Barry - Wehmiller Zepf Ltd

Operator & Maintenance Manual For The

1200 Series 28 Head Rotary Filler/6 Head Corker Synchrobloc

Important: Whilst every effort is taken to ensure that the information in this manual is correct, Barry - Wehmiller Zepf Ltd. will asseume no responsibility for loss, damage or Injury caused by errors in, or omissions from the information given.

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GENERAL INFORMATION

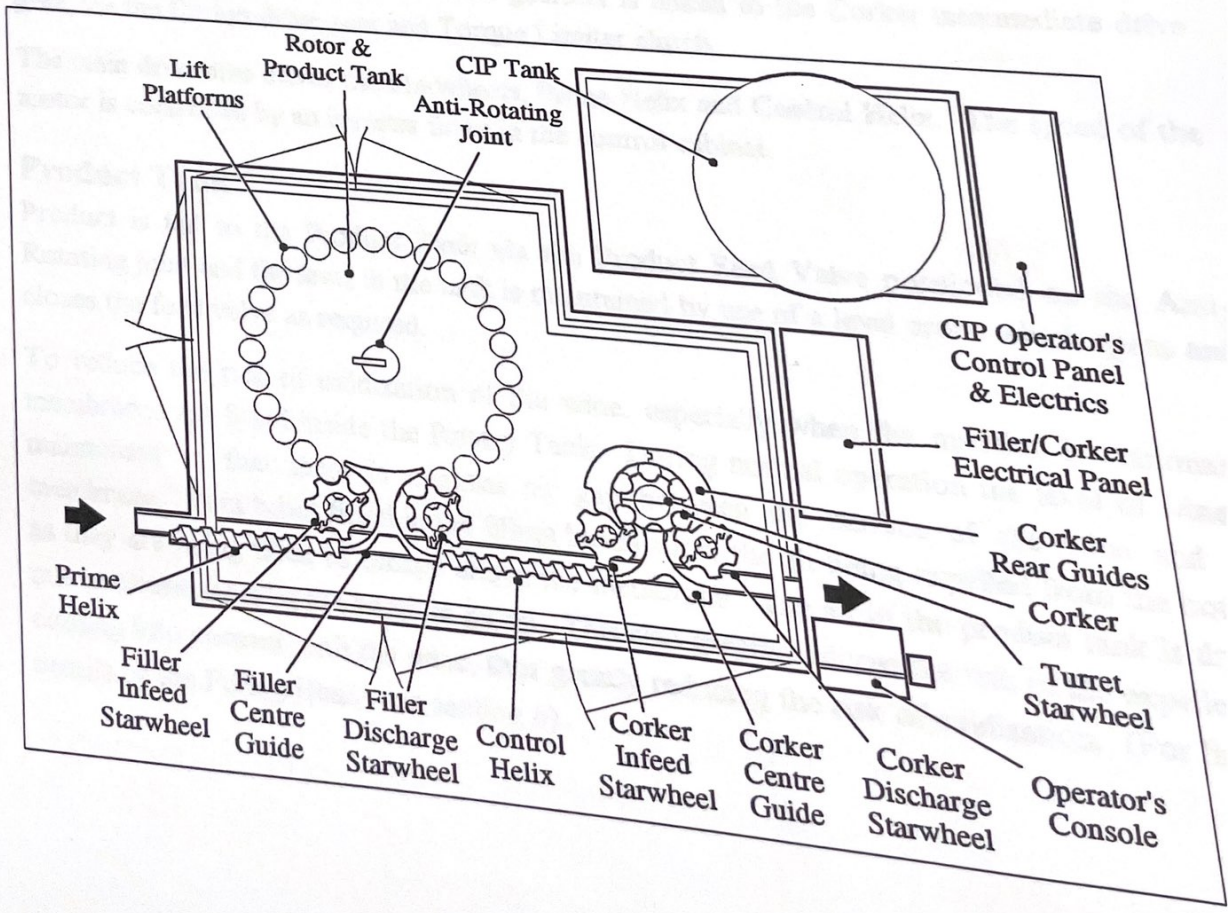
1.1 Introduction

The Barry - Wehmiller Zepf Ltd. 1200 Series 28 Head Rotary Filler/6 Head Corker has been designed to fill bottles with product from the Rotary Product Tank above the machine and to apply corks into the bottle neck-finish.

