Atlas Copco Stationary Air Compressors

GA5-7-11C-11-15-18-22-30C-30-37-45-55C-55-75-90C and
GA30 W-37 W-45 W-55C W-55 W-75 W-90C W
With Elektronikon I or Elektronikon II regulator

User manual for Elektronikon® I and II regulators

OWNERSHIP DATA

Compressor type: . . . . . Unit serial No. compressor: . . . . .
Air dryer type: . . . . . Unit serial No. dryer: . . . . .
Motor type: . . . . . Motor serial No.: . . . . .
Delivery date: . . . . . First start-up date: . . . . .
Service Plan: . . . . . Owner's machine No.: . . . . .

Selected lubricants

Compressor: . . . . . Capacity: . . . . .
Bearing grease type, electric motor: . . . . .
Dryer gearbox . . . . . Capacity . . . . .

Printed Matter Nos.

Atlas Copco compressor instruction book: . . . . . Atlas Copco air dryer instruction book: . . . . .
Atlas Copco compressor parts list: . . . . . Atlas Copco air dryer parts list: . . . . .
Atlas Copco logbook: . . . . .

Local Atlas Copco Representative

Name: . . . . .
Address: . . . . .
Telephone: . . . . . Contact persons: Service: . . . . .
Telex: . . . . . Parts: . . . . .
E-mail . . . . .

SAFETY PRECAUTIONS

To be read attentively and acted accordingly before installing, operating or repairing the unit.

These recommendations apply to machinery processing or consuming air or inert gas. Processing of any other gas requires additional safety precautions typical to the application which are not included herein.

In addition to normal safety rules which should be observed with stationary air compressors and equipment, the following safety directions and precautions are of special importance.

When operating this unit, the operator must employ safe working practices and observe all related local work safety requirements and ordinances.

The owner is responsible for maintaining the unit in a safe operating condition. Parts and accessories shall be replaced if unsuitable for safe operation.

Installation, operation, maintenance and repair shall only be performed by authorized, trained, competent personnel.

Normal ratings (pressures, temperatures, time settings, etc.) shall be durably marked.

Any modification on the compressor or air dryer shall only be performed in agreement with Atlas Copco and under supervision of authorized, competent personnel.

If any statement in this book, especially with regard to safety, does not comply with local legislation, the stricter of the two shall apply.

These precautions are general and cover several machine types and equipment; hence some statements may not apply to the unit(s) described in this book.

Installation

Apart from general engineering practice in conformity with the local safety regulations, the following directives are specially stressed:

1. A compressor or air dryer shall be lifted only with adequate equipment in conformity with local safety rules.

   Loose or pivoting parts shall be securely fastened before lifting. It is strictly forbidden to dwell or stay in the risk zone under a lifted load. Lifting acceleration and retardation shall be kept within safe limits.

   Wear a safety helmet when working in the area of overhead or lifting equipment.

2. Any blanking flanges, plugs, caps and desiccant bags shall be removed before connecting up the pipes. Distribution pipes and connections shall be of correct size and suitable for the working pressure.

3. Place the unit where the ambient air is as cool and clean as possible. If necessary, install a suction duct. Never obstruct the air inlet. Care shall be taken to minimize the entry of moisture with the inlet air.

4. The aspirated air shall be free from flammable fumes or vapours, e.g. paint solvents, that can lead to internal fire or explosion.

5. Air-cooled units shall be installed in such a way that an adequate flow of cooling air is available and that the exhausted air does not recirculate to the inlet.

6. Arrange the air intake so that loose clothing of people cannot be sucked in.

7. Ensure that the discharge pipe from the compressor to the aftercooler, air dryer or air net is free to expand under heat and that it is not in contact with or close to flammable material.

8. No external force may be exerted on the air outlet valve; the connected pipe must be free of strain.

9. If remote control is installed, the unit shall bear an obvious sign reading:

   DANGER: This machine is remotely controlled and may start without warning.

   As a further safeguard, persons switching on remotely controlled units shall take adequate precautions to ensure that there is no one checking or working on the machine. To this end, a suitable notice shall be affixed to the start equipment.

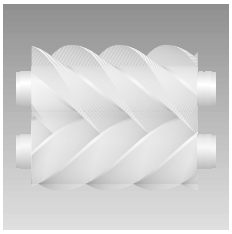
10. On units with automatic start-stop system, a sign stating **"This machine may start without warning"** shall be attached near the instrument panel.

11. In multiple compressor systems manual valves shall be installed to isolate each compressor. Non-return valves (check valves) shall not be relied upon for isolating pressure systems.

12. Never remove or tamper with the safety devices, guards or insulations fitted on the unit. Every pressure vessel or auxiliary installed outside the unit to contain air above atmospheric pressure shall be protected by a pressure-relieving device or devices as required.

13. Pipework or other parts with a temperature in excess of 80 degrees celsius and which may be accidentally touched by personnel in normal operation shall be guarded or insulated. Other high-temperature pipework shall be clearly marked.

(continued on inside of cover)



Atlas Copco Stationary Air Compressors

GA5-7-11C-11-15-18-22-30C-30-37-45-55C-55-75-90C and
GA30 W-37 W-45 W-55C W-55 W-75 W-90C W
With Elektronikon I or Elektronikon II regulator

User manual for Elektronikon® I and II regulators

Important
This book applies exclusively to the above-mentioned compressors with Elektronikon I or II regulator from following serial numbers onwards:

GA5 up to GA11C:	AII-145 000
GA11 up to GA30C:	AII-268 500
GA30 up to GA55C:	AII-380 000
GA55 up to GA90C:	AII-474 000

- This instruction book meets the requirements for instructions specified by the machinery directive 98/37/EC and is valid for CE as well as non-CE labelled machines.

No. 2920 1461 03

Replaces 2920 1461 02

Registration code: APC G5-11C/2002 / 38 / 984
APC G11-30C / 38 / 989
APC G30-55C / 38 / 980
APC G55-90C / 38 / 985

www.atlascopco.com

2003-09

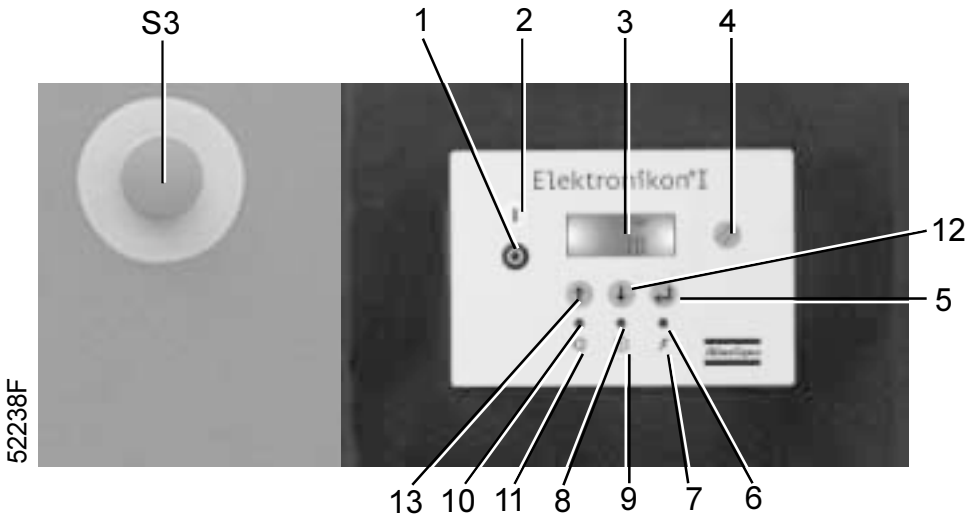
Atlas Copco

Contents

PART 1 - ELEKTRONIKON I REGULATOR

PART 2 - ELEKTRONIKON II REGULATOR

PART 1
ELEKTRONIKON I REGULATOR



Control panel

1 General description

1.1 Automatic control of the compressor

The regulator maintains the net pressure between programmable limits by automatically loading and unloading the compressor. A number of programmable settings, e.g. the unloading and loading pressures, the minimum stop time and the maximum number of motor starts are taken into account.

The regulator stops the compressor whenever possible to reduce the power consumption and restarts it automatically when the net pressure decreases.

1.2 Protecting the compressor

Shut-down
If the compressor element outlet temperature exceeds the programmed shut-down level, the compressor will be stopped. This will be indicated on display (3). The compressor will also be stopped in case of overload of drive motor (M1) and, for air-cooled compressors, also the fan motor (M2).

Shut-down warning
If the compressor element outlet temperature or dewpoint temperature (Full-Feature compressors) exceeds a programmed value below the shut-down level, this will also be indicated to warn the operator before the shut-down level is reached.

Service warning
If the service timer exceeds a programmed value, this will be indicated on display (3) to warn the operator to carry out some service actions.

1.3 Automatic restart after voltage failure

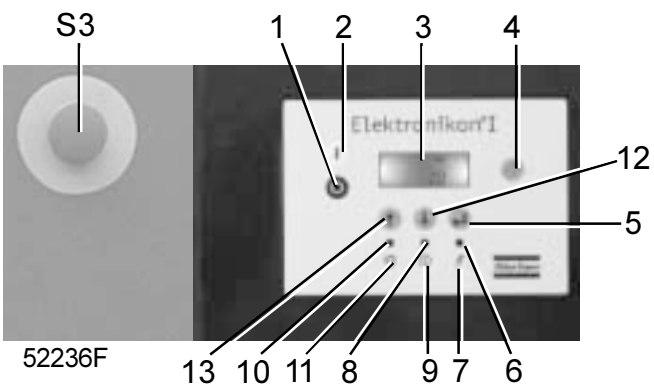
For compressors leaving the factory, this function is made inactive. If desired, the function can be activated. Consult Atlas Copco.

Warning *If activated and provided the module was in the automatic operation mode, the compressor will automatically restart if the supply voltage to the module is restored.*

2 Control panel

Ref.	Designation	Function
1	Stop button	Push button to stop the compressor. LED (10) goes out. The compressor will stop after running in unloaded condition for about 30 seconds.
2	Start button	Push button to start the compressor. LED (10) lights up indicating that the regulator is operative (in automatic operation).
3	Display	Indicates the compressor operating condition, measured values and programmed parameters.

Ref.	Designation	Function
4	Reset key	Key to reset the service timer, a shut-down condition, etc.
5	Enter key	Key to select or validate a parameter, to open a sub-display or to return to a previous display.
6	Voltage on LED	Indicates that the voltage is switched on.
7	Pictograph	Voltage on
8	General alarm LED	Is alight if a warning condition exists.
8	General alarm LED	Blinks in case of a shut-down or emergency stop condition.
9	Pictograph	Alarm
10	Automatic operation LED	Indicates that the regulator is automatically controlling the compressor: the compressor is loaded, unloaded, stopped and restarted depending on the air consumption and the limitations programmed in the regulator.
11	Pictograph	Automatic operation
12	Downwards scroll key	Key to scroll downwards through the screens or to decrease a setting.
13	Upwards scroll key	Key to scroll upwards through the screens or to increase a setting.
S3	Emergency stop button	Push button to stop the compressor immediately in case of emergency. After remedying the trouble, unlock the button by pulling it out and press reset key 4.



3 Display

The display shows:
- the compressor operating status by means of pictographs
- the air outlet pressure
- the actual temperature at the compressor element outlet
- the actual dewpoint temperature (FF compressors)

The display also shows all measured and programmed parameters, see section 7.

3.1 Pictographs used on the screen

Pictograph	Explanation
	Compressor status LOAD (during loaded running, the horizontal arrow blinks)
	Compressor status UNLOAD
	Running hours
	Element outlet temperature
	Dewpoint temperature
	Motor or motor overload

3.2 Main screen

When the voltage is switched on, the Main screen is shown automatically, showing in short the operation status of the compressor and the outlet pressure:

bar
6.8

Main screen, typical example

The screen shows that the compressor is running loaded (the horizontal arrow blinks) and that the outlet pressure is 6.8 bar(e).

Important
Always consult Atlas Copco in case "t" or "test" appears on the display

3.3 Scrolling through all screens

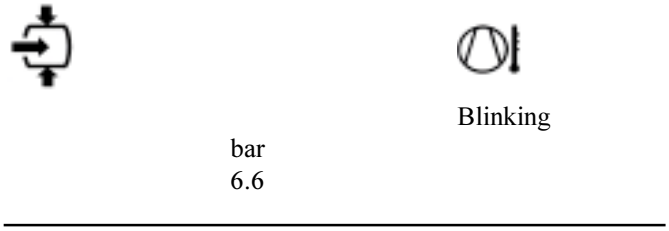
It is possible to scroll downwards and upwards through a number of screens by means of the upwards/downwards arrow keys (12 and 13). See section 7.

4 Shut-down warning

A shut-down warning message will appear in case of:
- too high a temperature at the outlet of the compressor element
- too high a dewpoint temperature (FF compressors)

4.1 Compressor element outlet temperature

1. In case the outlet temperature of the compressor element exceeds the shut-down warning level (110 °C, not programmable), alarm LED (8) will light up and the related pictograph will appear blinking:



Warning screen, element outlet temperature

2. Press arrow key (12), “r000” (register 000) appears.
3. Press arrow key (12), the actual compressor element temperature appears:

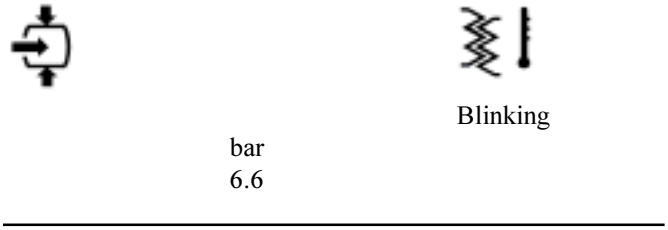
Warning screen, element outlet temperature

The screen shows that the temperature at the outlet of the compressor element is 111 °C.

