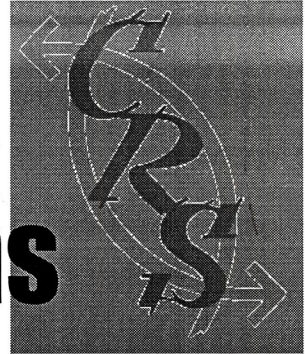




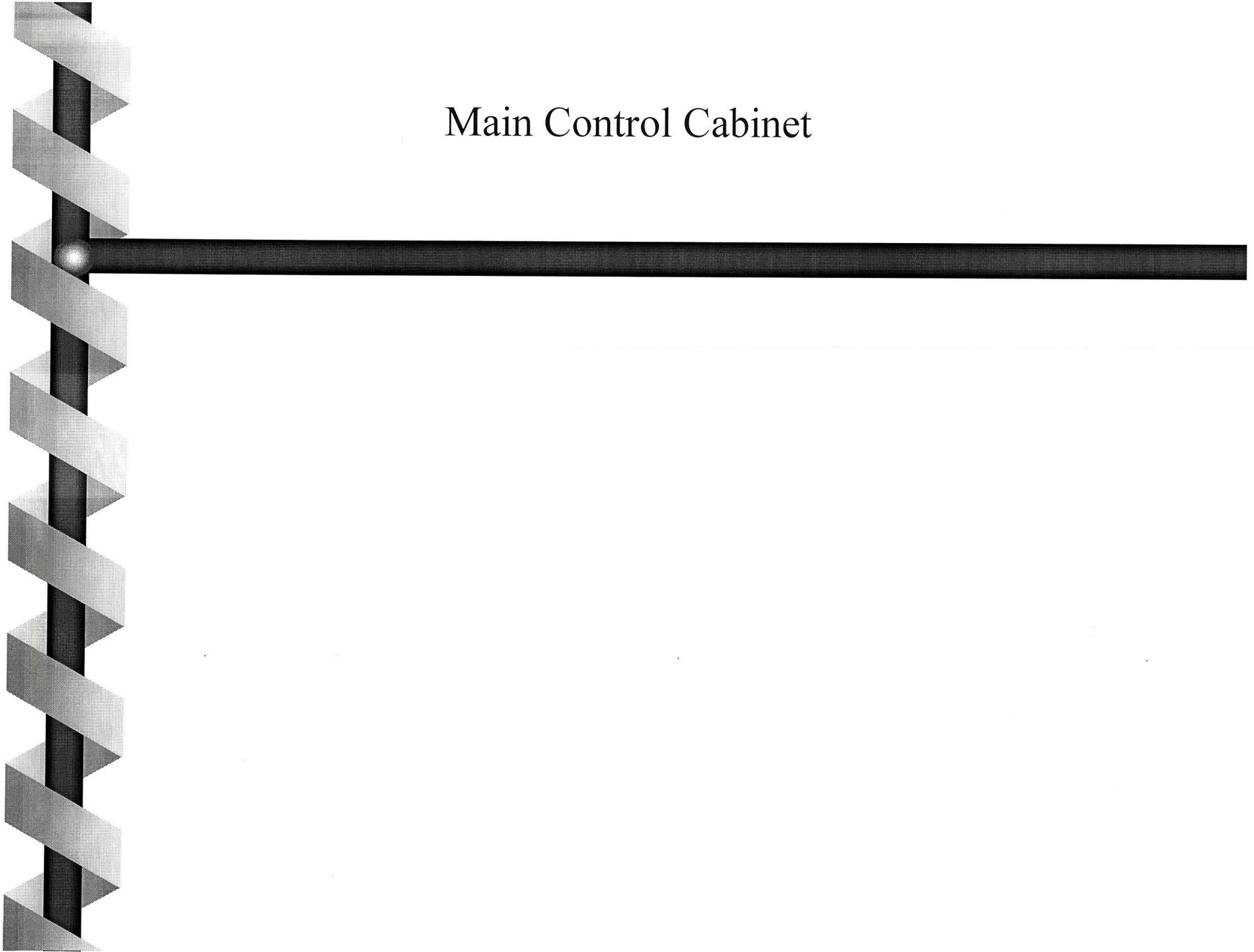
# Car Recycling Systems

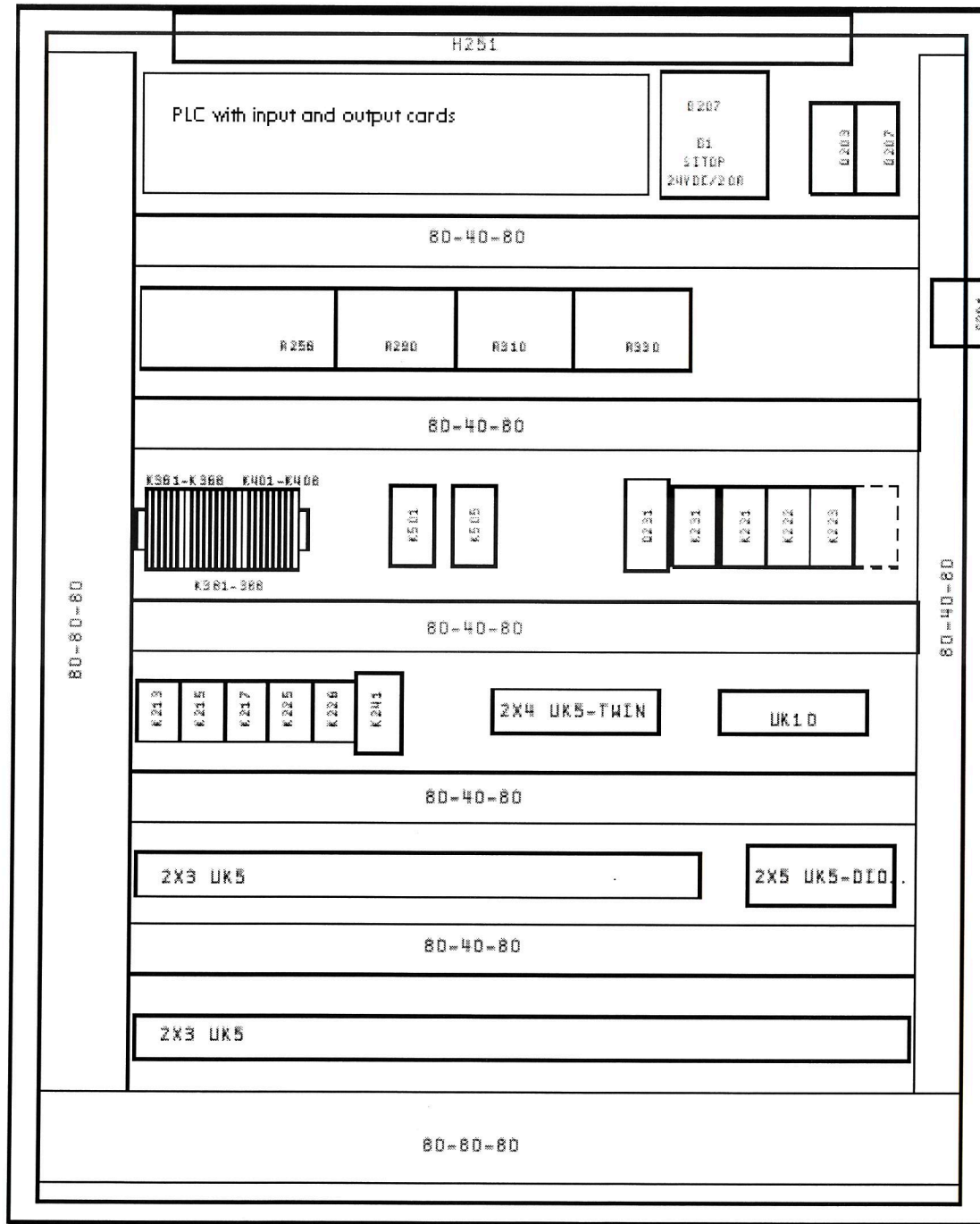
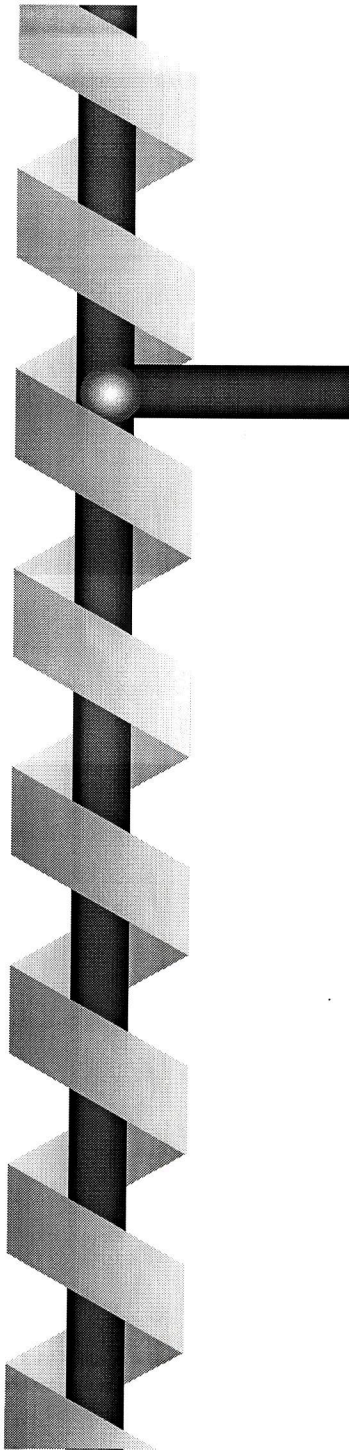


