

AUTOMATIC SEQUENCER UNIT

Vacuum system

H. Dijkhuizen and J.C. Thomi

1. Functional description
2. Drawings
 - 365-314-4 Front panel lay-out
 - 365-312-3 " "
 - 365-313-3 " " cover
 - 365-116-4 Printed circuit schema
 - 365-117-4 Plug-in wiring schema
 - 365-207-4 Wiring table plug Burndy
 - 365-601-4 Components list

1. Functional description

This unit makes it possible to start the pumping down cycle or the N² inlet cycle, whereafter the required operations for a selected cycle are switched automatically according to the pressures detected by the various vacuum trips.

Starting either cycle results in distributing the 24 V d.c. to the on or off entry of all control units, resp. turbomolecular pump control unit and the ion pump power supplies in a pump group.

In addition the unit locates repeater relays to check the following situations:

Vacuum tank pressure atm./vacuum
Rotary pump on/off
Turbomolecular pump automatic/manual
High vacuum valve open/closed
Sector valves open/closed.

Contact combinations of these relays control the following operations :

Start turbomolecular pump
Ionisation trip on/off
Air inlet valve open/closed.

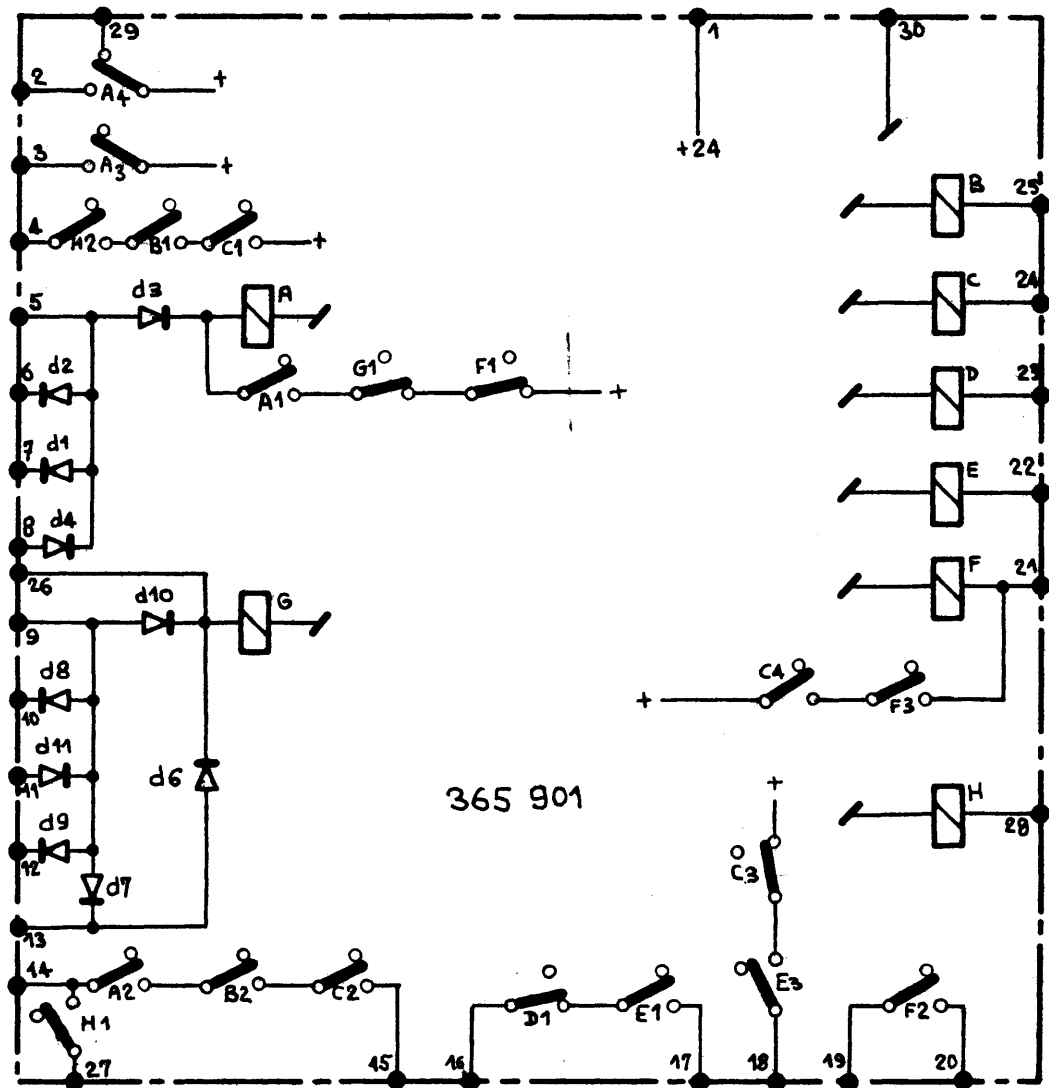
For "air inlet request" the following signalisation is foreseen :

Ion pumps off
Isolation valves closed,

which results in opening the air inlet valve.