1.2 Machine Overview

The Infeed conveyor drives the bottles to the prime Helix which transfers them equally spaced into the Filler Infeed Starwheel which places them onto the Lift Platforms fitted on the Rotor. As the Rotor rotates, the cam operated Lift Platforms raise the bottles so that the Nozzles of the Filling Heads fitted under the Product Tank enter the bottles. The Lift Platforms continue to raise the bottles until the Filling Head nozzles are pushed upwards forming a seal with the Nozzle Rubber. In this position the Nozzle valves are opened and product will flow into the bottles. After the bottles have been filled, the Lift Platforms lower the filled bottles from the nozzles which closes the nozzle valves and stops product flowing into the bottles.

The bottles are then transferred from the Lift Platforms into the Discharge Starwheel which transfers them into the Control Helix. The bottles are then transferred from the Control Helix to the Corker Infeed Starwheel, and on to the Corker Lift Platforms/Turret Star.



1.2 Machine Overview (Cont'd...)

Corks are fed from the Hopper via a chute to the Cork Applicator where they are placed into the bottles as they pass underneath. As the Corker rotates the corks are automatically inserted into the bottle neck finish by the Corking Heads. The corked bottles are transferred from the Corker into the discharge Starwheel which places them onto the Discharge Conveyor.

For different bottle heights the product tank can be raised or lowered to suit and for different bottle diameters the Helix, Starwheels and guides are easily replaced.

Product is fed to the Product Tank via the Anti-Rotating joint where the level is maintained by use of a level probe.

1.3 Main Drive

A 4kW electric motor drives through a worm gearbox which in turn drives, via a Torque Limiter the Main Drive gearwheel under the rotor which is fitted on the Centre Column. The Product Tank is also fitted on the Centre Column so that both the tank and rotor rotate in unison.

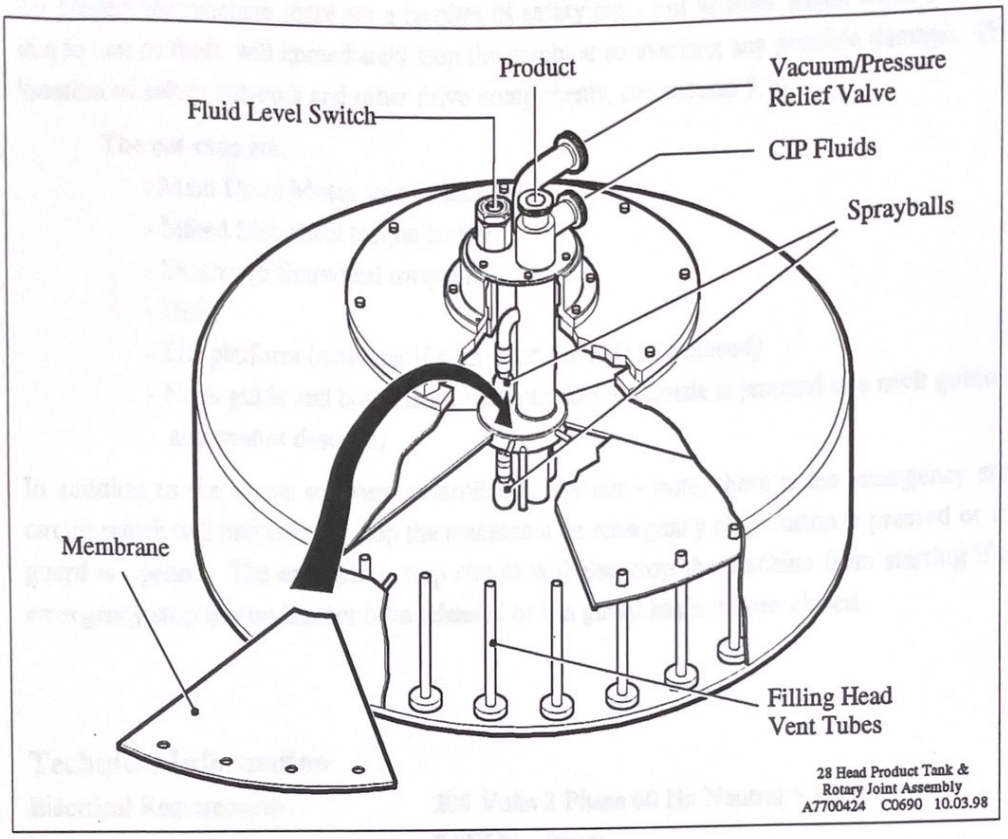
The main drive gearbox feeds power to the intermediate drive shaft via two pulleys and a drive belt, to the Corker gearbox. This gearbox is linked to the Corker intermediate drive gear, via the Corker drive gear and Torque Limiter clutch.

The main drive also drives the Starwheels, Prime Helix and Control Helix. The speed of the motor is controlled by an inverter fitted in the control cabinet.