Electrical Installation

- **Cabinet**
- **Hydraulic Unit**
- **Control Desk**
- **Installation**
- **Safety**

# Main Control Cabinet









Power Supply

**Hydraulic Pump**  
**24 Volt Control Supply**



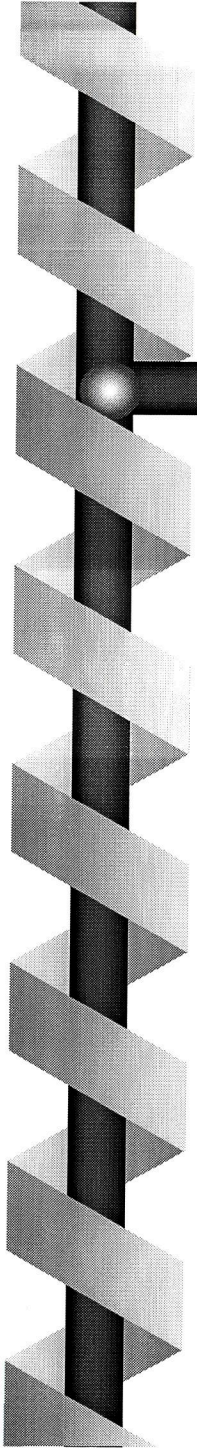


# In and Outputs

Controlled By the PLC

Gets Inputs

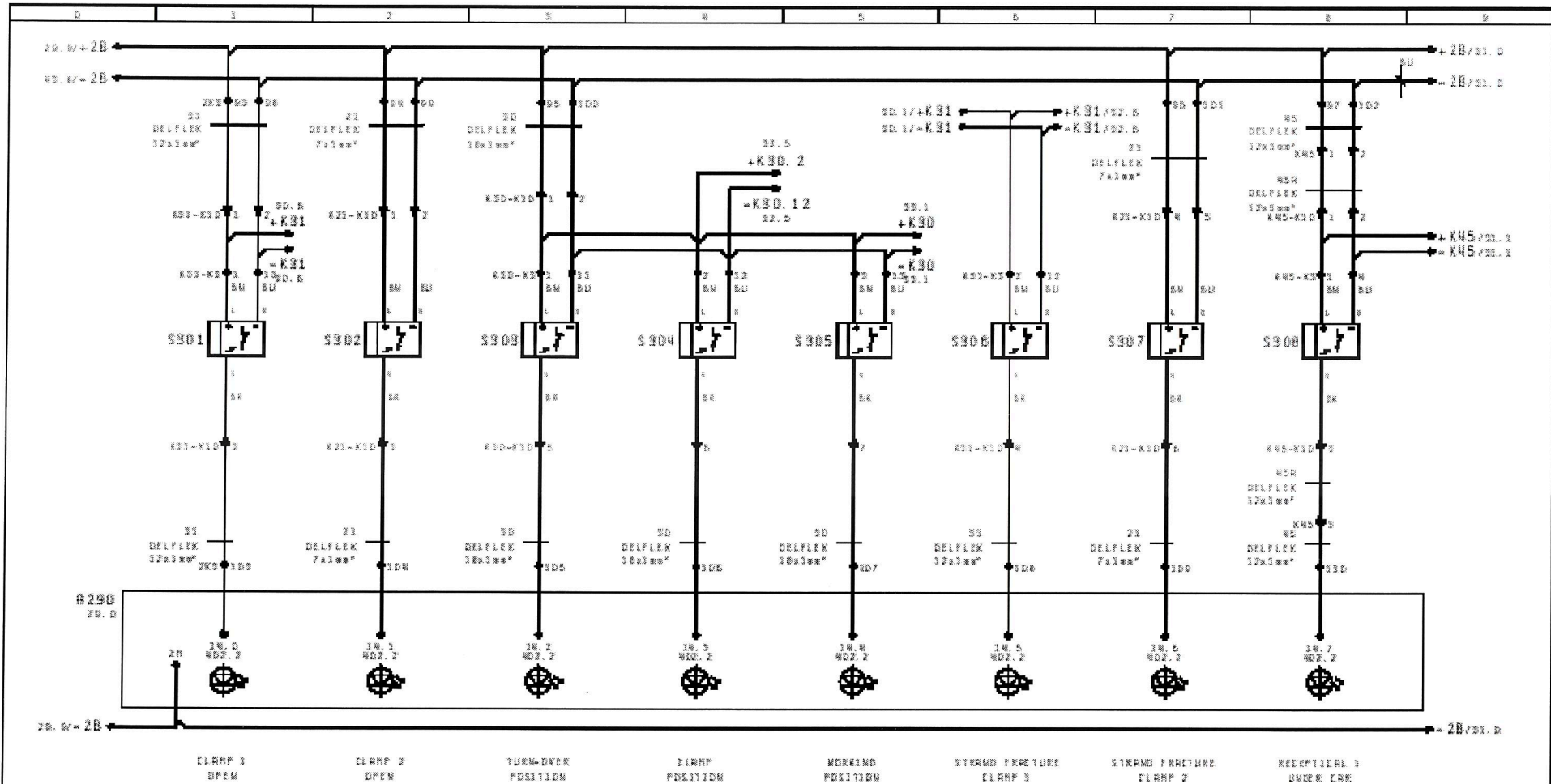
Sets Outputs







# In and Outputs



CLAMP 1  
DPEN

CLAMP 2  
DPEN

TUM-DREK  
POSITION

CLAMP  
POSITION

WORKING  
POSITION

STRAND FRACTURE  
CLAMP 1

STRAND FRACTURE  
CLAMP 2

RECEPTOR 1  
UNDER CAR

K21-K30WHRM 5E PLUS DN K31  
K30-K30WHRM 3DE PLUS DN K30  
K31-K30WHRM 3DE PLUS DN K30