The unit has provisions for remote control from the accelerator tunnel.

DESIGNATION	CARACTERISTIQ.	QUANTITES				REMARQUES
		PAR CIRCUIT	PAR TIROIR	TOTAL LIVRE	MANQUE	
Relais	24 V 4 switch	8	8			Varley 700 Schurter
Diodes	10 D 10	18	18			
Lampes	PFG 451		6			
Boutons-poussoirs	EAO 01-121		3			
Mécanique CIM	4 H - 2 L		1			
Prise Burndy	MS 50 PM		1			
Pin Burndy	RM 24		30			

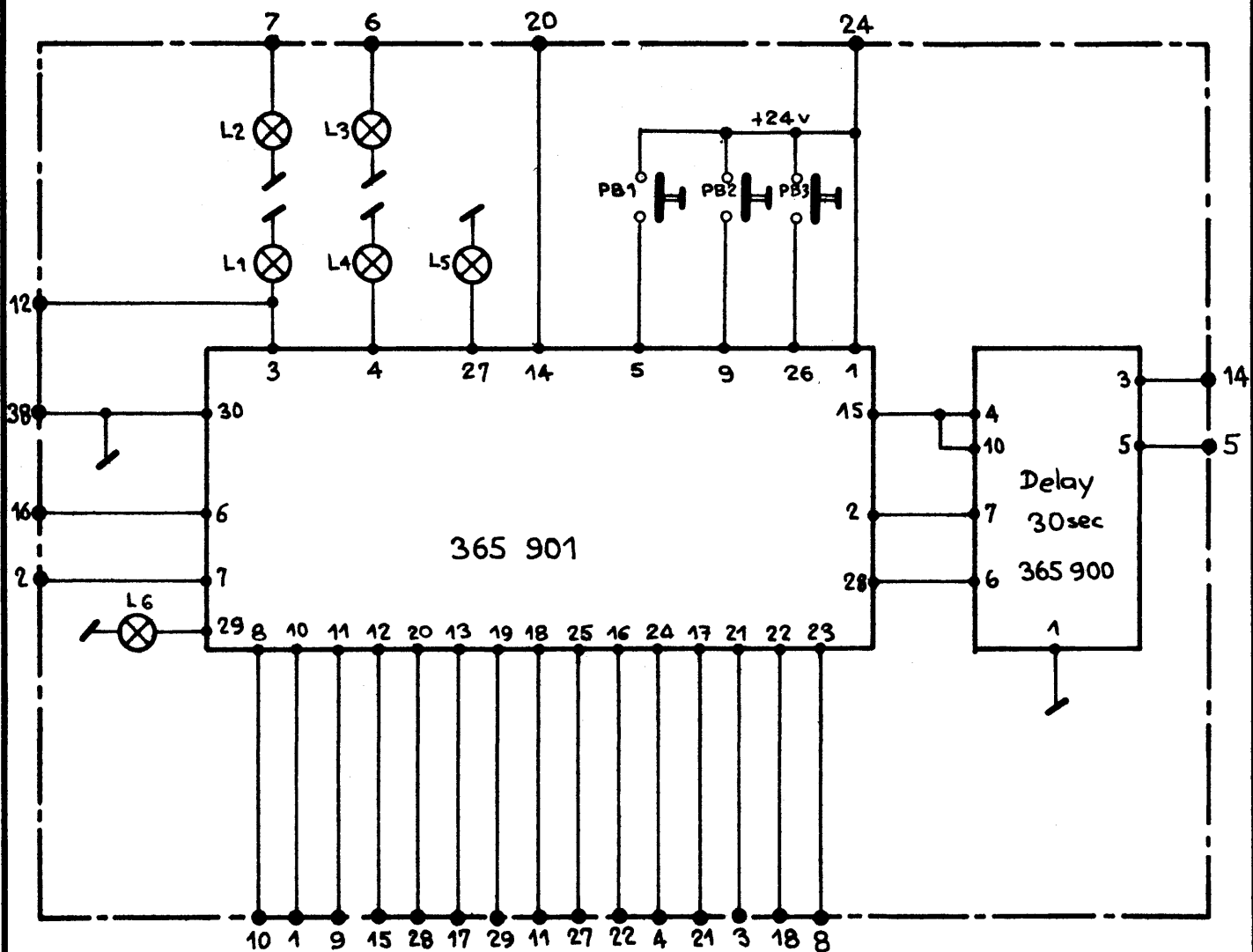


Nombre de pièces			Désignation		Pos.	Matière	Observations					
III	II	I	Mod.	Date	Nom		Tolérances générales					
			A			de	à	±				