4. It remains possible to scroll through other screens (using keys 12 and 13) to check the actual status of other parameters.
5. Press button (1) to stop the compressor and wait until the compressor has stopped.
6. Switch off the voltage, inspect the compressor and remedy.
7. The warning message will disappear as soon as the warning condition disappears.

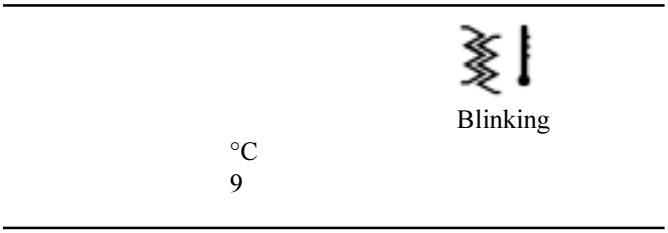
4.2 Dewpoint temperature

1. In case the dewpoint temperature exceeds the shut-down warning level (programmable), alarm LED (8) will light up and the related pictograph will appear blinking:



Warning screen, dewpoint temperature

2. Press arrow key (12), “r000” (register 000) appears.
3. Press arrow key (12), the actual dewpoint temperature appears:



Warning screen, dewpoint temperature

The screen shows that the dewpoint temperature is 9 °C.

4. It remains possible to scroll through other screens (using keys 12 and 13) to check the actual status of other parameters.
5. Press button (1) to stop the compressor and wait until the compressor has stopped.
6. Switch off the voltage, inspect the compressor and remedy.
7. The warning message will disappear as soon as the warning condition disappears.

5 Shut-down

The compressor will be shut down in case:
- the temperature at the outlet of the compressor element exceeds the shut-down level
- of error of the outlet pressure sensor
- of overload of the drive motor and, on air-cooled compressors, also the fan motor

5.1 Compressor element outlet temperature

1. In case the outlet temperature of the compressor element exceeds the shut-down level (120 °C, not programmable), the compressor will be shut down, alarm LED (8) will blink, automatic operation LED (10) will go out and following screen will appear:

Blinking

Shut-down screen, element outlet temperature

2. Press enter key (5), “r000” (register 000) appears.
3. Press arrow key (12), the actual compressor element temperature appears:

Blinking

°C
122

Shut-down screen, element outlet temperature

The screen shows that the temperature at the outlet of the compressor element is 122 °C.

4. Switch off the voltage and remedy the trouble.
5. After remedying and when the shut-down condition has disappeared, switch on the voltage and restart the compressor.

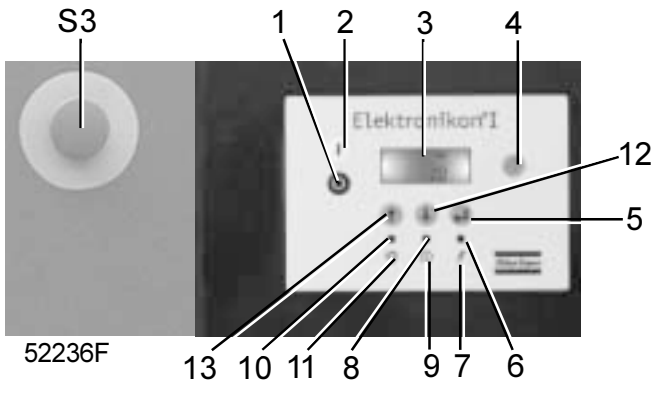
5.2 Motor overload

1. In case of motor overload, the compressor will be shut down, alarm LED (8) will blink, automatic operation LED (10) will go out and following screen will appear:

Blinking

Shut-down screen, motor overload

2. Switch off the voltage and remedy the trouble.
3. After remedying and when the shut-down condition has disappeared, switch on the voltage and restart the compressor.



6 Service warning

A service warning will appear when the service timer has reached the programmed time interval.

1. In case the service timer exceeds the programmed time interval, alarm LED (8) will light up.
2. Press arrow key (12): “r000” is shown (register 000). Press enter key (5), “S” (S standing for “Service”) appears. Use key (12) to scroll to “r005” (register 005) and press enter key (5), the actual reading of the service timer will be shown in “kHrs” (hours x 1000) .

Example: “4.002” indicates that the compressor has run for 4002 hours since previous service.

3. Press enter key (5) and key (12) to scroll to “r001” (register 001). Press key (5) to check the running hours, which are shown in “kHrs” (hours x 1000).

Example of running hours screen:

kHrs
8.000

The screen shows that the number of running hours is 8000.

4. Stop the compressor, switch off the voltage and carry out the service actions as explained in the maintenance schedule in the related Instruction book.

Important

- The “longer interval” service actions must include the “shorter interval” actions.
  In the example above, carry out all service operations belonging to the 8000 running hours interval as well as those belonging to the 4000 running hours interval.
- If using mineral oil instead of Atlas Copco Roto-injectfluid, the service timer interval has to be decreased: 500 running hours for 13 bar (175 psi) units and 1000 running hours for 7.5-10 bar (100-150 psi) units.

5. After servicing, reset the service timer (see section 7.5).

7 Scrolling through all screens

Scroll keys (12 and 13) can be used to scroll through all screens. The screens are divided in register screens (numbered as “r001”, “r002”,...) and parameter screens (numbered as “P001”, “P002”,...).
During scrolling, the numbers of the screens appear consecutively. For most screens, the unit of measurement and the related pictograph are shown together with the screen number.
In case of a warning or shut-down, an extra register screen (“r000”) is accessible.

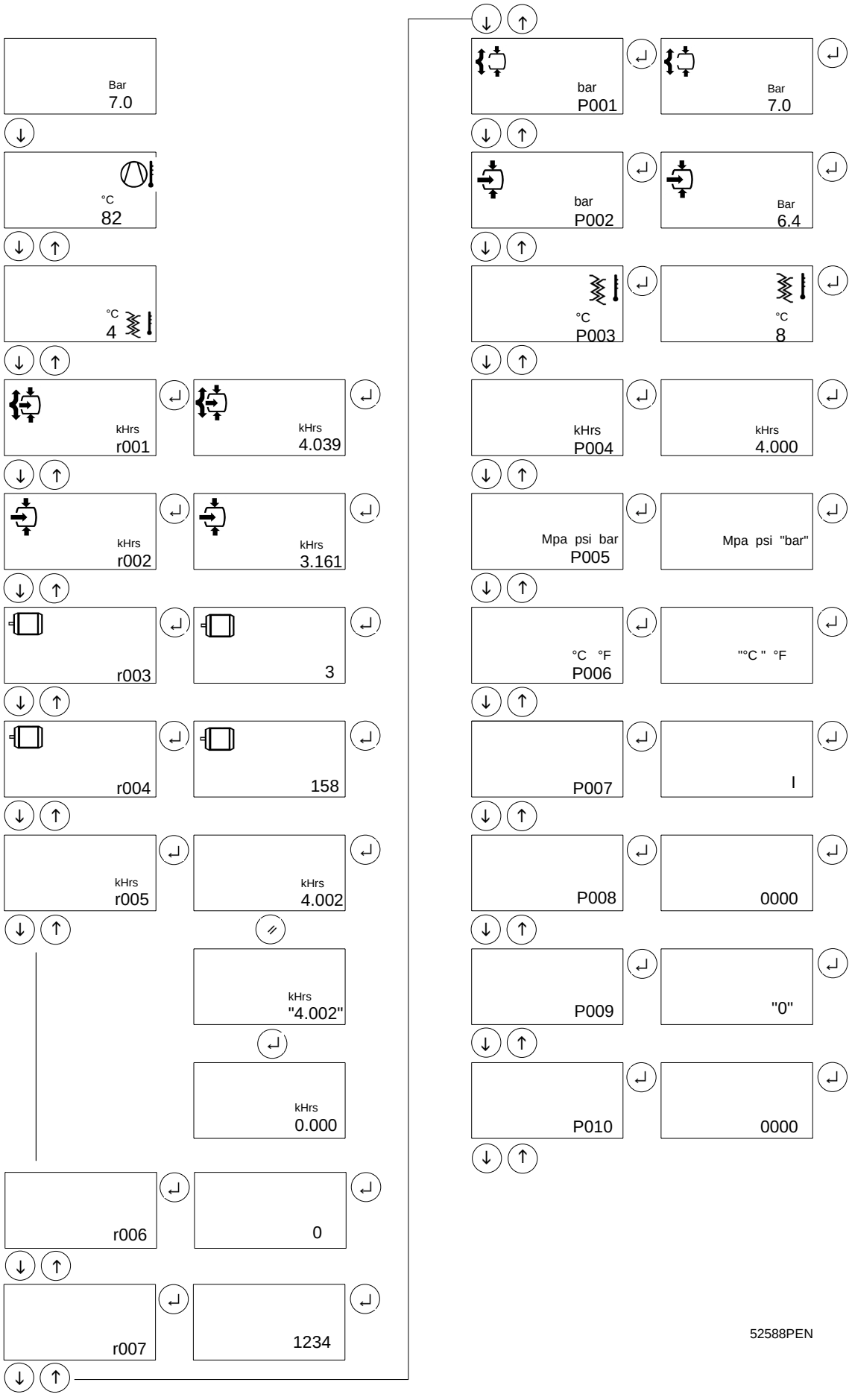
Example:

kHrs
r001

The screen shows the screen number (“r001”), the unit used (kHrs or hours x 1000) and the related pictograph for running hours. Press enter key (5) to call up the actual running hours.

Overview of the screens

Register screens	Show
r001	Running hours (x1000 hrs)
r002	Loading hours (x1000 hrs)
r003	Motor starts (x1000)
r004	Motor starts (x1)
r005	Service timer reading
r006	Status of function "Automatic restart after voltage failure"
r007	Programmed set of parameters



Simplified menu flow

Parameter screens	Used for
P001	Unload pressure setting
P002	Load pressure setting
P003	Warning level setting for dewpoint temperature
P004	Setting of service timer
P005	Setting of unit for pressure
P006	Setting of unit for temperature
P007	Selection between Y-D or DOL starting
P008	Selection for function "Automatic restart after voltage failure" (active or not, only for Atlas Copco)
P009	Selection between Local/Remote control
P010	Changing set of programmed parameters (only for Atlas Copco)

7.1 Calling up outlet and dewpoint temperatures

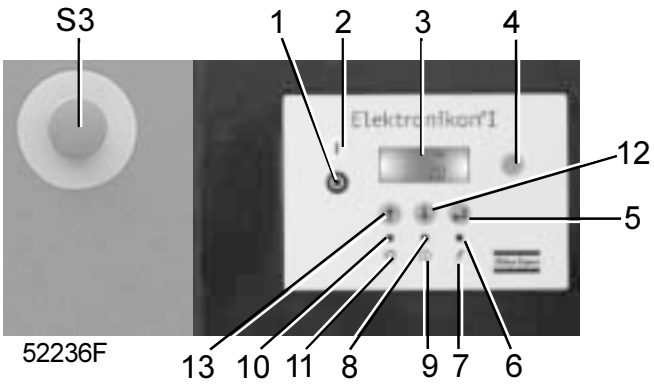
Starting from the Main screen:

bar
6.6

1. Press arrow key (12), the outlet temperature will be shown:


°C
83

The screen shows that the outlet temperature is 83 °C.



2. Press arrow key (12), the dewpoint temperature will be shown:

°C
3

The screen shows that the dewpoint temperature is 3 °C.

3. Use keys (12 and 13) to scroll downwards or upwards through the screens.

7.2 Calling up running hours

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “r001” is shown and then press enter key (5):

kHrs
2.381

The screen shows the unit used (“kHrs” or hours x 1000) and the value “2.381”: the running hours of the compressor are 2381 hours.

7.3 Calling up loading hours

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “r002” is shown and then press enter key (5):

kHrs
1.755

The screen shows the unit used (“kHrs” or hours x 1000) and the value “1.755”: the loading hours of the compressor are 1755 hours.

7.4 Calling up motor starts

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “r003” is shown and then press enter key (5):

3

This screen shows the number of motor starts times 1000. Press enter key (5) to return to the register screens.

2. Press arrow key (12) until “r004” is shown and then press enter key (5):

226

This screen shows the number of motor starts to be added to the reading in register r003. In this example, the number of motor starts is 3226.

7.5 Calling up/resetting service timer

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “r005” is shown and then press enter key (5):

kHrs
1.191

The screen shows the unit used (“kHrs” or hours x 1000) and the value “1.191”: the compressor has run for 1191 hours since previous service.

Resetting the service timer

After servicing (see section 6), the timer has to be reset:

1. Scroll to register screen r005, the reading (e.g. “4.000”) will appear.
2. Press reset key (4), the reading will blink (indicating that resetting is possible).
3. Press enter key (5) to reset the timer to "0.000" or press reset key (4) to cancel the operation.

7.6 Automatic restart after voltage failure

Starting from the Main screen:

bar
6.6

Press arrow key (12) until “r006” is shown and press enter key (5):
- if “0” appears, the function Automatic restart after voltage failure is not active
- if “1” appears, the function Automatic restart after voltage failure is active

7.7 Set of parameters

Starting from the Main screen:

bar
6.6

Press arrow key (12) until “r007” is shown and press enter key (5): the number shown indicates the set of parameters which are programmed ex-factory.

7.8 Calling up/modifying Unloading pressure

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “P001” is shown and press the enter key (5):

bar
7.0

The screen shows the setting of the unloading pressure: 7.0 bar(e).

2. Use arrow keys (12 and 13) to modify this setting.
3. Press enter key (5) to program the new value and to return to the parameter screens.

7.9 Calling up/modifying Loading pressure

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “P002” is shown and then press enter key (5):

bar
6.4

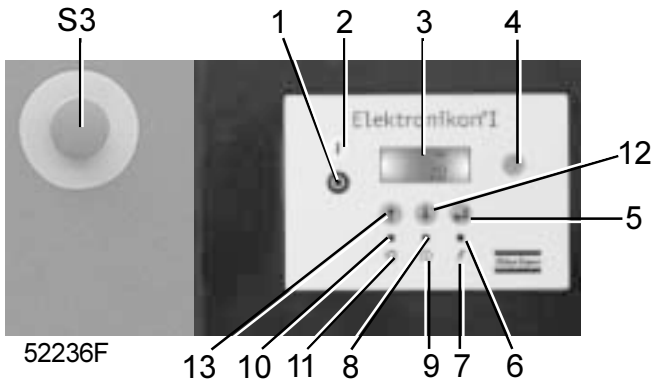
The screen shows the setting of the loading pressure: 6.4 bar(e).