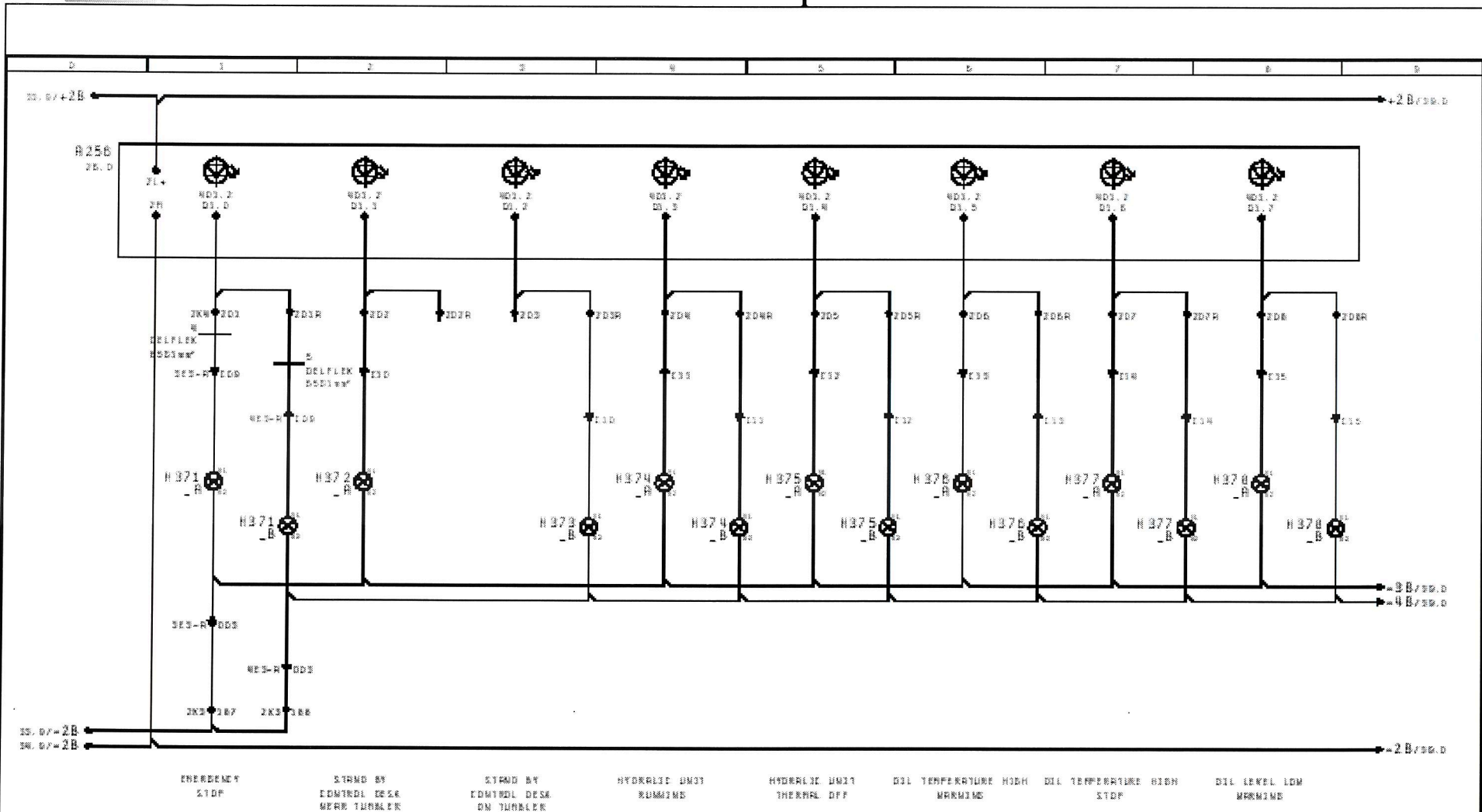
K30-K30WHRM 3DE PLUS DN K30  
K31-K30WHRM 3DE PLUS DN K30  
K30-K30WHRM 3DE PLUS DN K30  
K31-K30WHRM 3DE PLUS DN K30

29

31

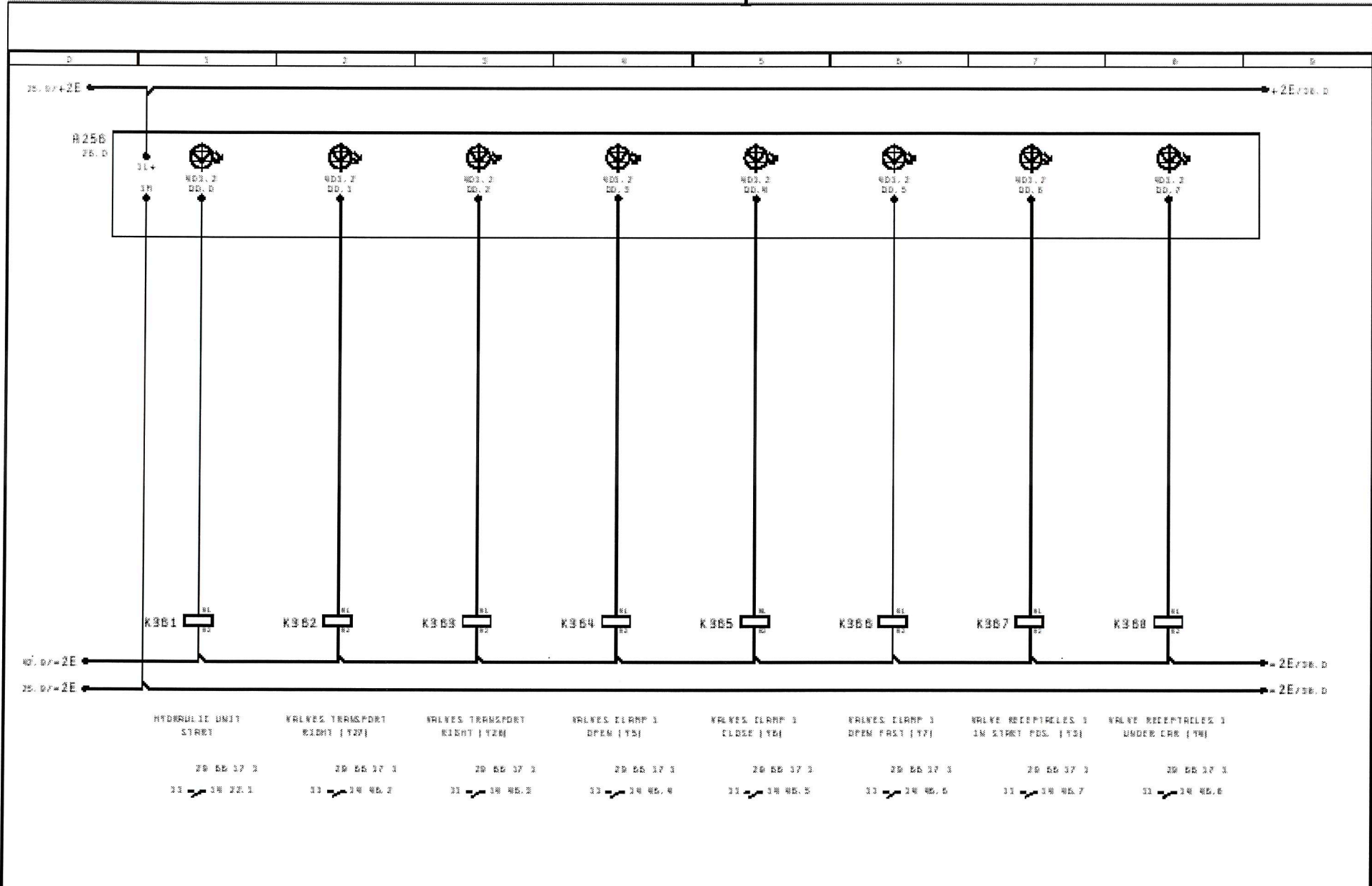
Date	28.08.1993	C_R_S		CONTROL CURRENT TUMBLER PLC INPUTS (PROX. SWITCHES)	S901_S908=02	*
Exp.	KJH	CARR RECYCLING SYSTEM		TUMBLER		51.30
Rev.	28.08.2008					805.03
Checked	Date	Rev.	Stand.			

# In and Outputs



30		30	
Date	20.06.2001	C_A_S	
Exp.	SJH	CAR RECYCLING SYSTEM	
Rev.	20.06.2000		
Drawn			
Checked			
Steelweld		CONTROL CURRENT TUMBLER PLC OUTPUTS (INDIC. LIGHTS)	30 01_9000-02 TUMBLER
			805 83