1.4 Product Tank

Product is fed to the Product Tank via the Product Feed Valve positioned on the Anti-Rotating joint and the level in the tank is maintained by use of a level probe which opens and closes the feed valve as required.

To reduce the risk of oxidization of the wine, especially when the machine is stationary, membranes are fitted inside the Rotary Tank. During normal operation the level of wine is maintained so that there is minimal air gap between the surface of the wine and the membrane. Vent tubes fitted in the filling heads allow the air being expelled from the bottles as they are being filled to escape above the membrane. The air in the product tank is drawn out to atmosphere by the vacuum pump. This also greatly reduces the risk of the expelled air coming into contact with the wine, thus greatly reducing the risk of oxidisation. (For further details of the Filling Heads see section 6).



1.5 Clean In Place

During a CIP (clean in place) sequence, the cleaning liquids are fed from the CIP tank into the Product Tank via the CIP inlet pipe and the liquids are sprayed onto all the internal surfaces of the tank via the sprayballs. The cleaning liquids are then discharged through the Filling Heads either back to the CIP Tank or to drain. (For further information see section 7).

1.6 Electrical and Operational Control

The operator controls are found on the top of the Control Cabinet, (see section 2.1 for Operator Controls).

The whole machine is controlled by a PLC and associated electrical components fitted in the Control Cabinet which should be locked so that only qualified personnel can gain access.

Housed in the Cabinet is the PLC and main drive components.

1.7 Safety Cut - Outs

To protect the machine there are a number of safety cut - out sensors which when activated due to jam or fault, will immediately stop the machine so averting any possible damage. (For location of safety cut-outs and other drive components, see section 8.1).

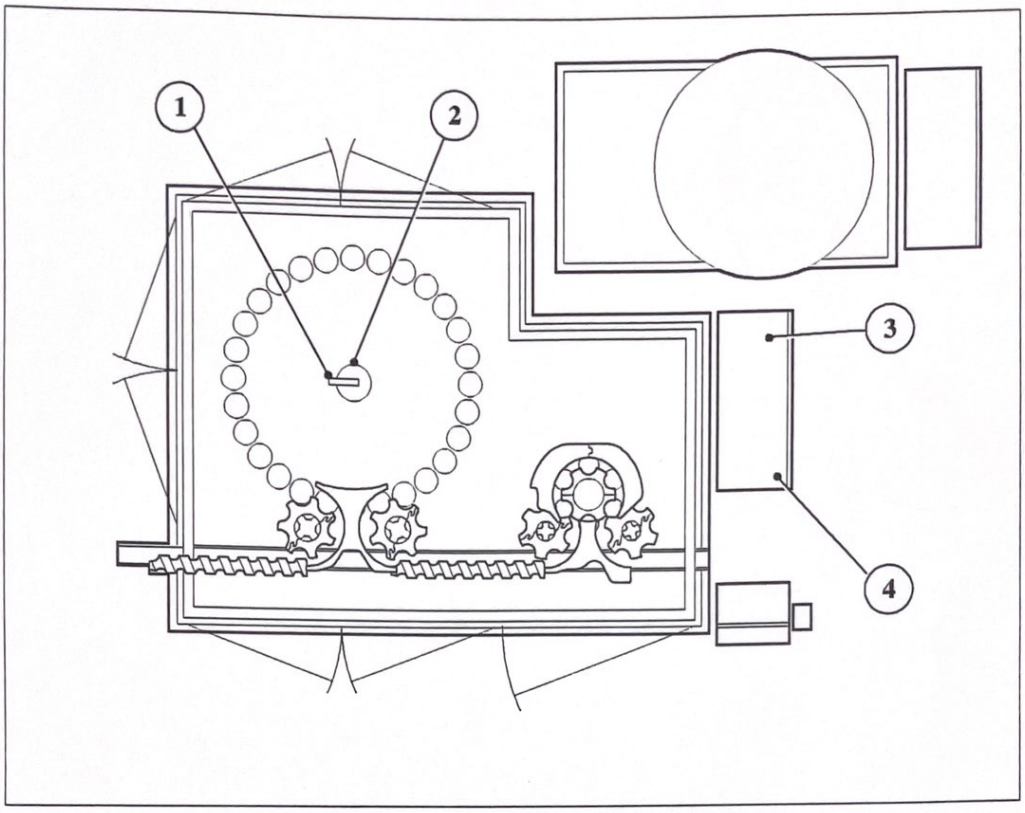
The cut-outs are:

- Main Drive Motor torque limiter
- Infeed Starwheel torque limiter
- Discharge Starwheel torque limiter
- Helix
- Lift platform (activates if a lift platform fails to descend).
- Neck guide and bottle hang-up (activates if a bottle is jammed in a neck guide and cannot descend).