			B			de	à	±				
			C			de	à	±				
			Ensemble Vacuum system					S. Ensemble		Dessiné	12.5.70	Garrivet
										Contrôlé	17-6-70	<i>[Signature]</i>
										Vu		
										Remplace		
										Remplacé par		
AUTOMATIC SEQUENCER UNIT							Echelle					
ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH							FES		365.116.4			
1211 GENÈVE 23												

Dossier N°

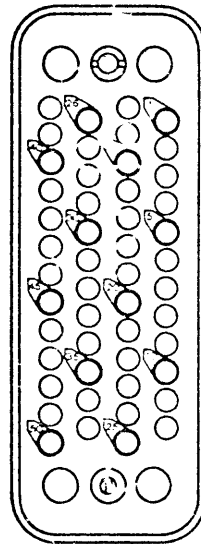
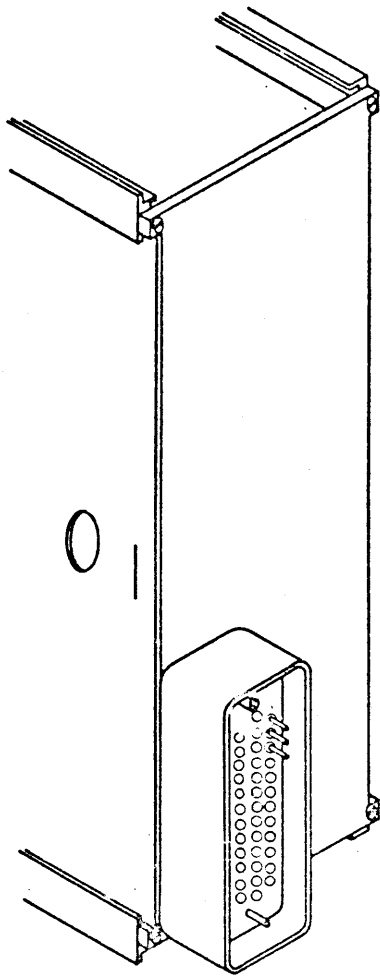
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Push botton : EAO 01 121
 L1...L6 : lamp Schurter PFG 451