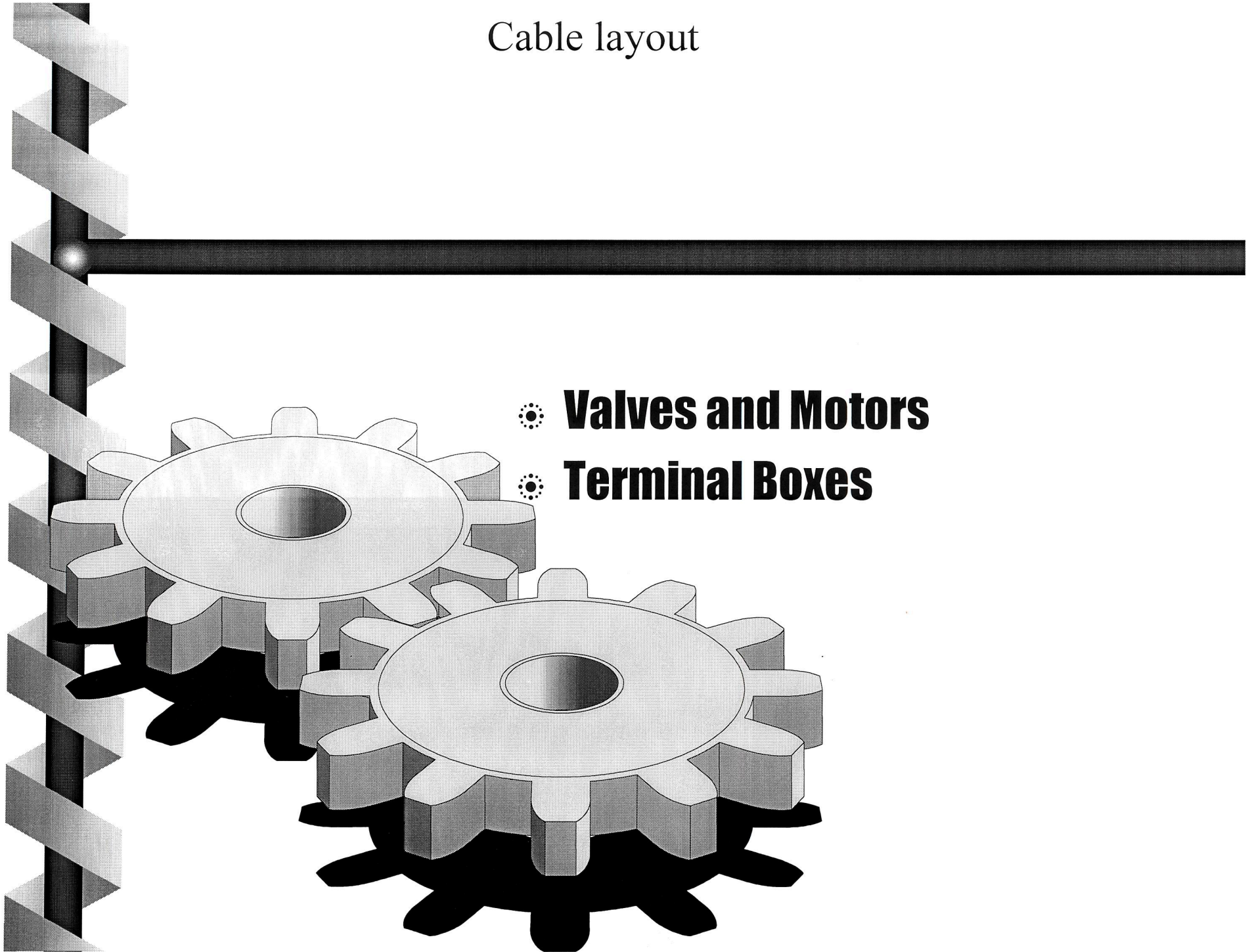
# In and Outputs



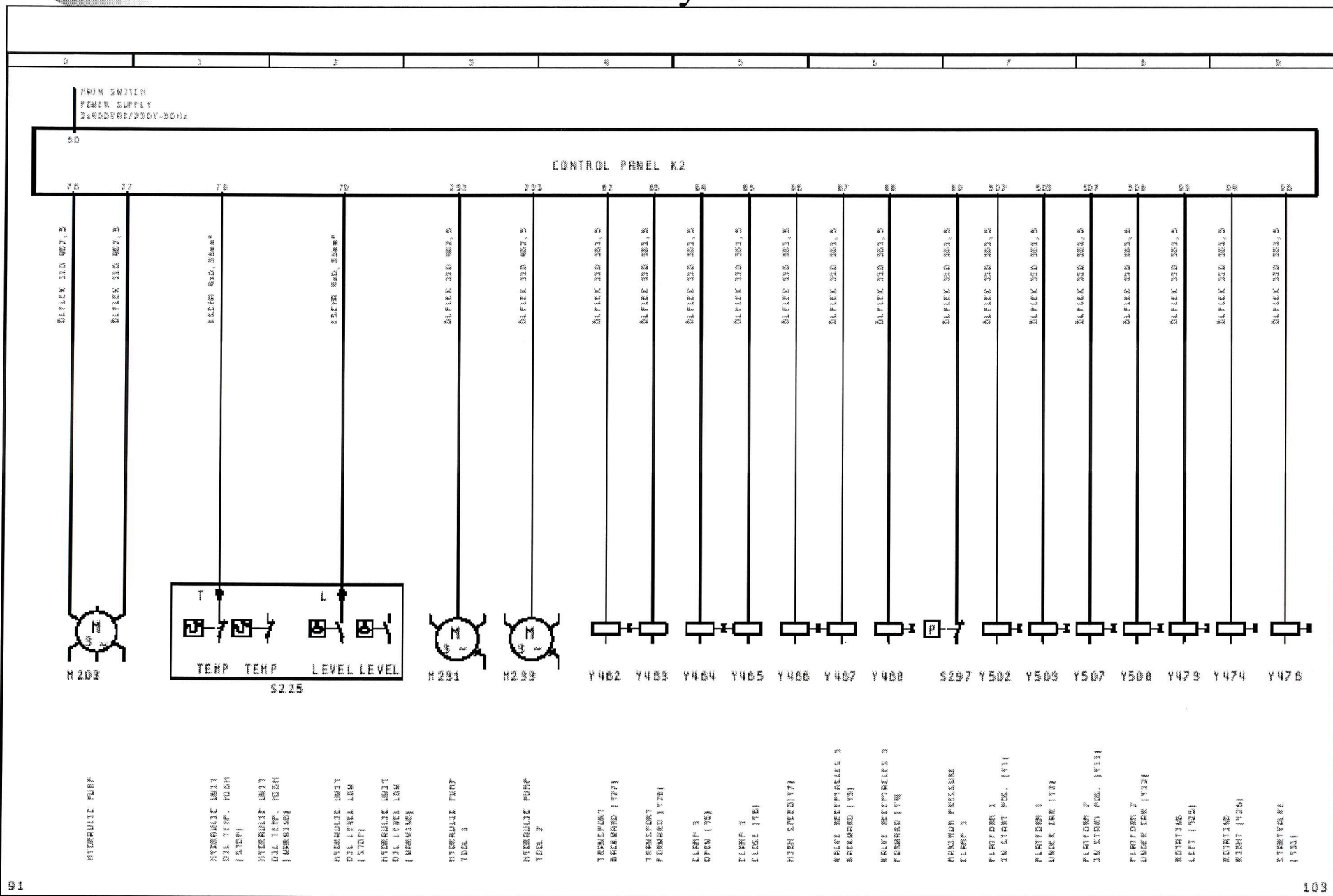
34		37	
Date	28.08.2000	C_R_S	
Exp.	8JH	CAR RECYCLING SYSTEM	
Chk	28.08.2000		
Changed	Date	Author	Stand.
			
CONTROL CURRENT		3001_9000-D2	
TUMBLER		+	
PLC OUTPUTS (CONTR. RELAYS)		TUMBLER	
		81. 3B	
		805 83.	



# Cable layout



# Cable layout



91

103

Drawn	Date	Rev	Stand.

