC	U-CUP
	MAXIMUM TEMPERATURE			

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW (SINGLE SOLENOID)

BY	DATE	NONE	JVA 208265	ER NO.	BY	DATE	APP	DATE
DRAWN	JMG 7-12-87			BL. LE	ASSEM REF NO	AE <input type="checkbox"/>	AN <input type="checkbox"/>	FL <input type="checkbox"/>
PROJ. APP.				CH <input type="checkbox"/>	AV <input type="checkbox"/>	AR <input type="checkbox"/>	AA <input type="checkbox"/>	PS <input type="checkbox"/>
CHECKED				AG <input type="checkbox"/>				
DFT. APP.	RJS 7-22-87			FV 236905				
ENG. APP.	JCE 7/23/87	Automatic Switch Co.		CHANGE LETTER	A			
	RS 7/23/87	FLORHAM PARK, NEW JERSEY 07932 PRINTED IN U.S.A.		FILE				

FV 236906

BULLETIN NP8344 DC



131°C	211°C	163°C	145°C	145°C
66°C	167°C	105°C	86°C	86°C
49°C	154°C	90°C	71°C	71°C
25°C	135°C	69°C	50°C	50°C
AMBIENT TEMPERATURE	COIL	CORE DISC	PISTON DISC	U-CUP
	MAXIMUM TEMPERATURE			

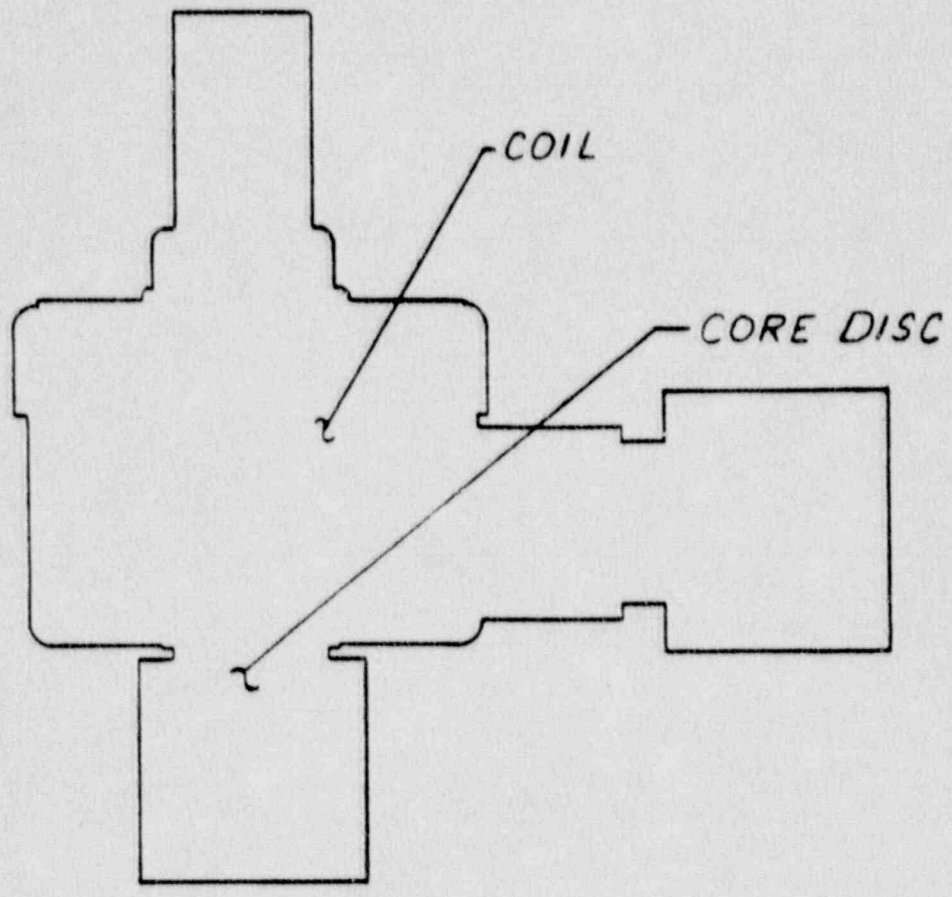
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW (SINGLE SOLENOID)

BY	DATE	NONE	JVA 208265	ER NO.	BY	DATE	APP	DATE
DRAWN	J.H.G. 7-13-87			SCALE	ASSEM REF NO	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>
PROJ. APP.				CH <input type="checkbox"/>	AV <input type="checkbox"/>	AR <input type="checkbox"/>	AA <input type="checkbox"/>	PS <input type="checkbox"/>
CHECKED				AG <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DFT. APP.	RJS 7-21-87			CRT	FV 236906			
ENG. APP.	JCF 7-21-87			FILE	CHANGE LETTER	A		
	SRS 7-21-87	Automatic Spritz, Co.						
		FLORHAM PARK, NEW JERSEY 07932 Printed in U.S.A.						