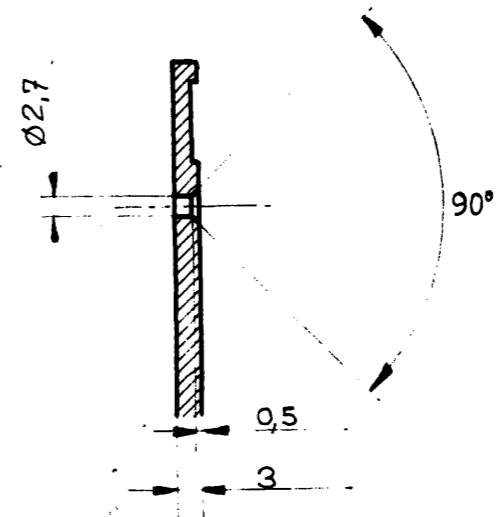
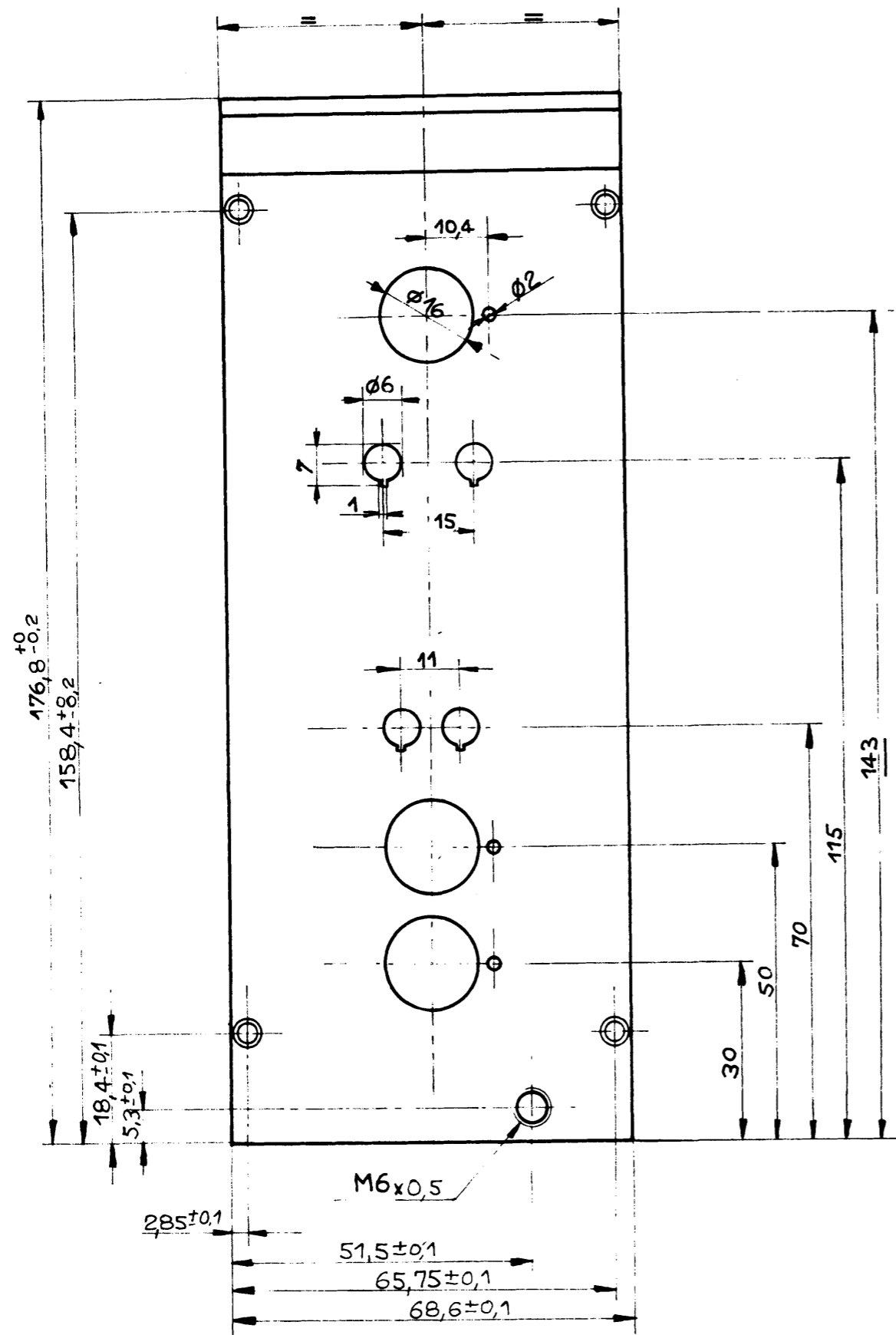
Nombre de pièces			Désignation		Pos.	Matière	Observations					
III	II	I	Mod.	Date	Nom	Tolérances générales						
			A			de	à	±				
			B			de	à	±				
			C			de	à	±				
Dossier N°	Dossier N°	Dossier N°	Ensemble Vacuum system		S. Ensemble			Dessiné	12-5-70	Garrivet		
									Contrôlé	17-6-70	<i>[Signature]</i>	
									Vu			
			AUTOMATIC SEQUENCER UNIT						Echelle		Remplace	
											Remplacé par	
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BURNDY
MS50P SGEI.