In addition to the above software controlled safety cut - outs, there is the emergency stop circuit which will immediately stop the machine if an emergency stop button is pressed or if a guard is opened. The emergency stop circuit will also stop the machine from starting if an emergency stop button has not been released or if a guard has not been closed.

1.8 Technical Information

Electrical Requirements:	208 Volts 3 Phase 60 Hz Neutral + Earth
Load:	7 kW Maximum
Air Requirements:	80 psi (5.5 bar)
Contract Number:	690
Year of Manufacture:	1998
Speed:	100 bottles per min. (750ml)
Filling Heads:	Easi-Flow Filling heads - **Patent Number 2188039**



1. Filler CIP Inlet: 2" RJT
2. Filler Product Inlet: 2" RJT
3. Filler Compressed Air Inlet: 1/4" BSP (G 1/4)
4. Electrical Connections: 208V AC 3 Phase 60Hz

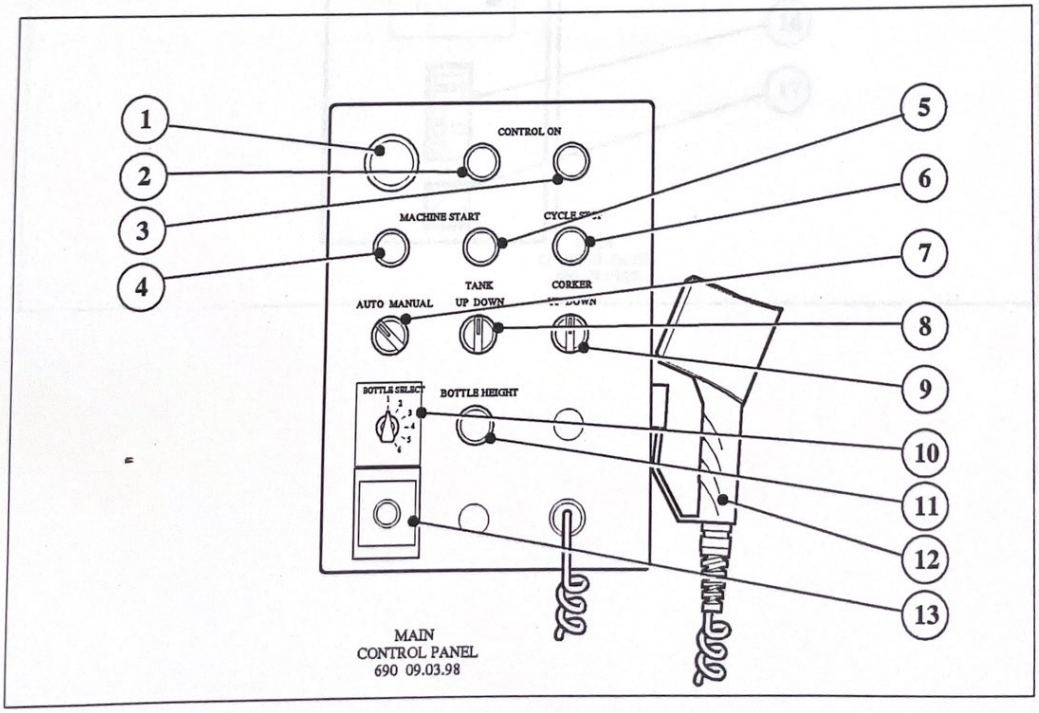
1.9 Installation

- Remove machine from its packing case or pallet. Remove any other packing material.
- Use a fork lift truck only for lifting the machine when it is unpacked. The forks should be carefully located under the machine frame at points where they will not cause damage.
- By use of spirit level ensure that the machines are level. To adjust the level, and adjust the feet.
- Connect the Conveyor to the plant's adjoining conveyors.
- Connect the electrical supply to the terminal blocks in the electrical cabinet. See electrical diagrams.
- Feed the main cables through the trunking and connect to the relevant terminals in the electrical cabinet. See electrical diagrams.
- Fit the Lower Guards.
- Fit the infeed and discharge interlock sensors onto the conveyors.
- Connect the compressed air to the Filler inlet: 1/4" BSP (G 1/4)
- Connect the product feed pipe to the anti-rotating joint: 2" RJT.
- Connect the CIP pipe: 2"RJT