FV 236907

BULLETIN NP8314 AC



131°C	212°C	163°C
66°C	153°C	105°C
49°C	139°C	90°C
25°C	117°C	69°C
AMBIENT	COIL	CORE DISC
TEMPERATURE	MAXIMUM TEMPERATURE	

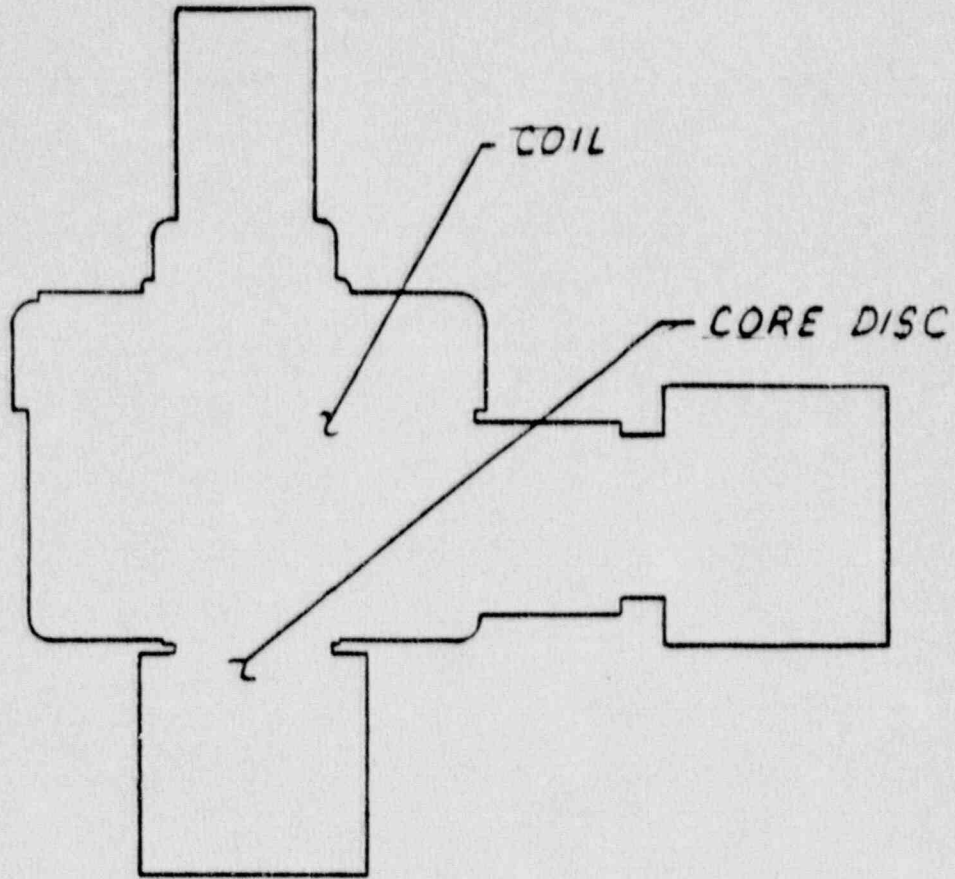
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW (RESILIENT DISC)

