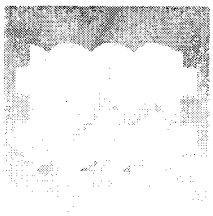


Atlas Copco Stationary Air Compressors

GA11 - GA15 - GA18 - GA22 - GA30C
With Elektronikon I and Elektronikon II regulator

Instruction book

Important

1. From following serial number onwards: AII-268 500

2. This book must be used together with the "User manual for Elektronikon I and II regulators", Printed Matter No. 2920 1461 0x.

- 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 1462 00

Registration code: APC G11-30C / 38 / 994

2002-06

University Area Joint Authority WWTP
Stage 6 Modifications & Additions
Centre County, PA

The Contractor's signature below indicates that this Submittal has been checked with the Drawings, Specifications, and site conditions and found to meet all requirements of the same, including dimensions, and that the Contractor's guarantee fully applies to the Product(s) covered

Submittal Number 11315-02

Drawing Sheet Number _____ Detail Number _____

Deviations from Contract Documents? No ✓ Yes ___

CONTRACTOR'S REVIEW

☑ Approved ☐ Approved as Noted

By ISF Date 2/5/04

ALLAN A. MYERS
P. O. Box 98, 1805 Berks Road
Worcester, PA 19490

www.atlascopco.com

Atlas Copco

This instruction book describes how to handle the machines to ensure safe operation, optimum efficiency and long service life.

Read this book before putting the machine into operation to ensure correct handling, operation and proper maintenance from the beginning. The maintenance schedule comprises measures for keeping the machine in good condition.

Keep the book available for the operator and make sure that the machine is operated and that maintenance is carried out according to the instructions. Record all operating data, maintenance performed, etc. in an operator's logbook available from Atlas Copco. Follow all relevant safety precautions, including those mentioned on the cover of this book.

Repairs must be carried out by trained personnel from Atlas Copco who can be contacted for any further information.

In all correspondence always mention the type and the serial number, shown on the data plate.

For all data not mentioned in the text, see sections "Preventive maintenance schedule" and "Principal data".

The company reserves the right to make changes without prior notice.

Contents

1 Leading particulars

1.1 General description

GA11 up to GA30C are stationary, single-stage, oil-injected screw compressors driven by an electric motor. The compressors are air-cooled.

1.1.1 Compressor variants

GA Pack
GA Pack are enclosed in a sound-insulated bodywork. The compressors are controlled by the Atlas Copco Elektronikon® I regulator (Fig. 1.1). The electronic control module is fitted to the door at the front side. An electric cabinet comprising the motor starter is located behind this panel.

GA Pack FF
GA Pack FF (Full-Feature) are also controlled by the Atlas Copco Elektronikon® I regulator (Fig. 1.1). They are additionally provided with an air dryer integrated in the sound-insulated bodywork. The dryer removes condensate from the compressed air by cooling the air to near freezing point and automatically draining the condensate. See section 1.5.

GA Workplace
GA Workplace are enclosed in a sound-insulated bodywork. The compressors are controlled by the Atlas Copco Elektronikon® II regulator (Fig. 1.2). The electronic control module is fitted to the door at the front side. An electric cabinet comprising the motor starter is located behind this panel. A condensate trap with automatic drain system is provided.

GA Workplace FF
GA Workplace FF (Full-Feature) are also controlled by the Atlas Copco Elektronikon® II regulator (Fig. 1.2). They are additionally provided with an air dryer integrated in the sound-insulated bodywork. The dryer removes condensate from the compressed air by cooling the air to near freezing point and automatically draining the condensate. See section 1.5.

1.1.2 Air flow (Figs. 1.7 and 1.8)

Air drawn through filter (1) and open inlet valve (6) into compressor element (5) is compressed. Compressed air and oil flow through air receiver/oil separator (15) and air cooler (10) to outlet valve (21).
Minimum pressure valve (12) prevents the receiver pressure from dropping below a minimum pressure.

1.1.3 Oil system (Figs. 1.7 and 1.8)

Air pressure forces the oil from air receiver (15) through oil cooler (11) and filter (18) to compressor element (5) and the lubrication points.

The system comprises a by-pass valve (20). When the oil is warm, the valve allows all oil to pass through the cooler.

1.1.4 Cooling system (Figs. 1.7 and 1.8)

The cooling system comprises air cooler (10) and oil cooler (11). The cooling air is generated by fan (9).

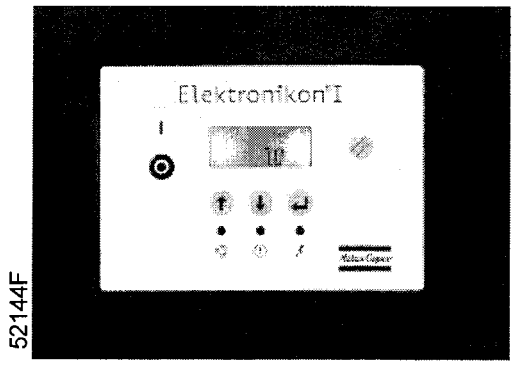


Fig. 1.1 Elektronikon I regulator

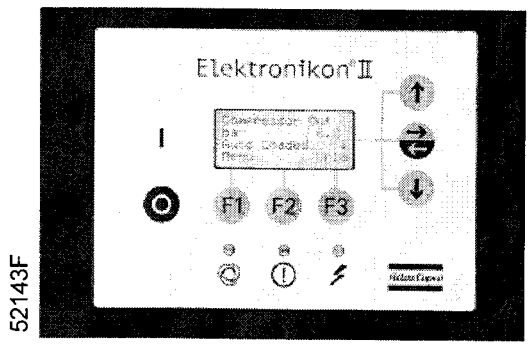
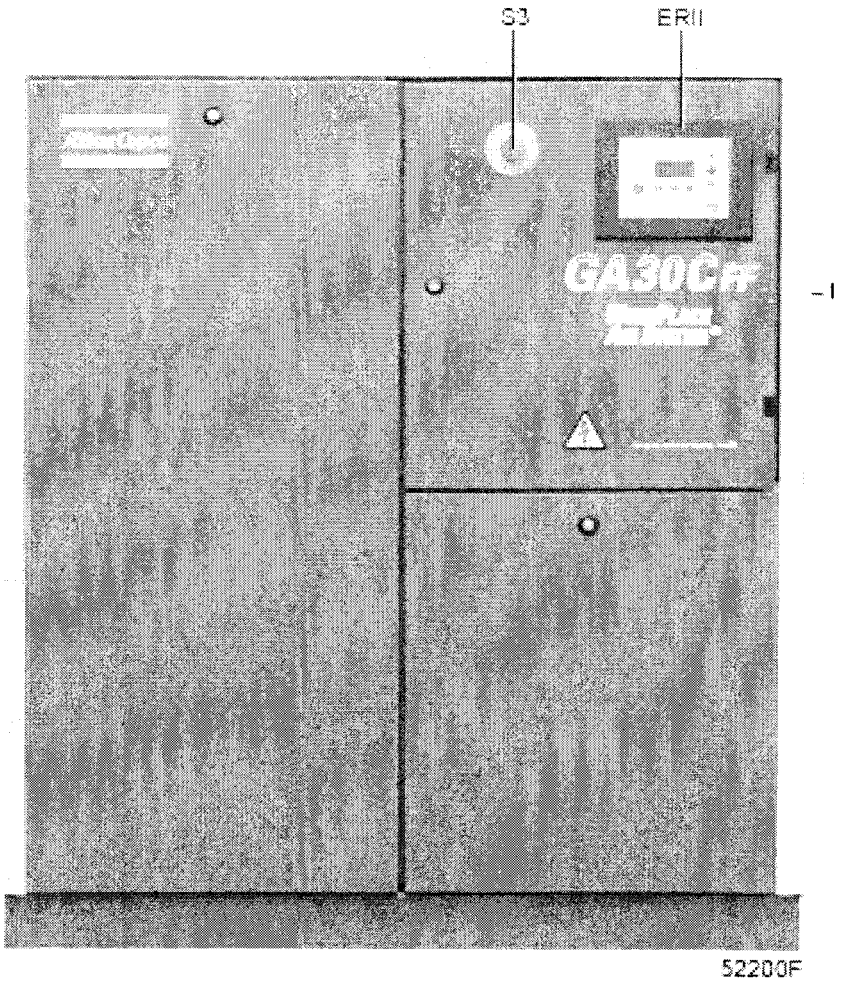


Fig. 1.2 Elektronikon II regulator



ER II Elektronikon II regulator
S3 Emergency stop button
1 Air outlet

Fig. 1.3 Front view GA30C Workplace Full-feature

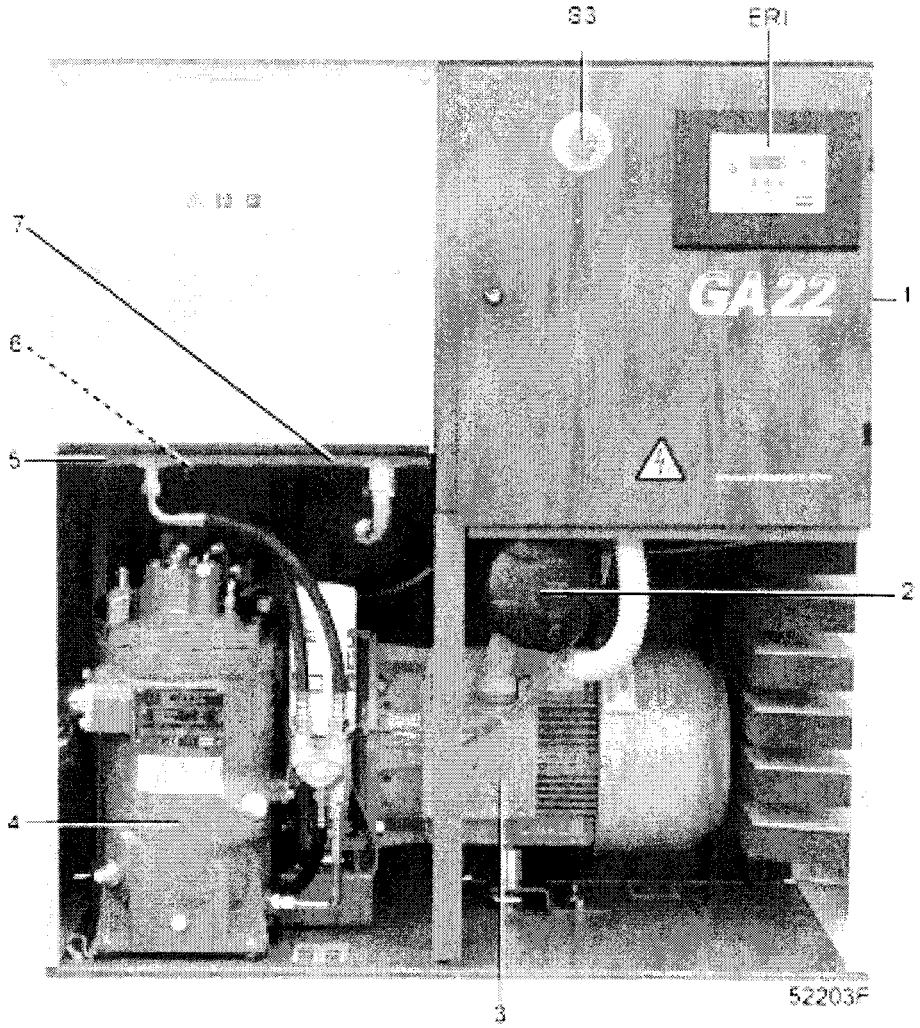
1.1.5 Condensate drain system (Fig. 1.6)

All variants except for GA Pack are provided with a condensate trap in the air outlet system. The trap is equipped with a valve for automatic condensate draining during operation (2) and a manually operated valve (1) for draining after stopping the compressor.

1.2 Unloading/loading system

1.2.1 Unloading (Fig. 1.8)

If the air consumption is less than the air output of the compressor, the net pressure increases. When the net pressure reaches the unloading pressure, solenoid valve (Y1) is de-energized. The plunger of the valve returns by spring force:



ER I	Elektronikon I regulator	4	Air receiver/oil separator
1	Air outlet	5	Oil cooler
2	Air filter	6	Oil cooler vent plug
3	Drive motor	7	Air cooler

Fig. 1.4 GA22 Pack

1. The control pressure present in the chambers of loading plunger (22) and unloading valve (4) is vented to atmosphere via solenoid valve (Y1).
2. Loading plunger (22) moves upwards and causes inlet valve (6) to close the air inlet opening.
3. Unloading valve (4) is opened by receiver pressure. The pressure from air receiver (15) is released towards unloader (3).

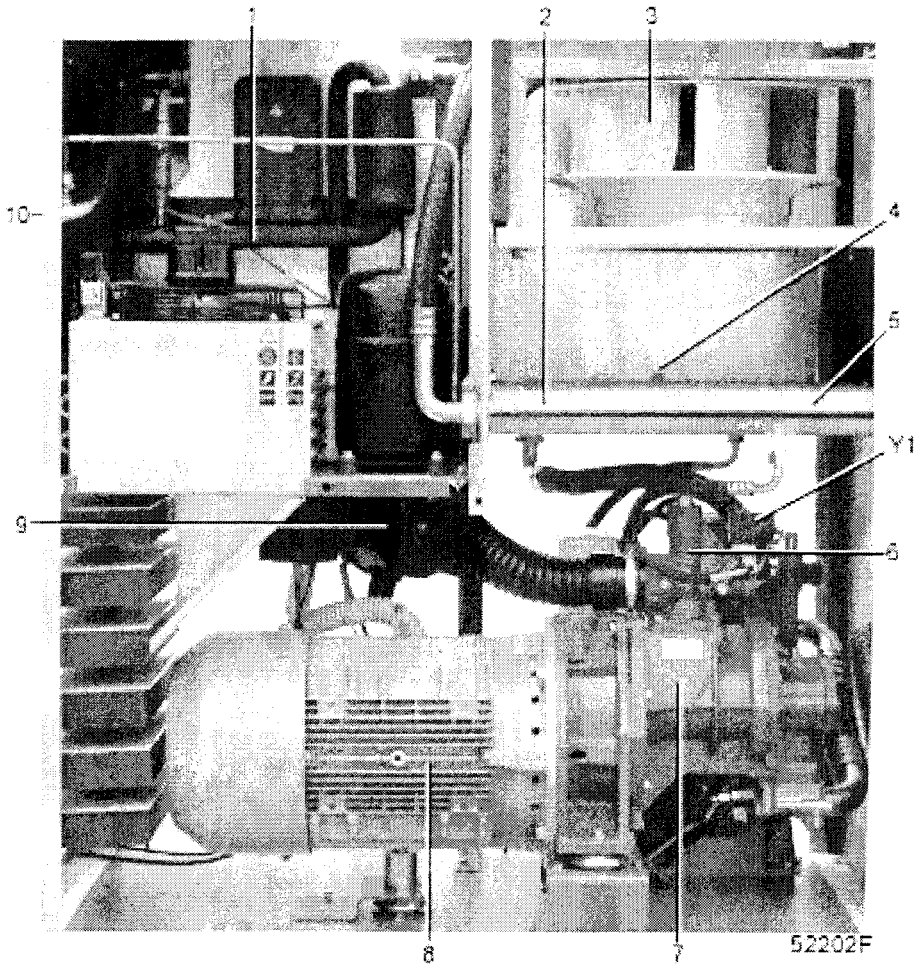
Air output is stopped (0 %), the compressor runs unloaded.

1.2.2 Loading (Fig. 1.7)

When the net pressure decreases to the loading pressure, solenoid valve (Y1) is energized. The plunger of solenoid valve (Y1) moves upwards against spring force:

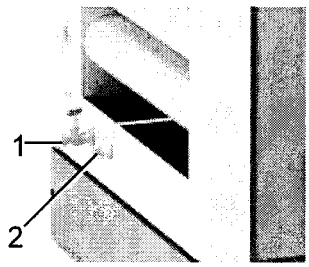
1. Control pressure is fed from air receiver (15) via solenoid valve (Y1) to loading plunger (22) and unloading valve (4).
2. Unloading valve (4) closes the air blow-off opening. Loading plunger (22) moves downwards and causes inlet valve (6) to open fully.

Air output is resumed (100 %), the compressor runs loaded.