OPERATING INSTRUCTIONS

2.1 Operator Controls

Ref	Type Of Control	Description	Function
1	Red Pushbutton	**Emergency** Stop	When pressed the machine will immediately stop.
2	Green Pushbutton	Control ON	Used to turn on the control system of the machine
3	Green Lamp	Control ON	Indicates that the control system is running
4	Green Pushbutton	Machine START	Starts the filling sequence.
5	Green Lamp	Machine START	Indicates that the machine is running
6	Red Pushbutton	Cycle STOP	Stops the machine after the current cycle has finished.
7	Selector Switch	Auto/Manual	Selects the mode of operation.
8	Selector Switch	Tank UP/DOWN	Manually RAISES or LOWERS the Product Tank.
9	Selector Switch	Corker UP/DOWN	Manually RAISES or LOWERS the Corker.
10	Selector Switch	Bottle Select	Selects the preset height settings for each bottle.
11	Yellow Pushbutton	Bottle Height	RAISES or LOWERS the machine to its selected setting.
12	Handset	Hand Controller	Provides Control On and Jog facility away from the control panel.
13	Potentiometer		Machine Speed Adjustment



MAIN
CONTROL PANEL
690 09.03.98

Bottle	Neck Finish	Description	Fill Level (mm)	Spacer Combination (inc. Rubber)	Change Part Colour	Neck Guide Bush Dot Colour	Bottle Select Setting
WP 133	030-3110-RA06	750ml Stock Burgundy	65.1	Blue, Yellow, White, Red, Green	Light Green	Red	
"	030-3120-R075	"	65.1	"	"	"	
"	035-3123-R006	"	65.1	"	"	Green	
"	030-3120-R072	"	61.9	Blue, Yellow, Black, Grey	"	Red	
"	030-3120-R073	"	61.9	"	"	"	
"	034-3120-R077	"	61.9	"	"	Green	
"	034-3123-R004	"	58.7	Blue, Yellow, Black, White	"	"	
WP 121	032-3110-R026	750ml Stock	-	-	Light Green	Yellow	
3791	30A-3115-F-1408	750ml Burgundy	66.7	Blue, Yellow, White, Grey	Light Green	Red	
W69	030-3110-RA06	750ml Stock	57.9	Blue, Yellow, Black, Red, Green	Light Green	Red	
"	030-3110-RA10	"	"	"	"	"	
"	034-3123-R004	"	51.6	Blue, Yellow, Black White, Red	"	Green	
"	034-3120-R077	"	54.8	Blue, Yellow, White, Grey, Red, Green	"	"	
W5	030-3110-RA06	750ml Burgundy	58.7	Blue, Yellow, Black, White	Light Green	Red	
"	030-3110-RA10	"	"	"	"	"	
"	030-1610-R004	"	71.9	Blue, Yellow, White, Green	"	"	
"	034-3123-R003	"	53.4	Blue, Yellow, Black, White, Green	"	Green	
"	034-3123-R004	"	"	"	"	"	
"	034-3120-R077	"	55.6	Blue, Black, White, Red	"	"	
56.161136	30 Dia.	1.5l Bourgogne	79.0	Blue, Grey, Green	Maroon	Red	
1.34.220	30 Dia.	375ml Bourgogne	50.0	Blue, Black, White, Red, Green	Yellow	Red	

Note: Above bottle list from customer's spec. dated 17 October 1997

ADJUST TANK HEIGHT SO THAT NUMBER 1 FILLING HEAD OPENS TO MID (BLACK) LINE, WITH SPACERS FITTED AS ABOVE LIST.

4.11 Filler Starwheels

NOTE: If changing from a short bottle to a taller bottle it may be necessary to raise the Filler Product Tank to enable the starwheels to be removed without interference from the Filling Heads (see section 4.21). Removal of the Filler Starwheels is the same procedure as for the Corker Starwheels. (see section 4.7)