2. Use arrow keys (12 and 13) to modify this setting.
3. Press enter key (5) to program the new value and to return to the parameter screens.

7.10 Calling up/modifying Dewpoint warning temperature

Starting from the Main screen:

bar
6.6



1. Press arrow key (12) until “P003” is shown and press enter key (5):

°C
8

The screen shows the warning setting for the dewpoint temperature: 8 °C.

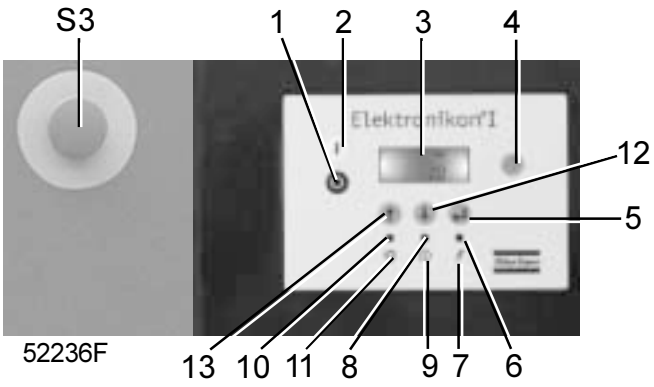
2. Use arrow keys (12 and 13) to modify this setting.
3. Press enter key (5) to program the new value and to return to the parameter screens.

7.11 Calling up/modifying Service timer setting

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “P004” is shown and then press "enter" key (5): the setting of the service timer is shown in "kHrs" (hours x 1000). Example: “4.000” means the timer is set at 4000 running hours.
2. Use arrow keys (12 and 13) to modify this setting.
3. Press enter key (5) to program the new value and to return to the parameter screens.



7.12 Calling up/modifying unit for pressure

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “P005” is shown and press enter key (5): the possible settings are shown: “MPa”, “psi” and “bar”; the actually used unit is blinking.
2. Use arrow keys (12 and 13) to select another unit for pressure.
3. Press enter key (5) to program the new unit and to return to the parameter screens.

7.13 Calling up/modifying unit for temperature

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “P006” is shown and then press enter key (5): the possible settings are shown: “°C” and “°F”; the actually used unit is blinking.
2. Use arrow keys (12 and 13) to select another unit for temperature.
3. Press enter key (5) to program the new unit and to return to the parameter screens.

7.14 Selection between Y-D or DOL starting

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “P007” is shown and press enter key (5). The actually used starting mode is blinking: “1” for Y-D (star-delta) or “0” for DOL (direct-on line).
2. Use arrow keys (12 and 13) to select another starting mode.
3. Press enter key (5) to program the new starting mode and to return to the parameter screens.

7.15 Activating Automatic restart after voltage failure

This parameter, accessible in screen “P008”, can only be modified after entering a password. Consult Atlas Copco if this function should be activated.

7.16 Selecting between Local or Remote control

Starting from the Main screen:

bar
6.6

1. Press arrow key (12) until “P009” is shown and press enter key (5). The actually used control mode is blinking: “0” for Local control mode or “1” for Remote control mode.
2. Use arrow keys (12 and 13) to select another mode.
3. Press enter key (5) to program the new control mode and to return to the parameter screens.

7.17 Modifying the Parameter set

This parameter, accessible in screen “P010”, can only be modified after entering a password.

8 Settings

8.1 Unloading/loading pressures

		Minimum	Nominal	Maximum
Unloading pressure				
13 bar	bar(e)	4.1	12.5	13
13 bar Full-feature	bar(e)	4.1	12.5	12.8
10 bar	bar(e)	4.1	9.5	10
10 bar Full-feature	bar(e)	4.1	9.5	9.8
7.5 bar	bar(e)	4.1	7	7.5
7.5 bar Full-feature	bar(e)	4.1	7	7.3
100 psi	bar(e)	4.1	6.9	7.4
100 psi Full-feature	bar(e)	4.1	6.9	7.2
125 psi	bar(e)	4.1	8.6	9.1
125 psi Full-feature	bar(e)	4.1	8.6	8.9
150 psi	bar(e)	4.1	10.3	10.8
150 psi Full-feature	bar(e)	4.1	10.3	10.6
175 psi	bar(e)	4.1	12	12.5
175 psi Full-feature	bar(e)	4.1	12	12.3
Loading pressure				
13 bar	bar(e)	4	11.9	12.9
13 bar Full-feature	bar(e)	4	11.9	12.7
10 bar	bar(e)	4	8.9	9.9
10 bar Full-feature	bar(e)	4	8.9	9.7
7.5 bar	bar(e)	4	6.4	7.4
7.5 bar Full-feature	bar(e)	4	6.4	7.2
100 psi	bar(e)	4	6.3	7.3
100 psi Full-feature	bar(e)	4	6.3	7.1
125 psi	bar(e)	4	8	9
125 psi Full-feature	bar(e)	4	8	8.8
150 psi	bar(e)	4	9.7	10.7
150 psi Full-feature	bar(e)	4	9.7	10.5
175 psi	bar(e)	4	11.4	12.4
175 psi Full-feature	bar(e)	4	11.4	12.2

The recommended minimum pressure difference between loading and unloading is 0.6 bar.

8.2 Element outlet temperature

The settings for warning (110 °C) and shut-down (120 °C) are not programmable.

8.3 Dewpoint temperature

The nominal warning setting is 8°C.

8.4 Service timer

The nominal setting for compressors using Roto-injectfluid is 4000 running hours. If using mineral oil, the setting must be decreased to 500 or 1000 running hours (see the related Instruction book).

PART 2
ELEKTRONIKON II REGULATOR

1 General description

1.1 Automatic control of the compressor

The regulator maintains the net pressure between programmable limits by automatically loading and unloading the compressor. A number of programmable settings, e.g. the unloading and loading pressures, the minimum stop time and the maximum number of motor starts are taken into account.

For GA Workplace FF with ICD, the regulator also maintains the pressure dewpoint of the dryer between programmable settings by defining the switching time. A number of programmable settings are taken into account.

The regulator stops the compressor whenever possible to reduce the power consumption and restarts it automatically when the net pressure decreases. In case the expected unloading period is too short, the compressor is kept running to prevent too-short standstill periods.

Warning *A number of time-based automatic start/stop commands may be programmed (see section 13). Take into account that a start command will be executed (if programmed and activated), even after manually stopping the compressor.*

1.2 Protecting the compressor

Shut-down
If the compressor element outlet temperature exceeds the programmed shut-down level, the compressor will be stopped. This will be indicated on display (3-Fig. 2.1). The compressor will also be stopped in case of overload of the drive motor and, on air-cooled compressors, also the fan motor.

Shut-down warning
If the compressor element outlet temperature exceeds a programmed value below the shut-down level, this will also be indicated to warn the operator before the shut-down level is reached.

Service warning
A number of service operations are grouped in plans (called Service plans A, B and C). Each Service plan has a programmed time interval. If a time interval is exceeded, a message will appear on display (3-Fig. 2.1) to warn the operator to carry out the service actions belonging to that plan. Consult the related Instruction book.

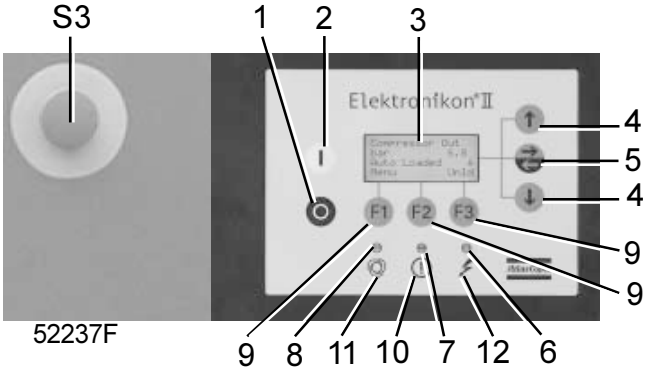
Warning
- A warning message also appears if:
- On water-cooled compressors the cooling water outlet temperature exceeds the warning level.
- On Full-feature compressors the dewpoint temperature exceeds the warning level.
- **On GA Workplace FF with ICD** the inlet temperature of the compressed air into the dryer exceeds the warning level.
- **On GA Workplace FF with ICD** the pressure in the dryer vessels is lower than the minimum or higher than the maximum limit.

1.3 Automatic restart after voltage failure

For compressors leaving the factory, this function is made inactive. If desired, the function can be activated. Consult Atlas Copco.

Warning *If activated and provided the module was in the automatic operation mode, the compressor will automatically restart if the supply voltage to the module is restored within a programmed time period.*

The power recovery time (the period within which the voltage must be restored to have an automatic restart) can be set between 10 and 600 seconds or to Infinite. If the power recovery time is set to Infinite, the compressor will always restart after a voltage failure, no matter how long it takes to restore the voltage. A restart delay can also be programmed, allowing e.g. two compressors to be restarted one after the other.



2 Control panel

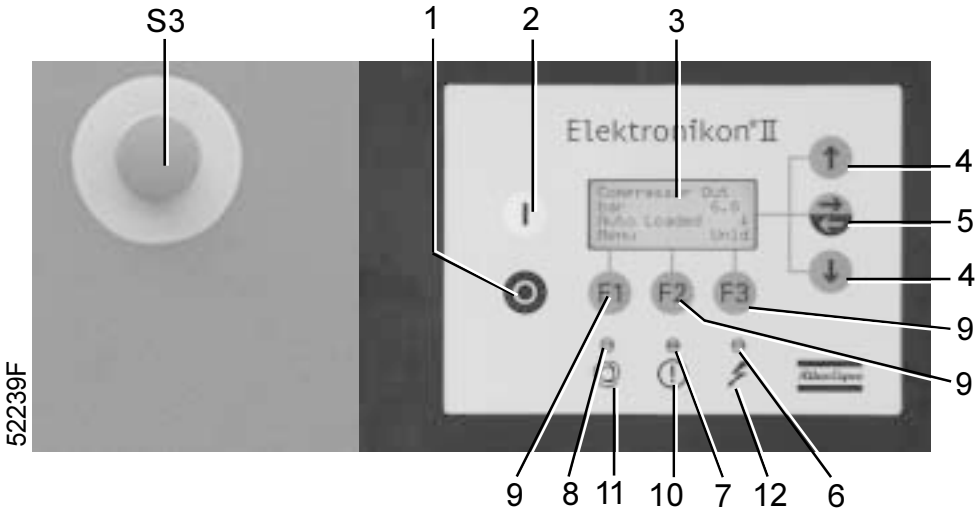


Fig. 2.1 Control panel

2.1 LEDs/buttons/keys

Ref.	Designation	Function
1	Stop button	Push button to stop the compressor. LED (8) goes out. The compressor will stop after running in unloaded condition for about 30 seconds.
2	Start button	Push button to start the compressor. LED (8) lights up indicating that the regulator is operative (in automatic operation). The LED goes out after unloading the compressor manually.
3	Display	Indicates messages concerning the compressor operating condition, a service need or a fault.
4	Scroll keys	Keys to scroll through the display.
5	Tabulator key	Key to select the parameter indicated by a horizontal arrow. Only the parameters followed by an arrow pointing to the right are accessible for modifying.
6	Voltage on LED	Indicates that the voltage is switched on.
7	General alarm LED	Is alight if a warning, service warning or shut-down warning condition exists or if a sensor is out of order.
7	General alarm LED	Blinks in case of shut-down, if a sensor with shut-down function is out of order or after an emergency stop.
8	Automatic operation LED	Indicates that the regulator is automatically controlling the compressor: the compressor is loaded, unloaded, stopped and restarted depending on the air consumption and the limitations programmed in the regulator.
9	Function keys	Keys to control and program the compressor. See next page.
S3	Emergency stop button	Push button to stop the compressor immediately in case of emergency. After remedying the trouble, unlock the button by pulling it out.

2.2 Pictographs

10 Alarm
11 Automatic operation
12 Voltage on

2.3 Function keys

The keys are used:
- To manually load/unload the compressor
- To call up or to program settings
- To reset a motor overload, shut-down or service message, or an emergency stop
- To have access to all data collected by the regulator

The functions of the keys vary depending on the displayed menu. The actual function is abbreviated and indicated on the bottom line of the display just above the relevant key. The most common abbreviations are listed below.