1	Dryer	5	Oil cooler	9	Air filter
2	Air cooler	6	Unloader	10	Air outlet
3	Fan	7	Compressor element	Y1	Loading solenoid valve
4	Oil cooler vent plug	8	Drive motor		

Fig. 1.5 GA22 Workplace Full-Feature



1 Condensate drain valve
2 Automatic condensate drain

Fig. 1.6 Condensate outlets

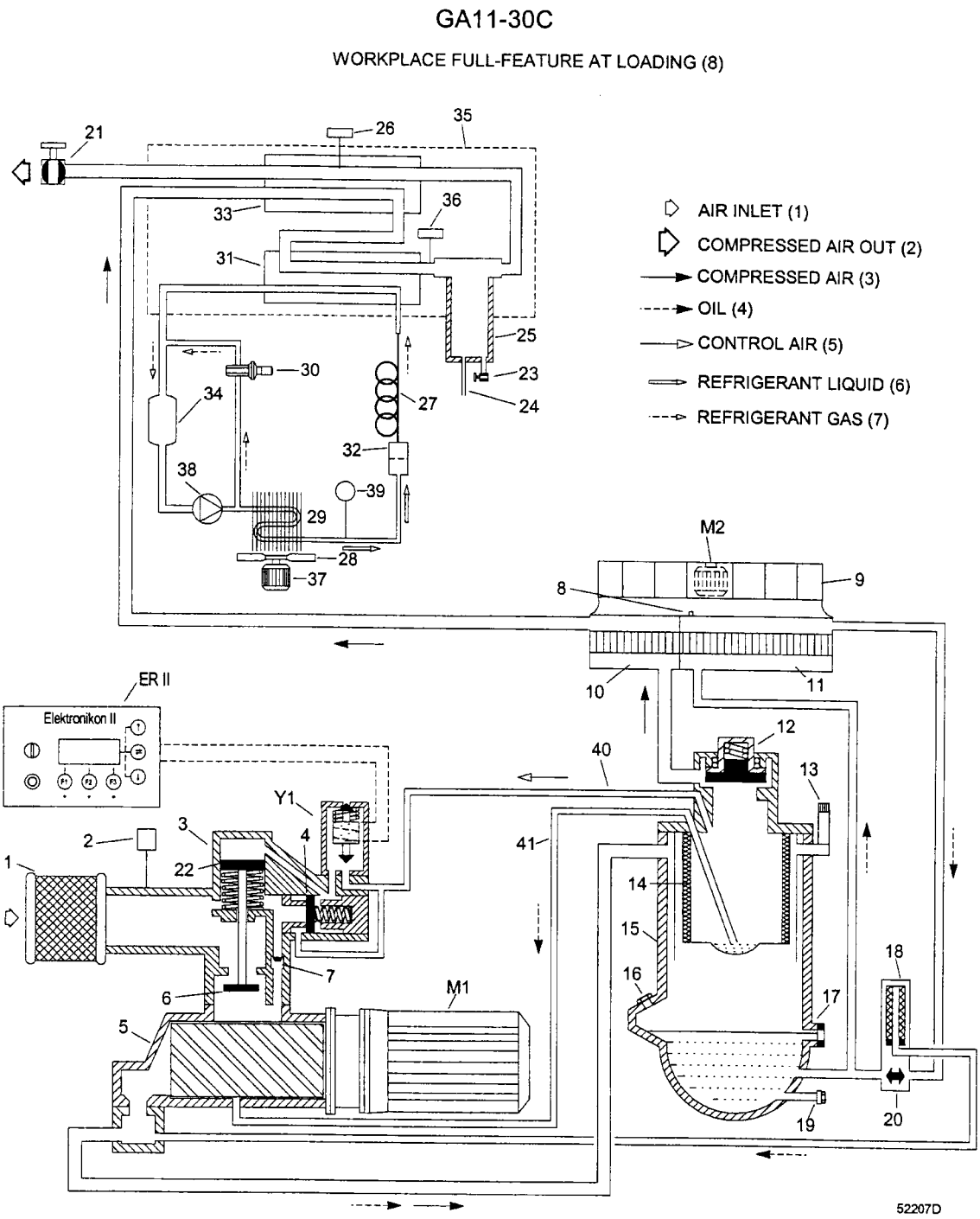


Fig. 1.7 GA Workplace Full-feature during loading

GA11-30C

PACK AT UNLOADING (2)

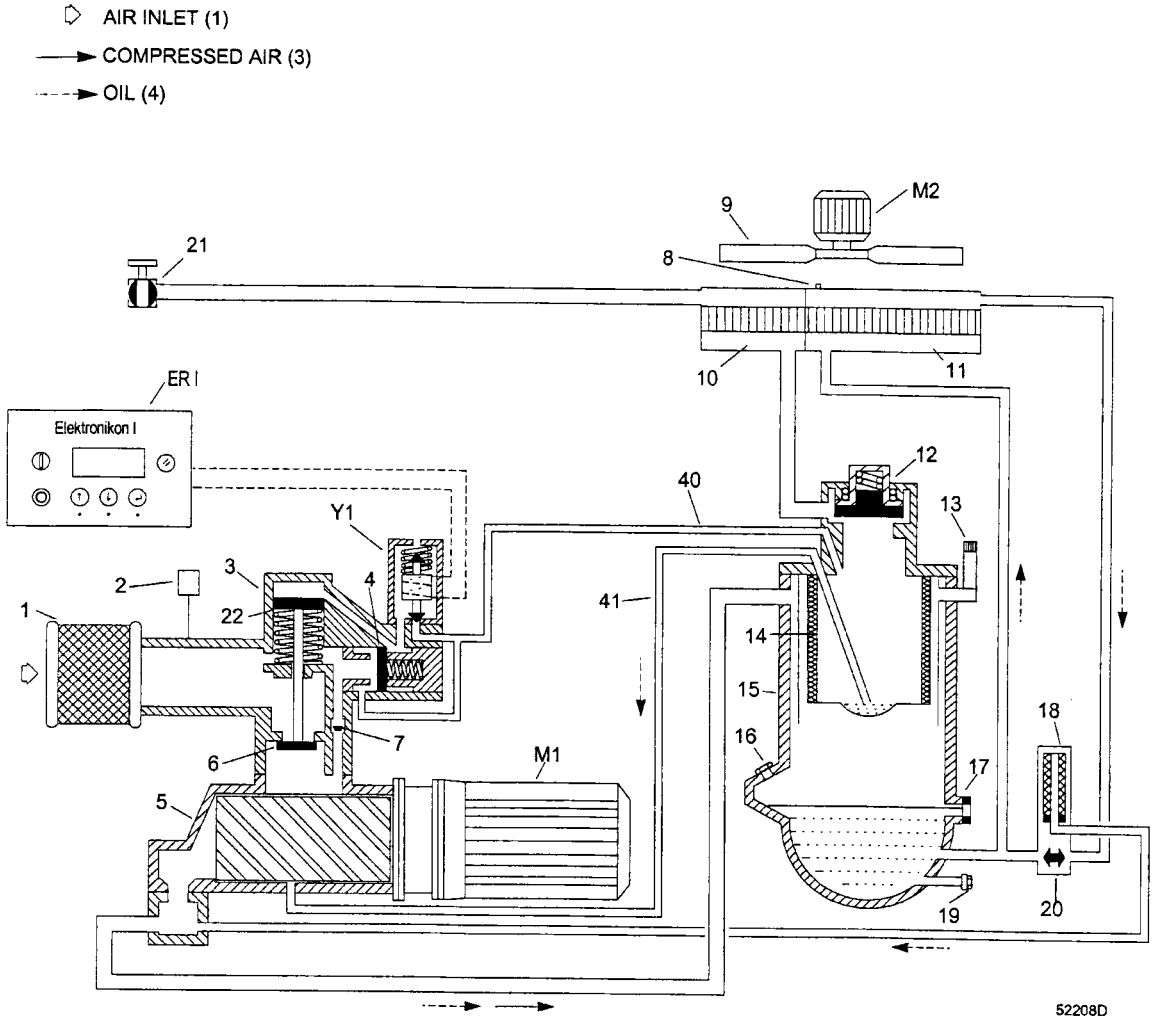


Fig. 1.8 GA Pack during unloading

ER I	Elektronikon I regulator	12	Minimum pressure valve	**On Full-feature also:**	
ER II	Elektronikon II regulator	13	Safety valve	26	Pressure sensor
M1	Drive motor	14	Oil separator element	27	Capillary tube
M2	Motor, compressor cooling fan	15	Air receiver	28	Condenser cooling fan
Y1	Loading solenoid valve	16	Oil filler plug	29	Refrigerant condenser
1	Air filter	17	Oil level indicator	30	Hot gas by-pass valve
2	Air filter service indicator	18	Oil filter	31	Air/refrigerant heat exchanger/ evaporator
3	Unloader	19	Oil drain plug	32	Liquid refrigerant dryer/filter
4	Unloading valve	20	Oil cooler by-pass valve	33	Air/air heat exchanger
5	Compressor element	21	Air outlet valve	34	Accumulator
6	Inlet valve	22	Loading plunger	35	Insulating block
7	By-pass valve	23	Manual condensate drain valve	36	Temperature sensor
8	Vent plug, oil circuit	24	Automatic condensate outlet	37	Motor, condenser fan
9	Compressor cooling fan	25	Condensate trap	38	Refrigerant compressor
10	Air cooler	40	Flexible, control air	39	Fan control switch
11	Oil cooler	41	Flexible, oil scavenging		

Figs. 1.7 and 1.8 Air-oil and unloading-loading systems

1.3 Elektronikon II regulator

GA Workplace and Workplace FF are provided with the Elektronikon II regulator (Fig. 1.9).

1.3.1 Main functions

1.3.1.1 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. 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 (consult the User manual for Elektronikon I and II regulators). Take into account that a start command will be executed (if programmed and activated), even after manually stopping the compressor.*

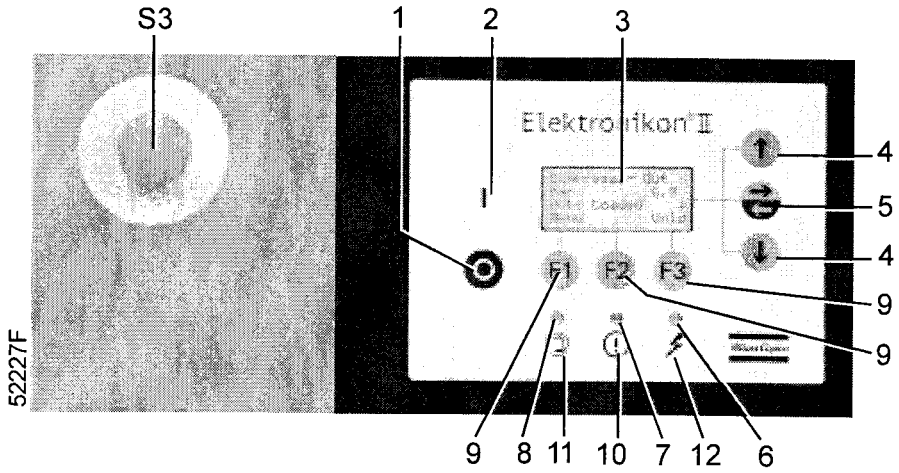
1.3.1.2 Protecting the compressor

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 the drive motor and 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) to warn the operator to carry out the service actions belonging to that plan.

Warning
On Full-feature compressors, a warning message also appears if the dewpoint temperature exceeds the warning level.



1	Stop button	6	Voltage on LED	10	Pictograph, alarm
2	Start button	7	General alarm LED	11	Pictograph, automatic operation
3	Display	8	Automatic operation LED	12	Pictograph, voltage on
4	Scroll keys	9	Function keys	S3	Emergency stop button
5	Tabulator key				

Fig. 1.9 Control panel, Elektronikon II

1.3.1.3 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.

1.3.2 Control panel (Fig. 1.9)

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.

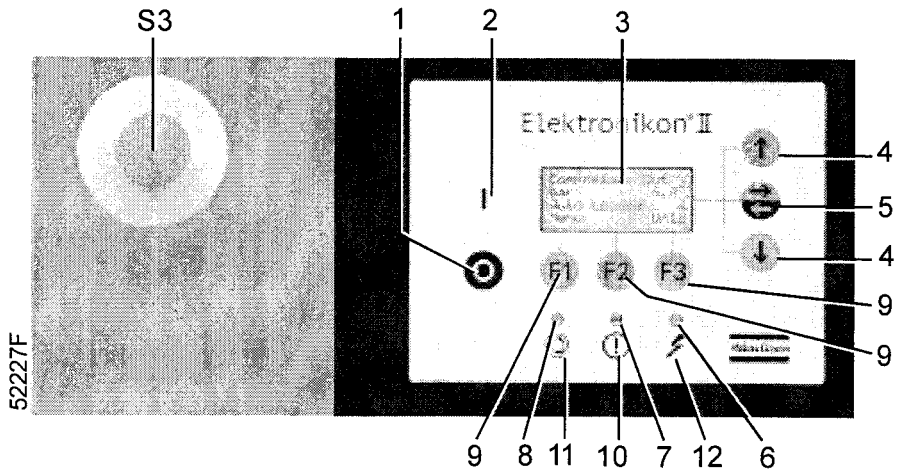
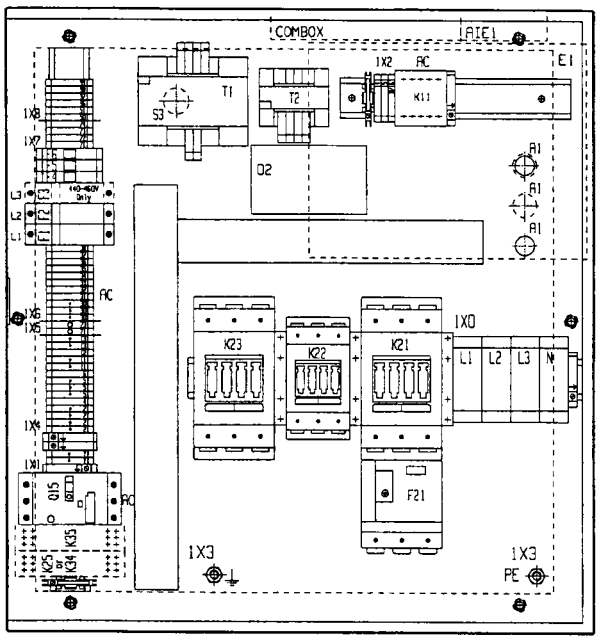


Fig. 1.9 Control panel, Workplace / Workplace FF

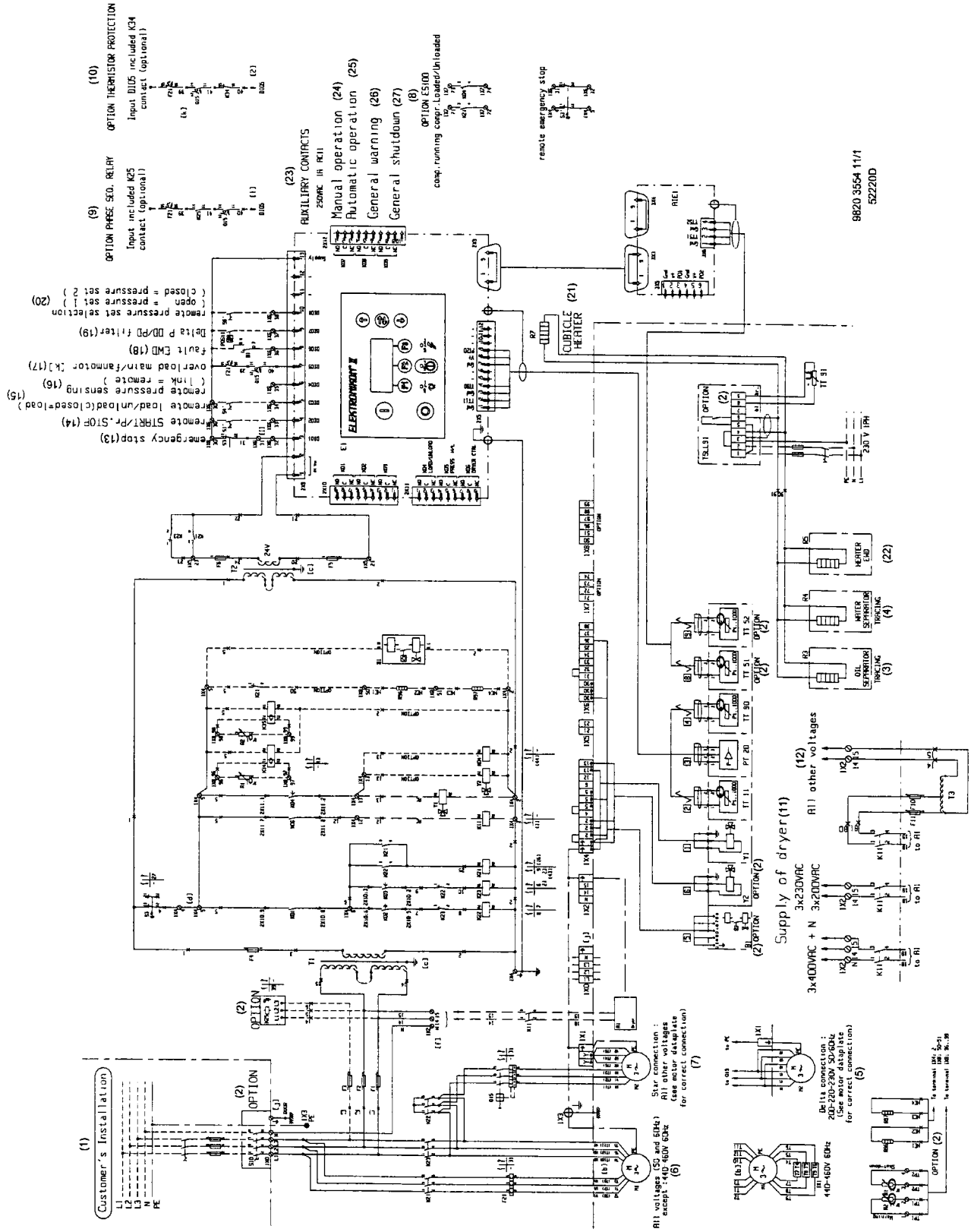
Ref.	Designation	Function
8	Automatic operation LED	Indicates that the regulator is automatically controlling the compressor: the compressor is loaded, unloaded, stopped and restarted depending on the air consumption and the limitations programmed in the regulator.
9	Function keys	Keys to control and program the compressor. See below.
10	Pictograph	Alarm
11	Pictograph	Automatic operation
12	Pictograph	Voltage on
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.



9820 3554 51/1
52219D

See Fig. 1.11 for denomination of components

Fig. 1.10 Electric cabinet, GA Workplace / Workplace FF (typical example)


(10) OPTION THERMISTOR PROTECTION
Input DI05 included K34 contact (optional)
(9) OPTION PHASE SEQ. RELAY
Input included K25 contact (optional)
(23) AUXILIARY CONTACTS 250VAC 1A AC11
Manual operation (24)
Automatic operation (25)
General warning (26)
General shutdown (27)
(8) OPTION ES100
comp.running compr.Loaded/Unloaded
remote emergency stop
9820 3554 11/1
52220D
(20) remote pressure set selection
(open = pressure set 1)
(closed = pressure set 2)
Delta P DD/PD filter(19)
fault EWD (18)
overload main/fanmotor :K](17)
(link = remote)
remote pressure sensing (16)
(15) remote load/unload(closed=load)
remote STRRT/Pr.STOP (14)
emergency stop(13)
CUBICLE HEATER (21)
ELEKTRONIKON II
HEATER END (22)
WATER SEPARATOR TRACING (4)
OIL SEPARATOR TRACING (3)
Supply of dryer(11)
3x230VAC
3x200VAC
3x400VAC + N
All other voltages
(12)
(1) Customer's Installation
L1
L2
L3
N
PE
(2) OPTION
All voltages (50 and 60Hz) except:440-460V 60Hz (6)
Star connection : All other voltages (see motor dataplate for correct connection) (7)
Delta connection : 200-220-230V 50/60Hz (See motor dataplate for correct connection) (5)
440-460V 60Hz

SENSORS/SOLENOID VALVES/ ELECTRONIC DRAIN

PT20	Pressure sensor, air outlet
TT11	Temperature sensor, compressor element outlet
TT90	Temperature sensor, dewpoint (Full-Feature)
Y1	Loading solenoid valve

MOTORS

M1	Drive motor
M2	Fan motor, compressor coolers (air-cooled compressors)

ELECTRIC CABINET

F1/F11	Fuses
F21	Overload relay, drive motor
K11	Auxiliary contactor for dryer (Full-Feature)
K21	Line contactor
K22	Star contactor
K23	Delta contactor
Q15	Circuit breaker
T1/T2	Transformers
T3	Transformer, dryer
1X0/1X8	Terminal strips

CONTROL MODULE (E1)

I	Start button
K01	Blocking relay
K02	Auxiliary relay, star contactor
K03	Auxiliary relay, delta contactor
K04	Auxiliary relay, loading/ unloading
K05	Auxiliary relay, air pressure high/low
K06	Auxiliary relay, dryer
K07	Auxiliary relay, manual/ automatic operation
K08	Auxiliary relay, warning
K09	Auxiliary relay, shut-down
O	Stop button
S3	Emergency stop button

OPTIONAL EQUIPMENT DRYER

A1	Dryer (Full-Feature)
AIE1	Expansion module, analog input
B1	Electronic water drain (EWD)
K25	Phase sequence protection
PDS11	DP switch for DD filter
R1/K34	Drive motor thermistor protection, shut-down
R2/K35	Drive motor thermistor protection, warning
R3/R4	Heaters, freeze protection
R5	Heater, electronic water drain
R7	Heater, cubicle
R96/97	Anti-condensation heaters
S10	Main power isolating switch
TSLL91	Thermostat, cubicle freeze protection
TT51/52	Temperature sensors, energy recovery
Y2	Solenoid valve, modulating control

Fig. 1.11 Electrical diagram, GA Workplace / Workplace FF - 50 Hz with star-delta starter (typical example)

1.3.3 Display

Normally, the display shows the operation status of the compressor, the air outlet pressure and the abbreviations of function keys F1, F2 and F3.