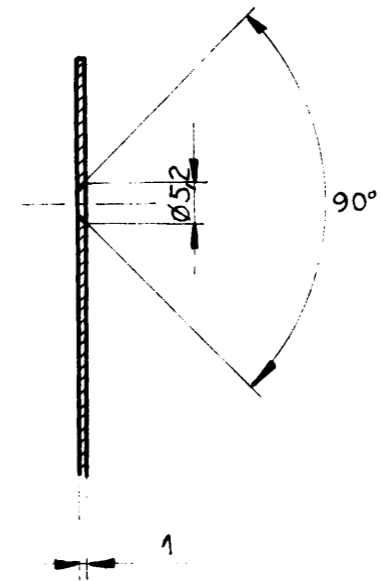
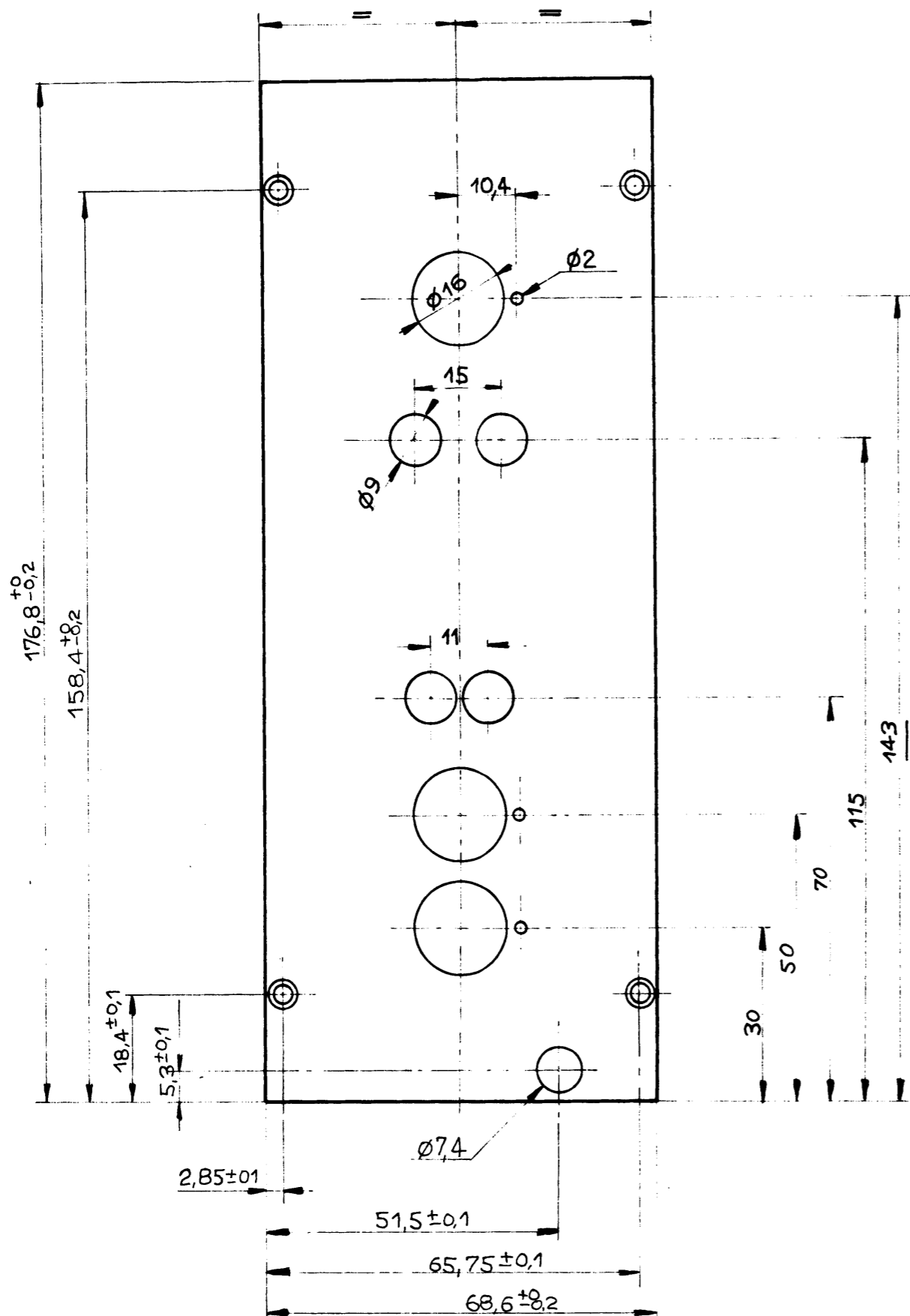
1	Start Request 2	13		26	+250V	38	0
2	Stop Request	14	Interlock Ready status	27		39	
3	Atmosphere pressure	15	TMP station automatic request	28		40	
4	High vacuum valve closed	16	TMP station stop request	29		41	
5	N ₂ inlet valve	17	TMP station start request	30		42	
6	N ₂ inlet valve open	18	Rotary pump on status	31		43	
7	N ₂ inlet valve closed	19		32		44	
8	TMP station automatic	20	ion pump off status	33		45	
9	TMP start request	21	Penning start /stop	34		46	
10	N ₂ inlet request	22	Penning + 24v	35		47	
11	Start pump status	23		36		48	
12	N ₂ inlet request status	24	+ 24 V	37	+ 5 V	49	
		25				50	\bar{E}