ER NO.	BY	DATE	APP	DATE

<table border="1"> <tr> <td>BY</td> <td>DATE</td> </tr> <tr> <td>J.M.G.</td> <td>7-10-87</td> </tr> <tr> <td>PROJ. APP.</td> <td> </td> </tr> <tr> <td>CHECKED</td> <td> </td> </tr> <tr> <td>DFT. APP.</td> <td>RJS 7-22-87</td> </tr> <tr> <td>ENG. APP.</td> <td>JCF 7/23/87</td> </tr> <tr> <td> </td> <td>JRS 7/23/87</td> </tr> </table>	BY	DATE	J.M.G.	7-10-87	PROJ. APP.		CHECKED		DFT. APP.	RJS 7-22-87	ENG. APP.	JCF 7/23/87		JRS 7/23/87	NONE SCALE	JVA 218379 ASSEM REF NO	<table border="1"> <tr> <td>AE</td><td>AN</td><td>AL</td><td>AM</td><td>AJ</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>CH</td><td>AV</td><td>AR</td><td>AA</td><td>PS</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>AG</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table>	AE	AN	AL	AM	AJ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CH	AV	AR	AA	PS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BY	DATE																																									
J.M.G.	7-10-87																																									
PROJ. APP.																																										
CHECKED																																										
DFT. APP.	RJS 7-22-87																																									
ENG. APP.	JCF 7/23/87																																									
	JRS 7/23/87																																									
AE	AN	AL	AM	AJ																																						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																						
CH	AV	AR	AA	PS																																						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																						
AG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																						
Automatic Switch Co. FLORHAM PARK, NEW JERSEY 07932 PRINTED IN U.S.A.			CRT <input type="checkbox"/>																																							
FV 236907			CHANGE LETTER A																																							
FILE			A																																							

FV 236908

BULLETIN NP8314 DC



131°C	211°C	163°C
66°C	167°C	105°C
49°C	154°C	90°C
25°C	135°C	69°C
AMBIENT TEMPERATURE	COIL	CORE DISC
	MAXIMUM TEMPERATURE	

MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW (RESILIENT DISC)

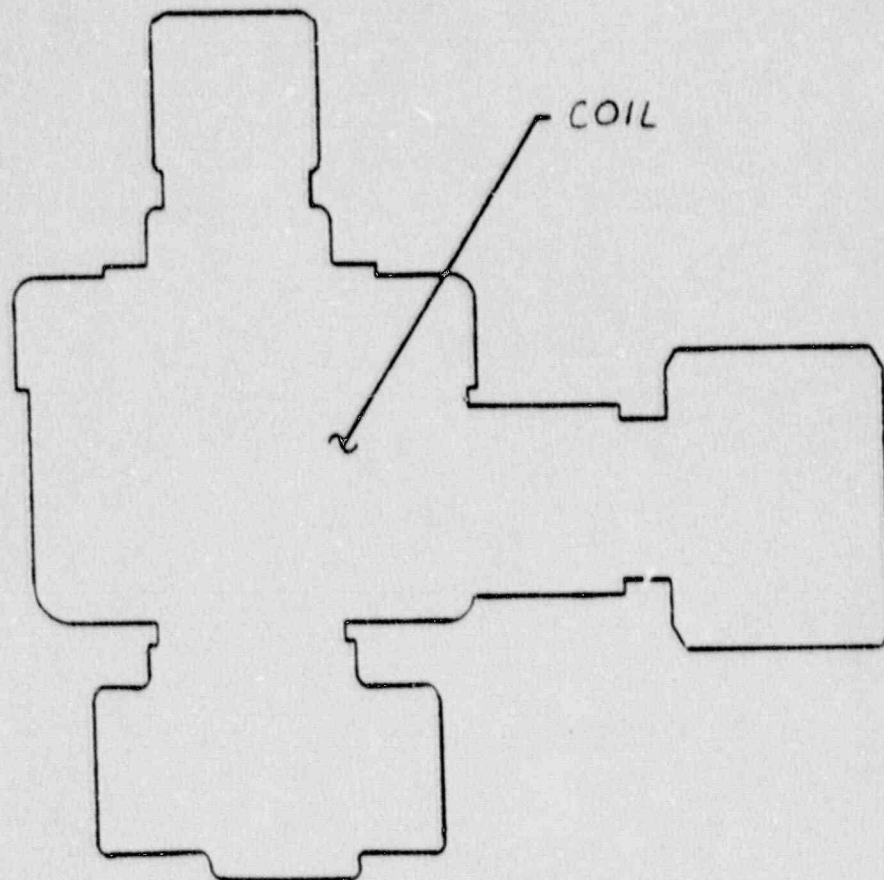

BY	DATE	SCALE	ASSEM REF NO	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>	
DRAWN	JM.G 7-10-87	NONE	JVA 218379	CH <input type="checkbox"/>	AV <input type="checkbox"/>	AR <input type="checkbox"/>	AA <input type="checkbox"/>	PS <input type="checkbox"/>	
PROJ. APP.				AG <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CHECKED				CRT					
DFT. APP.	RJS 7-27-87			FV 236908					
ENG. APP.	JRF 7/29/87 RJS 7/13/87	Automatic Switch Co. FLORHAM PARK, NEW JERSEY 07672 PRINTED IN U.S.A.			CHANGE LETTER	A			