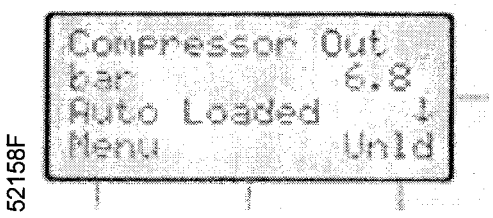


Fig. 1.12 Example of the main display

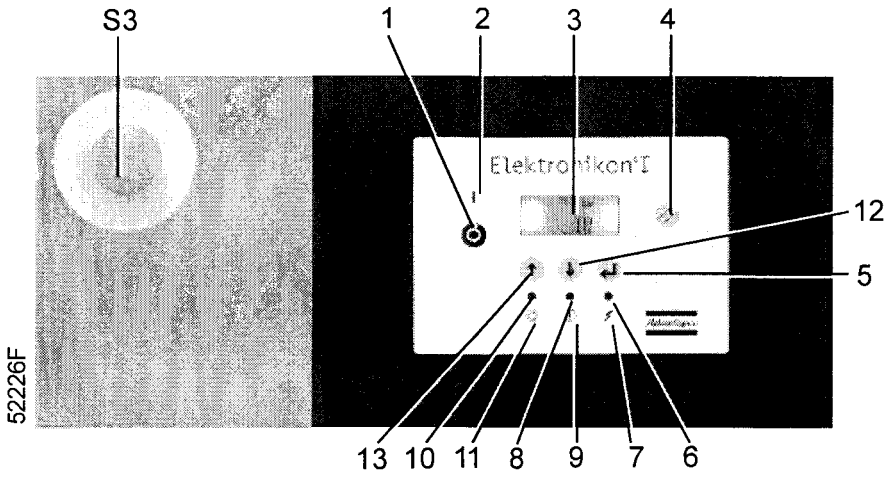
1.3.4 Calling up other menus

Starting from the Main display (Fig. 1.12):

- Use the ↓ key (4-Fig. 1.9) for a quick look at the actual compressor status
- Press the key Menu (F1), the option "Status data" will be followed by a horizontal arrow:
  - either press the tabulator key (5-Fig. 1.9) 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.

For detailed instructions, consult the User manual for Elektronikon I and II regulators.

1.4 Elektronikon I regulator



1 Stop button
2 Start button
3 Display
4 Reset key
5 Enter key
6 Voltage on LED
7 Pictograph, voltage on
8 General alarm LED
9 Pictograph, alarm
10 Automatic operation LED
11 Pictograph, automatic operation
12 Downwards scroll key
13 Upwards scroll key
S3 Emergency stop button

Fig. 1.13 Control panel, Elektronikon I

GA Pack and Pack FF are provided with the Elektronikon I regulator (Fig. 1.13).

1.4.1 Main functions

1.4.1.1 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.

1.4.1.2 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 the drive motor (M1) and the fan motor (M2).

Shut-down warning
If the compressor element outlet temperature or dewpoint temperature (Full-Feature) 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 to warn the operator to carry out some service actions.

1.4.1.3 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.*

1.4.2 Control panel (Fig. 1.13)

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).

Ref.	Designation	Function
3	Display	Indicates the compressor operating condition, actually measured values and programmed parameters.
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.

Fig. 1.13 Control panel, Elektronikon I

1.4.3 Display

Normally, the display shows the operation status of the compressor by means of pictographs and the air outlet pressure:

bar
6.6

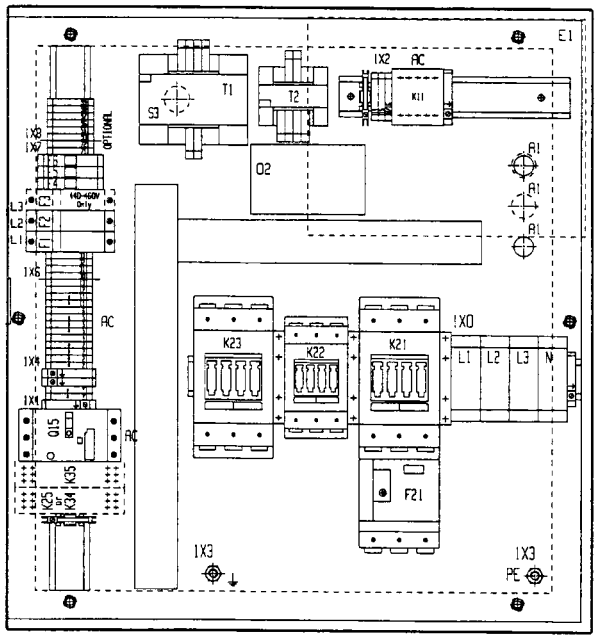
Fig. 1.14 Main screen, typical example

1.4.4 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-Fig. 1.13) on the control panel.

1.4.5 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



See Fig. 1.16 for denomination of components

Fig. 1.15 Electric cabinet, GA Pack / Pack FF (typical example)

SENSORS/SOLENOID VALVES/ELECTRONIC DRAIN/ HEATER

PT20	Pressure sensor, air outlet
TT11	Temperature sensor, compressor element outlet
TT90	Temperature sensor, dewpoint (Full-Feature)
Y1	Loading solenoid valve

MOTORS

M1	Drive motor
M2	Fan motor, compressor coolers (air-cooled compressors)

ELECTRIC CABINET

F1/F11	Fuses
F21	Overload relay, drive motor
K11	Auxiliary contactor for dryer (Full-Feature)
K21	Line contactor
K22	Star contactor
K23	Delta contactor
Q15	Circuit breaker
T1/T2	Transformers
T3	Transformer, dryer
1X0/8	Terminal strips

CONTROL MODULE (E1)

I	Start button
K01	Blocking relay
K02	Auxiliary relay, star contactor
K03	Auxiliary relay, delta contactor
K04	Auxiliary relay, load/unload
K05	Auxiliary relay, dryer
K06	Auxiliary relay, shut-down
0	Stop button
S3	Emergency stop button

MOTORS

M1	Drive motor
M2	Fan motor

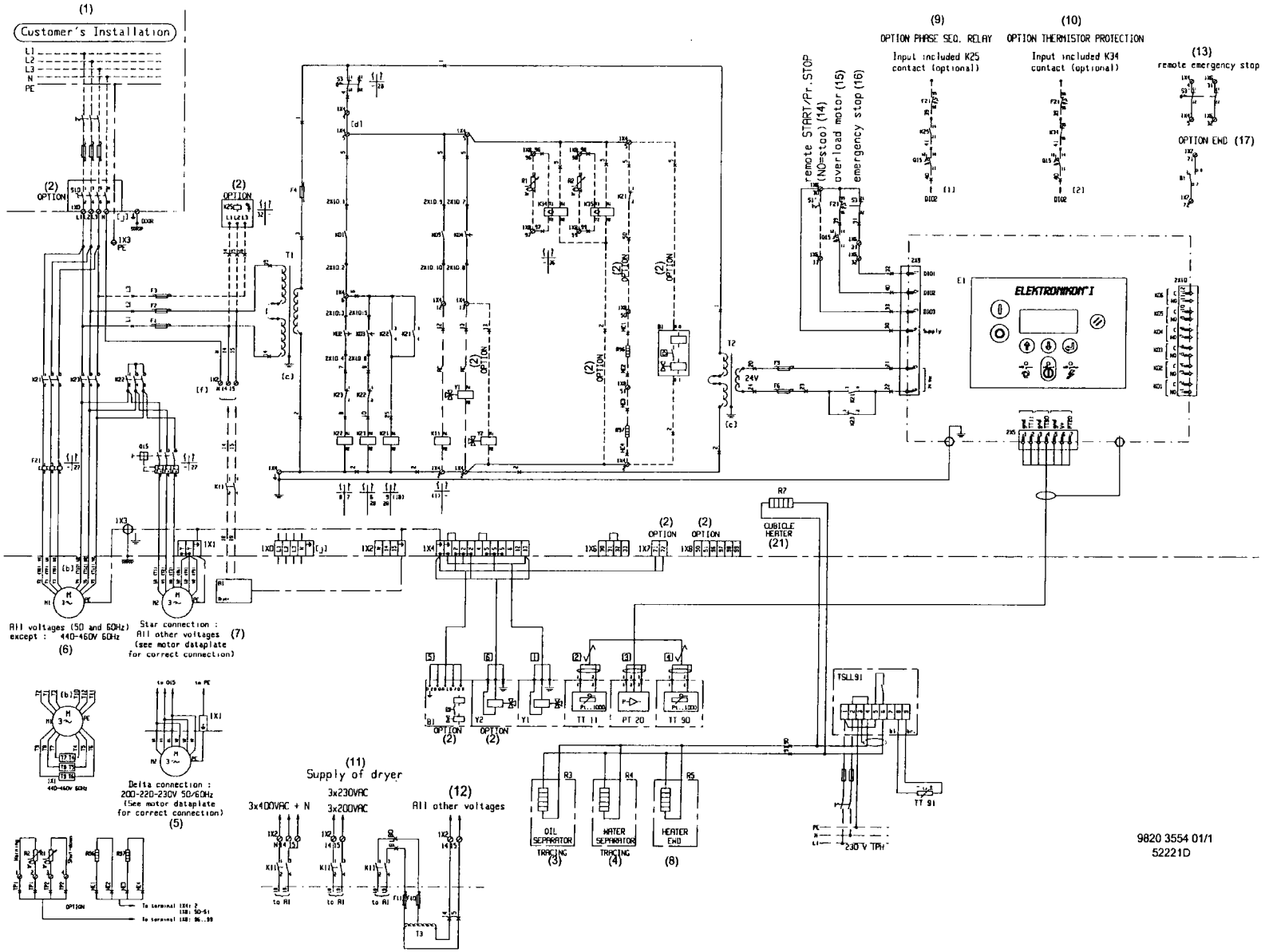
DRYER

A1	Dryer (Full-Feature)

OPTIONAL EQUIPMENT

B1	Electronic water drain (EWD)
K25	Phase sequence protection
R1/K34	Drive motor thermistor protection, shut-down
R2/K35	Drive motor thermistor protection, warning
R3/R4	Heaters, freeze protection
R5	Heater, electronic water drain
R7	Heater, cubicle
R96/97	Anti-condensation heaters
S10	Main power isolating switch
TSLL91	Thermostat, cubicle freeze protection
Y2	Solenoid valve, modulating control

Fig. 1.16 Electrical diagram, GA Pack/Pack FF-50 Hz with star-delta starter (typical example)


(1)
Customer's Installation
L1
L2
L3
N
PE
(2)
OPTION
(9)
OPTION PHASE SEQ. RELAY
Input included K25
contact (optional)
(10)
OPTION THERMISTOR PROTECTION
Input included K34
contact (optional)
(13)
remote emergency stop
OPTION END (17)
remote START/Pr.STOP
(NO=stop) (14)
overload motor (15)
emergency stop (16)
ELEKTRONIKON I
T1
T2
24V
CUBICLE
HEATER
(21)
All voltages (50 and 60Hz)
except : 440-460V 60Hz
(6)
Star connection :
All other voltages
(see motor dataplate
for correct connection)
(7)
Delta connection :
200-220-230V 50/60Hz
(See motor dataplate
for correct connection)
(5)
(11)
Supply of dryer
3x400VAC + N
3x230VAC
3x200VAC
(12)
All other voltages
TSLL91
TT 11
PT 20
TT 90
TT 91
OIL
SEPARATOR
TRACING
(3)
WATER
SEPARATOR
TRACING
(4)
HEATER
END
(8)
230 V TPH
9820 3554 01/1
52221D

1.5 Air dryer (Fig. 1.7)

GA Workplace FF and GA Pack FF are provided with a dryer which removes condensate from compressed air.

1.5.1 Compressed air circuit

Compressed air enters heat exchanger (33) and is cooled by the outgoing, dried air. Moisture in the incoming air starts to condense. The air then flows through heat exchanger/evaporator (31) where the refrigerant evaporates causing the air to be further cooled to close to the evaporating temperature of the refrigerant. More water in the air condenses. The cold air then flows through separator (25) where all condensate is separated from the air. The condensate is automatically drained. The cold, dried air flows through heat exchanger (33), where it is warmed up by the incoming air.

1.5.2 Refrigerant circuit

Compressor (38) delivers high-pressure refrigerant gas which flows through condenser (29) where most of the refrigerant condenses. The liquid flows through liquid refrigerant dryer/filter (32) to capillary tube (27). The refrigerant leaves the capillary tube at evaporating pressure. The refrigerant enters evaporator (31) where it withdraws heat from the compressed air by further evaporation at constant pressure. The heated refrigerant leaves the evaporator and is sucked in by the compressor.

By-pass valve (30) regulates the refrigerant flow. Fan (37) is switched on or off by switch (39) depending on the loading degree of the refrigerant circuit.

The compressor motor has a built-in thermic protection. In case the compressor motor stops after tripping of the thermic protection, it may take up to 2 hours to cool down the motor windings.

2 Installation

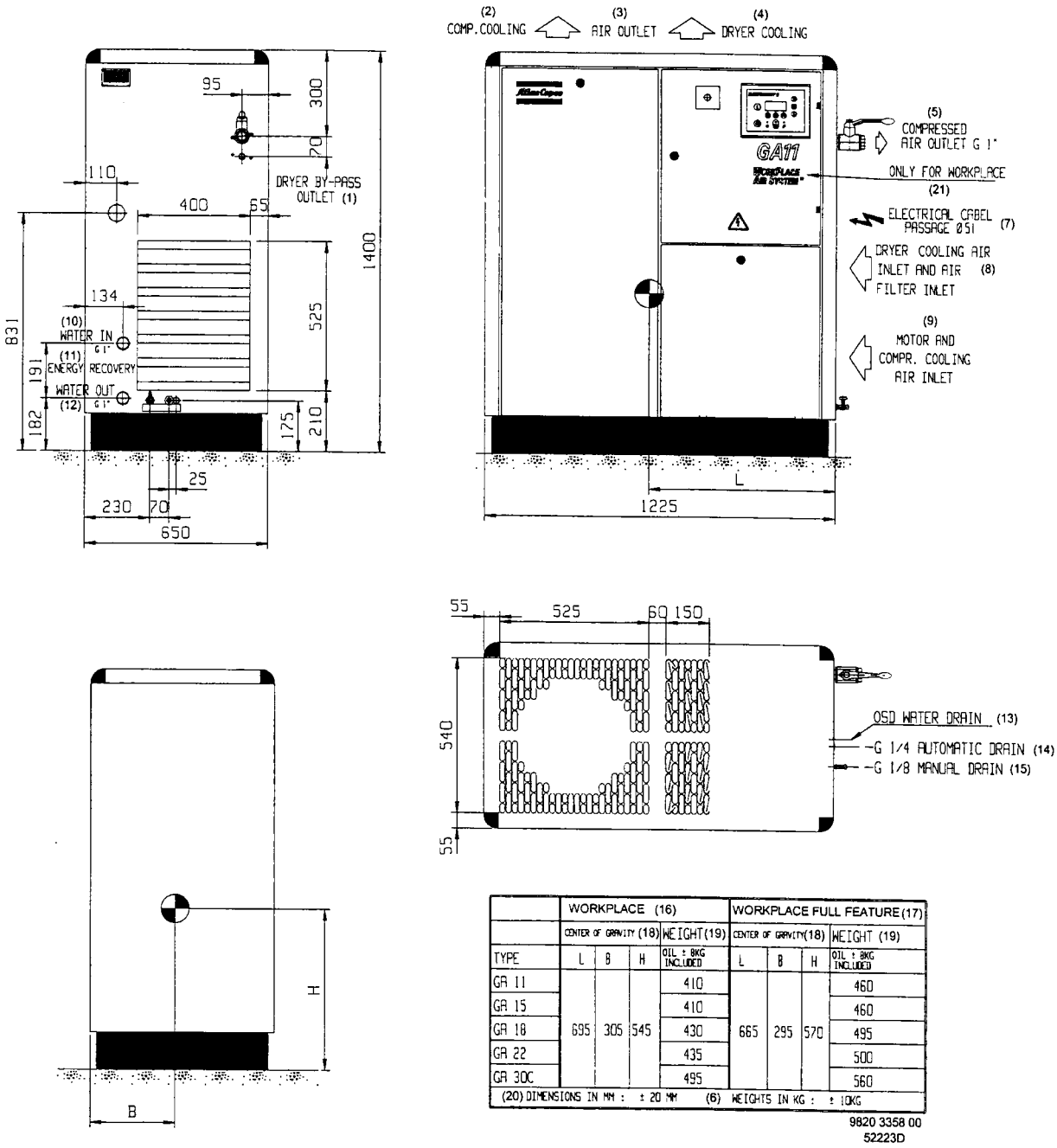
2.1 Dimension drawing (Fig. 2.1)

See opposite page.

2.2 Installation proposal (Fig. 2.2)

See page 20.

Ref.	Description/recommendation
1	Install the compressor on a solid, level floor suitable for taking the weight.
2	Position of the compressed air outlet valve.
3	The pressure drop over the delivery pipe can be calculated as follows: $dp = (L \times 450 \times Qc^{1.85}) / (d^5 \times P)$ dp = pressure drop (recommended maximum = 0.1 bar) L = length of delivery pipe in m d = inner diameter of the delivery pipe in mm P = absolute pressure at the compressor outlet in bar(a) Qc = free air delivery of the compressor in l/s It is recommended that the connection of the compressor air delivery pipe is made on top of the main air net pipe to minimize carry-over of possible remainder of condensate.
4	Ventilation: the inlet grids and ventilation fan should be installed in such a way that any recirculation of cooling air to the compressor or dryer is avoided. The air velocity to the grids must be limited to 5 m/s. The maximum allowable pressure drop over the cooling air ducts is 30 Pa. If exceeding this value, a fan is needed at the outlet of the ducts. Consult Atlas Copco.