CONNECTEUR ARRIERE	CERN-PS/FES
Automatic sequencer unit	N° 365-207-4



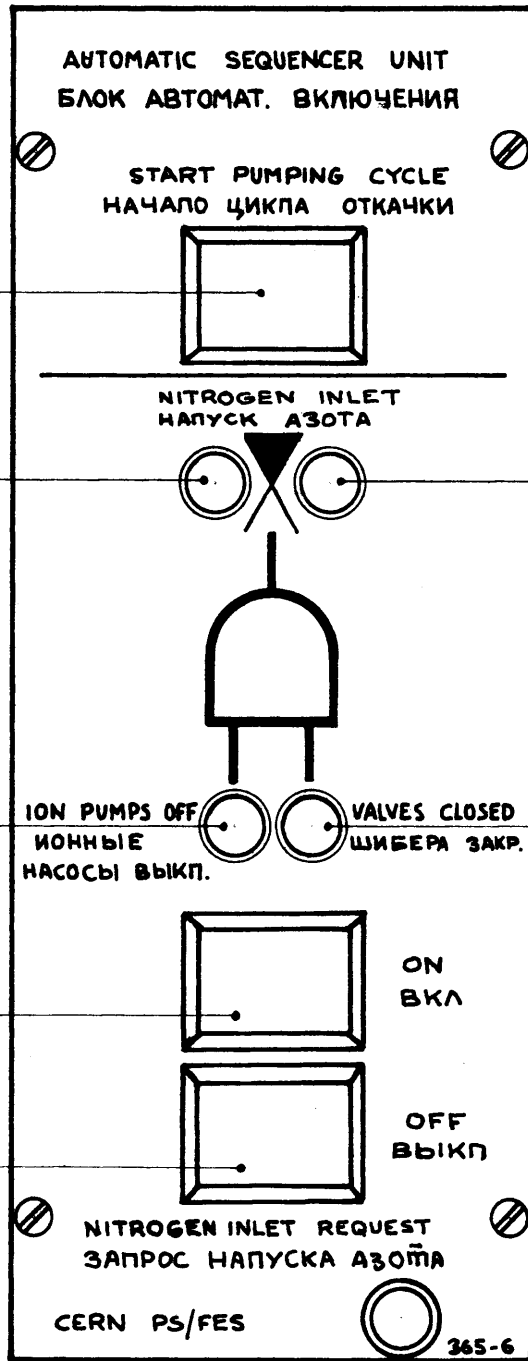
Material : Anticorodal B
Etching : Alcalin solution

Nombre de pièces			Désignation		Pos.	Matière	Observations			
III	II	I	Mod.	Date	Nom	Tolérances générales				
			A			de	à		±	
			B			de	à		±	
			C			de	à		±	
			Ensemble Vacuum system						S. Ensemble	
Automatic sequencer unit					Echelle		Contrôlé	<i>[Signature]</i>	17-6-70	
FRONT PANEL					4H x 2L		Vu		Remplace	
					1:1		Remplacé par			
ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH							FES		365.312.3	
1211 GENÈVE 23										



Material: Peraluman 30PRE
 Surface: Brush - dull finish
 Film N° 365-6

Nombre de pièces			Désignation		Poç.	Matière	Observations			
III	II	I	Mod.	Date	Nom	Tolérances générales				
			A			de	à	±		
			B			de	à	±		
			C			de	à	±		
			Ensemble Vacuum system			S. Ensemble		Dessiné	Garrivel	12.5.70
			Automatic sequencer unit			Echelle		Contrôlé	J. Dyll	17-6-70
			FRONT PANEL COVER 4H-2L					Vu		
								Remplace		
								Remplacé par		
			ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE			FES		365-313-3		
			CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH							
			1211 GENÈVE 23							



Nombre de pièces			Désignation	Pos.	Matière	Observations		
III	II	I	Mod.	Date	Nom	Tolérances générales		
			A			de à ±		
			B			de à ±		
			C			de à ±		
Dossier N°	Dossier N°	Dossier N°	Ensemble Vacuum system		S. Ensemble	Dessiné 13-5-70 Garrivet		
			CIM Module 4H-2L				Echelle	Contrôlé 17-6-70 [Signature]
			AUTOMATIC SEQUENCER UNIT FRONT PANEL					Vu
							Remplace	
			Remplacé par					
ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH FES						365.314_4		
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