Abbre-viation	Desig-nation	Function
Add	Add	To add compressor start/stop commands (day/hour)
Back	Back	To return to a previously shown option or menu
Canc	Cancel	To cancel a programmed setting when programming parameters
Del	Delete	To delete compressor start/stop commands
Help	Help	To find the Atlas Copco internet address
Lim	Limits	To show limits for a programmable setting
Load	Load	To load the compressor manually
Main	Main	To return from a menu to the main screen (Fig. 3.2)
Menu	Menu	Starting from the main screen (Fig. 3.2): to have access to submenus
Menu	Menu	Starting from a submenu, to return to the previous menu
Mod	Modify	To modify programmable settings
Prog	Program	To program modified settings
Rset	Reset	To reset a timer or message
Rtrn	Return	To return to a previously shown menu
Unld	Unload	To unload the compressor manually
Xtra	Exta	To find the module configuration of the regulator

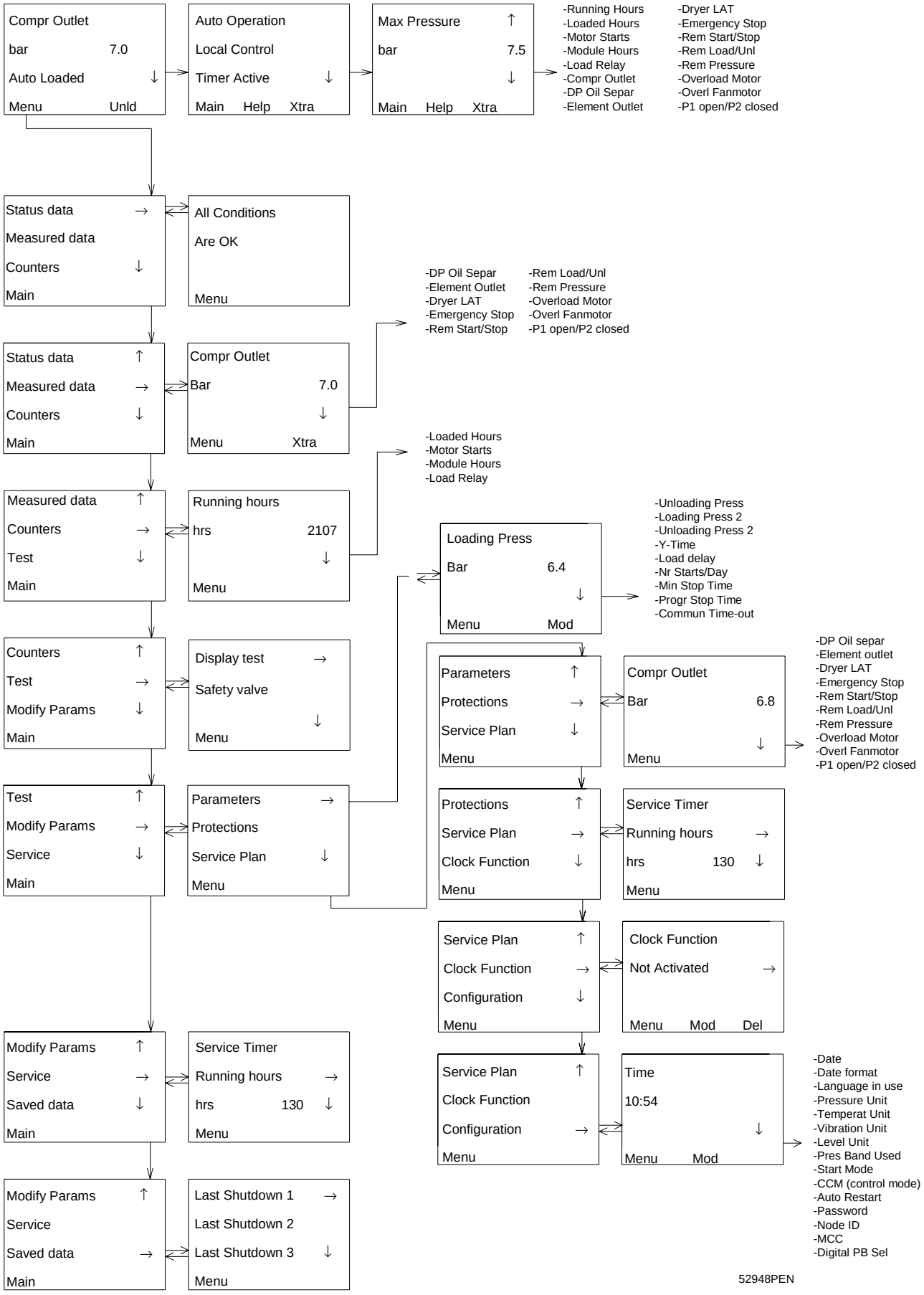


Fig. 3.1a Simplified menu flow of GA Workplace Full-Feature with IFD

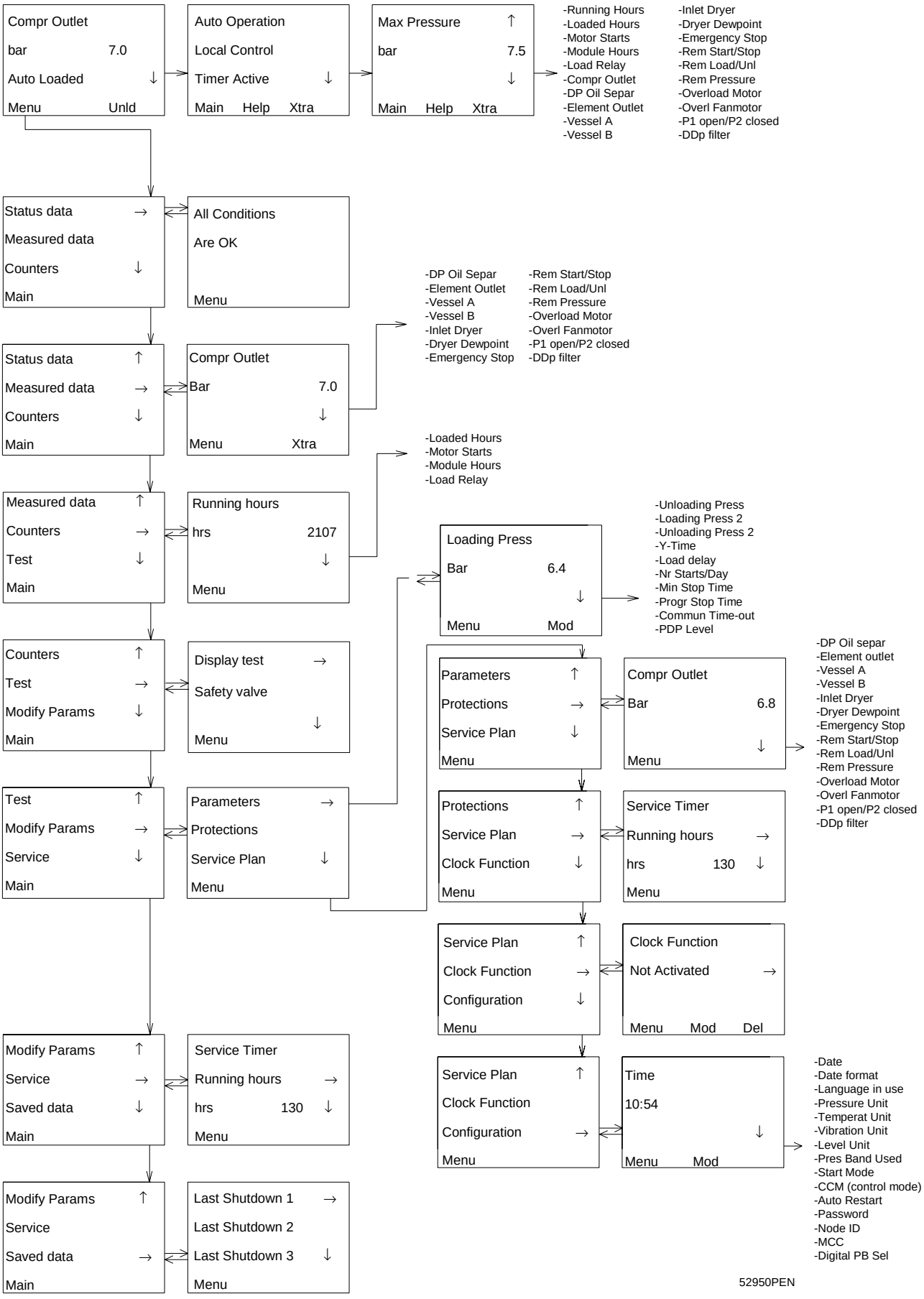


Fig. 3.1b Simplified menu flow of GA Workplace Full-Feature with ICD

3 Menu-driven control programs

To facilitate programming and controlling the compressor, menu-driven programs are implemented in the electronic module.

Simplified menu flows are shown in Figs. 3.1.

3.1 Function of control programs

Program/ Function	Description
Main screen	Shows in short the operation status of the compressor. It is the gateway to all functions. See Fig. 3.2.
Status data	Calling up the status of the compressor protection functions: - shut-down - shut-down warning - service warning - warning Resetting of a shut-down, motor overload and service condition.
Measured data	Calling up: - actually measured data - status of some inputs such as the motor overload protection
Counters	Calling up the: - running hours - loaded hours - number of motor starts - regulator (module) hours - number of load cycles
Test	Allows a display test.
Modify params	Modifying the settings for: - parameters (e.g. loading and unloading pressures) - protections (e.g. air temperature shut-down level) - service plans (see related Instruction book) - clock functions (automatic compressor start/stop/pressure band commands) - configuration (time, date, display language, …)
Service	Calling up service plans and resetting the timers. See section 15.
Saved data	Calling up the saved data: last shut-down, last emergency stop data

3.2 Main screen

When the voltage is switched on, the Main screen is shown automatically, showing in short the operation status of the compressor.

Compressor out			
bar		7.0	
Auto Loaded			↓
Menu		Unld	
F1	F2	F3	

Fig. 3.2 Main screen, typical example

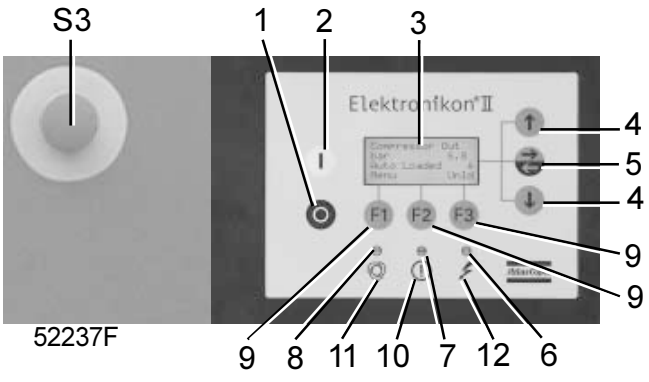
If the function keys or arrow keys are not used for some minutes, the display will automatically return to the Main screen.

Whenever displayed on a submenu screen, press the key “Main” to return to the Main screen.

3.3 Calling up other menus

Starting from the Main screen:

- Use the ↓ key for a quick look at the actual compressor status (see section 4)
- Press the key “Menu” (F1), the option “Status data” will be followed by a horizontal arrow:
  - either press the tabulator key (5) to select this menu
  - or use the ↓ key to scroll until the desired submenu is followed by a horizontal arrow and then press the tabulator key (5) to select this menu



4 Quick look at actual compressor status

Procedure

1. Starting from the Main screen (see section 3.2), press the ↓ key: A screen similar to the one below appears:

Auto Operation			
Local Control			
Timer Active			
Main	Help	Xtra	↓
F1	F2	F3	

Fig. 4.1 Example of an actual compressor status display

Line 1 indicates the automatic or manual operation status of the regulator:

"Auto operation" means that the regulator automatically adapts the operation of the compressor, i.e. loading, unloading, stopping and automatic restarting according to the programmed parameters.

"Man operation" means that the automatic pressure control function of the regulator is interrupted after pressing the "Unload" key on the Main screen.

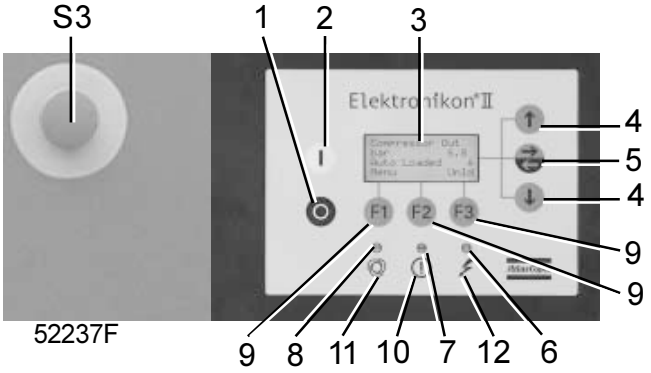
Line 2 indicates whether the regulator operates in local control or remote control mode:

"Local control" means that the start/stop and load/unload buttons on the keyboard are activated.
"Remote control" means that these functions are controlled remotely. Consult Atlas Copco.

Line 3 indicates whether the timer which generates time-based start and stop commands is activated or not. See section 13.

See section 2.3 for the functions of the keys "Main", "Help" and "Xtra".

2. Press the ↓ key to get other data (actual compressor conditions of the compressor) as shown in Figs. 3.1.



5 Status data menu

The status data submenu gives information regarding the status of the compressor protection functions (shut-down, shut-down warning, service warning and warning) and allows resetting of a shut-down, motor overload and service condition.

Procedure

Starting from the Main screen (see section 3.2):
- Press the key "Menu" (F1), the option "Status data" will be followed by a horizontal arrow
- Press the tabulator key (5)

5.1 No message exists

In this case, LED (7) is out and the message on the display indicates that all conditions are normal (Fig. 5.1):

All conditions		
are OK		
Menu		
F1	F2	F3

Fig. 5.1 Example of a status data screen

5.2 A shut-down message exists

In case the compressor is shut down, LED (7) will blink.

In case of a shut-down due to too high a temperature at the compressor element outlet, a screen similar to the one below will appear:

Element outlet		
C		122
Shd	Max	120
Menu **		** Rset
F1	F2	F3

Fig. 5.2 Example of a status data screen

1. The indicators (**) are blinking. The screen shows the sensor (compressor element outlet), the actual reading (122 degrees Celsius), that the compressor is shut down (Shd), and the shut-down setting (120 degrees Celsius).
2. It remains possible to scroll through other menus, e.g. to check the values of other parameters.
   When returning to the Status data menu, the option "Shutdowns" will blink. This option can be selected by pressing the tabulator key (5) to return to the shut-down screen (Fig. 5.2).

Shut-down reset

1. Switch off the voltage and remedy the trouble. After remedying and when the shut-down condition has disappeared, switch on the voltage and press the key “Rset”.
2. Press the keys “Menu” and “Main” to return to the Main screen and restart the compressor by means of button **I**.

Motor overload reset

1. Switch off the voltage and remedy the trouble. The overload relay (F21) is automatically reset after cooling off but the fan circuit breaker (Q15) must be reset manually. Switch on the voltage and press the key “Rset”.
2. Press the keys “Menu” and “Main” to return to the Main screen and restart the compressor by means of button **I**.