	WORKPLACE (16)				WORKPLACE FULL FEATURE (17)			
	CENTER OF GRAVITY (18)			WEIGHT (19)	CENTER OF GRAVITY (18)			WEIGHT (19)
TYPE	L	B	H	OIL ± 8KG INCLUDED	L	B	H	OIL ± 8KG INCLUDED
GA 11	695	305	545	410	665	295	570	460
GA 15				410				460
GA 18				430				495
GA 22				435				500
GA 30C				495				560

(20) DIMENSIONS IN MM : ± 20 MM (6) WEIGHTS IN KG : ± 10KG

9820 3358 00
52223D

Fig. 2.1 Dimension drawing

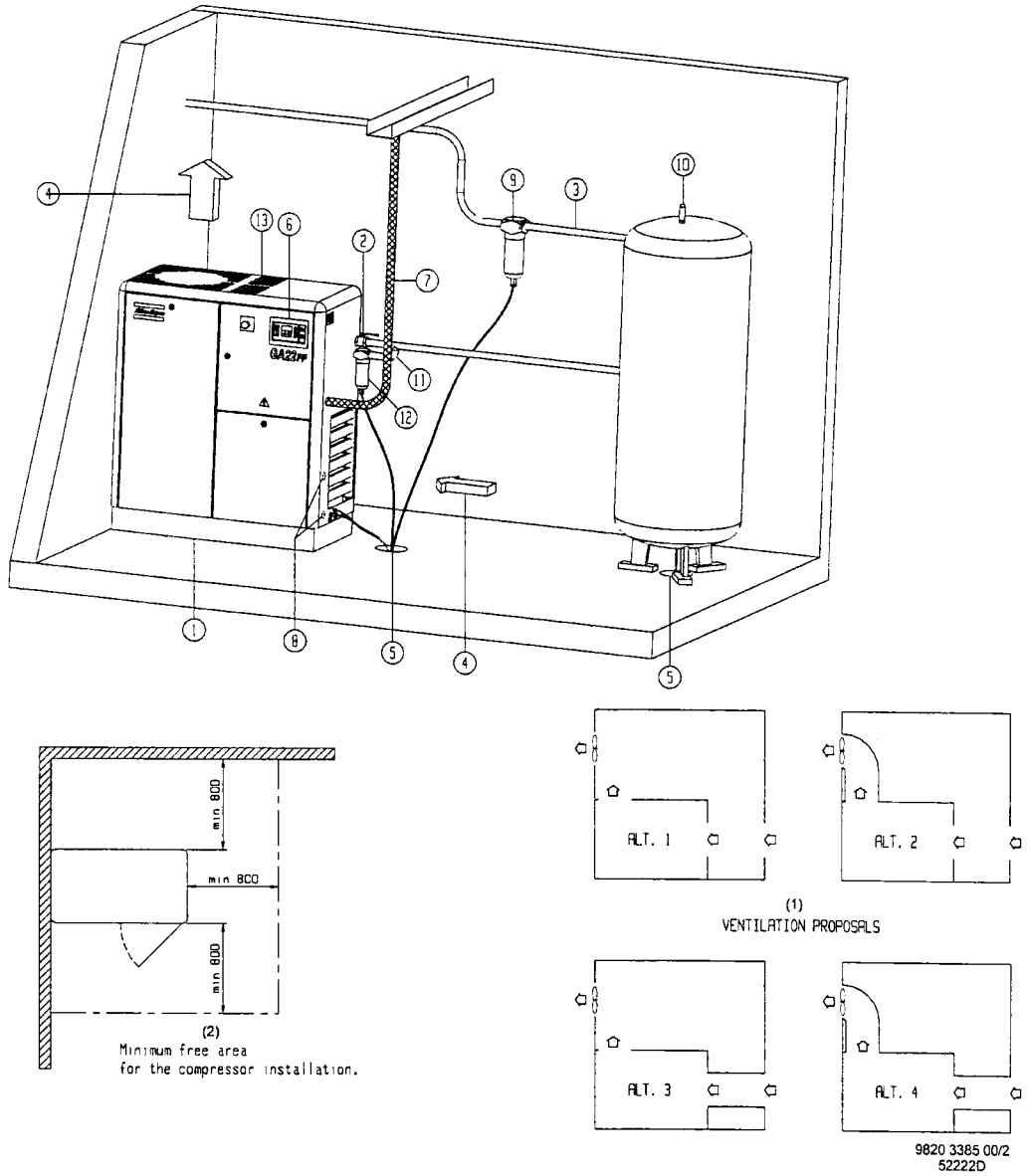


Fig. 2.2 Installation proposal

Ref.	Description/recommendation
	- For alternatives 1 and 3, the required ventilation capacity to limit the compressor room temperature can be calculated as follows: Qv = 1.06 N / dT for GA Pack/Workplace Qv = (1.06 N + 1.3) / dT for GA Pack FF/ Workplace FF Qv = required ventilation capacity in m^3/s N = nominal motor power of compressor in kW dT = temperature increase in compressor room - For alternatives 2 and 4: the fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop over the air ducts.

Ref.	Description/recommendation
5	The drain pipes to the drain collector must not dip into the water of the drain collector. Atlas Copco has oil/ water separators (type OSD) to separate the major part of the oil from the condensate to ensure that the condensate meets the requirements of the environmental codes.
6	Position of the control panel.
7	Position of the mains cable.
8	Provision for the inlet and outlet of the optional energy recovery system.
9	Filter, type DD, for general purpose filtration (optional). The filter traps solid particles down to 1 micron with a max. oil carry-over of 0.5 mg/m³. A high-efficiency filter, type PD (optional), may be installed downstream of a DD filter. This filter traps solid particles down to 0.01 micron with a max. oil carry-over of 0.01 mg/m³. If oil vapour and odours are undesirable, a filter of the QD type (optional) should be installed downstream of the PD filter. It is recommended to provide by-pass pipes and valves over the filters to isolate the filters during maintenance without disturbing the compressor.
10	The air receiver (optional) should be installed in a frost-free room on a solid, level floor. For normal air consumption, the volume of the air net (receiver and piping) can be calculated as follows: V = (0.25 x Qc x P1 x To) / (fmax x dP x T1) V = volume of air net in l Qc = free air delivery of compressor in l/s P1 = compressor air inlet pressure in bar absolute fmax = cycle frequency = 1 cycle/30 s dP = Punload - Pload in bar T1 = compressor air inlet temperature in K To = air receiver temperature in K

2.3 Electrical connections

General

- Provide an isolating switch.
- Check that the motor cables and wires inside the electric cabinet are clamped tight to their terminals.
- Check the fuses and the setting of the overload relay. See section 7.
- Connect the power supply cables to terminals (L1, L2 and L3-Figs. 1.10/1.15)
- Connect the earth conductor to earth bolt (PE-Figs. 1.10/ 1.15) and the neutral conductor to connector (N).

On Pack FF/Workplace FF (except for 440/460 V - 60 Hz) (Fig. 1.11):
The voltage supply to the dryer must be 230 V single-phase. The voltage to the dryer is supplied over the contacts of relay (K11), which close when the compressor is started. For compressor supply voltages different from 3 x 400 V plus neutral or 3 x 230 V, the power to the dryer is supplied by a transformer.

On Pack FF/Workplace FF (440/460 V - 60 Hz) (Fig. 1.11):
These compressors have a 3-phase dryer. The voltage to the dryer is supplied over the contacts of relay (K11), which close when the compressor is started.

2.4 Electric cable size

Attention

- Local regulations remain applicable if they are stricter than the values proposed below.
- The voltage drop must not exceed 5 % of the nominal voltage. It may be necessary to use cables with a larger section than those stated to comply with this requirement.
- Max. cable length = 25 m, max. ambient temperature = 40 degrees celsius, cables in free air or in raceway, copper conductors.

For star-delta starter (IEC)

Supplyvoltage (V)	Frequency (Hz)	GA11 mm²	GA15 mm²	GA18 mm²	GA22 mm²	GA30C mm²
200-220	50/60	16	25	35	50	70
230	50/60	16	25	35	50	70
380	50/60	10	10	16	25	35
400	50	6	10	16	25	35
500	50	6	10	10	16	25

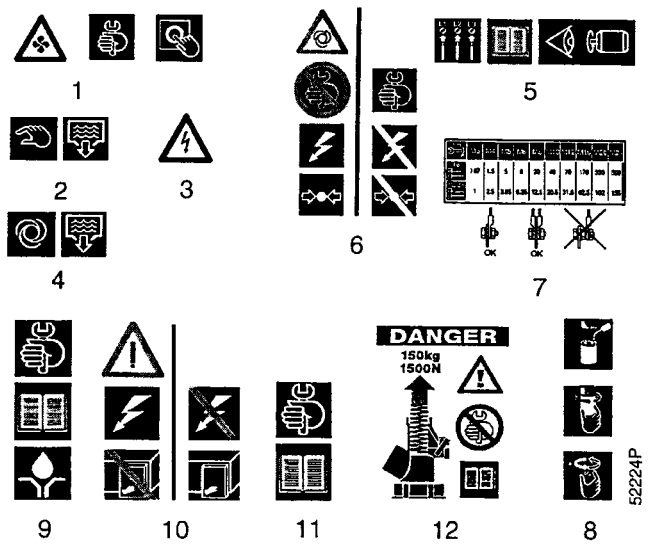
For direct-on-line starter (CSA/UL)

Supply voltage (V)	Fre-quency (Hz)	GA11 AWG	GA11 mm²	GA15 AWG	GA15 mm²	GA18 AWG	GA18 mm²	GA22 AWG	GA22 mm²	GA30C AWG	GA30C mm²
200	60	4	16	3	25	1	35	2/0	50	--	--
220-230	60	4	16	3	25	2	35	1	35	--	--
440-460	60	8	8	6	10	6	10	4	16	3	25
575	60	10	6	8	8	8	8	6	10	4	16

2.5 Pictographs (Fig. 2.3)

Read the warnings attentively and act accordingly.

Note
For compressors equipped with an Elektronikon I regulator, also consult section 1.4.5.



1 Warning: stop compressor before repairing fans
2 Manual condensate drain
3 Warning: voltage
4 Automatic condensate drain
5 Warning: before connecting compressor electrically, consult Instruction book for motor rotation direction
6 Warning: switch off voltage and depressurize compressor before repairing
7 Torques for steel (Fe) or brass (CuZn) bolts
8 Lightly oil gasket of oil filter, screw it on and tighten by hand (approx. half a turn)
9 Consult Instruction book before greasing
10 Warning: switch off voltage before removing protecting cover inside electric cubicle
11 Consult Instruction book before carrying out maintenance
12 Warning: potential risk of sudden releasing of spring underneath cover of unloader during disassembling, have possible repairs carried out by Atlas Copco

Fig. 2.3 Pictographs (typical examples)

3 Operating instructions

3.1 Before initial start-up

3.1.1 Safety

The operator must apply all relevant safety precautions, including those mentioned in this book.

3.1.2 User manual

Read the related "User manual for Elektronikon I and II regulators" as mentioned on the first page of this book to familiarize yourself with all regulator functions.

3.1.3 Outdoor/altitude operation

If the compressor is installed outdoors or if the air inlet temperature can be below 0 degrees Celsius, precautions must be taken. In this case, and also if operating at high altitude, consult Atlas Copco.

3.2 External compressor status indication/ remote control (Elektronikon II)

GA Workplace and Workplace FF are provided with the Elektronikon II regulator (Fig. 1.9). These regulators allow:
- external indication of the compressor status
- remote control of the compressor

Attention
Have the modifications checked by Atlas Copco. Stop the compressor and switch off the voltage before connecting external equipment. Only voltage-free contacts are allowed.

3.2.1 External compressor status indication

Auxiliary contacts (K07, K08 and K09) are provided at the back of the electronic module (Fig. 1.9) for external indication of:
- manual load/unload or automatic operation (K07)
- warning condition (K08)
- shut-down condition (K09)

Maximum load for these contacts: 1 A / 250 V AC.

3.2.2 Remote control

Consult the User manual for Elektronikon I and II regulators (Part 2, section 14.1) if it is desired to switch to another control mode.

Following control modes can be selected:

3.2.2.1 Local control

The compressor will react to commands entered by the buttons on the control panel. Compressor start/stop commands via function "Clock function" are active, if programmed.

3.2.2.2 Remote control

The compressor will react to commands from external switches. Emergency stop button (S3-Fig. 1.9) remains active. Compressor start/stop commands via function "Clock function" are still possible.

For remote starting and stopping: Connect a start/ programmed stop button between terminals 30 and 33 of terminal strip (1X6-Fig. 1.10).

Bridge terminals 30 and 34: In this mode, the outlet pressure is still sensed by pressure transducer (PT20), resulting in loading and unloading of the compressor at the pressures programmed in the electronic regulator. If terminals 30 and 34 are not bridged, the compressor is switched out of automatic load/ unload operation and remains running unloaded.

For remote loading/unloading (via external pressure switch): Bridge terminals 30 and 35 and connect a load/unload switch between terminals 30 and 34. This results in loading and unloading of the compressor at the closing and opening pressures of the external pressure switch respectively.

3.2.2.3 LAN control

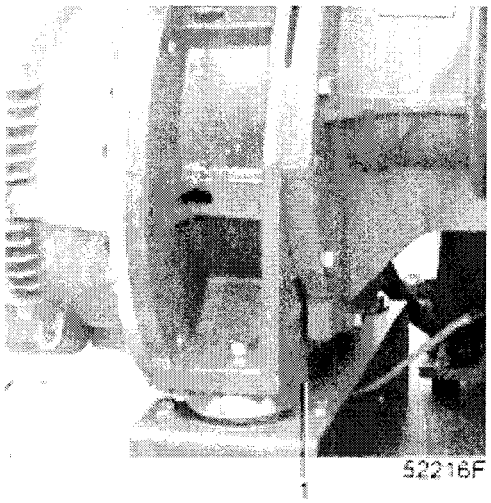
The compressor can be controlled via a LAN (local area network). Consult Atlas Copco.

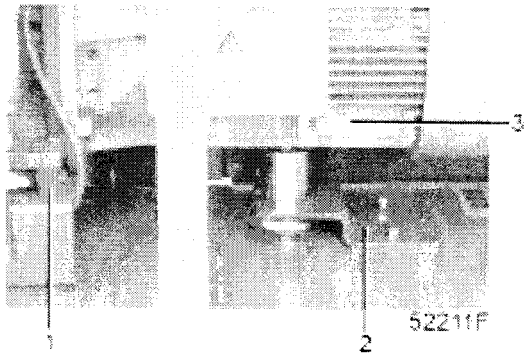
3.3 Remote starting/stopping (Elektronikon I)

GA Pack and Pack FF are provided with the Elektronikon I regulator (Fig. 1.13). These regulators allow remote starting and stopping.

Attention
Have the modifications checked by Atlas Copco. Stop the compressor and switch off the voltage before connecting external equipment. Only voltage-free contacts are allowed.

Remote starting and stopping: connect a start/ programmed stop button between terminals 30 and 33 of terminal strip (1X6-Fig. 1.15).





1 Transport bush, to be removed
2 Transport support, to be removed
3 Drive motor

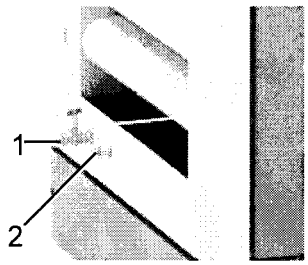
Fig. 3.1 Transport fixations

3.4 Initial start-up

1. Remove transport spacers (1-Fig. 3.1) and transport support (2-Fig. 3.1).
   On compressors with integrated dryer, if a transformer (T3-Figs. 1.11/1.16) is provided, also remove the spacers underneath this transformer.
2. Check that the electrical connections correspond to the local codes and that all wires are clamped tight to their terminals. The installation must be earthed and protected against short circuits by fuses of the inert type in all phases. An isolating switch must be installed near the compressor.
3. Check transformer (T1-Figs. 1.10/1.15) for correct connection, the settings of drive motor overload relay (F21) and fan motor circuit breaker (Q15). Also check that overload relay (F21) is set for automatic resetting.
4. Fit air outlet valve (1-Figs. 3.4/3.6). Close the valve. Connect the air net to the valve.
5. Fit the manual condensate drain valve (1-Fig. 3.2) (not provided on GA Pack). Close the valve. Connect the valve to a drain collector.
6. Connect the automatic drain outlet (2-Fig. 3.2) (not provided on GA Pack) to a drain collector.
7. The drain pipes to the drain collector must not dip into the water. For draining of pure condensate water, install an oil/water separator which is available from Atlas Copco as option. If the pipes have been led down outside the room where freezing is possible, they must be insulated.
8. Check the oil level. The pointer of level gauge (7-Fig. 3.3) should register in the green range or above it.
9. A label dealing in short with the operating instructions and explaining the pictographs is delivered with the literature set. Affix it next to the control panel. Make yourself familiar with the instructions and pictographs explained (see also section 2.5).
10. Check the compressor drive motor (3-Fig. 3.1) for correct rotation direction. The correct direction is clockwise when looking at the motor fan (seen from the non-drive end of the motor). An arrow is stuck on the motor.
    Switch on the voltage, start the compressor and **stop it immediately** while observing the motor fan. Check the rotation direction while the motor starts running. Confirm the check while the compressor is coasting to a stop. Note that it is normal that the rotation direction reverses just before stopping.
    If the rotation direction is incorrect, switch off the voltage and reverse two of the voltage supply lines.

    Important
    Incorrect rotation direction of the drive motor may result in damaging the compressor.

11. Check also the rotation direction of the compressor cooling fan (3-Fig. 1.5). The correct direction is anti-clockwise when looking at the fan from the top of the compressor.
    If the rotation direction is incorrect, switch off the voltage and reverse two incoming electric lines at the connections of circuit breaker (Q15-Figs. 1.10/1.15).
12. Check the programmed settings. Consult the User manual for the Elektronikon I and II regulators.
13. Start and run the compressor for a few minutes. Check that the compressor operates normally.



51100F

1 Condensate drain valve
2 Automatic condensate drain

Fig. 3.2 Condensate outlets

3.6.2 During operation

1. Check the oil level **during loaded operation**: the pointer of level gauge (7-Fig. 3.3) must register in the green range.
2. When automatic operation LED (8-Fig. 3.5) is alight, the regulator is automatically controlling the compressor, i.e. loading, unloading, stopping of the motors and restarting.

3.6.3 Checking the display

1. Regularly check display (3-Fig. 3.5) for readings and messages. Normally, the display shows the compressor outlet pressure, the status of the compressor and the abbreviations of the functions of the keys below the display.
2. Always check display (3-Fig. 3.5) and remedy the trouble if alarm LED (7) is alight or blinks. Consult the User manual for Elektronikon I and II regulators, Part 2, sections 5 and 15.