4.12 Filler Centre Guide

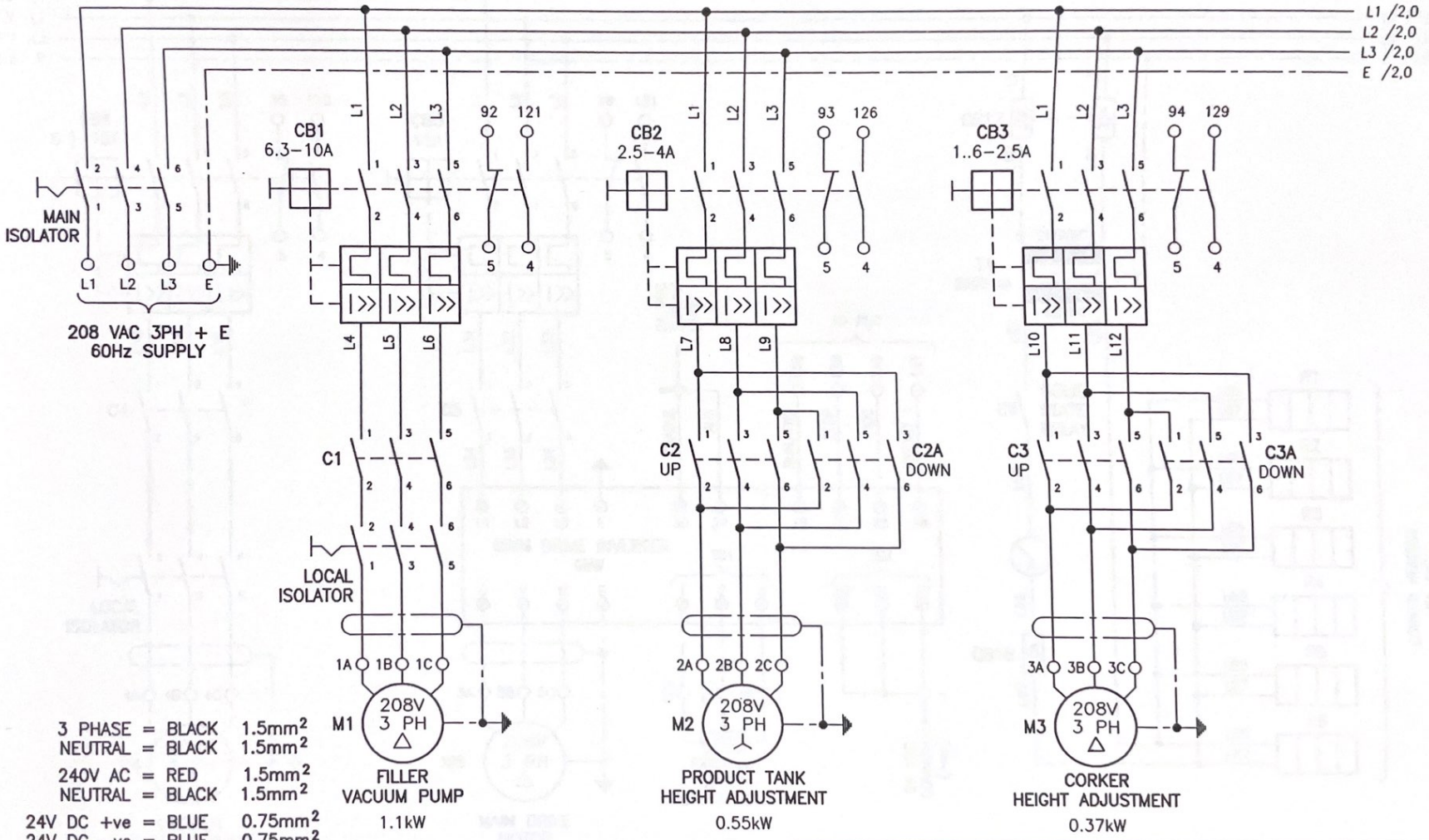
Step	Task
1	Lift and rotate the locking plunger and slide the centre guide assembly towards the filler and lift clear of the machine.

4.13 Prime Helix

Removal of the Filler Infeed (Prime) Helix is the same procedure as for the Control Helix (see section 4.10)

7.8 Drive Components - Location and Function

Ref	Elec. Ref	Device	Function
1	CB2	45A Circuit Breaker	Protects Mains Supply to the CIP Pump
2	CB5	40A Circuit Breaker	Protects Mains Supply to the CIP Tank Heater 3
3	CB6	6A Circuit Breaker	Protects Mains Supply to the 13A Socket
4	CB7	6A Circuit Breaker	Protects Mains Supply to the PS1 Power Supply.
5	CB8	6A Circuit Breaker	Protects the Wire No. 5 24V DC Supply
6	CB9	4A Circuit Breaker	Protects the Wire No. 6 24V DC Supply
7	CB11	1A Circuit Breaker	Protects the Mains Supply to the Enclosure Fan
8	CB12	4A Circuit Breaker	Protects the 24V DC Supply to the PLC Power Supply.
9	MR1	Pilz Relay	Safety Relay - Controls the Safety Circuit and power to the machine. If there is a failure in the Safety Circuit, power to the machine is switched off.
10	C2	Contactor	Controls the CIP Pump Inverter
11	PS1	OMRON PSU	240V AC/24V DC Power Supply
12	C3	Contactor	Controls the CIP Heater 1
	C4	Contactor	Controls the CIP Heater 2
	C5	Contactor	Controls the CIP Heater 3
13	INV1	Inverter	CIP Pump Inverter
14	O-3, 4, 5	2 x 16 Bit Output Modules	Digital Output Modules
15	I-1, 2	3 x 16 Bit Input Module	Digital Input Module
16	SL05	CPU	Central Processing Unit For The PLC
17	-	Power Supply	Supplies Power to the CPU and Input and Output Modules
18	-	Isolator	Mains Power Isolator
19	-	13A, 3 Pin Socket	Test Equipment Socket