5.3 A shut-down warning message exists

A shut-down warning level is a programmable level below the shut-down level.

1. If a shut-down warning exists, LED (7) is alight. The Main screen will change into a screen similar to the one below:

Compressor out		
bar		7.0
*Shutd	Warn*	
Menu **		** Unld
F1	F2	F3

Fig. 5.3 Example of a shut-down warning screen

2. The indicators (**) are blinking and the message *Shutd Warn* appears alternately with the messages indicating whether the compressor runs unloaded or loaded.
3. Press the key “Menu” (F1) and the tabulator key (5) to select the Status data menu, the option “Protection” is blinking.
4. Scroll to this option and select it by pressing the tabulator key (5): option “Warnings” blinks. A screen similar to the one in Fig. 5.4 appears:

Element outlet		
C		116
Shdw	Max	110
Menu **		**
F1	F2	F3

Fig. 5.4 Example of a shut-down warning screen

The screen shows that the temperature at the outlet of the compressor element (116 degrees Celsius) is too high.

5. Stop the compressor by means of button **O** and wait until the compressor has stopped.
6. Switch off the voltage, inspect the compressor and remedy.
7. The warning message will disappear automatically as soon as the warning condition disappears.

5.4 A service warning message exists

1. LED (7) is alight and the main screen will change into a screen similar to that shown in Fig. 5.5.

Compressor out		
bar		7.0
*Serv Requir *		
Menu **		** Unld
F1	F2	F3

Fig. 5.5 Example of a warning screen

2. The indicators (**) are blinking and the service warning message appears alternately with the messages indicating whether the compressor runs unloaded or loaded.
3. Press the key “Menu” (F1) and the tabulator key (5) to select the Status data menu: the option “Service” is blinking.
4. Scroll to this option and select it by pressing the tabulator key (5), two options may blink:
   “Inputs”: if the programmed service level of a component is exceeded (e.g. the maximum pressure drop of the oil separator). See section 17.2.
   “Plans”: if a service plan interval is exceeded. See the related Instruction book.
5. Stop the compressor and switch off the voltage.
6. In case the service message was referring to “Inputs” (oil separator): replace the separator, switch on the voltage, scroll in the Status data menu to “Inputs” and press the “Rset” key to reset the service message.
7. In case the service message was referring to “Plans”: carry out the service actions related to the indicated plans. Reset the timers of the related plans as described in section 15.

5.5 A warning message exists

1. LED (7) is alight and a warning message will appear on the screen.
2. The indicators (**) are blinking and the warning message appears alternately with the messages indicating whether the compressor runs unloaded or loaded. This warning indicates that:
   - **On water-cooled compressors**, the cooling water outlet temperature exceeds the programmed warning level.
   - **On Full-feature compressors** (compressors with integrated air dryer), the dewpoint temperature exceeds the warning level.
   - **On GA Workplace FF with ICD** the inlet temperature of the compressed air into the dryer exceeds the warning level.
   - **On GA Workplace FF with ICD** the pressure in the dryer vessels is lower than the minimum or higher than the maximum limit.
3. Stop the compressor.
4. Switch off the voltage, inspect the compressor and remedy.

6 Measured data menu

Function

To call up information regarding the actually measured data and the status of some inputs such as the motor overload protection.

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Measured data” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu

Compressor out		
bar		7.0
Menu		↓
F1	F2	F3

Fig. 6.1 Example of a measured data screen

2. By pressing the ↓ key, a number of actually measured data can be found (see Figs. 3.1).
3. If one of the sensors is linked to a shut-down, service or warning function, both the actually measured value as well as the corresponding shut-down, warning or service level can be called up by pressing the tabulator key (5).

7 Counters menu

Function

To allow the operator to call up the:
- running hours
- loaded hours
- number of motor starts
- regulator (module) hours (the hours the module has been under tension)
- number of load cycles

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Counters” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. By pressing the ↓ key, the above-mentioned data can be found (see also Figs. 3.1).

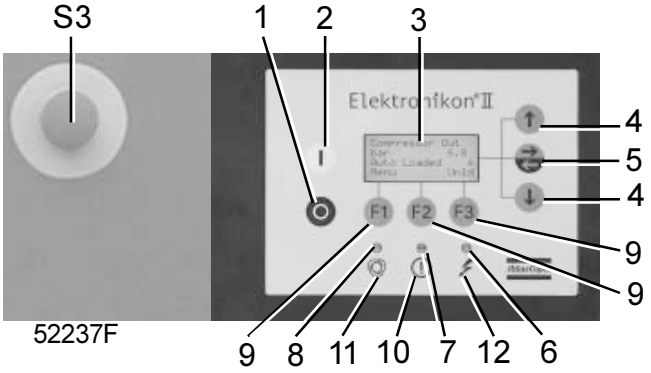
8 Test menu

Function

To carry out a display test, i.e. to check whether the display and LEDs are still intact.

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Test” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. The option “Display test” will be followed by a horizontal arrow.
3. After pressing the tabulator key (5), the regulator will generate a series of patterns on the display which enable the operator to check that each pixel still functions normally; at the same time the LEDs are lit.



9 Modify params menu

Function

The menu allows the operator to program:
- Parameters, see section 10.
- Protection settings, see section 11.
- Service plan settings, see section 12.
- Clock settings, see section 13.
- Configuration settings, see section 14.

10 Modifying parameters

Function

To modify a number of parameters as mentioned in Figs. 3.1.

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. The first option (“Parameters”) will be followed by a horizontal arrow.
3. Press the tabulator key (5): the first item (“Loading pressure”) and its setting will appear.
4. Use the ↓ key to scroll until the parameter to be modified is followed by a horizontal arrow.

10.1 Modifying the loading and unloading pressures

Pressure bands

If desired, the operator can program two pressure bands (band 1 and band 2) with different loading and unloading pressures. The settings for band 1 are indicated as “Loading pressure” and “Unloading pressure”, the settings for band 2 are indicated as “Loading pressure 2” and “Unloading pressure 2”.

Example:

For pressure band 1:
- Loading pressure: 6.4 bar
- Unloading pressure: 7.0 bar

For pressure band 2:
- Loading pressure 2: 4.0 bar
- Unloading pressure 2: 6.0 bar

Procedure

1. Consult the section above to select the parameter Loading pressure:

Loading Press			
Bar		6.0	
Menu	Mod		↓
F1	F2	F3	

Fig. 10.1 Modify parameters menu

2. The screen shows that the current setting is 6.0 bar(e). To modify this setting, press the key “Mod” (F2):

Loading Press			
Bar		6.0 (blinks)	
Prog	Lim	Canc	↓
F1	F2	F3	

Fig. 10.2 Modify parameters menu

3. The key “Lim” (F2) can be used to find the limitations for the parameter. Use the ↓ or ↑ arrow key to change the value.
4. Press the key “Prog” (F1) to program the new setting or the key “Canc” (F3) to cancel the modification operation.
5. The procedure to modify the Unloading pressure is similar to the description above.
6. If required, repeat the procedure for the Loading pressure 2 and Unloading pressure 2 (pressure band 2).

11 Modifying protection settings

Function

1. To modify protection settings:
   - shut-down (“Shd”), for element outlet temperature
   - shut-down warning (“Shdw”), for element outlet temperature
   - warning (“Warn”), e.g. for cooling water outlet or dewpoint temperature
   - service warning (“Serv”), e.g. DP oil separator (max. pressure drop)

2. To check some compressor conditions, e.g. the status of the motor overload contacts. The list of parameters is shown in Figs. 3.1.

Note
Some parameters are not modifyable.

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Protections” is followed by a horizontal arrow.
3. Press the tabulator key (5): the first item (“Compressor out”) and its value will appear.
4. Use the ↓ key to scroll until the parameter to be modified is followed by a horizontal arrow.

11.1 Modifying settings for compressor element

1. Consult the section above to select the parameter Element outlet:

Element Outlet			
C		94	→
Shd Max		120	
Menu	Mod		↓
F1	F2	F3	

Fig. 11.1 Modify parameters menu

2. The screen shows that the current temperature is 94 degrees Celsius and that the shut-down setting is 120 degrees Celsius. To modify this setting, press the key “Mod” (F2):

Element Outlet			
C		120 (blinks)	
Prog	Lim	Canc	↓
F1	F2	F3	

Fig. 11.2 Modify parameters menu

3. The key “Lim” (F2) can be used to find the limitations for the parameter. Use the ↓ or ↑ arrow key to change the value.
4. Press the key “Prog” (F1) to program the new setting or the key “Canc” (F3) to cancel the modification operation.
5. The screen shown in Fig. 11.1 shows an arrow pointing to the right to call up the screen to modify the shut-down warning value:

Element Outlet		
C		94
Shdw Max		110
Back	Mod	
F1	F2	F3

Fig. 11.3 Modify parameters menu

6. The screen shows that the current temperature is 94 degrees Celsius and that the shut-down warning setting is 110 degrees Celsius. The modifying procedure is similar to the description above.

Note:
The modifying procedure for other settings is similar. For some settings, a delay can be programmed. See section 17.

12 Modifying service plans

Function

To modify the hour intervals for the Service plans.

Service plans

The service operations to be carried out are grouped in plans called Service plan A, B, C or D. Consult section 4 in the related Instruction book. When reaching an interval, a message will appear on the screen indicating which Service plans are to be carried out.

Important

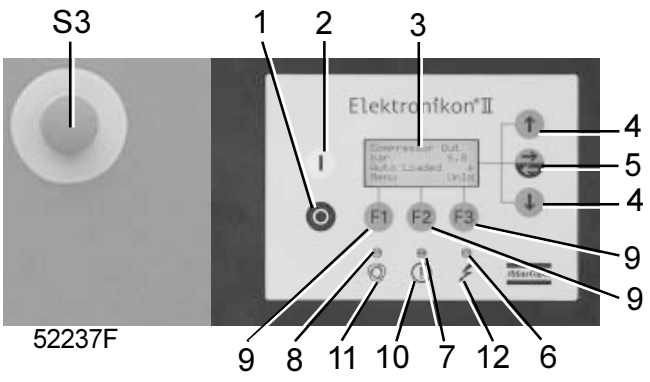
Always consult Atlas Copco in case any timer setting should be changed. The intervals must not exceed the periods below and must coincide logically.

Programmed service plan intervals

Service plans	**Intervals**
Service plan A	Each 4000 running hours
Service plan B	Each 4000 running hours
Service plan C	Each 8000 running hours
Service plan D	Each 40000 running hours

Resulting service actions to be carried out

Service actions according to	**At**
Service plan A and B	4000 running hours
Service plan A, B and C	8000 running hours
Service plan A and B	12000 running hours
Service plan A, B and C	16000 running hours
…	….



Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Service plan” is followed by a horizontal arrow.
3. Press the tabulator key (5): a screen similar to the one below will appear:

Service Timer			
Running hours			→
hrs		2130	
Menu			↓
F1	F2	F3	

Fig. 12.1 Service plan menu

The screen shows the actual running hours (2130).

4. Press the tabulator key (5): a screen similar to the one below will appear:

Service Timer			
Level A			
hrs		4000	
Menu	Mod		↓
F1	F2	F3	

Fig. 12.2 Service plan menu

5. The screen indicates that the level for Service plan A is set at 4000 running hours.
6. Press the “Mod” key. The key “Lim” (F2) can be used to find the limitations for the parameter. Use the ↓ or ↑ arrow key to modify the interval.
7. Press the key “Prog” (F1) to program the new setting or the key “Canc” (F3) to cancel the modification operation.
8. The procedure to modify the Service plans B, C and D are carried out in a similar way.

13 Programming Clock function

To program:
- time-based start/stop commands for the compressor
- time-based change-over commands for the net pressure band (see also section 10.1)

13.1 Programming start/stop/pressure band commands

In this example, the compressor will be programmed as follows:
- On Monday at 06:15 starting in pressure band 1
- On Friday at 18:00 changing over to pressure band 2
- On Saturday at 18:00 stopping

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Clock function” is followed by a horizontal arrow. Press the tabulator key (5), following screen appears:

Clock Function			
Not activated			→
Menu	Mod	Del	
F1	F2	F3	

3. Press the tabulator key (5), following screen appears:

Monday			→
Tuesday			
Wednesday			↓
Menu	Mod	Del	
F1	F2	F3	

4. Use the ↓ or ↑ key until the day on which a command must be programmed is followed by a right pointing arrow. Press the tabulator key (5), following screen appears:

--:--	----------		→
--:--	----------		
--:--	----------		↓
Menu	Mod	Del	
F1	F2	F3	

5. Press the key “Mod” (F2). The first two dashes will flash. Use the ↑ or ↓ key to enter “06”. Press the tabulator key to jump to the following two dashes. Use the ↑ or ↓ key to enter “15”. Press the tabulator key to jump to the row of dashes. Use the ↑ or ↓ key to enter the command Start. Press the key “Prog” to program the command: 06:15 Start

6. Press the ↓ key: the right pointing arrow key indicates that the second line is accessible. Press the key “Mod” and modify this line to the following command line: 06:15 Band 1 in a similar way
7. Press the key “Menu” (F1) and scroll to “Friday”:

Thursday			↑
Friday			→
Saterday			↓
Menu	Mod	Del	
F1	F2	F3	

8. Programming the command to change over at 18 o’clock to Band 2 is carried out in a similar way as described above.
9. Press the key “Menu” (F1) and scroll to “Saterday”. Programming the command to stop at 18 o’clock is carried out in a similar way as described above.

13.2 To activate/deactivate the timer

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Clock function” is followed by a horizontal arrow. Press the tabulator key (5), following screen appears:

Clock Function			
Not activated			→
Menu	Mod	Del	
F1	F2	F3	

2. Press the key “Mod”, “Not activated” starts blinking.
3. Press the ↓ key, “Not activated” changes into “Activated”.
4. Press the key “Prog”.