3.5 Before starting

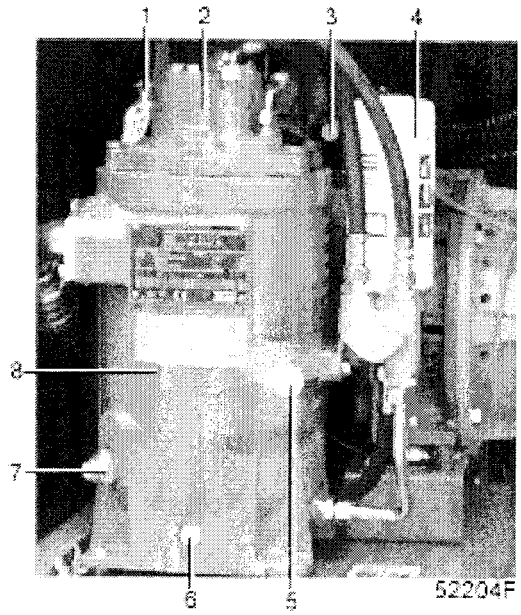
1. Check the oil level (7-Fig. 3.3). The pointer should register in the upper field of the green range or above it.
2. If the red part of service indicator (3-Fig. 3.3) shows full out, replace air filter element (1-Fig. 5.1). Reset the service indicator by pushing the knob in the extremity of the body and reset the service warning (see the User manual for the Elektronikon regulator).

3.6 Operating GA Workplace/Workplace FF

GA Workplace and Workplace FF are provided with the Elektronikon II regulator (Fig. 3.5).

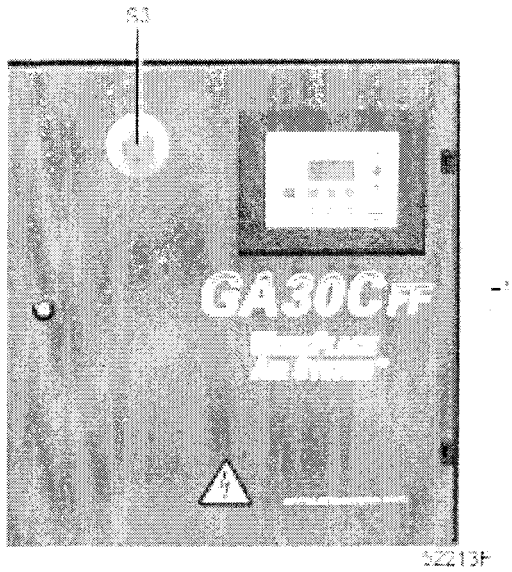
3.6.1 Starting

1. Switch on the voltage. Check that voltage on LED (6-Fig. 3.5) lights up.
2. Open air outlet valve (1-Fig. 3.4).
3. Close condensate drain valve (1-Fig. 3.2).
4. Press start button (2-Fig. 3.5). The compressor starts running and automatic operation LED (8) lights up. Ten seconds (programmable) after starting, the drive motor switches over from star to delta. At the same time (programmable), the compressor starts running loaded. The message on display (3) changes from "Auto unloaded" to "Auto loaded".



1 Safety valve
2 Minimum pressure valve
3 Service indicator, air filter
4 Oil filter
5 Oil filler plug
6 Oil drain plug
7 Oil level gauge
8 Air receiver/oil separator

Fig. 3.3 Oil system components and transport fixations



1 Air outlet valve
S3 Emergency stop button

Fig. 3.4 GA30C Workplace FF

3. The display (3) will show a service message if a service plan interval has been exceeded or if a service level for a monitored component has been exceeded. Carry out the service actions of the indicated plans or replace the component and reset the relevant timer.

Warning *Before carrying out any maintenance, repair or adjustment, stop the compressor, press emergency stop button (S3-Fig. 3.4), switch off the voltage and depressurize the compressor.*

Notes
- Whenever a warning, service request, sensor error or motor overload message is displayed, the free spaces on the display between function keys (9-Fig. 3.4) are filled with blinking indicators (**).
- When more than one message needs to be displayed (e.g. both warning and service), the messages will be displayed one after the other for 3 seconds.

3.6.4 Manual control (Fig. 3.5)

Normally, the compressor runs in automatic operation, i.e. the electronic regulator loads, unloads, stops and restarts the compressor automatically. LED (8) is then alight.

Manually unloading
Press key "Unld" (F3). LED (8) goes out. The message "Manual Unload" appears on the display. The compressor remains running unloaded unless it is loaded again manually.

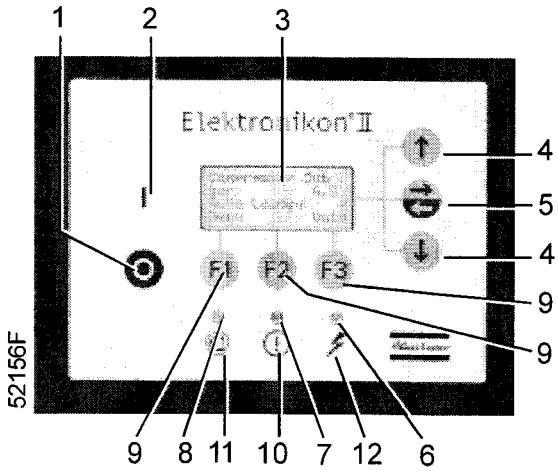
Manually loading
Press the key "Load" (F3). LED (8) lights up. The command will switch the compressor to automatic operation again: the compressor will be loaded if the air net pressure drops below the programmed level.

Manually starting
In automatic operation, the regulator limits the number of motor starts. If the compressor is stopped manually, it must not be restarted manually within 5 minutes after the last stop.

Note
If the "Load" or "Unld" (unload) function is not indicated on the bottom line of display (3), press key "Menu" (9) until the function "Main" appears above key (F1), then press the key "Main".

3.6.5 Stopping (Fig. 3.5)

1. Press stop button (1). LED (8) goes out. The message "Programmed stop" appears. The compressor runs unloaded for 30 seconds and then stops.



1	Stop button	8	Automatic operation LED
2	Start button	9	Function keys
3	Display	10	Pictograph, alarm
4	Scroll keys	11	Pictograph, automatic operation
5	Tabulator key	12	Pictograph, voltage on
6	Voltage on LED		
7	General alarm LED		

Fig. 3.5 Control panel, Elektronikon II

2. **To stop the compressor in case of emergency**, press button (S3-Fig. 3.4). Alarm LED (7) blinks. After remedying the fault, unlock the button by pulling it out and press key "Rset" (9) before restarting. The message "All conditions are OK" appears. Press keys "Menu" and "Main".
3. Close air outlet valve (1- Fig. 3.4) and switch off the voltage.
4. Open condensate drain valve (1-Fig. 3.2).

3.7 Operating GA Pack/Pack FF

GA Pack and Pack FF are provided with the Elektronikon I regulator (Fig. 3.7).

3.7.1 Starting

1. Switch on the voltage. Check that voltage on LED (6-Fig. 3.7) lights up.
2. Open air outlet valve (1-Fig. 3.6).
3. On GA Pack FF, close condensate drain valve (1-Fig. 3.2).
4. Press start button (2-Fig. 3.7). The compressor starts running and automatic operation LED (10) lights up. Ten seconds after starting, the drive motor switches over from star to delta and the compressor starts running loaded.

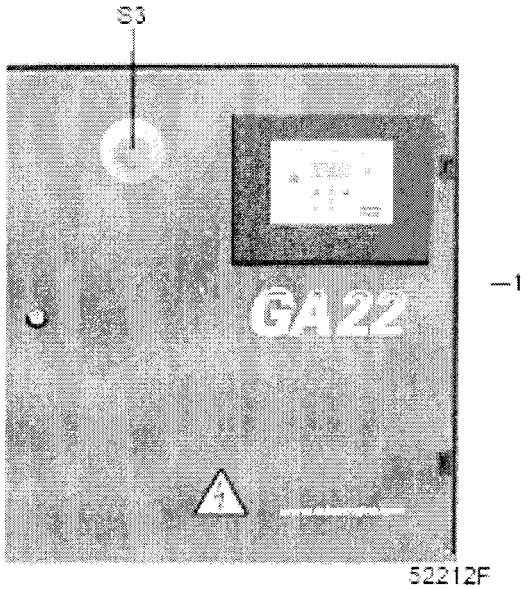
3.7.2 During operation

1. Check the oil level **during loaded operation**: the pointer of level gauge (7-Fig. 3.3) must register in the green range.
2. When automatic operation LED (10) is alight, the regulator is automatically controlling the compressor, i.e. loading, unloading, stopping of the motors and restarting.

3.7.3 Checking the display

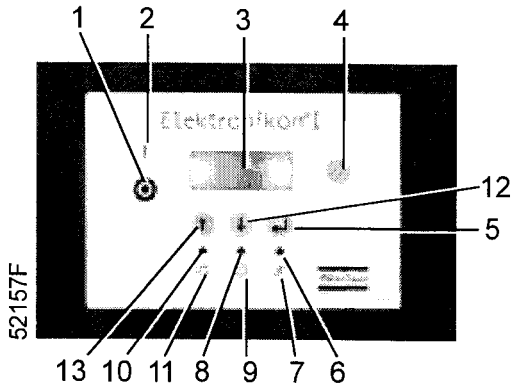
1. Regularly check display (3-Fig. 3.7): the compressor status is indicated by pictographs, see section 1.4.5.
2. Remedy the trouble if alarm LED (8) is alight or blinks. Consult the User manual for Elektronikon I and II regulators, Part 1, sections 4 up to 7.

Warning *Before carrying out any maintenance, repair or adjustment, stop the compressor, press emergency stop button (S3-Fig. 3.6), switch off the voltage and depressurize the compressor.*



1 Air outlet valve
S3 Emergency stop button

Fig. 3.6 GA22 Pack



1 Stop button
2 Start button
3 Display
4 Reset key
5 Enter key
6 Voltage on LED
7 Pictograph, voltage on
8 General alarm LED
9 Pictograph, alarm
10 Automatic operation LED
11 Pictograph, automatic operation
12 Downwards scroll key
13 Upwards scroll key

Fig. 3.7 Control panel, Elektronikon I

3.7.4 Stopping

1. Press stop button (1-Fig. 3.7). LED (10) goes out. The compressor runs unloaded for 30 seconds and then stops.
2. **To stop the compressor in case of emergency**, press button (S3-Fig. 3.6). Alarm LED (8) and a pictograph representing the button blink. After remedying the fault, unlock the button by pulling it out and press key (4) before restarting.
3. Close air outlet valve (1- Fig. 3.6) and switch off the voltage.
4. On GA Pack FF, open condensate drain valve (1-Fig. 3.2).

3.8 Taking out of operation at end of compressor service life

At the end of the service life of the compressor, proceed as follows:

1. Stop the compressor and close the air outlet valve.
2. Switch off the voltage and disconnect the compressor from the mains.
3. Depressurize the compressor by opening plug (5-Fig. 3.3) one turn and by opening valve (1-Fig. 3.2).
4. Shut off and depressurize the part of the air net which is connected to the outlet valve. Disconnect the compressor air outlet pipe from the air net.
5. Drain the oil and condensate circuits.
6. Disconnect the condensate piping from the condensate net.

4 Maintenance

Attention
Apply all relevant safety precautions, including those mentioned in this book.

Before starting any maintenance or repairs:

1. **For GA Workplace/Workplace FF**, press stop button (1-Fig. 3.5), wait until the compressor has stopped (approx. 30 seconds), press emergency stop button (S3-Fig. 3.4) and switch off the voltage.
   For Pack/Pack FF, press stop button (1-Fig. 3.7), wait until the compressor has stopped (approx. 30 seconds), press emergency stop button (S3-Fig. 3.6) and switch off the voltage.
2. Close air outlet valve (1-Figs. 3.4/3.6) and depressurize by opening plug (5-Fig. 3.3) one turn and by opening valve (1-Fig. 3.2) (not provided on GA Pack).
3. The air outlet valve (1-Figs. 3.4/3.6) can be locked during maintenance or repair as follows:
   - Close the valve.
   - Remove the bolt fixing the handle.
   - Lift the handle and turn it until the slot of the handle fits over the blocking edge on the valve body.
   - Lock the handle using the special bolt and wrench delivered loose with the compressor.

4.1 Drive motor (3- Fig. 3.1)

The motor bearings are greased for life

4.2 Service actions for GA Pack/Pack FF

GA Pack and Pack FF are provided with the Elektronikon I regulator (Fig. 3.7).

Besides the daily and 3-monthly checks, the service operations are grouped in time intervals (running hours); see section 4.4. The regulator has a programmable service timer. When the timer reaches the programmed interval, LED (8-Fig. 3.7) will light up. Press key (12-Fig. 3.7), "r000" appears. Press key (5-Fig. 3.7), "S" (S standing for "Service") appears. In this case, check the running hours. Carry out the service operations corresponding to the running hours as specified in the schedule of section 4.4.
Reset the service timer after servicing. For detailed information, consult the User manual for Elektronikon I and II regulators, Part 1, section 6.

Important
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.

4.3 Service plans for GA Workplace/ Workplace FF

GA Workplace and Workplace FF are provided with the Elektronikon II regulator (Fig. 3.5).

Besides the daily and 3-monthly checks, the service operations are grouped in plans, called Service plans A, B or C; see section 4.4.
Each plan has a programmed time interval at which all service actions belonging to that plan are to be carried out.
When reaching the interval, a message will appear on the screen indicating which Service plans are to be carried out. After servicing, the intervals are to be reset. For detailed information, consult the User manual for Elektronikon I and II regulators, Part 2, sections 5, 12 and 15.

Important
Always consult Atlas Copco in case any timer setting should be changed.

4.4 Preventive maintenance schedule 1)

Period	See section	See notes below table	Service operation
Daily	3	-	Check oil level
"	3 and 7	-	Check readings on display
"	--	-	Check that condensate is discharged during loading
"	3	-	Check air filter service indicator
"	3	-	Drain condensate
3-monthly	5	-	Check coolers and condenser of dryer; clean if necessary
"	5	1	Remove and inspect air filter element.

Service actions

Running hours	See section	See notes below table	Service plan (GA Workplace)	Service operation
4000	4	2/4	A	If Atlas Copco Roto-injectfluid is used, change oil and oil filter
500	4	2/4/3	A	**For GA 13 bar (175 psi) compressors:** If oil as specified in section 4.5.2 is used, change oil and oil filter
1000	4	2/4/3	A	**For GA 7.5 - 10 bar (100 - 150 psi) compressors:** If oil as specified in section 4.5.2 is used, change oil and oil filter
4000	--	-	B	Check pressure and temperature readings
"	--	-	B	Carry out a LED/display test
"	--	5	B	Check for possible air leakage
"	4 and 5	1/2	B	Replace air filter element
"	--	-	B	Remove, dismantle and clean float valve of condensate trap
"	--	-	B	Test temperature shut-down function
"	5	-	B	Have safety valve tested
8000	--		C	Have oil separator replaced

Notes

1. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.
2. Use genuine Atlas Copco filters.
3. For GA Workplace/Workplace FF, the interval for Service plan A is to be reduced to the mentioned interval in case mineral oil is used instead of Roto-injectfluid.
4. Recommended oil: Atlas Copco Roto-injectfluid. The normal change interval for Roto-injectfluid is 4000 hours. If the compressor runs at unfavourable conditions (polluted air, element outlet temperature continuously above 100°C or below condensation limit), change the oil more often. A yearly oil and oil filter change may be necessary. In this case, also reset the timer yearly (Service plan A). Consult Atlas Copco if in any doubt
5. Any leakage should be attended to immediately. Damaged flexibles or flexible joints must be replaced.

4.5 Oil specifications

Attention
Never mix oils of different brands or types. Use only non-toxic oils.

4.5.1 Atlas Copco Roto-injectfluid

It is strongly recommended to use Atlas Copco Roto-injectfluid. This is special oil for screw compressors which keeps the compressor in excellent condition.

Roto-injectfluid can be ordered in following quantities:

Roto-injectfluid	Ordering number
20-litre can	2901 0522 00
209-litre drum	2901 0045 01

4.5.2 Mineral oil

Although Roto-injectfluid is strongly recommended, mineral oil can be used after taking following precautions:
- the previously used oil should first be drained and the system flushed
- the oil filter and oil separator should be replaced
- the oil must contain oxidation inhibitors and must have anti-foam and anti-wear properties
- the viscosity grade and index must be:

Ambient temperature	Viscosity grade	Viscosity index
Consistently above 25 degrees celsius	ISO VG 68	Minimum 95
Between 25 and 0 degrees celsius	ISO VG 46	Minimum 95

Consult Atlas Copco.

4.6 Oil and oil filter change (Fig. 3.3)

1. Run the compressor until warm. Stop it and close the outlet valve (1-Figs. 3.4/3.6). Wait a few minutes. Depressurize the oil system by opening oil filler plug (5) one turn to permit any pressure to escape.
2. Remove plug (4-Fig. 1.5). Drain the oil by unscrewing plug (6). Collect the oil in a collector and deliver it to the local oil collection service. Reinstall the plugs.
3. Remove oil filter (4).
4. Clean the filter seat on the manifold. Oil the gasket of the new element. Screw the element into place and tighten firmly by hand.
5. Remove filler plug (5) and fill with oil until the level reaches the plug. Reinstall and tighten plug (5).
6. Run the compressor for a few minutes. Stop the compressor and wait a few minutes to allow the oil to settle. Depressurize the system by unscrewing filler plug (5) one turn to permit any pressure in the system to escape. Fill the receiver with oil until the level reaches the filler plug. Tighten plug (5).
7. Reset the service warning. Consult the User manual for Elektronikon I and II regulators: Part 1, section 7 for Elektronikon I or Part 2, section 15 for Elektronikon II.

4.7 Storage after installation

Run the compressor twice a week until warm. Load and unload the compressor a few times. If the compressor is stored without running from time to time, protective measures must be taken. Consult Atlas Copco.

4.8 Service kits

Service kits are available offering the benefits of genuine Atlas Copco parts while keeping the maintenance budget low. The kits comprise all parts needed for servicing.

See section 4.5.1 for the ordering number for Atlas Copco Roto-injectfluid.

Footnote chapter 4

1) Use only authorized parts. Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability. The local Sales Company may overrule the maintenance schedule, especially the service intervals, depending on the environmental and working conditions of the compressor.