FV 236910

BULLETIN NP8314 DC



131°C	211°C
66°C	167°C
49°C	154°C
25°C	135°C
AMBIENT TEMPERATURE	COIL
	MAXIMUM TEMPERATURE

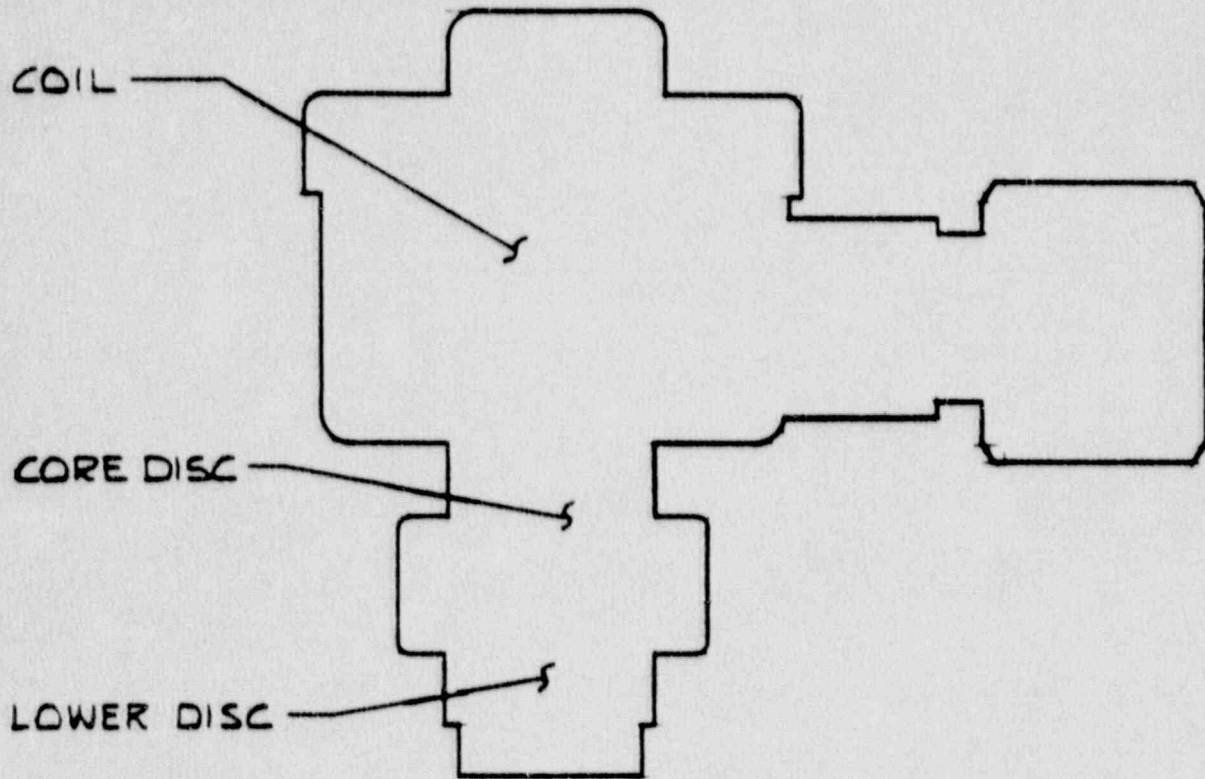
MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW (METAL DISC)


ER NO. BY DATE APP DATE

BY	DATE	NONE	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
DRAWN	J.M.G. 7-13-87		JVA 220632	CH <input type="checkbox"/>	AV <input type="checkbox"/>	AR <input type="checkbox"/>	AA <input type="checkbox"/>
PROJ. APP.		SCALE	ASSEM REF NO	AG <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CHECKED				CRT			
DFT. APP.	RJS 7-21-87			FV 236910			
ENG. APP.	JEP 7/21/87	Automatic Switch Co.		CHANGE LETTER	A		
APP.	SD 7/21/87	FLORHAM PARK, NEW JERSEY 07032 PRINTED IN U.S.A.		FILE			

FV 238403

AMBIENT TEMPERATURE	MAXIMUM TEMPERATURE		
	COIL	CORE DISC	LOWER DISC
25° C	135° C	69° C	48° C
49° C	154° C	90° C	69° C
66° C	167° C	105° C	84° C
131° C	211° C	163° C	143° C