Important:

1. It is necessary to program the start/stop/pressure band commands in successive order timewise, e.g.:
   07.30 start
   07.30 band 1
   08.30 band 2
   17.00 stop
   etc.

2. Make sure that the clock function is activated (indicated as “Activated”). If not, the programmed start/stop commands will not be executed.

13.3 To modify a command

Suppose the command to stop the compressor on Saturday 18:00 is to be modified: stopping at 17 o’clock instead of 18 o’clock:

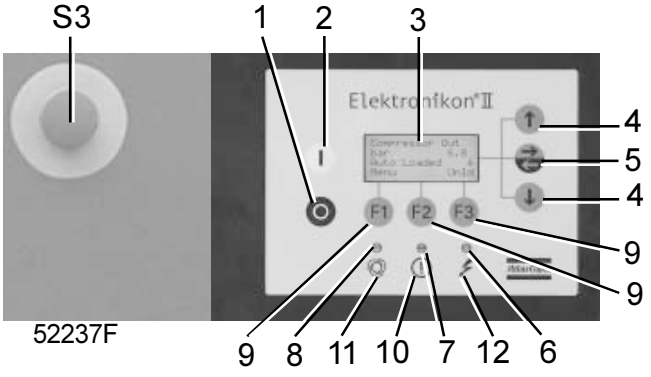
1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Clock function” is followed by a horizontal arrow. Press the tabulator key (5), following screen appears:

Clock Function			
Not activated			→
Menu	Mod	Del	
F1	F2	F3	

3. Press the tabulator key (5), following screen appears:

Monday			→
Tuesday			
Wednesday			↓
Menu	Mod	Del	
F1	F2	F3	

4. Scroll through the display until “Saturday” is followed by a horizontal arrow. Press the tabulator key (5). If necessary, scroll through the compressor start/stop/pressure band commands until the command to be modified is followed by the horizontal arrow on the screen. Press the key “Mod”, the first two digits of the command start blinking. Modify as required using the scroll keys, i.e. in the example above change “18” into “17” using the ↑ key.



5. If necessary, press the tabulator key (5) to go to the next field to be modified, the minutes indication and the start/stop/pressure band indication.
6. Press the key “Prog” to program the new command or the key “Canc” to quit without reprogramming.

13.4 To add a command

Adding a command at the end of an existing list

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Clock function” is followed by a horizontal arrow. Press the tabulator key (5), following screen appears:

Clock Function Not activated		→
Menu	Mod	Del
F1	F2	F3

Suppose the command to stop the compressor at 18:00 must be added to the list of Monday:
- 06:15 start
- 06:15 band 1

3. Press the tabulator key (5), following screen appears:

Monday Tuesday Wednesday		→ ↓
Menu	Mod	Del
F1	F2	F3

4. Scroll through the display until “Monday” is followed by a horizontal arrow. Press the tabulator key (5). Scroll through the compressor start/stop/pressure band commands until the first empty command line is indicated by the horizontal arrow on the screen.
5. Press the key “Mod”, the first two digits of the command start blinking. Enter “18:00 stop” using the scroll keys ↓ or ↑ to modify a field and the tabulator key (5) to jump from one field to another.
6. Press the key “Prog” to program the new command or the key “Canc” to quit without reprogramming.

Adding a command between two existing commands

1. Suppose the command 17:00 band 2 must be added to following list:
   - 06:00 start
   - 06:00 band 1
   - 18:00 stop
2. The regulator does not allow to enter a new command which is situated timewise before the last command in the list.
3. Scroll through the display until the command before which the new command must be entered is followed by the horizontal arrow (in the example above: 18:00 stop) and press the key “Mod”. Change this command to the new command (in the example above: 17:00 band 2) and press the “Prog”. Press the ↓ key, add the last command of the list (in the example above: 18:00 stop) and press the key “Prog”.

13.5 To delete commands

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Clock function” is followed by a horizontal arrow. Press the tabulator key (5), following screen appears:

Clock Function Not activated		→
Menu	Mod	Del
F1	F2	F3

Deleting all commands

Press the key “Del” (F3) in the screen above. A question to confirm the deleting operation will appear.

Deleting all commands related to a specific day

Scroll through the display until the desired day is followed by a horizontal arrow. Press the key “Del” (F3). A question to confirm the deleting operation will appear.

Deleting a specific start/stop/pressure band command

Scroll through the display until the desired start, stop, band 1 or band 2 command line is followed by a horizontal arrow. Press the key “Del” (F3). A question to confirm the deleting operation will appear.

14 Configuration menu

Function

To reprogram a number of parameters. See Figs. 3.1.

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Configuration” is followed by a horizontal arrow.
3. Press the tabulator key (5): The first option shown is “Time”. If another option is desired, scroll through the display (using ↓ or ↑ keys) and select it using the tabulator key (5).
4. In case of option “Time”, the second line on the screen indicates the actual setting, e.g. 14:30.
5. If it is desired to modify the time, press the key “Mod”. If not, press the key “Menu” to return to the submenu.
6. After pressing the key “Mod”, the first field (14) will blink. Modify the hours using the ↓ or ↑ keys. Then press the tabulator key (5) to go to the next field (i.e. 30). The setting of this field can now be modified with the ↓ or ↑ keys.
7. The bottom line of the display will show two options:
   - “Prog” to program the new setting
   - “Canc” to cancel the new setting
8. Proceed in a similar way for the other parameters to be modified.

14.1 Programming compressor control modes

Compressor control modes

The compressor can be controlled locally, remotely or via a local area network (LAN). See the related Instruction book, section 3.2.

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Modify params” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. Use the ↓ key to scroll until the option “Configuration” is followed by a horizontal arrow.
3. Press the tabulator key (5): The first option shown is “Time”. Scroll through the display (using ↓ or ↑ keys) until the option “CCM” is followed by a horizontal arrow and select it using the tabulator key (5). Following screen is shown:

CCM Local control		↑
Menu	Mod	↓
F1	F2	F3

Fig. 14.1 Compressor control mode menu

4. Press the key “Mod” and use ↓ or ↑ keys to select the desired control mode. Press the “Prog” key to program or the “Cancel” key to cancel the modification.

15 Service menu

Function

- To reset the service plans which are carried out.
- To check for both the next service plans to be carried out and to find which service plans were carried out previously.

Service plans

- Consult the related Instruction book to find which service actions are related to these plans.
- Consult section 12 if any modification to the intervals should be required.

When the service plan interval is reached, a message will appear on the screen. See section 5.

Example

Programmed service plan intervals ex-factory

Service plans	**Intervals**
Service plan A	Each 4000 running hours
Service plan B	Each 4000 running hours
Service plan C	Each 8000 running hours
Service plan D	Each 40000 running hours

Resulting service actions to be carried out

Service actions according to	**At**
Service plan A and B	4000 running hours
Service plan A, B and C	8000 running hours
Service plan A and B	12000 running hours
Service plan A, B and C	16000 running hours
…	….

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Service” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. A screen similar to the one below appears:

Service Timer			
Running Hours			→
hrs		7971	↓
Menu			
F1	F2	F3	

Fig. 15.1 Service menu

The screen shows that the total compressor running time is 7971 hrs.

3. Press the tabulator key (5):

Next Timer			
Level	A B C		
hrs		8000	↓
Back		Rset	
F1	F2	F3	

Fig. 15.2 Service menu

The screen shows that the next service plans to be carried out are plans A, B and C and that these plans are to be carried out each 8000 running hours.

4. Press the ↓ key to find which service plans were carried out previously:

Previous Timer			↑
Level	A B		
hrs		4008	
F1	F2	F3	

Fig. 15.3 Service menu

The screen shows that service plans A and B were carried out at 4008 running hours.

5. Stop the compressor, switch off the voltage and carry out the service operations related to plans A, B and C. See the related Instruction book.
6. Switch on the voltage and scroll to the service screen shown in Fig. 15.2. Press the “Rset” button (F3) to reset the timer. Confirm the question for resetting.

Notes

- The “Rset” button only appears when the next Timer level is almost reached (from 400 running hours before elapsing of the service plan interval).
- After pressing the ↓ key in Fig. 15.1, the Life time hours are shown (i.e. the number of hours elapsed since initial programming ex-factory). This counter is not taken into account.

16 Saved data menu

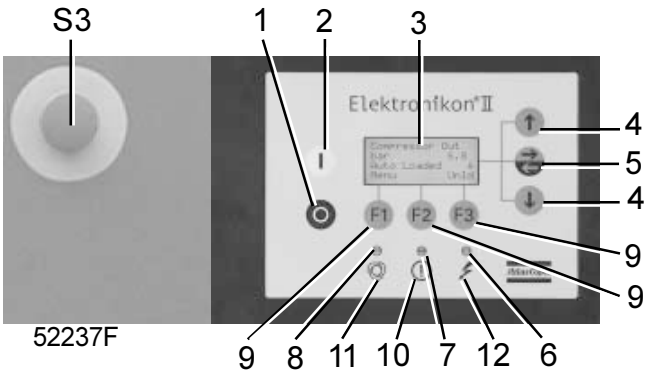
Function

To call up some compressor data saved by the regulator. These data are:

- Last shut-down data
- Last emergency stop data

Procedure

1. Starting from the Main screen (see section 3.2):
   - press the key “Menu” (F1)
   - press the ↓ key until the option “Saved data” is followed by a horizontal arrow
   - press the tabulator key (5) to activate the menu
2. The list of last shut-down and emergency stop cases is shown.
3. Scroll through the items to select the desired shut-down or emergency stop item.
4. Press the tabulator key (5) to find the date, time and other data reflecting the status of the compressor at the last shut-down occurred.



17 Programmable settings

17.1 Parameters

		Minimum	Nominal	Maximum
Motor running time in star	sec	5	10	10
Load delay time	sec	0	0	10
Number of motor starts	starts/day	0	240	240
Minimum stop time	sec	**1)**	20	30
Power recovery time	sec	10	10	3600 **12)**
Restart delay	sec	0	0	1200
Communication time out **7)**	sec	10	30	60
For Full-feature with ICD also:				
Pressure dewpoint dryer (-40 °C PDP version)	°C	-45	-40	-20
Pressure dewpoint dryer (-70 °C PDP version)	°C	-75	-70	-20
Unloading pressure **3)**				
GA Pack, GA Workplace				
13 bar	bar(e)	4.1	12.5	13
10 bar	bar(e)	4.1	9.5	10
7.5 bar	bar(e)	4.1	7	7.5
100 psi	bar(e)	4.1	6.9	7.4
125 psi	bar(e)	4.1	8.6	9.1
150 psi	bar(e)	4.1	10.3	10.8
175 psi	bar(e)	4.1	12	12.5
GA Pack FF, GA Workplace FF with IFD				
13 bar Full-feature	bar(e)	4.1	12.5	12.7
10 bar Full-feature	bar(e)	4.1	9.5	9.7
7.5 bar Full-feature	bar(e)	4.1	7	7.2
100 psi Full-feature	bar(e)	4.1	6.9	7.1
125 psi Full-feature	bar(e)	4.1	8.6	8.8
150 psi Full-feature	bar(e)	4.1	10.3	10.5
175 psi Full-feature	bar(e)	4.1	12	12.2
GA Workplace FF with ICD (see table below)				
Loading pressure **3)**				
GA Pack, GA Workplace				
13 bar	bar(e)	4	11.9	12.9
10 bar	bar(e)	4	8.9	9.9
7.5 bar	bar(e)	4	6.4	7.4
100 psi	bar(e)	4	6.3	7.3
125 psi	bar(e)	4	8	9
150 psi	bar(e)	4	9.7	10.7
175 psi	bar(e)	4	11.4	12.4
GA Pack FF, GA Workplace FF with IFD				
13 bar Full-feature	bar(e)	4	11.9	12.6
10 bar Full-feature	bar(e)	4	8.9	9.6
7.5 bar Full-feature	bar(e)	4	6.4	7.1
100 psi Full-feature	bar(e)	4	6.3	7
125 psi Full-feature	bar(e)	4	8	8.7
150 psi Full-feature	bar(e)	4	9.7	10.4
175 psi Full-feature	bar(e)	4	11.4	12.1
GA Workplace FF with ICD (see table below)				