5 Adjustments and servicing procedures

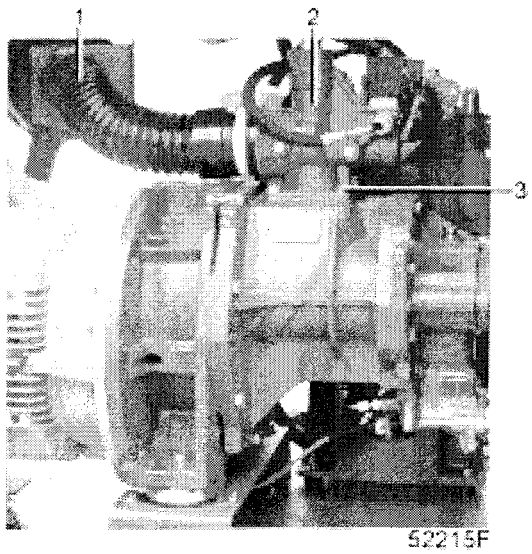
5.1 Air filter (1-Fig. 5.1)

1. Stop the compressor. Remove the air filter cover by turning it anti-clockwise. Remove the air filter element. Discard damaged elements.
2. If necessary, clean the cover. Fit the new element and the cover.
3. Reset service indicator (3-Fig. 3.3) by pushing the knob in the extremity of the body.
4. Reset the service warning. Consult the User manual for Elektronikon I and II regulators: Part 1, section 7 for Elektronikon I or Part 2, section 15 for Elektronikon II.

5.2 Coolers

Keep the coolers clean to maintain the cooling efficiency.

Remove any dirt from the coolers with a fibre brush. Never use a wire brush or metal objects. Then clean by air jet in reverse direction of normal flow while covering all compressor parts under the coolers. If it is necessary to wash the coolers with a cleansing agent, consult Atlas Copco.



1 Air filter
2 Unloader
3 Bolt

Fig. 5.1 Air filter and unloader

5.3 Safety valve (1-Fig. 3.3)

Operate the safety valve by unscrewing the cap one or two turns and retightening it (or by pulling the valve lifting lever, if provided).

Testing
The valve can be tested on a separate compressed air line. If the valve does not open at the set pressure stamped on the valve, consult Atlas Copco.

Warning *No adjustments are allowed. Never run the compressor without safety valve.*

6 Problem solving

If alarm LED (7-Fig. 3.5) is alight or blinks, consult the User manual, Part 2, sections 5 and 15.
If alarm LED (8-Fig. 3.7) is alight or blinks, consult the User manual, Part 1, sections 4 up to 7.

Attention
Apply all relevant safety precautions, including those mentioned in this book.

Before starting any maintenance or repairs:

1. **For GA Workplace/Workplace FF**, press stop button (1-Fig. 3.5), wait until the compressor has stopped (approx. 30 seconds), press emergency stop button (S3-Fig. 3.4) and switch off the voltage.
   For Pack/Pack FF, press stop button (1-Fig. 3.7), wait until the compressor has stopped (approx. 30 seconds), press emergency stop button (S3-Fig. 3.6) and switch off the voltage.
2. Close air outlet valve (1-Figs. 3.4/3.6) and depressurize by opening plug (5-Fig. 3.3) one turn and by opening valve (1-Fig. 3.2) (not provided on GA Pack).
3. The air outlet valve (1-Figs. 3.4/3.6) can be locked during maintenance or repair as follows:
   - Close the valve.
   - Remove the bolt fixing the handle.
   - Lift the handle and turn it until the slot of the handle fits over the blocking edge on the valve body.
   - Lock the handle using the special bolt and wrench delivered loose with the compressor.

Mechanical faults and suggested remedies (Figs. 1.7 and 1.8)

1 Compressor starts running, but does not load after a delay time
a Solenoid valve out of order
a Replace valve
b Inlet valve stuck in closed position
b Have valve checked
c Leak in control air flexibles
c Have leaking flexible replaced
d Minimum pressure valve leaking (when net is depressurized)
d Have valve checked

2 Compressor does not unload, safety valve blows
a Solenoid valve out of order
a See 1a
b Inlet valve (IV) does not close
b See 1b

3 Condensate is not discharged from condensate trap during loading
a Discharge flexible clogged
a Check and correct as necessary
b Float valve malfunctioning
b Remove float valve assembly, clean and check

4 Compressor air output or pressure below normal
a Air consumption exceeds air output of compressor
a Check equipment connected
b Choked air inlet filter element
b Replace filter element
c Solenoid valve malfunctioning
c See 1a
d Leak in control air flexibles
d See 1c
e Inlet valve does not fully open
e See 1b
f Oil separator element clogged
f Have element replaced
g Air leakage
g See 1c
h Safety valve (SV) leaking
h Have valve replaced
i Compressor element (E) out of order
i Consult Atlas Copco

5 Excessive oil consumption; oil carry-over through discharge line
a Oil level too high
a Check for overfilling. Release pressure and drain oil to correct level
b Incorrect oil causing foam
b Change to correct oil
c Oil separator element defective
c Have element checked. Replace, if necessary.

6 Safety valve blows after loading
a Inlet valve malfunctioning
a See 1b
b Minimum pressure valve malfunctioning
b See 1d
c Safety valve out of order
c See 4h
d For units with dryer: dryer pipes clogged by formation of ice
d Have refrigerant system checked. Consult Atlas Copco

7 Element outlet or air outlet temperature above normal
a Insufficient cooling air or cooling air temperature too high
a Check for cooling air restriction or improve ventilation of compressor room. Avoid recirculation of cooling air. If installed, check capacity of compressor room fan.
b Oil level too low
b Check and correct as necessary
c Oil cooler clogged
c Clean cooler
d By-pass valve malfunctioning
d Have valve tested
e Air cooler clogged
e Clean cooler
f Compressor element out of order
f See 4i

7 Principal data

7.1 Readings on display (Figs. 1.9/1.13)

Ref.	Reading
Air outlet pressure	Modulates between programmed unloading and loading pressures
Compressor element outlet temperature	50-60 degrees Celsius above cooling air temperature
Dewpoint temperature	Approx. 3 degrees Celsius

7.2 Motor overload relay, fuses and circuit breaker

7.2.1 Drive motor overload relay - main fuses

For star-delta starter (IEC)

Supply voltage (V)	Fre-quency (Hz)	GA11 Relay (A)	GA11 Fuse (A)	GA15 Relay (A)	GA15 Fuse (A)	GA18 Relay (A)	GA18 Fuse (A)	GA22 Relay (A)	GA22 Fuse (A)	GA30C Relay (A)	GA30C Fuse (A)
200	50	29.1	63	39.8	80	48.3	100	58.9	125	81.7	160
230	50	25.9	63	34.4	80	42.5	100	52.8	125	70.7	160
380	50	15.6	50	20.9	50	25.7	63	31.9	80	43.0	100
400	50	14.9	35	19.9	50	24.6	63	30.4	80	40.8	100
500	50	11.9	35	16.0	50	19.8	50	24.2	63	32.7	80
220-230	60	26.2	63	34.9	80	42.9	100	52.4	125	71.7	160
440-460	60	13.1	35	17.5	50	21.5	50	26.2	63	35.9	80
380	60	15.6	50	20.4	50	25.1	63	31.6	80	43.0	100

For direct-on-line starter (CSA/UL)

Supply voltage (V)	Fre-quency (Hz)	GA11 Relay (A)	GA11 Fuse (A)	GA15 Relay (A)	GA15 Fuse (A)	GA18 Relay (A)	GA18 Fuse (A)	GA22 Relay (A)	GA22 Fuse (A)	GA30C Relay (A)	GA30C Fuse (A)
200	60	51.7	90	66.8	110	83.2	150	104.6	175	--	--
220-230	60	45.4	80	60.5	100	74.3	125	90.7	175	--	--
440-460	60	22.7	40	30.2	50	37.2	70	45.4	80	62.1	100
575	60	17.9	30	23.3	40	28.4	45	36.5	70	49.2	90

7.2.2 Circuit breaker of fan motor

For star-delta starter (IEC)

Supply voltage (V)	Frequency (Hz)	GA11-22 radial fan (A)	GA30C radial fan (A)	GA11-22 axial fan (A)
200	50	2.5	4.2	3.8
230	50	2.2	3.7	3.3
400	50	1.3	2.1	1.9
500	50	1.0	1.7	1.5
220-230	60	2.3	3.5	3.2
440-460	60	1.3	2.0	1.9
380	60	1.3	2.4	1.9

For direct-on-line starter (CSA/UL)

Supply voltage (V)	Frequency (Hz)	GA11-22 radial fan (A)	GA30C radial fan (A)	GA11-22 axial fan (A)
200	60	2.6	--	3.7
220-230	60	2.3	--	3.2
440-460	60	1.3	2.0	1.9
575	60	1.1	1.5	1.5

7.3 Fan control switch (Full-feature)

Cut-out pressure ..... 7.9 bar(e)
Switch-on pressure ..... 9 bar(e)

7.4 Compressor specifications

7.4.1 Reference conditions

Nominal working pressure as stated below

Air inlet pressure (absolute)	bar	1
Air inlet temperature	C	20
Relative humidity	%	0

7.4.2 Limitations

Maximum working pressure as stated below

Minimum working pressure	bar(e)	4
Maximum air inlet temperature	C	40
Minimum air inlet temperature	C	0

7.4.3 Specific data of GA 7.5 bar 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	50	50	50	50	50
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	7.5	7.5	7.5	7.5	7.5
- Pack FF/Workplace FF	bar(e)	7.25	7.25	7.25	7.25	7.25
Nominal working pressure	bar(e)	7	7	7	7	7
Power input						
- Pack	kW	14.8	20.1	24.6	28.8	35.3
- Workplace	kW	14.5	19.8	24.3	28.5	35.3
- Pack FF	kW	15.7	21.1	25.7	30.1	36.7
- Workplace FF	kW	15.4	20.8	25.4	29.8	36.7
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	2940	2940	2940	2940	2960
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level **2)**						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF **3)**	C	3	3	3	3	3

7.4.4 Specific data of GA 8.5 bar 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	50	50	50	50	50
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	8.5	8.5	8.5	8.5	8.5
- Pack FF/Workplace FF	bar(e)	8.25	8.25	8.25	8.25	8.25
Nominal working pressure	bar(e)	8	8	8	8	8
Power input						
- Pack	kW	14.9	19.6	25.0	29.3	37.3
- Workplace	kW	14.6	19.3	24.7	29.0	37.3
- Pack FF	kW	15.9	20.6	26.1	30.5	38.5
- Workplace FF	kW	15.6	20.3	25.8	30.2	38.5
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	2940	2940	2940	2940	2960
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level **2)**						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF **3)**	C	3	3	3	3	3

7.4.5 Specific data of GA 10 bar 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	50	50	50	50	50
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	10	10	10	10	10
- Pack FF/Workplace FF	bar(e)	9.75	9.75	9.75	9.75	9.75
Nominal working pressure	bar(e)	9.5	9.5	9.5	9.5	9.5
Power input						
- Pack	kW	14.3	19.5	23.4	27.9	37.2
- Workplace	kW	14.0	19.2	23.1	27.6	37.2
- Pack FF	kW	15.3	20.4	24.6	29.2	38.5
- Workplace FF	kW	15.0	20.1	24.3	28.9	38.5
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	2940	2940	2940	2940	2960
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level **2)**						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF **3)**	C	3	3	3	3	3

7.4.6 Specific data of GA 13 bar 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	50	50	50	50	50
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	13.0	13.0	13.0	13.0	13.0
- Pack FF/Workplace FF	bar(e)	12.75	12.75	12.75	12.75	12.75
Nominal working pressure	bar(e)	12.5	12.5	12.5	12.5	12.5
Power input						
- Pack	kW	14.0	19.7	23.8	28.5	37.2
- Workplace	kW	13.7	19.4	23.5	28.2	37.2
- Pack FF	kW	14.9	20.8	25.0	29.7	38.5
- Workplace FF	kW	14.6	20.5	24.7	29.4	38.5
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	2940	2940	2940	2940	2960
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level **2)**						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF **3)**	C	3	3	3	3	3

7.4.7 Specific data of GA 100 psi 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	60	60	60	60	60
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	7.4	7.4	7.4	7.4	7.4
- Pack FF/Workplace FF	bar(e)	7.15	7.15	7.15	7.15	7.15
Nominal working pressure	bar(e)	6.9	6.9	6.9	6.9	6.9
Power input						
- Pack	kW	14.8	20.0	24.1	28.8	36.2
- Workplace	kW	14.5	19.7	23.8	28.5	36.2
- Pack FF	kW	15.9	21.1	25.6	30.2	37.8
- Workplace FF	kW	15.6	20.8	25.3	29.9	37.8
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	3545	3540	3550	3550	3560
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level 2)						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF 3)	C	3	3	3	3	3

7.4.8 Specific data of GA 125 psi 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	60	60	60	60	60
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	9.1	9.1	9.1	9.1	9.1
- Pack FF/Workplace FF	bar(e)	8.85	8.85	8.85	8.85	8.85
Nominal working pressure	bar(e)	8.6	8.6	8.6	8.6	8.6
Power input						
- Pack	kW	14.6	19.6	24.1	28.7	36.6
- Workplace	kW	15.0	20.0	24.5	29.1	36.6
- Pack FF	kW	15.7	20.7	25.6	30.2	38.2
- Workplace FF	kW	16.2	21.1	26.0	30.6	38.2
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	3545	3540	3550	3550	3560
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level 2)						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF 3)	C	3	3	3	3	3

7.4.9 Specific data of GA 150 psi 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	60	60	60	60	60
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	10.8	10.8	10.8	10.8	10.8
- Pack FF/Workplace FF	bar(e)	10.55	10.55	10.55	10.55	10.55
Nominal working pressure	bar(e)	10.3	10.3	10.3	10.3	10.3
Power input						
- Pack	kW	14.5	19.9	24.0	28.5	37.6
- Workplace	kW	14.9	20.4	24.4	28.9	37.6
- Pack FF	kW	15.6	21.0	25.5	30.0	39.2
- Workplace FF	kW	16.1	21.4	25.9	30.4	39.2
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	3545	3540	3550	3550	3560
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level 2)						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF 3)	C	3	3	3	3	3

7.4.10 Specific data of GA 175 psi 1)

Compressor		GA11	GA15	GA18	GA22	GA30C
Frequency	Hz	60	60	60	60	60
Maximum (unloading) pressure						
- Pack/Workplace	bar(e)	12.5	12.5	12.5	12.5	12.5
- Pack FF/Workplace FF	bar(e)	12.25	12.25	12.25	12.25	12.25
Nominal working pressure	bar(e)	12	12	12	12	12
Power input						
- Pack	kW	14.0	19.0	23.4	28.5	37.8
- Workplace	kW	14.4	19.5	23.9	28.9	37.8
- Pack FF	kW	15.1	20.1	24.9	30.0	39.4
- Workplace FF	kW	15.5	20.5	25.3	30.4	39.4
Temperature of air at outlet valve						
- Pack/Workplace	C	25	25	26	26	27
- Pack FF/Workplace FF	C	20	20	23	23	23
Motor shaft speed	r/min	3545	3540	3550	3550	3560
Oil capacity	l	6.7	7	7.5	8	11.1
Maximum sound pressure level 2)						
- Workplace/Workplace FF	dB(A)	63	64	66	67	69
- Pack/Pack FF	dB(A)	68	69	70	71	69
Pressure dewpoint, Pack FF/Workplace FF 3)	C	3	3	3	3	3

7.5 Conversion list of SI units into US/ British units

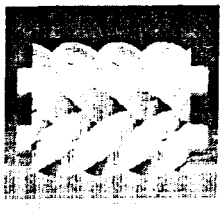
1 bar = 14.504 psi
1 g = 0.035 oz
1 kg = 2.205 lb
1 km/h = 0.621 mile/h
1 kW = 1.341 hp (UK and US)
1 l = 0.264 US gal
1 l = 0.220 Imp gal (UK)
1 l = 0.035 cu.ft
1 m = 3.281 ft
1 mm = 0.039 in
1 m^3/min = 35.315 cfm
1 mbar = 0.401 in wc
1 N = 0.225 lbf
1 Nm = 0.738 lbf.ft
x degrees celsius = (32 + 1.8x) degrees fahrenheit **4)**

8 Instructions for use of air receiver

1. This vessel can contain pressurized air; be aware of its potential danger in case of misuse.
2. This vessel shall only be used as compressed air/oil separator and be operated within the specified limits as mentioned on the data plate.
3. No alterations shall be made to this vessel by welding, drilling or other methods of mechanical work without written permission of the manufacturer.
4. Original bolts have to be used after opening for inspection. The maximum torque has to be taken into consideration: for M12 bolts 73 Nm (+/- 18), for M16 bolts 185 Nm (+/- 45).
5. Pressure and temperature of this vessel must be clearly indicated.
6. The safety valve must correspond with pressure surges of 1.1 times the maximum allowable operating pressure. It should guarantee that the pressure will not permanently exceed the maximum allowable operating pressure of the vessel.
7. Use only oil as specified by the manufacturer.
8. This vessel has been designed and built to guarantee an operational lifetime in excess of 20 years and an infinite number of pressure load cycles. Therefore, there is no intrinsic need for in service inspection of the vessel when used within the design limits and in its intended application. However, national legislation may require in service inspection.

Footnotes chapter 7

1) At reference conditions
2) According to PNEUROP PN8NTC2.2
3) At 20 degrees celsius / 100% relative humidity.
4) A temperature difference of 1 degree celsius = a temperature difference of 1.8 degrees fahrenheit



Atlas Copco Stationary Air Compressors

GA11, GA15, GA18, GA22, GA30C
Elektronikon® I regulator - Pack / Pack Full-feature
Elektronikon® II regulator - WorkPlace / WorkPlace Full-feature

Parts list

From following serial No. onwards :
AII - 268 500

- Use only authorized parts. Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability.

