Westfalia Separator AG

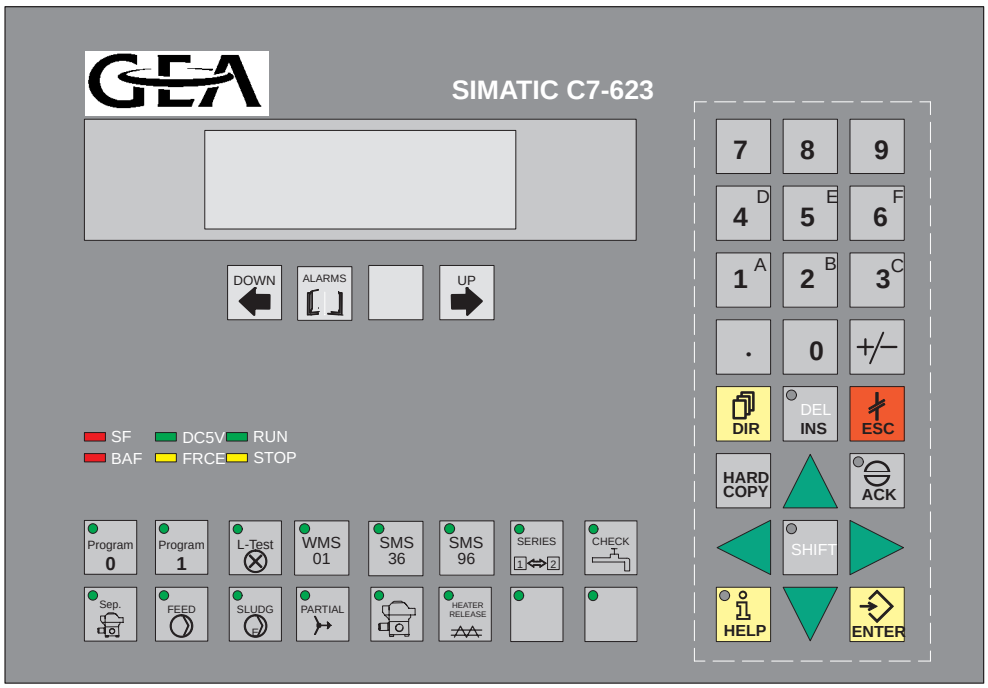
Instruction Manual

No. 8164-9001-400

Edition 1198

Control Unit

Model C7-623



Mechanical Separation
Division

Subject to modification!

For your safety

- **Strictly adhere to instructions marked with this symbol.**

  This avoids damage to the separator and other units.

- **Take special care when carrying out operations marked with this symbol -**

  otherwise danger to life.

- **Observe accident prevention regulations.**

  The local safety and accident prevention regulations apply unconditionally to the operation of the separator.

- **When operating electrical apparatus, certain parts carry dangerously high voltage.**

  Non-compliance with the protective measures can therefore result in serious injury or damage.

  For this reason, only suitably qualified specialists are allowed to work on the units.

  Protective measures should be taken in line with national and local regulations.

- **Instruction manuals**

  Follow the instructions given in this manual and the separator manual.

  Proper and safe operation is conditional on appropriate transport and storage conditions, correct operation and assembly as well as careful operation and maintenance.

- **Operate the separator only in accordance with agreed process and operating parameters.**

- **Maintain the separator as specified -**

  in the separator manual.

- **Carry out safety checks on the separator -**

  as described in chapter ”Safety” in the separator manual.

- **Liability for the function of the unit passes to the owner.**

  Liability for the function of the unit passes unconditionally to the owner or operator irrespective of existing warranty periods in so far as the unit is improperly maintained or serviced by persons other than Westfalia Separator service personnel or if the machine is not applied in accordance with the intended use.

  Westfalia Separator AG shall not be liable for damage which occurs as a result of non-compliance with the above. Warranty and liability conditions in the Conditions of Sale and Delivery of Westfalia Separator AG are not extended by the above.

Foreword

This instruction manual is primarily intended for persons assigned the task of operating and maintaining the control unit. To assure safe operation it is therefore imperative that the manual is indeed handed over to these persons.

In the event of any queries please state the model designation and the serial number (see nameplate inside the control unit).

When ordering spare parts, it aids the rapid and correct processing of your order if you also state the circuit diagram number specified.