Unloading/loading pressures for GA Workplace Full-Feature with ICD

Dewpoint -40° variant 50Hz

Combination GA and ICD		UNLOADING			LOADING		
GA Model	**ICD model**	**Minimum Unloading Pressure** bar	**Nominal Unloading Pressure** bar	**Maximum Unloading Pressure** bar	**Minimum Loading Pressure** bar	**Nominal Loading Pressure** bar	**Maximum Loading Pressure** bar
GA30 - 7.5	CD100	6.5	6.9	6.9	6.4	6.4	6.8
GA30 - 7.5	CD140	5.4	6.5	6.8	5.3	6.0	6.7
GA30 - 7.5	CD170	4.8	6.5	6.8	4.7	6.0	6.7
GA30 - 8	CD100	6.4	7.0	7.3	6.3	6.5	7.2
GA30 - 8	CD140	5.2	7.0	7.3	5.1	6.5	7.2
GA30 - 8	CD170	4.6	7.0	7.3	4.5	6.5	7.2
GA30 - 10	CD100	5.9	9.0	9.3	5.8	8.5	9.2
GA30 - 10	CD140	4.8	9.0	9.3	4.7	8.5	9.2
GA30 - 10	CD170	4.3	9.0	9.3	4.2	8.5	9.2
GA30 - 13	CD100	8.7	12.0	12.3	8.6	11.5	12.2
GA30 - 13	CD140	7.1	12.0	12.3	7.0	11.5	12.2
GA30 - 13	CD170	6.4	12.0	12.3	6.3	11.5	12.2
GA37 - 7.5	CD140	6.1	6.5	6.8	6.0	6.0	6.7
GA37 - 7.5	CD170	5.4	6.5	6.8	5.3	6.0	6.7
GA37 - 8	CD140	5.9	7.0	7.3	5.8	6.5	7.2
GA37 - 8	CD170	5.3	7.0	7.3	5.2	6.5	7.2
GA37 - 10	CD100	6.8	9.0	9.3	6.7	8.5	9.2
GA37 - 10	CD140	5.5	9.0	9.3	5.4	8.5	9.2
GA37 - 10	CD170	4.9	9.0	9.3	4.8	8.5	9.2
GA37 - 13	CD100	9.7	12.0	12.3	9.6	11.5	12.2
GA37 - 13	CD140	8.0	12.0	12.3	7.9	11.5	12.2
GA37 - 13	CD170	7.1	12.0	12.3	7.0	11.5	12.2
GA45 - 7.5	CD170	6.0	6.5	6.8	5.9	6.0	6.7
GA45 - 8	CD140	6.3	7.0	7.3	6.2	6.5	7.2
GA45 - 8	CD170	5.6	7.0	7.3	5.5	6.5	7.2
GA45 - 10	CD100	8.5	9.0	9.3	8.4	8.5	9.2
GA45 - 10	CD140	6.3	9.0	9.3	6.2	8.5	9.2
GA45 - 10	CD170	5.6	9.0	9.3	5.5	8.5	9.2
GA45 - 13	CD100	11.2	12.0	12.3	11.1	11.5	12.2
GA45 - 13	CD140	9.2	12.0	12.3	9.1	11.5	12.2
GA45 - 13	CD170	8.2	12.0	12.3	8.1	11.5	12.2
GA55C - 7.5	CD170	6.5	6.9	6.9	6.4	6.4	6.8
GA55C - 10	CD140	6.9	9.0	9.3	6.8	8.5	9.2
GA55C - 10	CD170	6.1	9.0	9.3	6.0	8.5	9.2
GA55C - 13	CD140	10.2	12.0	12.3	10.1	11.5	12.2
GA55C - 13	CD170	9.2	12.0	12.3	9.1	11.5	12.2
GA55 - 7.5	CD230	5.8	6.5	6.8	5.7	6.0	6.7
GA55 - 7.5	CD280	5.1	6.5	6.8	5.0	6.0	6.7
GA55 - 8	CD170	6.6	7.0	7.3	6.5	6.5	7.2
GA55 - 8	CD230	5.6	7.0	7.3	5.5	6.5	7.2
GA55 - 8	CD280	5.0	7.0	7.3	4.9	6.5	7.2
GA55 - 10	CD170	6.2	9.0	9.3	6.1	8.5	9.2
GA55 - 10	CD230	5.2	9.0	9.3	5.1	8.5	9.2
GA55 - 10	CD280	4.6	9.0	9.3	4.5	8.5	9.2

Combination GA and ICD		UNLOADING			LOADING		
GA Model	**ICD model**	**Minimum Unloading Pressure** bar	**Nominal Unloading Pressure** bar	**Maximum Unloading Pressure** bar	**Minimum Loading Pressure** bar	**Nominal Loading Pressure** bar	**Maximum Loading Pressure** bar
GA75 - 7.5	CD280	6.2	6.6	6.8	6.1	6.1	6.7
GA75 - 8	CD230	6.6	7.0	7.3	6.5	6.5	7.2
GA75 - 8	CD280	6.0	7.0	7.3	5.9	6.5	7.2
GA75 - 10	CD170	8.1	9.0	9.3	8.0	8.5	9.2
GA75 - 10	CD230	6.3	9.0	9.3	6.2	8.5	9.2
GA75 - 10	CD280	5.6	9.0	9.3	5.5	8.5	9.2
GA75 - 13	CD170	11.0	12.0	12.3	10.9	11.5	12.2
GA75 - 13	CD230	9.3	12.0	12.3	9.2	11.5	12.2
GA75 - 13	CD280	8.4	12.0	12.3	8.3	11.5	12.2
GA90C - 7.5	CD280	6.4	6.8	6.8	6.3	6.3	6.7
GA90C - 8	CD280	6.4	7.0	7.3	6.3	6.5	7.2
GA90C - 10	CD230	6.7	9.0	9.3	6.6	8.5	9.2
GA90C - 10	CD280	6.0	9.0	9.3	5.9	8.5	9.2
GA90C - 13	CD170	11.6	12.0	12.3	11.5	11.5	12.2
GA90C - 13	CD230	10.0	12.0	12.3	9.9	11.5	12.2
GA90C - 13	CD280	8.9	12.0	12.3	8.8	11.5	12.2

Dewpoint -40° variant 60Hz

Combination GA and ICD		UNLOADING			LOADING		
GA Model	**ICD model**	**Minimum Unloading Pressure** bar	**Nominal Unloading Pressure** bar	**Maximum Unloading Pressure** bar	**Minimum Loading Pressure** bar	**Nominal Loading Pressure** bar	**Maximum Loading Pressure** bar
GA30 - 100	CD140	5.4	6.4	6.7	5.3	5.9	6.6
GA30 - 100	CD170	4.8	6.4	6.7	4.7	5.9	6.6
GA30 - 125	CD100	6.2	8.1	8.4	6.1	7.6	8.3
GA30 - 125	CD140	5.1	8.1	8.4	5.0	7.6	8.3
GA30 - 125	CD170	4.5	8.1	8.4	4.4	7.6	8.3
GA30 - 150	CD100	5.6	9.8	10.1	5.5	9.3	10.0
GA30 - 150	CD140	4.6	9.8	10.1	4.5	9.3	10.0
GA30 - 150	CD170	4.1	9.8	10.1	4.0	9.3	10.0
GA30 - 175	CD100	8.9	11.5	11.8	8.8	11.0	11.7
GA30 - 175	CD140	7.3	11.5	11.8	7.2	11.0	11.7
GA30 - 175	CD170	6.5	11.5	11.8	6.4	11.0	11.7
GA37 - 100	CD140	6.0	6.4	6.7	5.9	5.9	6.6
GA37 - 100	CD170	5.5	6.4	6.7	5.4	5.9	6.6
GA37 - 125	CD100	7.2	8.1	8.4	7.1	7.6	8.3
GA37 - 125	CD140	5.7	8.1	8.4	5.6	7.6	8.3
GA37 - 125	CD170	5.1	8.1	8.4	5.0	7.6	8.3
GA37 - 150	CD100	6.6	9.8	10.1	6.5	9.3	10.0
GA37 - 150	CD140	5.4	9.8	10.1	5.3	9.3	10.0
GA37 - 150	CD170	4.8	9.8	10.1	4.7	9.3	10.0

Combination GA and ICD		UNLOADING			LOADING		
GA Model	**ICD model**	**Minimum Unloading Pressure** bar	**Nominal Unloading Pressure** bar	**Maximum Unloading Pressure** bar	**Minimum Loading Pressure** bar	**Nominal Loading Pressure** bar	**Maximum Loading Pressure** bar
GA37 - 175	CD100	10.1	11.5	11.8	10.0	11.0	11.7
GA37 - 175	CD140	8.3	11.5	11.8	8.2	11.0	11.7
GA37 - 175	CD170	7.4	11.5	11.8	7.3	11.0	11.7
GA45 - 100	CD170	6.1	6.5	6.7	6.0	6.0	6.6
GA45 - 125	CD140	6.4	8.1	8.4	6.3	7.6	8.3
GA45 - 125	CD170	5.7	8.1	8.4	5.6	7.6	8.3
GA45 - 150	CD100	8.0	9.8	10.1	7.9	9.3	10.0
GA45 - 150	CD140	6.1	9.8	10.1	6.0	9.3	10.0
GA45 - 150	CD170	5.4	9.8	10.1	5.3	9.3	10.0
GA45 - 175	CD100	11.1	11.5	11.8	11.0	11.0	11.7
GA45 - 175	CD140	9.3	11.5	11.8	9.2	11.0	11.7
GA45 - 175	CD170	8.3	11.5	11.8	8.2	11.0	11.7
GA55C - 100	CD170	6.4	6.8	6.8	6.3	6.3	6.7
GA55C - 125	CD140	7.1	8.1	8.4	7.0	7.6	8.3
GA55C - 125	CD170	6.2	8.1	8.4	6.1	7.6	8.3
GA55C - 150	CD100	9.4	9.8	10.1	9.3	9.3	10.0
GA55C - 150	CD140	6.6	9.8	10.1	6.5	9.3	10.0
GA55C - 150	CD170	5.9	9.8	10.1	5.8	9.3	10.0
GA55C - 175	CD140	10.4	11.5	11.8	10.3	11.0	11.7
GA55C - 175	CD170	9.3	11.5	11.8	9.2	11.0	11.7
GA55 - 100	CD230	5.8	6.4	6.7	5.7	5.9	6.6
GA55 - 100	CD280	5.1	6.4	6.7	5.0	5.9	6.6
GA55 - 125	CD170	6.4	8.1	8.4	6.3	7.6	8.3
GA55 - 125	CD230	5.4	8.1	8.4	5.3	7.6	8.3
GA55 - 125	CD280	4.8	8.1	8.4	4.7	7.6	8.3
GA75 - 100	CD280	6.1	6.5	6.7	6.0	6.0	6.6
GA75 - 125	CD230	6.5	8.1	8.4	6.4	7.6	8.3
GA75 - 125	CD280	5.8	8.1	8.4	5.7	7.6	8.3
GA75 - 150	CD170	7.8	9.8	10.1	7.7	9.3	10.0
GA75 - 150	CD230	6.1	9.8	10.1	6.0	9.3	10.0
GA75 - 150	CD280	5.4	9.8	10.1	5.3	9.3	10.0
GA75 - 175	CD170	11.1	11.5	11.8	11.0	11.0	11.7
GA75 - 175	CD230	9.4	11.5	11.8	9.3	11.0	11.7
GA75 - 175	CD280	8.5	11.5	11.8	8.4	11.0	11.7
GA90C - 100	CD280	6.4	6.8	6.8	6.3	6.3	6.7
GA90C - 125	CD230	7.0	8.1	8.4	6.9	7.6	8.3
GA90C - 125	CD280	6.2	8.1	8.4	6.1	7.6	8.3
GA90C - 150	CD170	9.0	9.8	10.1	8.9	9.3	10.0
GA90C - 150	CD230	6.6	9.8	10.1	6.5	9.3	10.0
GA90C - 150	CD280	5.9	9.8	10.1	5.8	9.3	10.0
GA90C - 175	CD230	10.1	11.5	11.8	10.0	11.0	11.7
GA90C - 175	CD280	9.1	11.5	11.8	9.0	11.0	11.7

Dewpoint -70° variant 50Hz

Combination GA and ICD		UNLOADING			LOADING		
GA Model	**ICD model**	**Minimum Unloading Pressure** bar	**Nominal Unloading Pressure** bar	**Maximum Unloading Pressure** bar	**Minimum Loading Pressure** bar	**Nominal Loading Pressure** bar	**Maximum Loading Pressure** bar
GA30 - 7.5	CD140	6.1	6.5	6.8	6.0	6.0	6.7
GA30 - 7.5	CD170	5.5	6.5	6.8	5.4	6.0	6.7
GA30 - 8	CD140	6.0	7.0	7.3	5.9	6.5	7.2
GA30 - 8	CD170	5.3	7.0	7.3	5.2	6.5	7.2
GA30 - 10	CD100	6.7	9.0	9.3	6.6	8.5	9.2
GA30 - 10	CD140	5.5	9.0	9.3	5.4	8.5	9.2
GA30 - 10	CD170	4.9	9.0	9.3	4.8	8.5	9.2
GA30 - 13	CD100	9.9	12.0	12.3	9.8	11.5	12.2
GA30 - 13	CD140	8.1	12.0	12.3	8.0	11.5	12.2
GA30 - 13	CD170	7.2	12.0	12.3	7.1	11.5	12.2
GA37 - 7.5	CD170	6.1	6.5	6.8	6.0	6.0	6.7
GA37 - 8	CD140	6.8	7.2	7.3	6.7	6.7	7.2
GA37 - 8	CD170	6.0	7.0	7.3	5.9	6.5	7.2
GA37 - 10	CD100	8.6	9.0	9.3	8.5	8.5	9.2
GA37 - 10	CD140	6.3	9.0	9.3	6.2	8.5	9.2
GA37 - 10	CD170	5.6	9.0	9.3	5.5	8.5	9.2
GA37 - 13	CD100	11.0	12.0	12.3	10.9	11.5	12.2
GA37 - 13	CD140	9.1	12.0	12.3	9.0	11.5	12.2
GA37 - 13	CD170	8.1	12.0	12.3	8.0	11.5	12.2
GA45 - 8	CD170	6.4	7.0	7.3	6.3	6.5	7.2
GA45 - 10	CD140	7.4	9.0	9.3	7.3	8.5	9.2
GA45 - 10	CD170	6.4	9.0	9.3	6.3	8.5	9.2
GA45 - 13	CD140	10.4	12.0	12.3	10.3	11.5	12.2
GA45 - 13	CD170	9.3	12.0	12.3	9.2	11.5	12.2
GA55C - 10	CD170	7.1	9.0	9.3	7.0	8.5	9.2
GA55C - 13	CD140	11.6	12.0	12.3	11.5	11.5	12.2
GA55C - 13	CD170	10.4	12.0	12.3	10.3	11.5	12.2
GA55 - 7.5	CD280	5.9	6.5	6.8	5.8	6.0	6.7
GA55 - 8	CD230	6.4	7.0	7.3	6.3	6.5	7.2
GA55 - 8	CD280	5.7	7.0	7.3	5.6	6.5	7.2
GA55 - 10	CD170	7.4	9.0	9.3	7.3	8.5	9.2
GA55 - 10	CD230	6.0	9.0	9.3	5.9	8.5	9.2
GA55 - 10	CD280	5.3	9.0	9.3	5.2	8.5	9.2
GA75 - 8	CD280	6.9	7.3	7.3	6.8	6.8	7.2
GA75 - 10	CD230	7.4	9.0	9.3	7.3	8.5	9.2
GA75 - 10	CD280	6.4	9.0	9.3	6.3	8.5	9.2
GA75 - 13	CD230	10.6	12.0	12.3	10.5	11.5	12.2
GA75 - 13	CD280	9.5	12.0	12.3	9.4	11.5	12.2
GA90C - 10	CD230	8.5	9.0	9.3	8.4	8.5	9.2
GA90C - 10	CD280	6.8	9.0	9.3	6.7	8.5	9.2
GA90C - 13	CD230	11.3	12.0	12.3	11.2	11.5	12.2
GA90C - 13	CD280	10.1	12.0	12.3	10.0	11.5	12.2