No. 2930 1340 01

Registration code : APC G11-30C / 39 / 995

Replaces 2930 1340 00

2002-06

University Area Joint Authority WWTP
Stage 6 Modifications & Additions
Centre County, PA

The Contractor's signature below indicates that this Submittal has been checked with the Drawings, Specifications, and site conditions and found to meet all requirements of the same, including dimensions, and that the Contractor's guarantee fully applies to the Product(s) covered

Submittal Number 11715-02
Drawing Sheet Number _____ Detail Number _____
Deviations from Contract Documents? No ✓ Yes ___

CONTRACTOR'S REVIEW
☒ Approved ☐ Approved as Noted
By ISF Date 2/3/04
ALLAN A. MYERS
P.O. [illegible] Parks Road
[illegible], PA 16990

www.atlascopco.com

Atlas Copco

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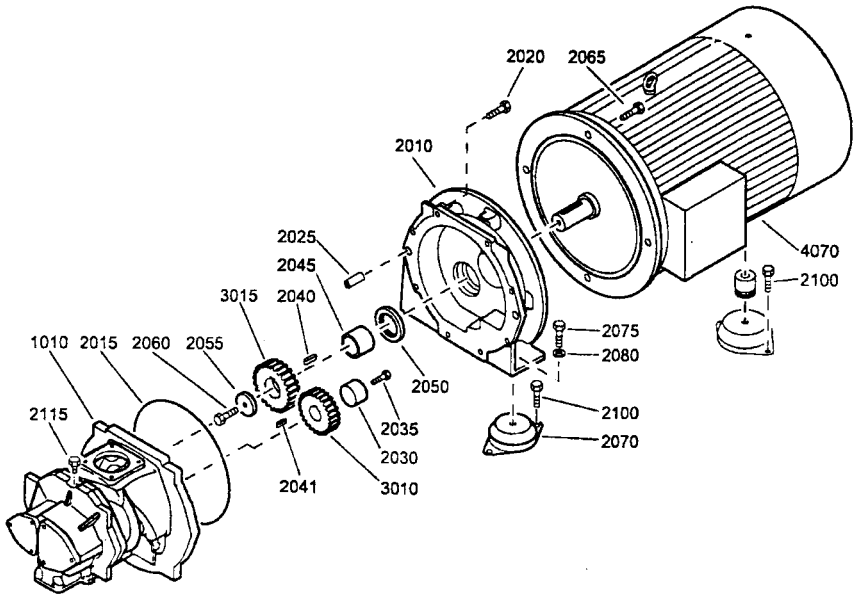

61602_01

Ref.	Part number	Qty	Name	Remarks
1010	**1616 6712 90**	**1**	**Service stage**	
2010	1622 0007 00	1	Gear casing	
2015	0663 2103 22	1	O-ring	
2020	0147 1364 03	8	Hexagon bolt	
2025	0101 1951 40	2	Pin	
2030	1622 0138 00	1	Spacer	
2035	0147 1368 03	1	Hexagon bolt	
2040	0337 0009 42	1	Parallel key	
2041	0337 0009 45	1	Parallel key	
2045	1622 0009 00	1	Bushing	
2050	1616 5742 00	1	Seal ring	
2055	1622 0010 00	1	Washer	
2060	0147 1478 03	1	Hexagon bolt	
2065	0147 1475 03	4	Hexagon bolt	
2070	1613 6752 01	2	Antivibr.pad	
2075	0147 1363 03	2	Hexagon bolt	
2080	0301 2344 00	2	Washer	
2100	1619 2766 00	6	Bolt	
2115	1619 6032 00	2	Nipple	
3010		1	Gear wheel	
	1622 0019 00		GA11-7.5bar	
	1622 0051 00		GA11-7.5bar HAV	
	1622 0051 00		GA11-8.5bar	
	1622 0029 00		GA11-8.5bar HAV	
	1622 0029 00		GA11-10bar	
	1622 0049 00		GA11-10bar HAV	
	1622 0037 00		GA11-13bar	
	1622 0047 00		GA11-13bar HAV	
	1622 0029 00		GA11-100psi	
	1622 0049 00		GA11-100psi HAV	
	1622 0049 00		GA11-125psi	
	1622 0037 00		GA11-125psi HAV	
	1622 0047 00		GA11-150psi	
	1622 0033 00		GA11-150psi HAV	
	1622 0033 00		GA11-175psi	
	1622 0033 00		GA11-175psi HAV	
	1622 0057 00		GA15-7.5bar	
	1622 0055 00		GA15-7.5bar HAV	
	1622 0055 00		GA15-8.5bar	
	1622 0043 00		GA15-8.5bar HAV	
	1622 0043 00		GA15-10bar	
	1622 0053 00		GA15-10bar HAV	
	1622 0019 00		GA15-13bar	
	1622 0051 00		GA15-13bar HAV	
	1622 0053 00		GA15-100psi	
	1622 0065 00		GA15-100psi HAV	
	1622 0065 00		GA15-125psi	
	1622 0019 00		GA15-125psi HAV	
	1622 0051 00		GA15-150psi	
	1622 0029 00		GA15-150psi HAV	
	1622 0029 00		GA15-175psi	
	1622 0049 00		GA15-175psi HAV	
	1622 0023 00		GA18-7.5bar	
	1622 0045 00		GA18-7.5bar HAV	
	1622 0045 00		GA18-8.5bar	
	1622 0021 00		GA18-10bar	
	1622 0057 00		GA18-10bar HAV	
	1622 0055 00		GA18-13bar	
	1622 0043 00		GA18-13bar HAV	
	1622 0057 00		GA18-100psi	
	1622 0055 00		GA18-100psi HAV	
	1622 0055 00		GA18-125psi	
	1622 0043 00		GA18-125psi HAV	
	1622 0043 00		GA18-150psi	
	1622 0053 00		GA18-150psi HAV	
	1622 0065 00		GA18-175psi	
	1622 0019 00		GA18-175psi HAV	
	1622 0025 00		GA22-7.5bar	
	1622 0061 00		GA22-7.5bar HAV	
	1622 0041 00		GA22-8.5bar	
	1622 0023 00		GA22-10bar	
	1622 0039 00		GA22-10bar HAV	
	1622 0039 00		GA22-13bar	
	1622 0021 00		GA22-13bar HAV	
	1622 0045 00		GA22-100psi	
	1622 0039 00		GA22-100psi HAV	
	1622 0039 00		GA22-125psi	
	1622 0021 00		GA22-125psi HAV	
	1622 0057 00		GA22-150psi	
	1622 0055 00		GA22-150psi HAV	
	1622 0055 00		GA22-175psi	
	1622 0043 00		GA22-175psi HAV	

Drive arrangement

Ref.	Part number	Qty	Name	Remarks
	1622 0027 00		GA30C-7.5bar	
	1622 0027 00		GA30C-8.5bar	
	1622 0035 00		GA30C-10bar	
	1622 0025 00		GA30C-13bar	
	1622 0063 00		GA30C-100psi	
	1622 0041 00		GA30C-125psi	
	1622 0061 00		GA30C-150psi	
	1622 0023 00		GA30C-175psi	
3015		1	Gear wheel	
	1622 0020 00		GA11-7.5bar	
	1622 0052 00		GA11-7.5bar HAV	
	1622 0052 00		GA11-8.5bar	
	1622 0030 00		GA11-8.5bar HAV	
	1622 0030 00		GA11-10bar	
	1622 0050 00		GA11-10bar HAV	
	1622 0038 00		GA11-13bar	
	1622 0048 00		GA11-13bar HAV	
	1622 0030 00		GA11-100psi	
	1622 0050 00		GA11-100psi HAV	
	1622 0050 00		GA11-125psi	
	1622 0038 00		GA11-125psi HAV	
	1622 0048 00		GA11-150psi	
	1622 0034 00		GA11-150psi HAV	
	1622 0034 00		GA11-175psi	
	1622 0034 00		GA11-175psi HAV	
	1622 0058 00		GA15-7.5bar	
	1622 0056 00		GA15-7.5bar HAV	
	1622 0056 00		GA15-8.5bar	
	1622 0044 00		GA15-8.5bar HAV	
	1622 0044 00		GA15-10bar	
	1622 0054 00		GA15-10bar HAV	
	1622 0020 00		GA15-13bar	
	1622 0052 00		GA15-13bar HAV	
	1622 0054 00		GA15-100psi	
	1622 0066 00		GA15-100psi HAV	
	1622 0066 00		GA15-125psi	
	1622 0020 00		GA15-125psi HAV	
	1622 0052 00		GA15-150psi	
	1622 0030 00		GA15-150psi HAV	
	1622 0030 00		GA15-175psi	
	1622 0050 00		GA15-175psi HAV	
	1622 0024 00		GA18-7.5bar	
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	1622 0046 00		GA18-8.5bar	
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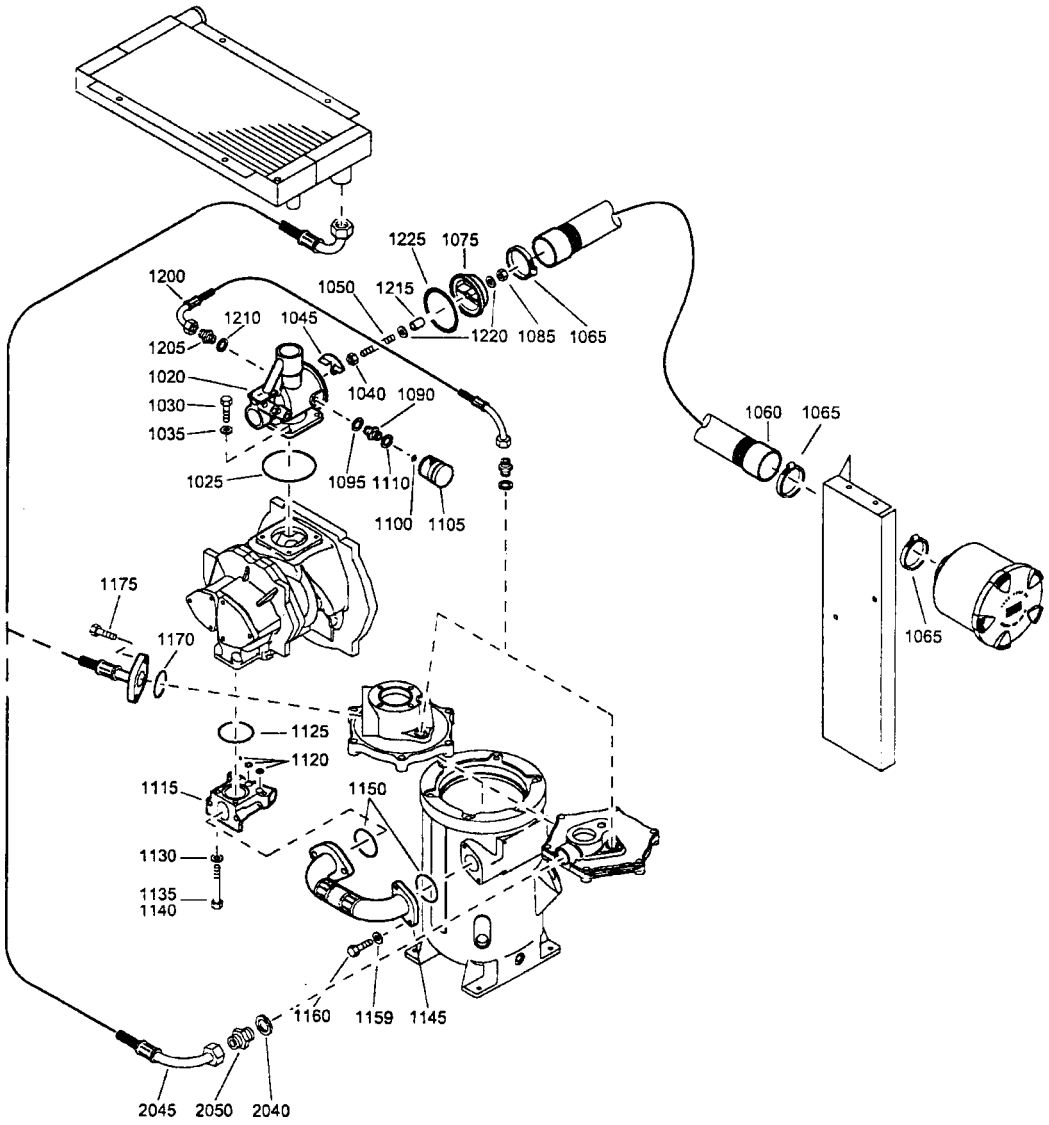
	1622 0056 00		GA18-13bar	
	1622 0044 00		GA18-13bar HAV	
	1622 0058 00		GA18-100psi	
	1622 0056 00		GA18-100psi HAV	
	1622 0056 00		GA18-125psi	
	1622 0044 00		GA18-125psi HAV	
	1622 0044 00		GA18-150psi	
	1622 0054 00		GA18-150psi HAV	
	1622 0066 00		GA18-175psi	
	1622 0020 00		GA18-175psi HAV	
	1622 0026 00		GA22-7.5bar	
	1622 0062 00		GA22-7.5bar HAV	
	1622 0042 00		GA22-8.5bar	
	1622 0024 00		GA22-10bar	
	1622 0040 00		GA22-10bar HAV	
	1622 0040 00		GA22-13bar	
	1622 0022 00		GA22-13bar HAV	
	1622 0046 00		GA22-100psi	
	1622 0040 00		GA22-100psi HAV	
	1622 0022 00		GA22-125psi HAV	

Ref.	Part number	Qty	Name
	1622 0040 00		GA22-1
	1622 0058 00		GA22-1
	1622 0056 00		GA22-1
	1622 0056 00		GA22-1
	1622 0044 00		GA22-1
	1622 0028 00		GA30C-
	1622 0028 00		GA30C-
	1622 0036 00		GA30C-
	1622 0026 00		GA30C-
	1622 0064 00		GA30C-
	1622 0042 00		GA30C-1
	1622 0062 00		GA30C-1
	1622 0024 00		GA30C-1
4070		1	Motor
	1080 4070 01		GA11 200
	1080 4070 02		GA11 230
	1080 4070 04		GA11 400
	1080 4070 21		GA11 400 thermistors
	1080 4070 12		GA11 200- 60Hz
	1080 4070 13		GA11 380V
	1080 4071 01		GA15 200-
	1080 4071 02		GA15 230V
	1080 4071 04		GA15 400V
	1080 4071 21		GA15 400V thermistors
	1080 4071 12		GA15 200-2 60Hz
	1080 4071 13		GA15 380V
	1080 4071 43		GA15 380V thermistors
	1080 4071 22		GA15 460V thermistors
	1080 4071 14		GA15 575V (
	1080 4072 02		GA18 230V 5
	1080 4072 04		GA18 400V 5
	1080 4072 21		GA18 400V 5 thermistors
	1080 4072 12		GA18 200-230 60Hz
	1080 4072 13		GA18 380V 6
	1080 4072 22		GA18 460V 6 thermistors
	1080 4072 14		GA18 575V 6
	1080 4073 01		GA22 200-220
	1080 4073 02		GA22 230V 50
	1080 4073 04		GA22 400V 50
	1080 4073 21		GA22 400V 50 thermistors
	1080 4073 12		GA22 200-230 60Hz
	1080 4073 13		GA22 380V 60
	1080 4073 22		GA22 460V 60 thermistors
	1080 4073 14		GA22 575V 60
	1080 4074 02		GA30C 230V 50
	1080 4074 04		GA30C 400V 50
	1080 4074 21		GA30C 400V 50 thermistors
	1080 4074 12		GA30C 200-230 60Hz
	1080 4074 13		GA30C 380V 60
	1080 4074 22		GA30C 460V 60 thermistors
	1080 4074 14		GA30C 575V 60

2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61601_02

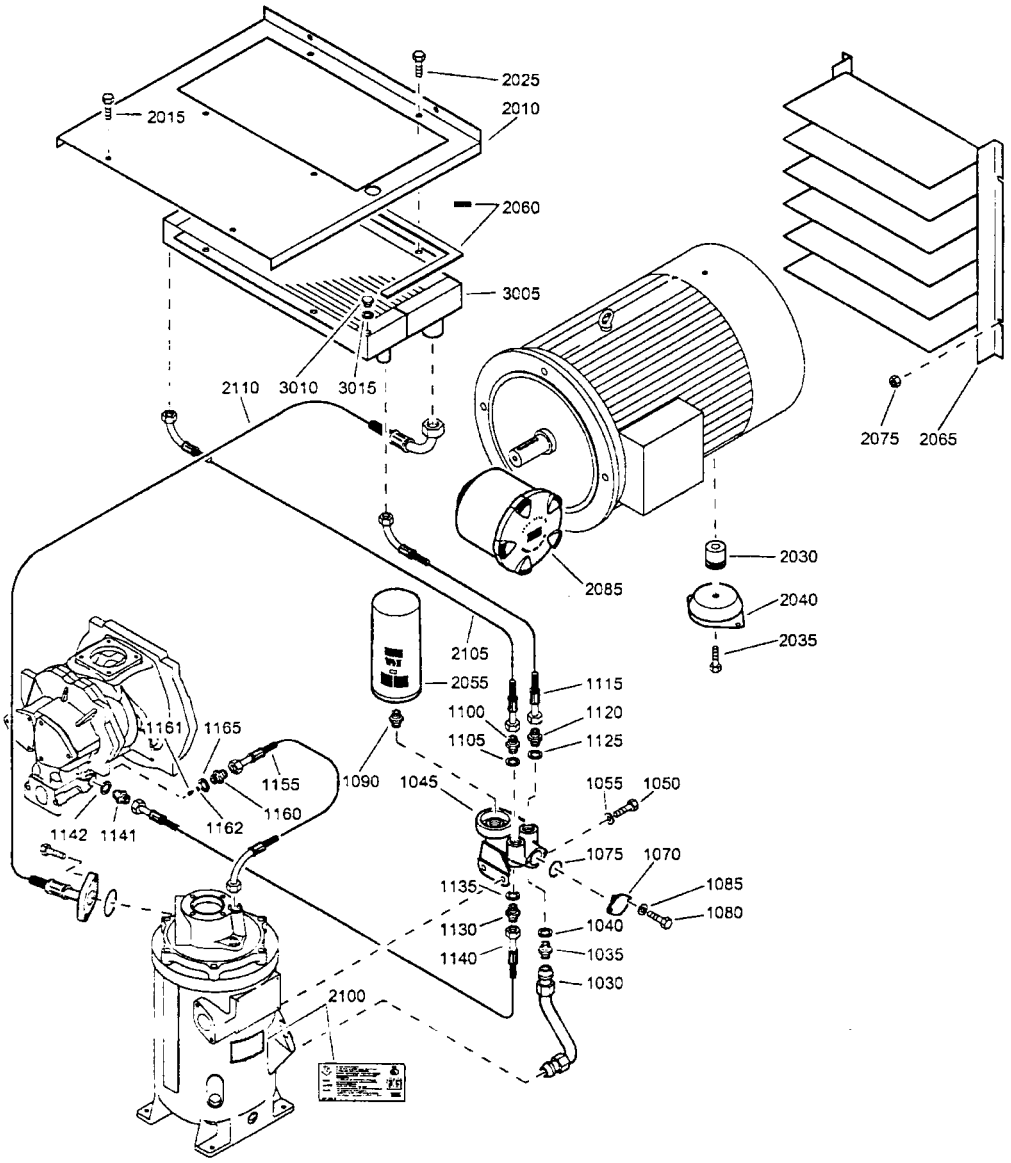
Air flow

Ref.	Part number	Qty	Name	Remarks
1020	<<< >>>	1	Unloading valve	
1025	0663 7142 00	1	O-ring	
1030	0147 1325 03	4	Hexagon bolt	
1035	0301 2335 00	4	Washer	
1040	0266 2110 00	1	Nut	
1045	1613 7310 00	1	Plate	
1050	0246 1956 39	1	Stud	
1060	1622 0018 00	1	Hose assembly	
1065	0347 6114 00	3	Hose clip	
1075	1613 8722 00	1	Connection	
1085	0291 1110 00	1	Lock nut	
1090	1079 6034 11	1	Nipple	
1095	0653 1062 00	1	Flat gasket	
1100	1619 5819 00	1	Sintered disk	
1105	1613 7912 01	1	Indicator	
1110	0657 5742 00	1	Flat gasket	
1115	1622 0014 01	1	Housing	
1120	0663 2111 35	3	O-ring	
1125	0663 7134 00	1	O-ring	
1130	0301 2335 00	4	Washer	