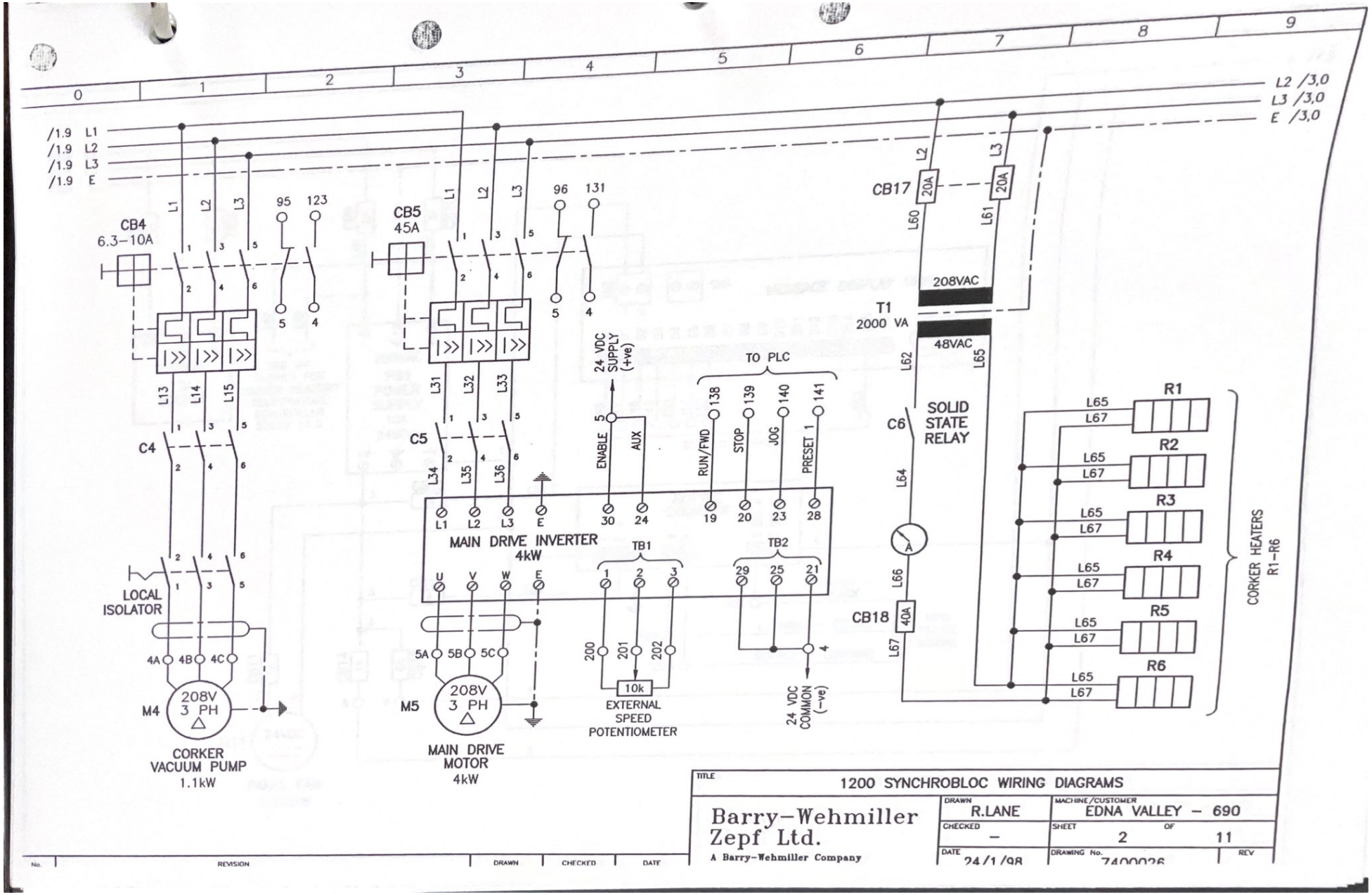
3 PHASE = BLACK	1.5mm²	
NEUTRAL = BLACK	1.5mm²	
240V AC = RED	1.5mm²	
NEUTRAL = BLACK	1.5mm²	
24V DC +ve = BLUE	0.75mm²	
24V DC −ve = BLUE	0.75mm²	
REMOTE = ORANGE	0.75mm²	
INTERLOCK AND INVERTER WIRING		