Dewpoint -70° variant 60Hz

Combination GA and ICD		UNLOADING			LOADING		
GA Model	**ICD model**	**Minimum Unloading Pressure** bar	**Nominal Unloading Pressure** bar	**Maximum Unloading Pressure** bar	**Minimum Loading Pressure** bar	**Nominal Loading Pressure** bar	**Maximum Loading Pressure** bar
GA30 - 100	CD140	6.1	6.5	6.7	6.0	6.0	6.6
GA30 - 100	CD170	5.5	6.4	6.7	5.4	5.9	6.6
GA30 - 125	CD100	7.4	8.1	8.4	7.3	7.6	8.3
GA30 - 125	CD140	5.8	8.1	8.4	5.7	7.6	8.3
GA30 - 125	CD170	5.2	8.1	8.4	5.1	7.6	8.3
GA30 - 150	CD100	6.4	9.8	10.1	6.3	9.3	10.0
GA30 - 150	CD140	5.3	9.8	10.1	5.2	9.3	10.0
GA30 - 150	CD170	4.7	9.8	10.1	4.6	9.3	10.0
GA30 - 175	CD100	10.0	11.5	11.8	9.9	11.0	11.7
GA30 - 175	CD140	8.3	11.5	11.8	8.2	11.0	11.7
GA30 - 175	CD170	7.4	11.5	11.8	7.3	11.0	11.7
GA37 - 100	CD170	6.2	6.6	6.7	6.1	6.1	6.6
GA37 - 125	CD140	6.6	8.1	8.4	6.5	7.6	8.3
GA37 - 125	CD170	5.8	8.1	8.4	5.7	7.6	8.3
GA37 - 150	CD100	8.2	9.8	10.1	8.1	9.3	10.0
GA37 - 150	CD140	6.1	9.8	10.1	6.0	9.3	10.0
GA37 - 150	CD170	5.5	9.8	10.1	5.4	9.3	10.0
GA37 - 175	CD100	11.4	11.8	11.8	11.3	11.3	11.7
GA37 - 175	CD140	9.4	11.5	11.8	9.3	11.0	11.7
GA37 - 175	CD170	8.4	11.5	11.8	8.3	11.0	11.7
GA45 - 125	CD140	7.8	8.2	8.4	7.7	7.7	8.3
GA45 - 125	CD170	6.6	8.1	8.4	6.5	7.6	8.3
GA45 - 150	CD140	7.0	9.8	10.1	6.9	9.3	10.0
GA45 - 150	CD170	6.2	9.8	10.1	6.1	9.3	10.0
GA45 - 175	CD140	10.5	11.5	11.8	10.4	11.0	11.7
GA45 - 175	CD170	9.4	11.5	11.8	9.3	11.0	11.7
GA55C - 125	CD170	7.3	8.1	8.4	7.2	7.6	8.3
GA55C - 150	CD140	8.3	9.8	10.1	8.2	9.3	10.0
GA55C - 150	CD170	6.7	9.8	10.1	6.6	9.3	10.0
GA55C - 175	CD170	10.6	11.5	11.8	10.5	11.0	11.7
GA55 - 100	CD280	5.9	6.4	6.7	5.8	5.9	6.6
GA55 - 125	CD170	7.8	8.2	8.4	7.7	7.7	8.3
GA55 - 125	CD230	6.1	8.1	8.4	6.0	7.6	8.3
GA55 - 125	CD280	5.5	8.1	8.4	5.4	7.6	8.3
GA75 - 125	CD230	7.9	8.3	8.4	7.8	7.8	8.3
GA75 - 125	CD280	6.6	8.1	8.4	6.5	7.6	8.3
GA75 - 150	CD230	7.1	9.8	10.1	7.0	9.3	10.0
GA75 - 150	CD280	6.2	9.8	10.1	6.1	9.3	10.0
GA75 - 175	CD230	10.7	11.5	11.8	10.6	11.0	11.7
GA75 - 175	CD280	9.6	11.5	11.8	9.5	11.0	11.7
GA90C - 125	CD280	7.2	8.1	8.4	7.1	7.6	8.3
GA90C - 150	CD230	8.2	9.8	10.1	8.1	9.3	10.0
GA90C - 150	CD280	6.7	9.8	10.1	6.6	9.3	10.0
GA90C - 175	CD230	11.4	11.8	11.8	11.3	11.3	11.7
GA90C - 175	CD280	10.3	11.5	11.8	10.2	11.0	11.7

17.2 Protections

		Minimum	Nominal	Maximum
Compressor element outlet temperature **4)**	Celsius	**9)**	110	119
(shut-down warning level)				
Compressor element outlet temperature **4)**	Celsius	111	120	120
(shut-down level)				
For GA30 up to GA90C				
Oil separator (pressure difference)	bar	0	1	**5)**
Oil separator (delay at signal) **6)**	sec	0	10	20
For Full-feature with IFD also 11):				
Delay at signal **6)**	sec	0	3	10
Delay at starting **8)**	sec	0	255	255
On water-cooled compressors also:				
Cooling water inlet temperature (warning level)	Celsius	0	50	99
Cooling water outlet temperature (warning level)	Celsius	0	60	99
Delay at warning signal **6)**	sec	0	0	255
Delay at start **2)**	sec	0	0	255
For Full-feature with ICD also:				
Minimum dryer vessel pressure when drying				
(warning level)	bar	0	3.5	4
Delay at signal **6)**	sec	0	5	10
Maximum dryer vessel pressure when regenerating				
(warning level)	bar	0.5	0.7	1
Delay at signal **6)**	sec	0	30	40
Maximum pressure dewpoint (warning level)	°C	-45	-30	0
Delay at signal **6)**	sec	0	3	10
Delay at starting **8)**	sec	0	0	255

17.3 Service plan

		Minimum	Nominal	Maximum
Service plan A (running hours)	hr	**10)**	4000	**10)**
Service plan B (running hours)	hr	**10)**	4000	**10)**
Service plan C (running hours)	hr	**10)**	8000	**10)**

Footnotes chapter 17

1) Once the compressor is automatically stopped, it will remain stopped for the **minimum stop time**, whatever happens with the air net pressure. It is recommended to program this setting at minimum 20 seconds to prevent too-short stopping periods. If a lower setting should be required, consult Atlas Copco.
2) Is the period after starting which must expire before generating a warning. This setting should be less than the setting for delay at signal.
3) The regulator does not accept illogical settings, e.g. if the unloading pressure is programmed at 7.0 bar(e), the maximum limit for the loading pressure changes into 6.9 bar(e). The recommended minimum pressure difference between loading and unloading is 0.6 bar.
4) The regulator does not accept illogical settings, e.g. if the warning level is programmed at 95 degrees Celsius, the minimum limit for the shut-down level changes into 96 degrees Celsius. The recommended difference between the warning level and shut-down level is 10 degrees Celsius.
5) Use Atlas Copco oil separators. The recommended maximum pressure difference is 1 bar.
6) Is the time period during which the warning signal must exist before the warning message appears.
7) In case of LAN control. See related Instruction book, section 3.2. Consult Atlas Copco.
8) Is the time period during which the warning signal is ignored after starting to allow the dryer to reach the dewpoint temperature.
9) Recommended minimum setting: 70 degrees Celsius. For testing the temperature sensor, this setting can be decreased to 50 degrees Celsius. Reset the setting value after testing.
10) Always consult Atlas Copco in case any timer setting should be changed. The intervals must not exceed the nominal intervals and must coincide logically. See section 12.
11) Full-feature (FF): with integrated air dryer.
12) See section 1.3.

Notes:

Notes:

Notes:

SAFETY PRECAUTIONS (continued)

14. If the ground is not level or can be subject to variable inclination, consult Atlas Copco.

15. The electrical connections shall correspond to the local codes. The units shall be grounded and protected against short circuits by fuses.

Operation

1. Air hoses shall be of correct size and suitable for the working pressure. Never use frayed, damaged or deteriorated hoses. Use only the correct type and size of hose end fittings and connections. When blowing through a hose or air line, ensure that the open end is held securely. A free end will whip and may cause injury. Make sure that a hose is fully depressurized before disconnecting it.

   Never play with compressed air. Do not apply it to your skin or direct an air stream at people. Never use it to clean dirt from your clothes. When using it to clean equipment, do so with extreme caution and use eye protection.

2. The compressor is not considered as capable of producing air of breathing quality. For breathing air quality, the compressed air must be adequately purified according to local legislation and standards.

3. Never operate the units when there is a possibility of taking in flammable or toxic fumes.

4. Never operate the units at pressures below or in excess of their limit ratings as indicated on the Principal Data sheet.

5. Keep all bodywork doors shut during operation. The doors may be opened for short periods only, e.g. to carry out checks. Wear ear protectors when opening a door.

6. People staying in environments or rooms where the sound pressure level reaches or exceeds 90 dB(A) shall wear ear protectors.

7. Periodically check that:
   a. All guards are in place and securely fastened
   b. All hoses and/or pipes inside the unit are in good condition, secure and not rubbing
   c. There are no leaks
   d. All fasteners are tight
   e. All electrical leads are secure and in good order
   f. Safety valves and other pressure-relief devices are not obstructed by dirt or paint
   g. Air outlet valve and air net, i.e. pipes, couplings, manifolds, valves, hoses, etc. are in good repair, free of wear or abuse

8. If warm cooling air from compressors is used in air heating systems, e.g. to warm up a workroom, take precautions against air pollution and possible contamination of the breathing air.

9. Do not remove any of, or tamper with, the sound-damping material.

Maintenance

Maintenance and repair work shall only be carried out under supervision of someone qualified for the job.

1. Use only the correct tools for maintenance and repair work.

2. Use only genuine spare parts.

3. All maintenance work, other than routine attention, shall only be undertaken when the unit is stopped, the main power supply is switched off and the machine has cooled down. Take positive precaution to ensure that the unit cannot be started inadvertently.

   In addition, a warning sign bearing a legend such as **"work in progress; do not start"** shall be attached to the starting equipment.

4. Before removing any pressurized component, effectively isolate the unit from all sources of pressure and relieve the entire system of pressure.

5. Never use flammable solvents or carbon tetrachloride for cleaning parts. Take safety precautions against toxic vapours of cleaning liquids.

6. Scrupulously observe cleanliness during maintenance and repair. Keep dirt away by covering the parts and exposed openings with a clean cloth, paper or tape.

7. Never weld or perform any operation involving heat near the oil system. Oil tanks must be completely purged, e.g. by steam-cleaning, before carrying out such operations.

   Never weld on, or in any way modify, pressure vessels.

   Whenever there is an indication or any suspicion that an internal part of a machine is overheated, the machine shall be stopped but **no inspection covers shall be opened** before sufficient cooling time has elapsed; this to avoid the risk of spontaneous ignition of the oil vapour when air is admitted.

   Never use a light source with open flame for inspecting the interior of a machine, pressure vessel, etc.

8. Make sure that no tools, loose parts or rags are left in or on the unit.

9. Before clearing the unit for use after maintenance or overhaul, check that operating pressures, temperatures and time settings are correct and that the control and shut-down devices function correctly. If removed, check that the coupling guard of the compressor drive shaft has been reinstalled.

10. Every time the separator element is renewed, examine the discharge pipe and the inside of the oil separator vessel for carbon deposits; if excessive, the deposits should be removed.

11. Protect the motor, air filter, electrical and regulating components, etc. to prevent moisture from entering them, e.g. when steam-cleaning.

12. Make sure that all sound-damping material, e.g. on the bodywork and in the air inlet and outlet systems of the compressor, is in good condition. If damaged, replace it by genuine Atlas Copco material to prevent the sound pressure level from increasing.

13. Never use caustic solvents which can damage materials of the air net, e.g. polycarbonate bowls.

14. The following safety precautions are stressed when handling refrigerant:

    a. Never inhale refrigerant vapours. Check that the working area is adequately ventilated; if required, use breathing protection.

    b. Always wear special gloves. In case of refrigerant contact with the skin, rinse the skin with water. If liquid refrigerant contacts the skin through clothing, never tear off or remove the latter; flush abundantly with fresh water over the clothing until all refrigerant is flushed away; then seek medical first aid.

    c. Always wear safety glasses.

15. Protect hands to avoid injury from hot machine parts, e.g. during draining of oil.

Note: With stationary machine units driven by an internal combustion engine, allowance has to be made for extra safety precautions, e.g. spark arrestors, fuelling care, etc. Consult Atlas Copco.

All responsibility for any damage or injury resulting from neglecting these precautions, or by non-observance of ordinary caution and due care required in handling, operating, maintenance or repair, even if not expressly mentioned in this book, will be disclaimed by Atlas Copco.

What sets Atlas Copco apart as a company is our conviction that we can only excel in what we do if we provide the best possible know-how and technology to really help our customers produce, grow and succeed.

There is a unique way of achieving that - we simply call it the Atlas Copco way. It builds on **interaction**, on long-term relationships and involvement in the customers' process, needs and objectives. It means having the flexibility to adapt to the diverse demands of the people we cater for.

It's the **commitment** to our customers' business that drives our effort towards increasing their productivity through better solutions. It starts with fully supporting existing products and continuously doing things better, but it goes much further, creating advances in technology through **innovation**. Not for the sake of technology, but for the sake of our customer's bottom line and peace-of-mind.

That is how Atlas Copco will strive to remain the first choice, to succeed in attracting new business and to maintain our position as the industry leader.

No. 2920 1461 03 / DC2003-09

* 2 9 2 0 1 4 6 1 0 3 *