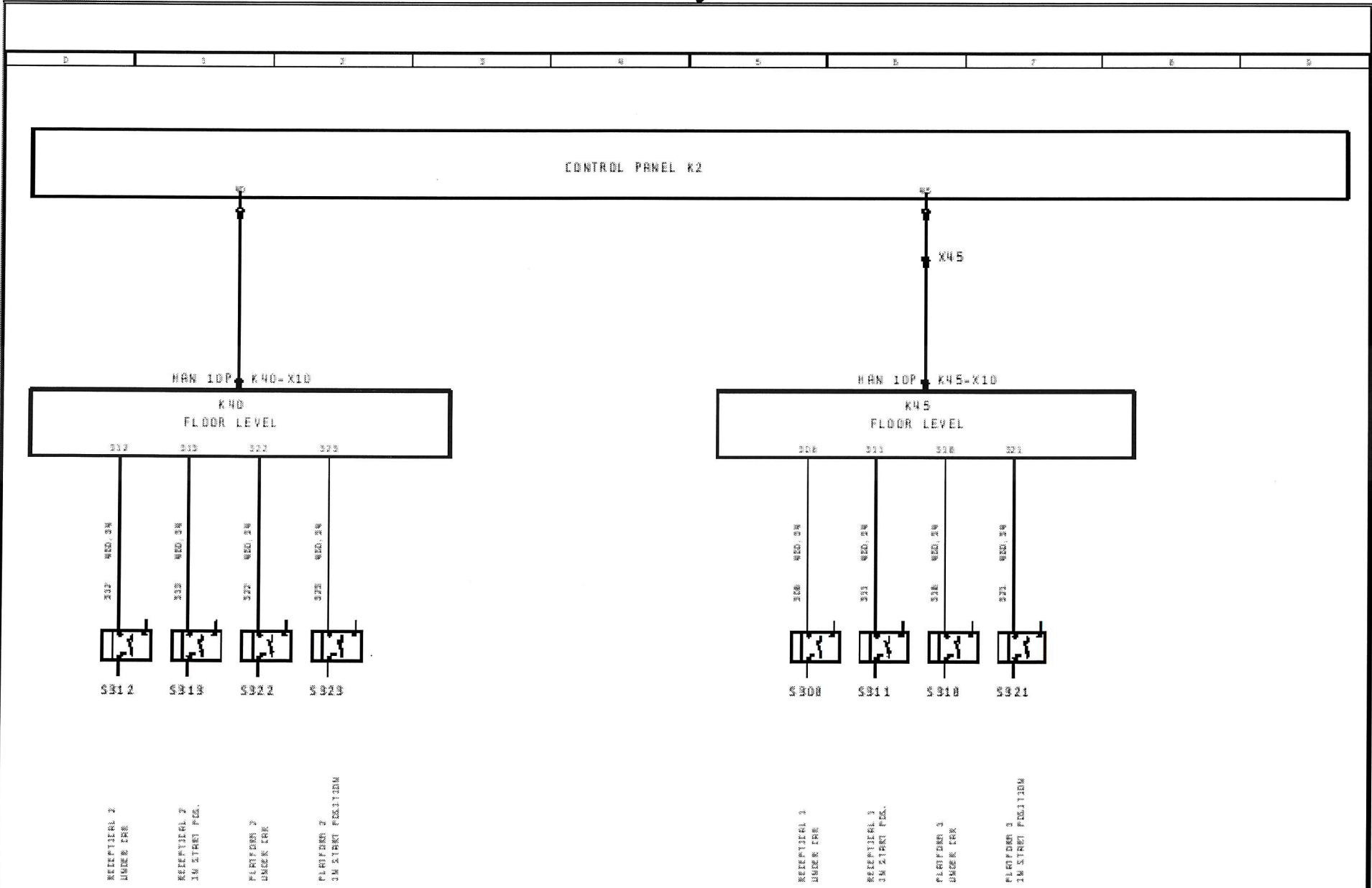
C\_A\_S  
CAR RECYCLING SYSTEM



CABLE BLOK DIAGRAM  
POWERPACK TUMBLER STATION

9001_9000*02	*
TUMBLER	+
	81.101
	805 81.

# Cable layout



101

105

Date	
Exp.	EX3
Chk	JN. DG. 2DDM
Checked	Date

C\_R\_S  
CAR RECYCLING SYSTEM

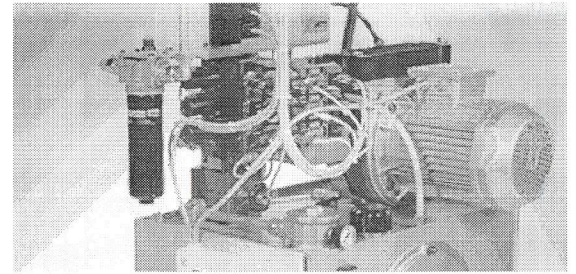


CABLE BLK DIAGRAM  
POWERPACK TUMBLER STATION

3801_9000-02	*
TUMBLER	+
	83.103
	805.83

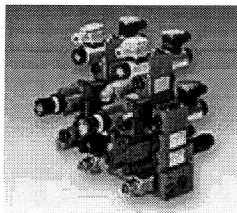


# Hydraulic Unit



## ⊙ Hydraulic Pump

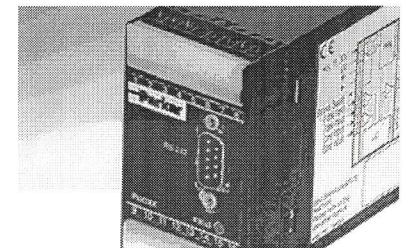
## ⊙ Valves



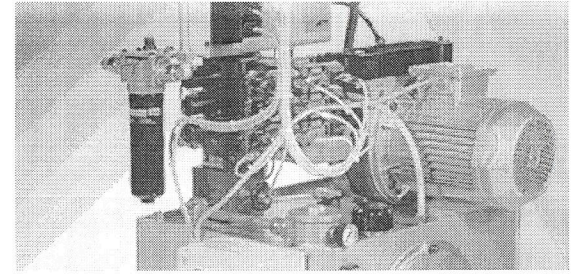
- System Pressure
- Control Valves
- Proportional Valves

## ⊙ Temperature & level control

- Warning
- Temp High
- Level Low



# Hydraulic Pump



Electrical motor with hydraulic pump



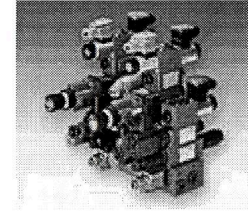
Star Delta System

Low starting Current

Maximum Power in delta



# Valves



## • **System pressure valve**

- **Activated when a control valve is powered**

## • **Control Valves**

- **Activated automatically**
- **By the operator**

## • **Proportional Valves (special control valves)**

- **Control de Platforms**
- **Slow start and stop**



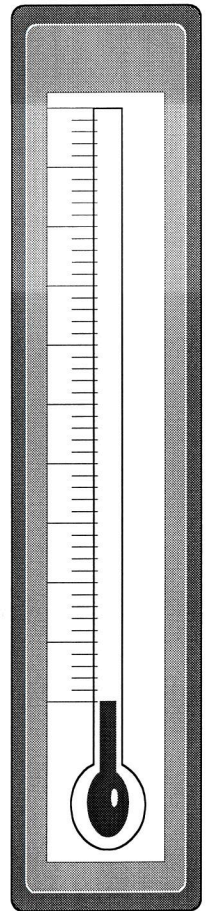
# Temperature and level control

## • **Temperature control**

- **Warning when temperature is critical**
- **Switches pump of when it is to High**

## • **Level control**

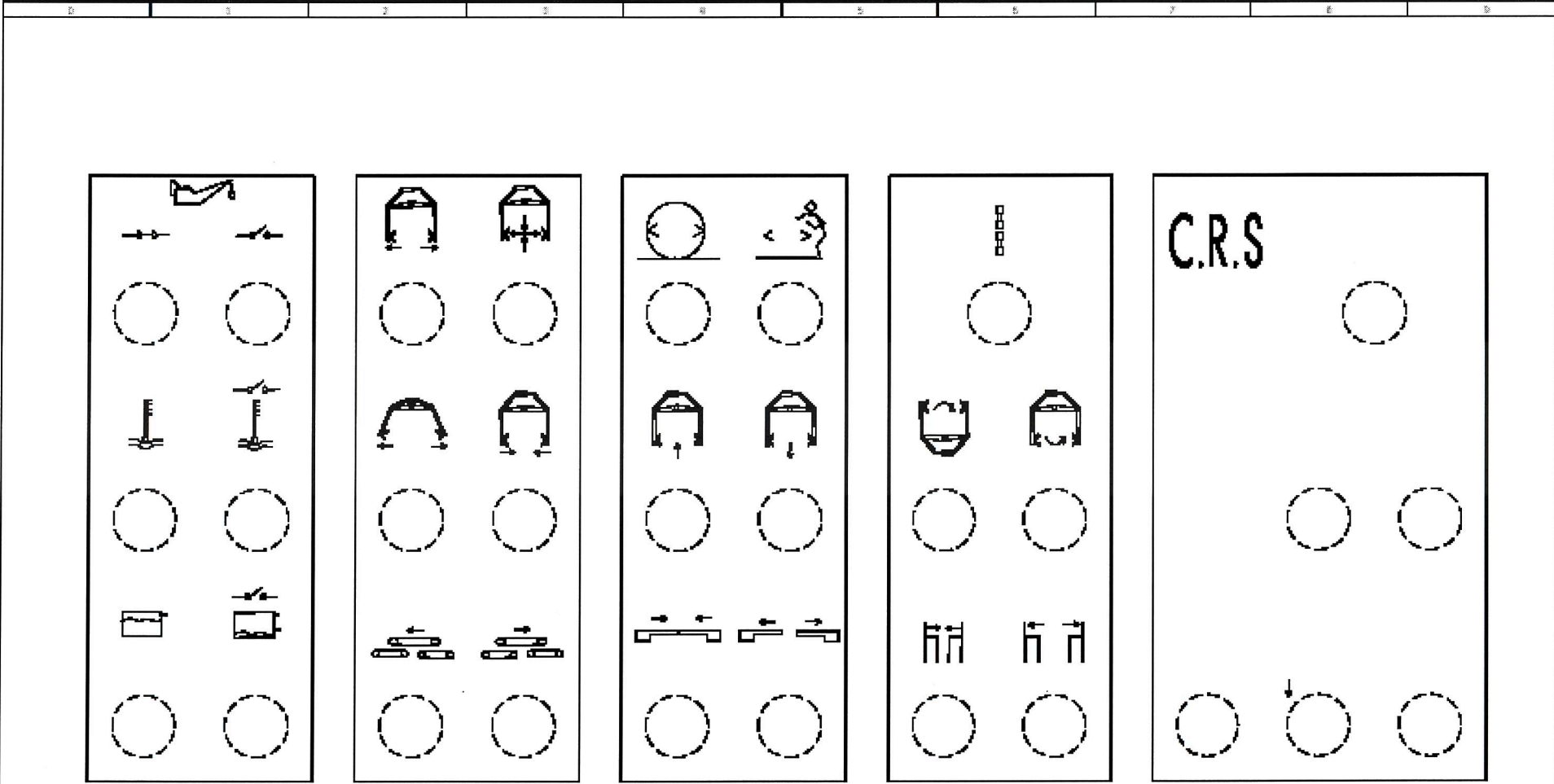
- **Warning when level is critical**
- **Switches pump of when to low**