CATALOG NUMBER NP 8320 A 185E 125/DC

ITEM																			
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MAXIMUM TEMPERATURES OF COIL AND CRITICAL ELASTOMERS WITH VALVE ENERGIZED AND NO FLOW																			
				ER NO.		BY		DATE											
DRAWN		LFB		11-87		NONE		210-450											
PROJ. APP.						SCALE		ASSEM REF NO											
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DFT. APP.		RJS		11-87		CH		AV											
ENG. APP.		EF		11/17/87		AG		AR											
		SRS		11/17/87		AA		PS											
						AG		C											
Automatic Switch Co. e						CRT		FV 238403											
FLORHAM PARK, NEW JERSEY 07932 Printed in U.S.A						FILE		CHANGE LETTER											
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Form V. Dtg. 1709 R11

## Revised Field Notification of the DISCONTINUATION OF NP8323 VALVE LINE

1. Several BWR nuclear power plants have experienced a main steam isolation valve (MSIV) closing problem that has eventually been traced to the NP8323 series solenoid operated valve controlling the piloting of the MSIV actuator. ASCO has conducted a thorough review of the available information concerning these incidents and has concluded that the NP8323 valves have no defects.
2. The results of ASCO's investigation indicate that the primary cause of the MSIV malfunction is contamination of the ASCO NP8323 valves by foreign materials which either inhibit movement of internal parts or degrade the ethylene propylene elastomers. In both cases, the excessively high ambient temperature in the MSIV area, the relatively high normal radiation, and the potential for even higher temperatures from steam leaks may all be contributory factors to the malfunctioning which has occurred. It appears that the likely source of the contamination is lubricant or other material from the MSIV actuator that has entered the ASCO NP8323 valves during exhaust cycling of the MSIV actuators. NRC Information Notices 85-17, 86-57, and 87-28 as well as G.E. Service Information Letter (SIL) No. 481 tend to substantiate this.
3. The MSIV piloting application is the primary use for ASCO NP8323 valves. Since it is unlikely that any significant changes will be made to the service conditions in the MSIV area, which ASCO has no control over, it has been decided that, effective immediately, ASCO will no longer offer for sale, NP8323 Series qualified valves with ethylene propylene elastomers ("E" suffix valves). ASCO will continue to support qualification of all previously supplied NP8323 valves. ASCO will also continue to offer NP8323 valves with Viton elastomers ("V" suffix valves) until September 1, 1990 in order to allow users sufficient time to eliminate NP8323 Series valves from MSIV systems. However, ASCO recommends that all NP8323 valves be removed from MSIV piloting applications as soon as possible consistent with normal plant operation and maintenance schedules.
4. Fortunately, the NP8323 valves can be replaced with an alternate construction which is less vulnerable to foreign material contamination and offers distinct advantages. This alternative consists of a pair of NP8320 series valves with Viton elastomers. Although less tolerant of radiation, Viton provides superior performance in the MSIV piloting application. Two NP8320