Typenschild / Name plate

WESTFALIA SEPARATOR

Typ Type	_____
Serien - Nr. Serial - No.	_____
Bemessungsspannung Nominal voltage	_____ V, 3/AC _____ Hz
Steuerspannung Control voltage	_____ VAC _____ Hz _____ VDC
Vollaststrom Full - load current	_____ A
Bemessungsstrom (größter Motor/Verbraucher) Nominal current (largest motor/consumer)	_____ A
Kurzschlußausschaltvermögen I_{cn} Short - circuit breaking capacity	_____ kA
Schaltplan - Nr. Wiring diagram No.	_____
Programm - Nr. Program No.	_____

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1 General description

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1.1 Application

The C7-623 control unit is used for the automatic ejection control and condition monitoring of mineral oil separators of the series

- OSA
- OSB
- OSC

With the electronic C7-623/A control unit total ejections of the centrifuge bowl, with or without previous displacement of the product, are triggered at preset intervals.

The following ejection modes can be selected on the OSC separators:

- partial ejections
- total ejections
- preselectable partial ejections followed by total ejection

With the time-dependent program cycle it is important in respect of high clarifying efficiency and avoiding desludging losses that the separable solids content in the product does not fluctuate widely.

The centrifuges with UNITROL system are provided with two basic monitoring systems:

- Water content monitoring system - WMS
- Sludge space monitoring system - SMS

Series operation is also available for two-stage HFO treatment.

Software assignment to the specific separator is carried out in the factory using a password function.

Detailed information on the special functions is given in the respective chapters of this manual.

The illuminated four-line LC display provides information about the operating and malfunction condition of the separator and, depending on the programming, displays relevant process data.

1.2 Equipment

The control system comprises, in addition to the control cabinet, all complete line fittings incorporating electrical components which are controlled or monitored by the control unit.

These include:

- the dirty oil connection,
- the water connection,
- the operating water connection,
- additionally on UNITROL centrifuges:
  - the circuit and water discharge valve
  - the water sensor
  - and/or the pressure switch for the bypass line in SMS function.

Optional extras:

- multi-purpose thermometer PT 100 for minimum / maximum monitoring in the dirty oil
- level switch for monitoring the water discharge
- process-dependent control of an external feed pump
- level switch for monitoring the sludge tank
- minimum and maximum level switch for controlling a sludge pump
- klaxon for audible alarm

The standard C7-623 control unit is designed for single operation of purifiers or clarifiers.

If required, series operating mode can be pre-selected for two-stage HFO operation after entering a password. The MPI interfaces (**M**ulti **P**oint **I**nterface) must be cabled accordingly (cf. chapter 6.2.12 page 113 ff.).