## Control desk

- 
- **One Upstairs**
  - **One Downstairs**
  - **Control de Tumbler**
    - **Manual**
    - **Automatic**
  - **Supplies information**

# Control desk



211

221

Changed	Date	Rev	Stand.

Date	C_R_S
Exp.	MSH
Chk	JR. IB. JDCM
Stand.	CAR RECYCLING SYSTEM



K3 AREA-ENCLOSURE MOUNTING-PLAN
------------------------------------

3801_9000-02
TUMBLER

*	
+	
	01.21.2
	805 63.

# **Installation**



**Main Cabinet**

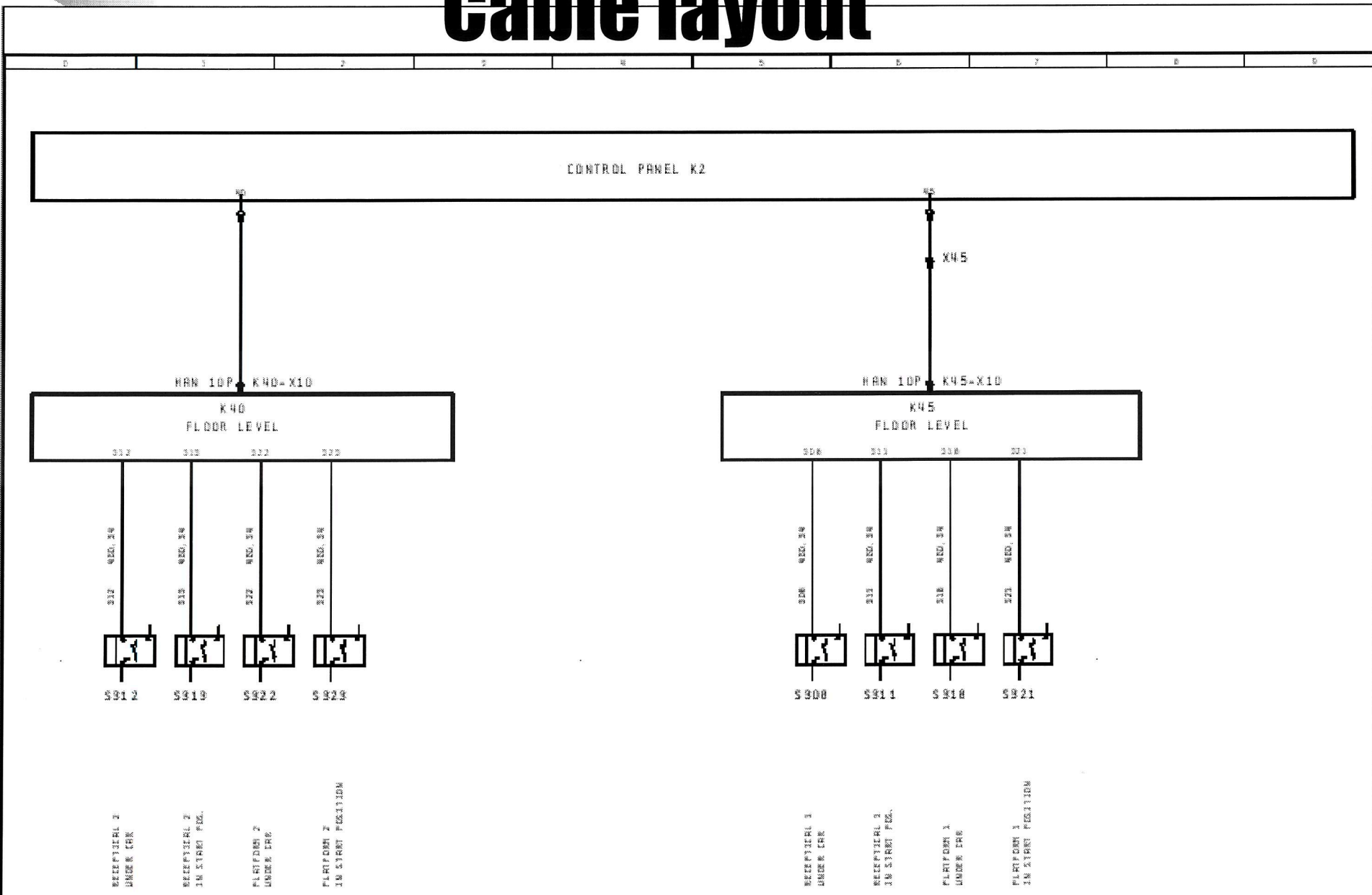