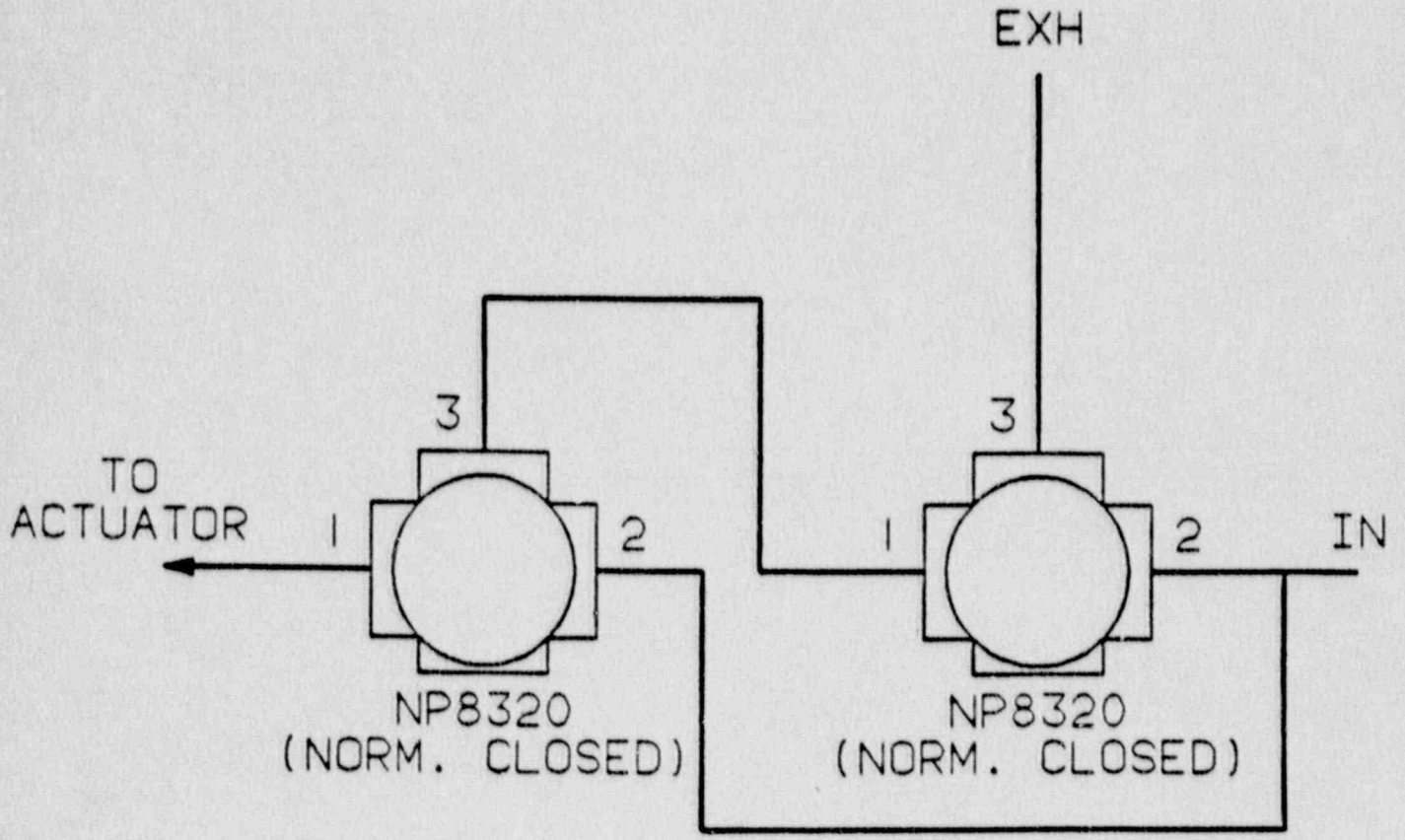


4. -continued-

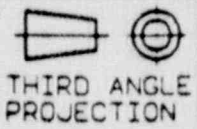
series valves (normally closed construction) can be piped in a configuration which will duplicate the function of the presently used NP8323 pilots. Please refer to drawing FP238900 attached. Like the NP8323 series, the NP8320 series valves are fully qualified for safety-related applications with the following advantages:

- a. Superior pressure rating
  - b. Superior flow, and therefore, capability for faster shift times.
  - c. Lower operating temperature of critical components.
  - d. No core assemblies in the cylinder to exhaust path of the valves where ASCO has previously seen evidence of inhibited movement of the core assemblies due to foreign material contamination.
  - e. The NP8320 series valves are immediately available.
5. ASCO will be pleased to accept the return of any unused NP8323 valves and apply their value as credit against orders for other ASCO NP series valves.

JRS:mm



PIPING DIAGRAM  
 FOR DUAL NP 8320 VALVE



BY		DATE	COMPUTER GENERATED DRAWING		ER NO.	BY	APP.	DATE		
DRAWN BY		LFB 3-88	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCQ PROCEDURE MP-1-003		NONE	AE <input type="checkbox"/>	AN <input type="checkbox"/>	AL <input type="checkbox"/>	AM <input type="checkbox"/>	AJ <input type="checkbox"/>
PROJ APP			SCALE		ASSEM REF NO	CH <input type="checkbox"/>	AV <input type="checkbox"/>	AR <input type="checkbox"/>	AA <input type="checkbox"/>	PS <input type="checkbox"/>
CHECKED						AG <input type="checkbox"/>	AP <input type="checkbox"/>	AK <input type="checkbox"/>	AC <input type="checkbox"/>	
DFT APP						<input type="checkbox"/> CRT				
END APP			<b>Automatic Switch Co.</b>		FILE	FILE	CHANGE LETTER			
			FLORMAN PARK, NEW JERSEY 07932 PRINTED IN U S A							


FP 238900				