No.	REVISION	DRAWN	CHECKED	DATE

TITLE: 1200 SYNCHROBLOC WIRING DIAGRAMS

Barry–Wehmiller Zepf Ltd.
A Barry–Wehmiller Company

DRAWN: R.LANE	MACHINE/CUSTOMER: EDNA VALLEY – 690
CHECKED: –	SHEET: 1 OF 11
DATE: 24/1/98	DRAWING No.: 7400026 REV



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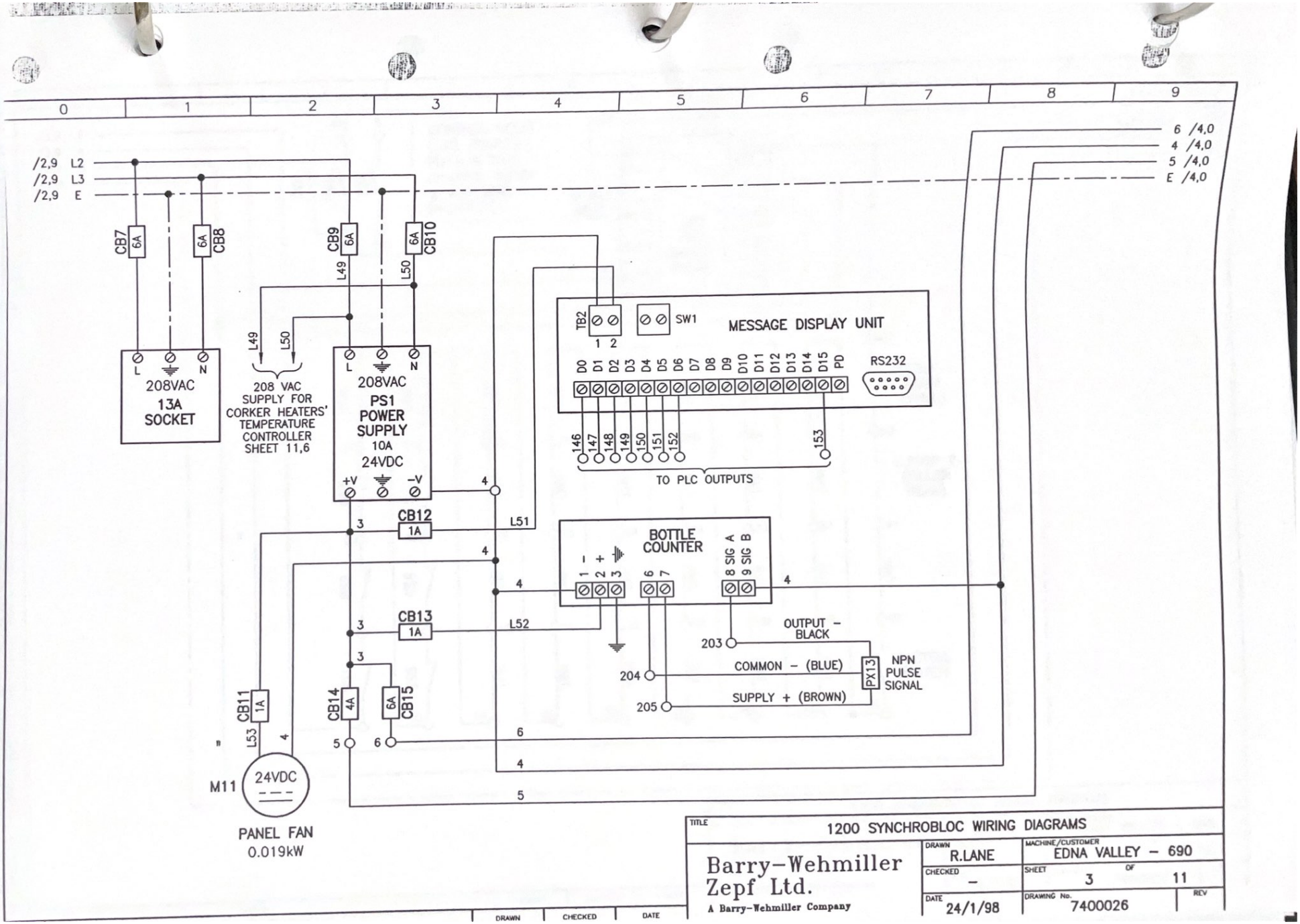

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