**Control desks**

**Terminal Boxes**

**Cables and switches**



# Cable layout

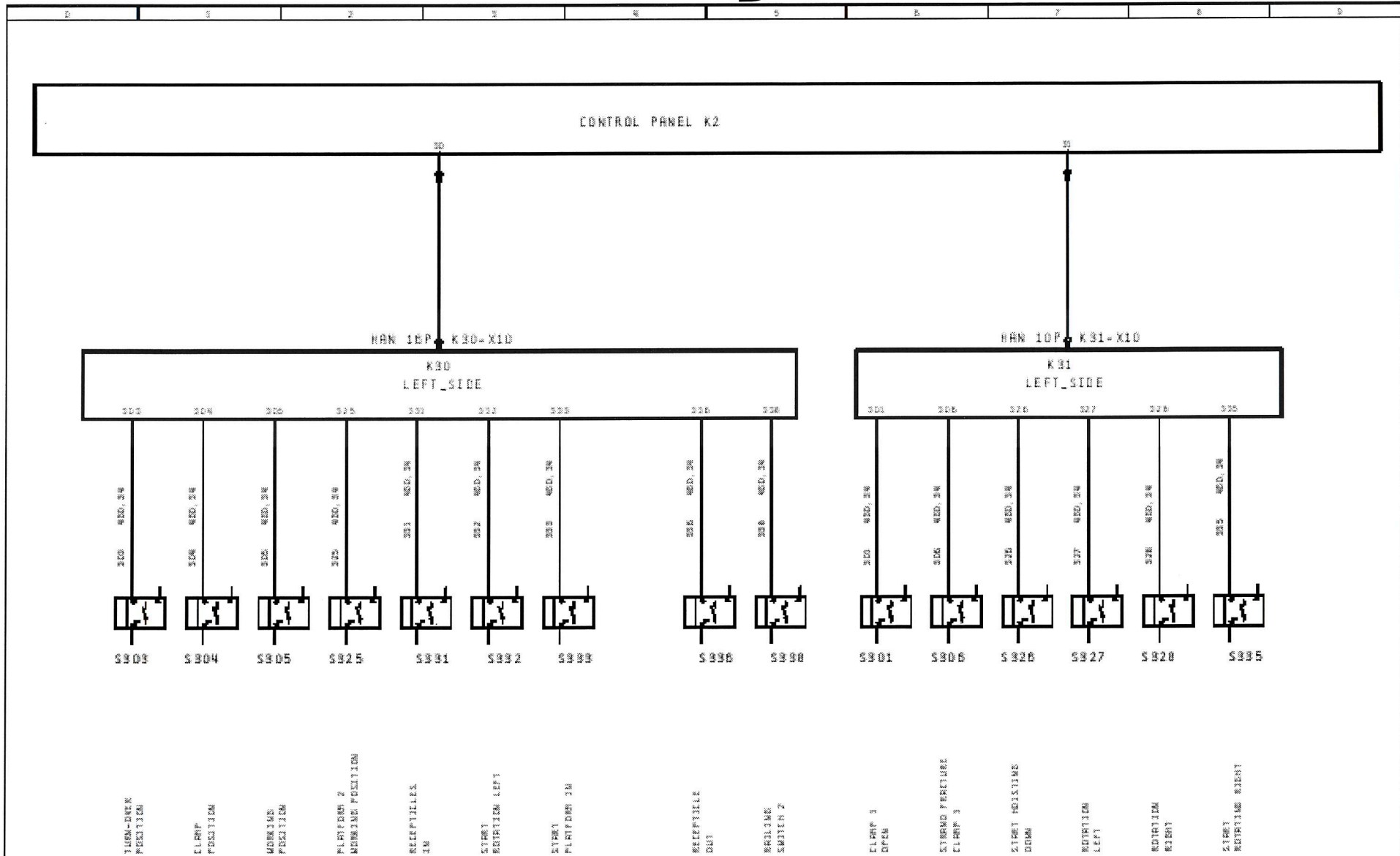


101

105

Chartered	Date	Name	Stand.	C_R_5	 CABLE BLOK DIAGRAM POWERPACK TUMBLER STATION	S001_9000-02	*
				CAR RECYCLING SYSTEM		TUMBLER	81.109
							805 82

# Cable layout



105

109

Drawn	Date	Name	Stand.

CAR_5
CAR RECYCLING SYSTEM



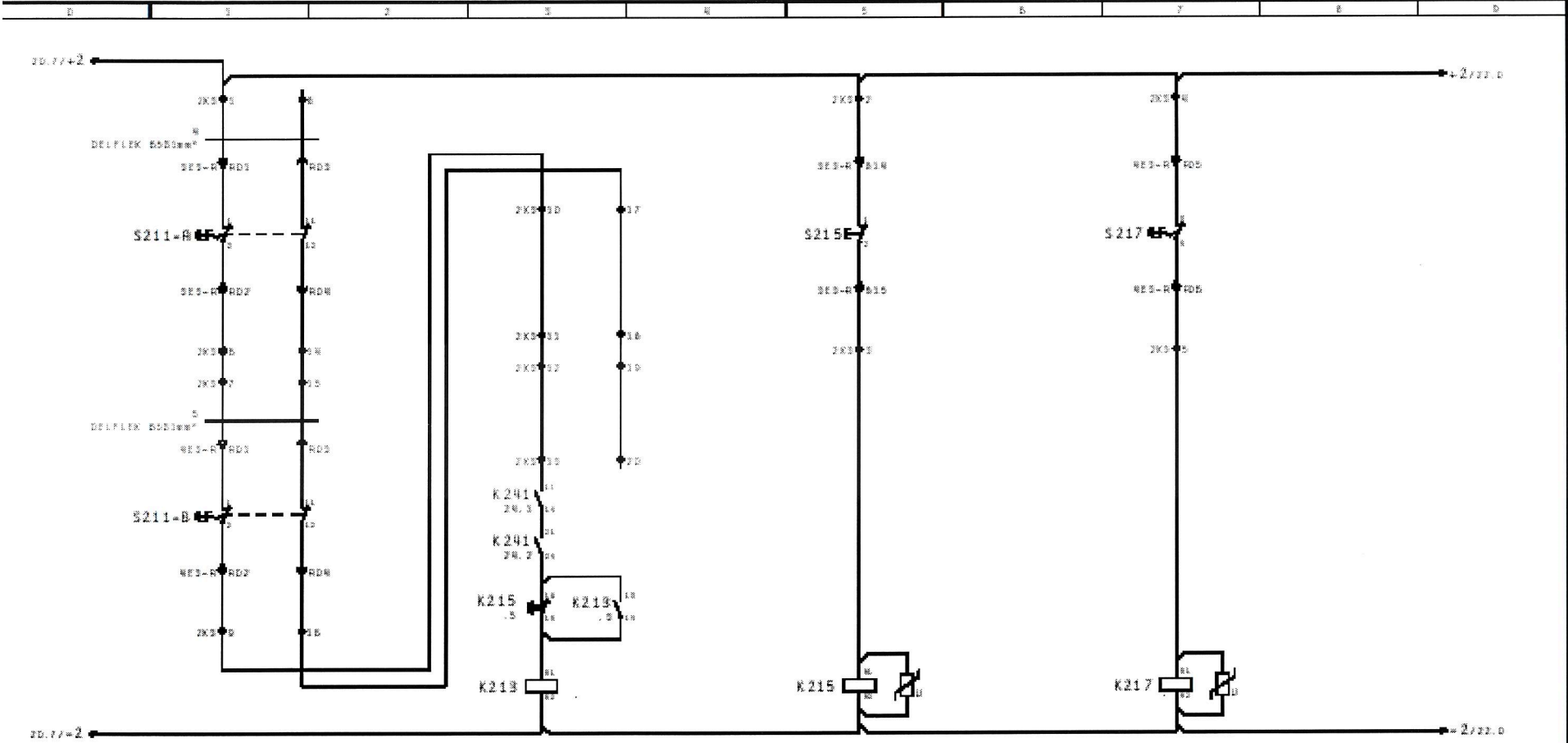
CABLE BLK DIAGRAM
POWERPACK TUMBLER STATION

8001_9000-02	
TUMBLER	52.107
	805 83.