1.3 Control cabinet

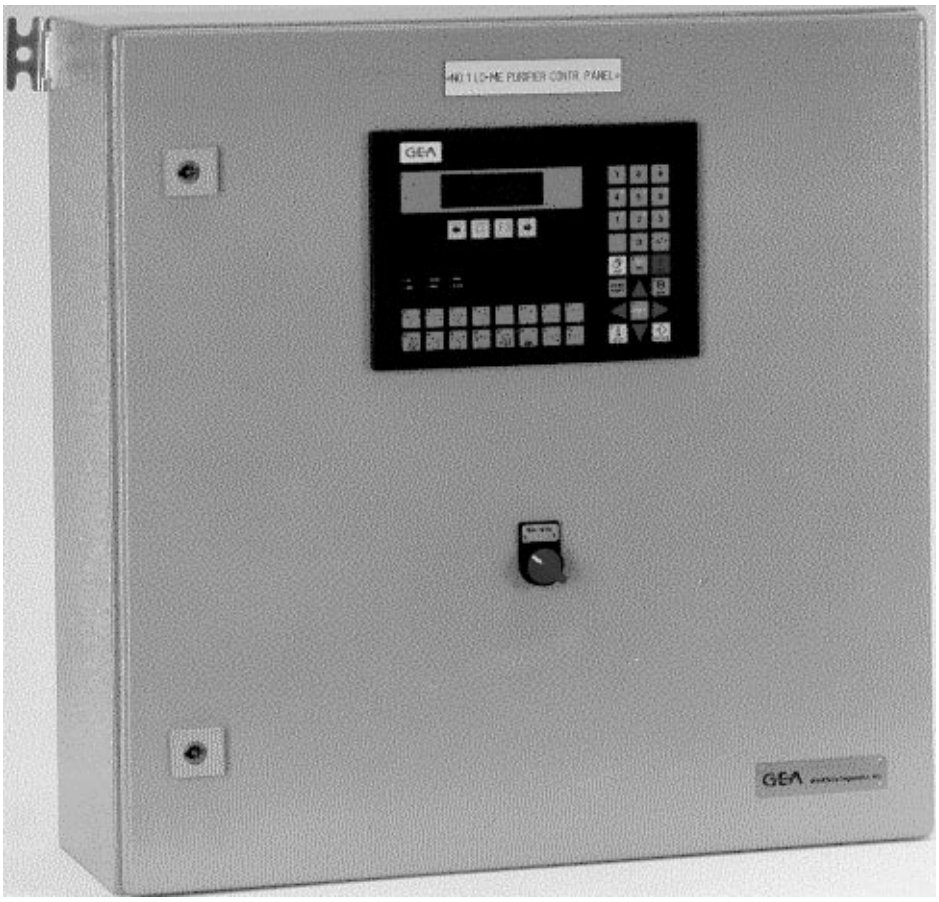

Fig. 2

The C7-623 control unit is built into the door of the control cabinet ready for connection.

An order-specific drawing is in the appendix to this manual.

1.4 General layout plan

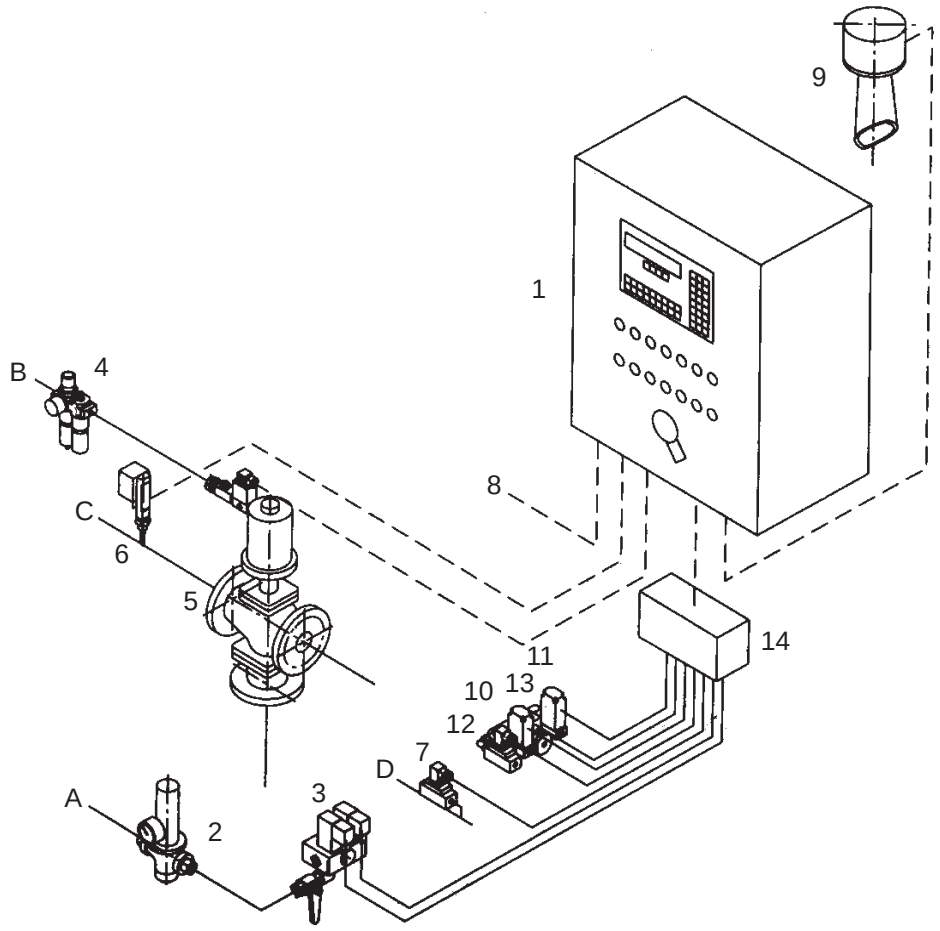

Fig. 3

A Water
B Compressed air
C Dirty oil feed
D Clean oil discharge

1 Control unit C7-623 and motor control for centrifuge
Motor control feed pump [1]
Motor control sludge pump [1]
2 Water pressure reducer [1]
3 Feed assembly with solenoid valve for filling, displacement and operating water
4 Compressed air control unit [1]
5 Pneumatic 3/2-way valve with manual adjustment and solenoid valve for control air (fitted in the dirty oil line of the separator)
6 PT 100 oil feed min./max. temperature monitoring [1]
7 Pressure switch (for monitoring the clean oil discharge)
8 Connections for electrical power supply [1]
9 Klaxon [1]
10 Water discharge valve
11 Circuit valve
12 Pressure switch - sludge space monitoring
13 Water sensor
14 Terminal box (fitted to separator)

[1] On special order only.

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