# Safety



- ⦿ **Emergency Stop**
- ⦿ **Safety Fence**
- ⦿ **Safety floors**



EMERGENCY STOP CIRCUIT

EMERGENCY STOP CIRCUIT

EMERGENCY STOP CIRCUIT  
RESET

KEY SWITCH ENABLE  
CONTROL OPER TUMBLER

113-00000  
LRD-N22

3	2	20.9
5	4	25.7
5	5	25.7
10	10	.9
20	22	25.9
55	54	51.7
80	84	52.7

103-80000  
LRZ-K120

11	10	.9
----	----	----

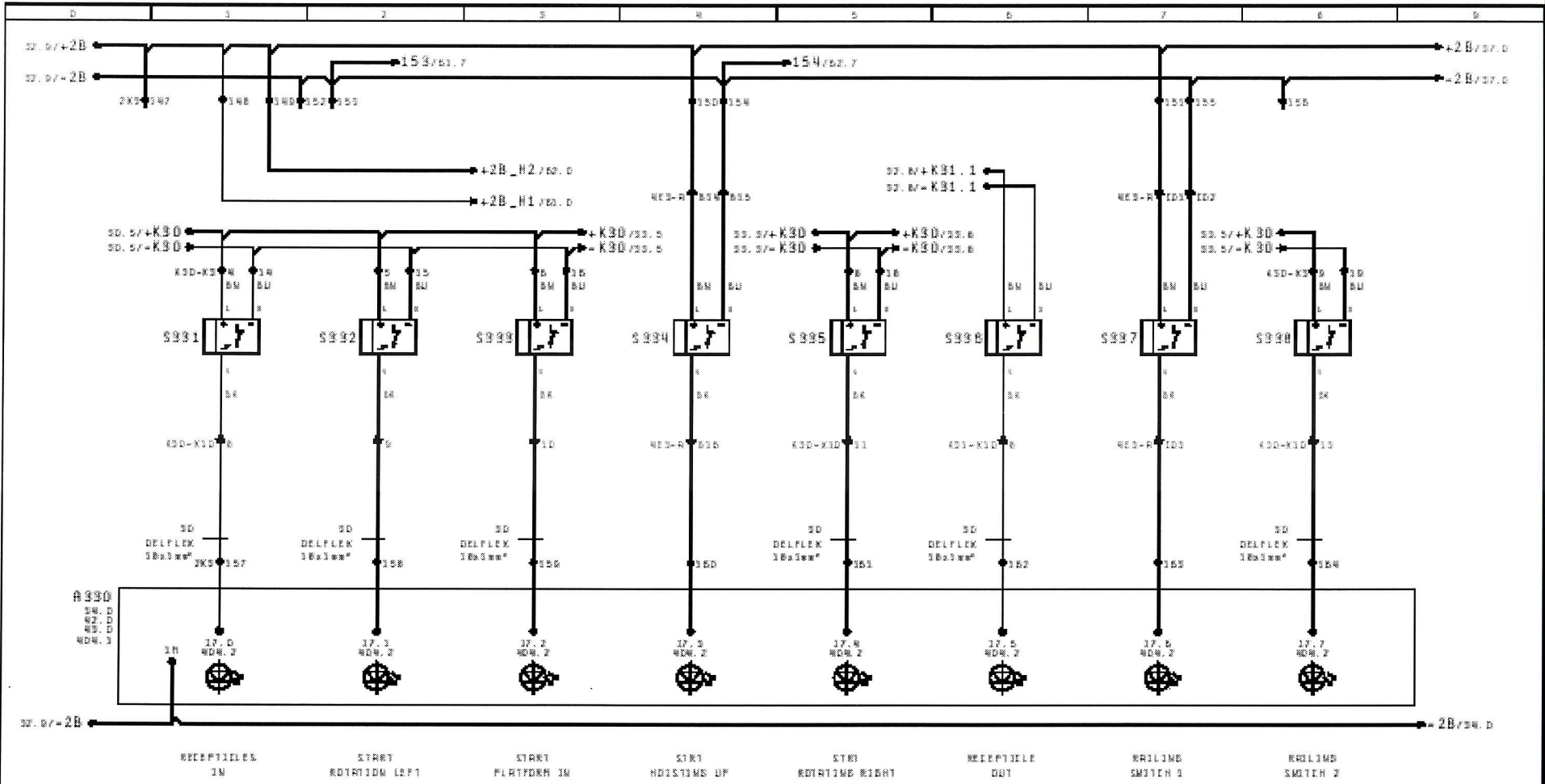
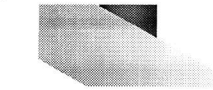
100-40000

17	16	25.8
23	22	25.8
33	34	25.7

ZKX\*TERMINALSTRIP 24V 3M K2  
 ZKN\*TERMINALSTRIP 120V 24V 3M K2  
 ZKX\*TERMINALSTRIP 01000 24V 3M K2

Changed	Date	Issue	Stand.	C_R_S CAR RECYCLING SYSTEM	Steelweld P.O. BOX 1000 4900 ENNENDELAAN, THE NETHERLANDS	CONTROL CURRENT TUMBLER EMERGENCY STOP CIRCUIT	3001.9000-D2 TUMBLER	+	81. 21 805 83.
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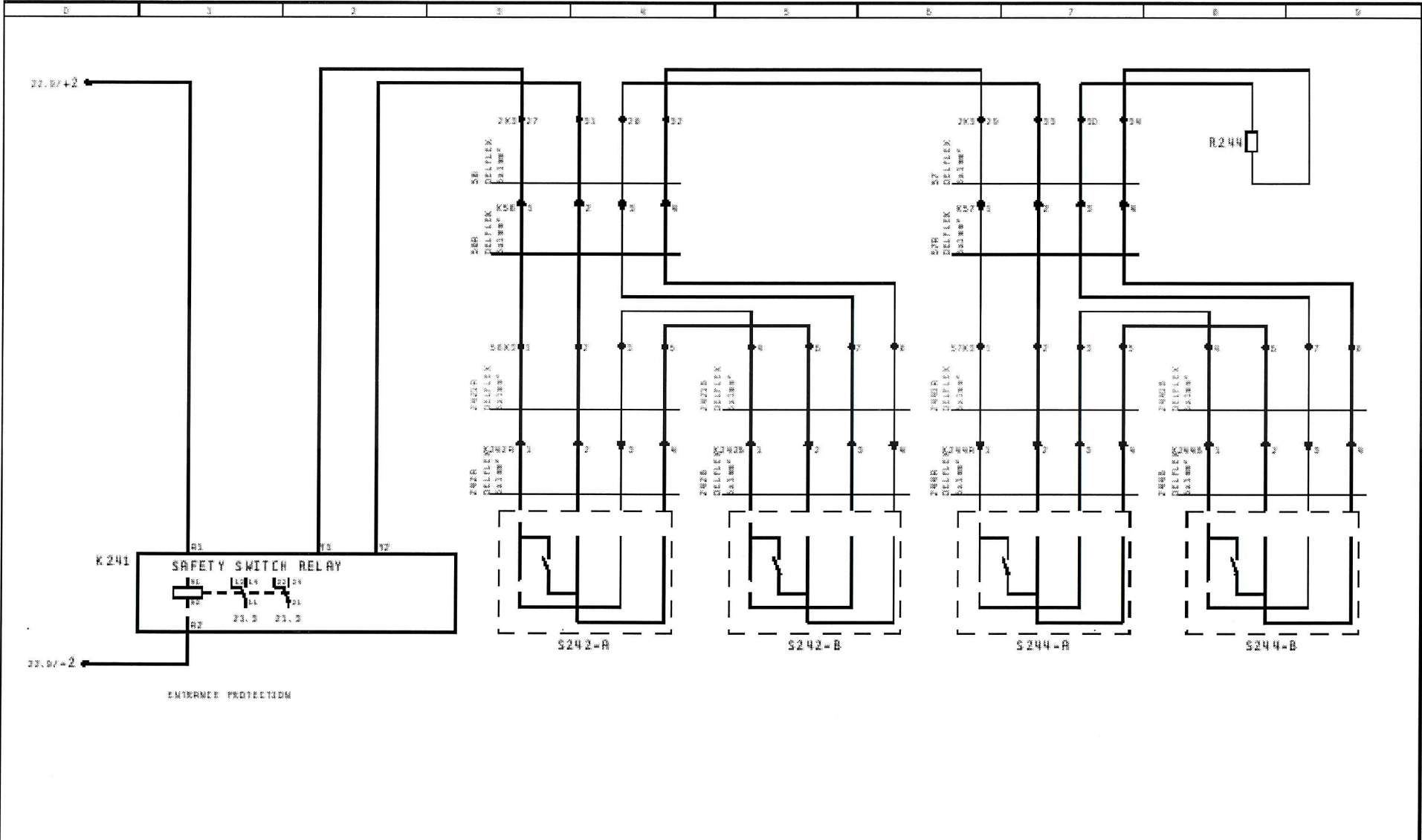




32

34

		Date	28.08.2003	C_R_S			
		Eng.	KJH	CAR RECYCLING SYSTEM			
		chk	29.08.2004				
Checked	Date	Sign.	Stand.				
					CONTROL CURRENT TUMBLER PLC INPUTS (PROX. SWITCHES)		3801_9000-02 TUMBLER
							81.93 805.53



**K241 SAFETY SWITCH RELAY**

ENTRANCE PROTECTION

K241\*HARM NR PLUS FOR SAFETY BR11  
 S242\*TERMINALSTIP 3WE IM 826  
 K242\*HARM NR PLUS FOR SAFETY BR11  
 K243\*HARM NR PLUS FOR SAFETY BR11  
 K244\*HARM NR PLUS FOR SAFETY BR11  
 K245\*HARM NR PLUS FOR SAFETY BR11  
 K246\*HARM NR PLUS FOR SAFETY BR11  
 S244\*TERMINALSTIP 3WE IM 827  
 K246\*HARM NR PLUS FOR SAFETY BR11  
 K246\*HARM NR PLUS FOR SAFETY BR11

23

25

Changed	Date	Www	Ztend.

C\_R\_S  
 CAR RECYCLING SYSTEM



CONTROL CURRENT  
 TUMBLER  
 ENTRANCE PROTECTION

3801_9000-02	
TUMBLER	51. 24 605 51.

# The End



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◉ **Thank you for your attention**

◉ **Presentation**

- **By Hans**