Ref.	Part number	Qty	Name
1135	0147 1329 03	2	Hexagon bo
1140	0147 1335 03	2	Hexagon bo
1145	1622 0015 00	1	Hose assen
1150	0663 7134 00	2	O-ring
1159	0301 2335 00	4	Washer
1160	0147 1325 03	4	Hexagon bo
1170	0663 3129 00	1	O-ring
1175	0147 1362 03	2	Hexagon bo
1200	0574 9914 15	1	Hose assemb
1205	1079 5840 02	1	Nipple
1210	0661 1000 38	1	Seal washer
1215	0324 1000 28	1	Aluminium c
1220	0301 2335 00	2	Washer
1225	1622 0492 00	1	Gasket
2240	0661 1000 44	1	Seal washer
2245	1622 0590 00	1	Hose ass'y
2250	2250 4983 00	1	Nipple

1) Bolted Minimum Pressure Valve
2) Screwed Minimum Pressure Valve

3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61579_05

Oil system

Ref.	Part number	Qty	Name	Remarks
1030	1622 0071 00	1	Pipe	
1035	1079 5840 27	1	Hex.nipple	
1040	0661 1000 43	1	Seal washer	
1045	1613 6883 03	1	Valve housing	
1050	0147 1362 03	2	Hexagon bolt	
1055	0301 2344 00	2	Washer	
1070	1614 6118 00	1	Flange	
1075	0663 2101 95	1	O-ring	
1080	0147 1246 03	2	Hexagon bolt	
1085	0301 2321 00	2	Washer	
1090	1619 3770 00	1	Nipple	
1100	1079 5840 27	1	Hex.nipple	
1105	0661 1000 43	1	Seal washer	
1115	0574 9911 14	1	Hose assembly	
1120	1079 5840 27	1	Hex.nipple	
1125	0661 1000 43	1	Seal washer	
1130	1079 5840 27	1	Hex.nipple	
1135	0661 1000 43	1	Seal washer	
1140	0574 9911 13	1	Hose assembly	
1141	1079 5840 21	1	Hexagon nipple	
1142	0661 1000 39	1	Seal washer	
1155	0574 9914 10	1	Hose assembly	
1160	1622 0164 00	1	Nipple	
1161	1613 9005 00	1	Non return valv	
1162	0663 2108 11	1	O-ring	
1165	0661 1000 38	1	Seal washer	
2010		1	Plate	
	1622 0110 00		GA11	
	1622 0111 00		GA15	
	1622 0112 00		GA18	
2015	0147 1963 08	4	Hexagon bolt	
2025	0147 1963 08	4	Hexagon bolt	
2030		1	Spacer	
	1622 0012 00		GA11, GA15, GA18, GA22	
	1622 0013 00		GA30C	
2035		1	Hexagon bolt	
	0147 1376 03		GA11, GA15, GA18, GA22	
	0147 1370 03		GA30C	

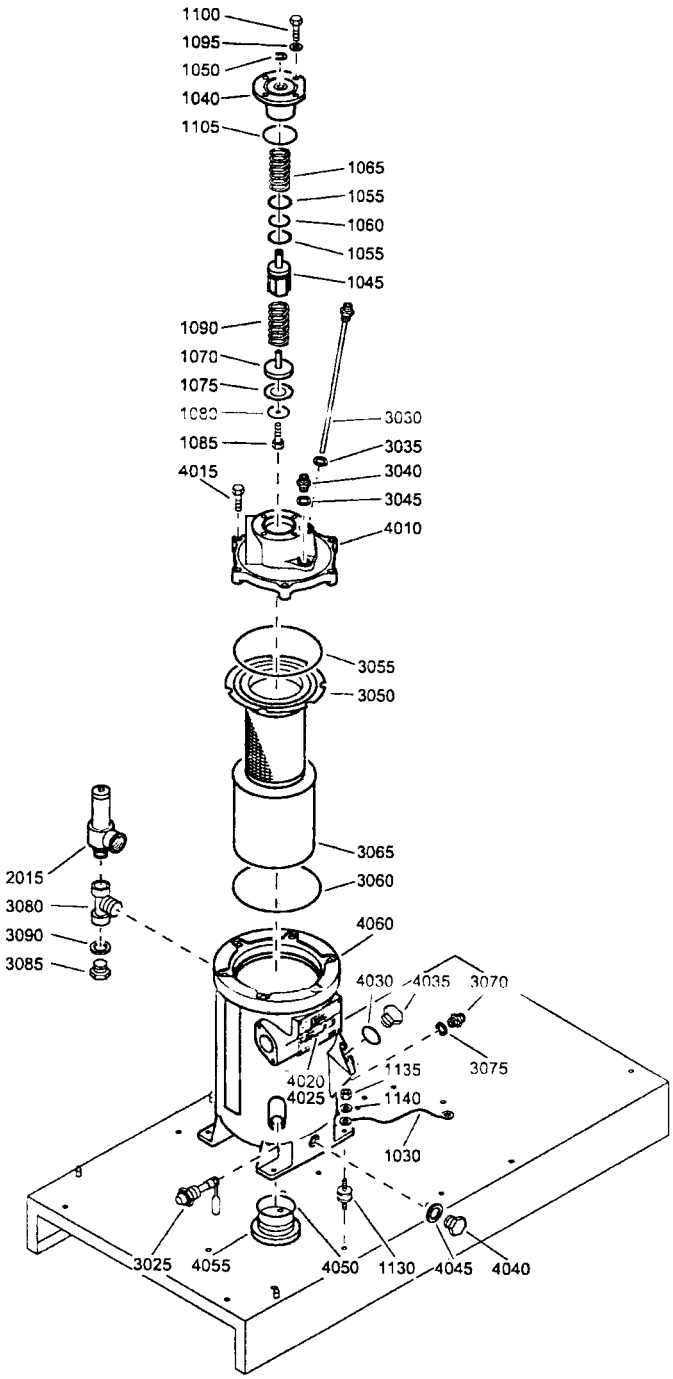
Ref.	Part number	Qty	Name	Remarks
2040		1	Antivibr.pad	
	1613 6752 16		GA11, GA15, GA18, GA22	
	1613 6752 17		GA30C	
2055	1613 6105 00	1	Oil filter	
2060	1619 5188 00	AR	Seal	
2065		**1**	**Baffle ass'y** 1)	
	1622 0160 80		GA11, GA15, GA18, GA22	
	1622 0160 80		GA30C-bar	
	1622 0364 80		GA30C-psi	
2075	0266 7024 02	4	Nut	
2085	1622 0004 00	1	Filter housing	
2100	1079 9909 57	1	Label	
2105		1	Hose assembly	
	0574 9910 10		GA11, GA15,	
	0574 9911 17		GA18, GA22, GA30C	
2110		1	Hose assembly 2)3)	
	1622 0072 00		GA11, GA15, GA18, GA22	
	1622 0362 00		GA30C	
		1	**Combi-cooler**	
	1622 0105 00		GA11	
	1622 0106 00		GA15	
	1622 0107 00		GA18	
	1622 0108 00		GA22	
	1622 0109 00		GA30C	
3005	•	1	Combi-cooler	
3010	0686 3716 01 •	1	Hexagon plug	
3015	0653 1062 00 •	1	Flat gasket	

1) Lined with / Bekleed met / Beklädd med / Ausgekleidet mit /Garnir de / Rivestido de / Allineato con / Foret med / Revestido com / Kledd med / Vuorattu : Foam: 0395 6001 69 (AR) 50 x 2040 x 1650

2) Bolted Minimum Pressure Valve

3) For "Screwed Minimum Pressure Valve - See - Air flow"

4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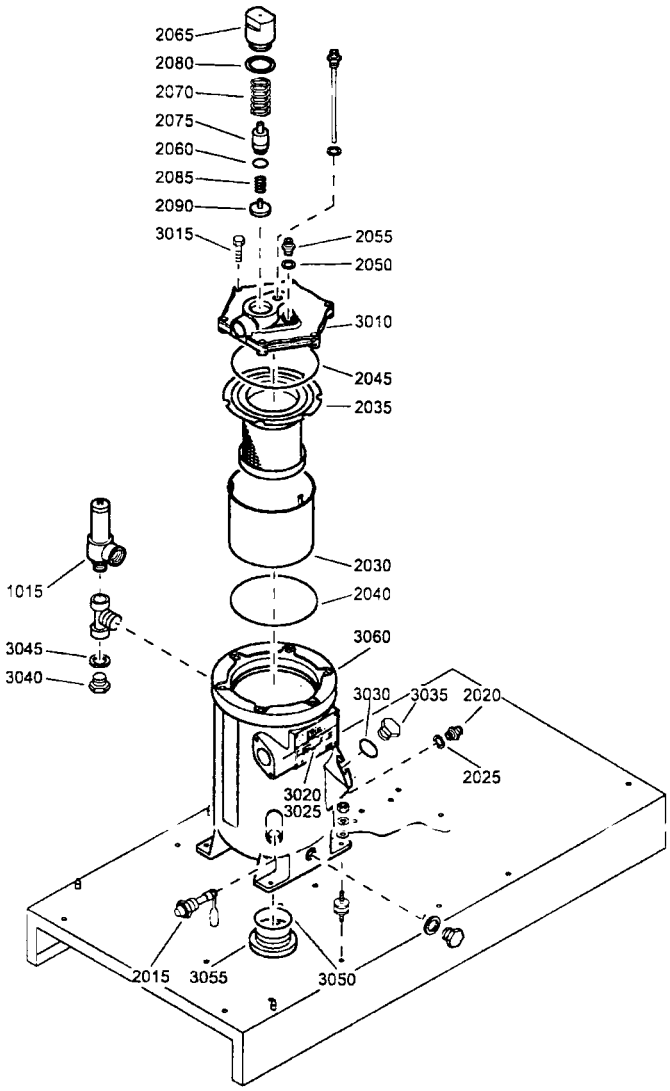
61582_03

Air receiver - with bolted Minimum Pressure Valve

Ref.	Part number	Qty	Name	Remarks
1030	1613 8967 03	1	Cable	
1040	1202 9747 00	1	Cover	
1045	1613 3220 01	1	Piston	
1050	0335 3111 00	1	Retaining ring	
1055	1614 4662 00	2	Piston ring	
1060	0663 3133 00	1	O-ring	
1065	1612 4048 00	1	Compr.spring	
1070	1613 3221 00	1	Piston valve	
1075	1613 3223 01	1	Washer	
1080	1613 3222 00	1	Washer	
1085	0147 1244 03	1	Hexagon bolt	
1090	1612 4049 00	1	Compr.spring	
1095	0301 2344 00	4	Washer	
1100	0147 1362 03	4	Hexagon bolt	
1105	0663 7136 00	1	O-ring	
1130	2235 2544 00	4	Damper	
1135	0266 2110 00	4	Nut	
1140	0301 2335 00	4	Washer	
2015		1	Safety valve	
	0830 1008 35			100psi, 125psi
	0830 1008 38			150psi, 175psi
	0832 1000 77			7.5bar
	0832 1000 78			8bar, 10bar
	0832 1000 79			13bar
		1	Vessel ass'y	
	1622 0067 82		LLOYDS, DIR	
	1622 0067 99		PED, ASME	
3025	1613 9020 00 •	1	Level gauge	

Ref.	Part number	Qty	Name	Ren
3030	1622 0017 00 •	1	Scavenge line	
3035	0653 1100 00 •	1	Flat gasket	
3040	1079 5840 14 •	1	Nipple	
3045	0661 1000 40 •	1	Seal washer	
3050	1622 0079 00 •	1	Oil sep element	
3055	0663 2111 23 •	1	O-ring	
3060	0663 2111 24 •	1	O-ring	
3065	1622 0016 00 •	1	Shield	
3070	1079 5840 27 •	1	Hex.nipple	
3075	0661 1000 43 •	1	Seal washer	
3080	0564 0000 60 •	1	Tee	
3085	0686 3716 02 •	1	Hexagon plug	
3090	0661 1000 39 •	1	Seal washer	
	•	1	**Oil separator**	
	1622 0000 82		LLOYDS, DIR	
	1622 0000 99		PED, ASME	
4010	1622 0002 00 ••	1	Valve housing	
4015	0147 1958 86 ••	6	Hexagon bolt	
4020	1622 0003 00 ••	1	Dataplate	
4025	0244 4184 00 ••	4	Drive screw	
4030	1202 8992 00 ••	1	Plug	
4035	0663 2102 15 ••	1	O-ring	
4040	0686 3716 30 ••	1	Hexagon plug	
4045	0661 1000 40 ••	1	Seal washer	
4050	0663 2111 18 ••	1	O-ring	
4055	1622 0001 00 ••	1	Plug	
4060	1622 0000 00 ••	1	Vessel	

5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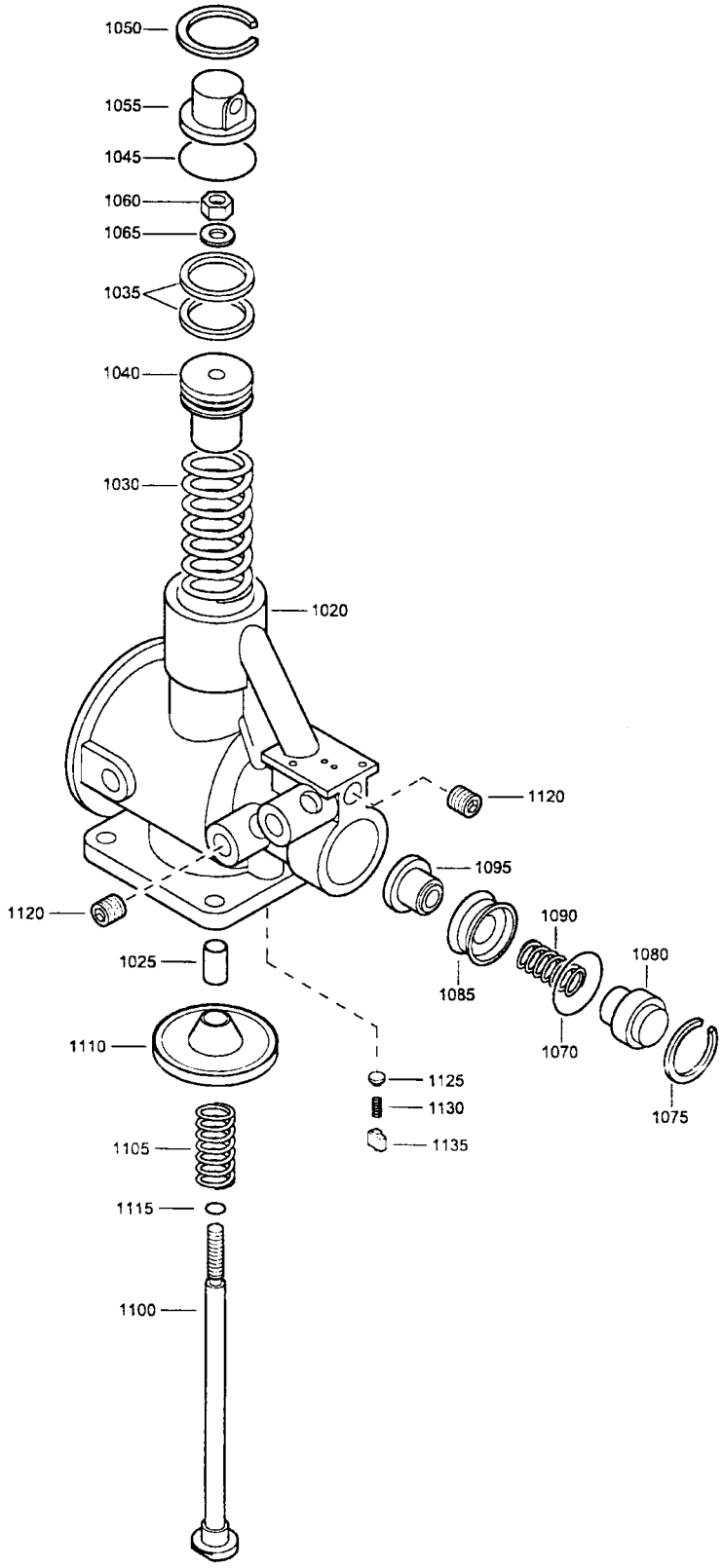
61600_03

Air receiver - with screwed Minimum Pressure Valve

Ref.	Part number	Qty	Name	Remarks
1015		1	Safety valve	
	0832 1000 77		7.5bar	
	0832 1000 78		8.5bar, 10bar	
	0832 1000 79		13bar	
	0830 1008 35		100psi, 125psi	
	0830 1008 38		150psi, 175psi	
		1	Vessel ass'y	
	1622 0589 99		PED, ASME	
	1622 0589 82		LLOYD'S, DIR	
	1622 0589 85		MOL	
	1622 0589 98		UDT	
2015	1613 9020 00 •	1	Level gauge	
2020	1079 5840 27 •	1	Hex.nipple	
2025	0661 1000 43 •	1	Seal washer	
2030	1622 0016 00 •	1	Shield	
2035	1622 0516 00 •	1	Oil sep element	
2040	0663 2111 24 •	1	O-ring	
2045	0663 2111 23 •	1	O-ring	
2050	0661 1000 40 •	1	Seal washer	
2055	1079 5840 14 •	1	Nipple	
2060	0663 2111 78 •	1	O-ring	
2065	1622 0521 00 •	1	Housing (m.p.v.	
2070	1622 0524 00 •	1	Spring	
2075	1622 0522 00 •	1	Piston	
2080	0661 1000 46 •	1	Seal washer	
2085	1622 0525 00 •	1	Spring	
2090	1622 0523 00 •	1	Valve disk	
2330	1622 0017 10 •	1	Scavenge line	
2335	0653 1100 00 •	1	Flat gasket	
2380	0564 0000 60 •	1	Tee	
	•	1	Oil separator	
	1622 0549 82		LLOYD'S, DIR	
	1622 0549 85		MOL	
	1622 0549 98		UDP	
	1622 0549 99		ASME	
3010	1622 0520 00 ••	1	Valve housing	
3015	0147 1958 86 ••	6	Hexagon bolt	
3020		1	Data plate	
	1622 0003 00		DIR, LLOYD'S, MOL	
	1622 0003 01		ASME, UDP	
3025	0244 4184 00 ••	4	Drive screw	
3030	1202 8992 00 ••	1	Plug	
3035	0663 2102 15 ••	1	O-ring	
3040	0686 3716 30 ••	1	Hexagon plug	
3045	0661 1000 40 ••	1	Seal washer	
3050	0663 2111 18 ••	1	O-ring	
3055	1622 0001 00 ••	1	Plug	
3060	1622 0000 00 ••	1	Vessel	

6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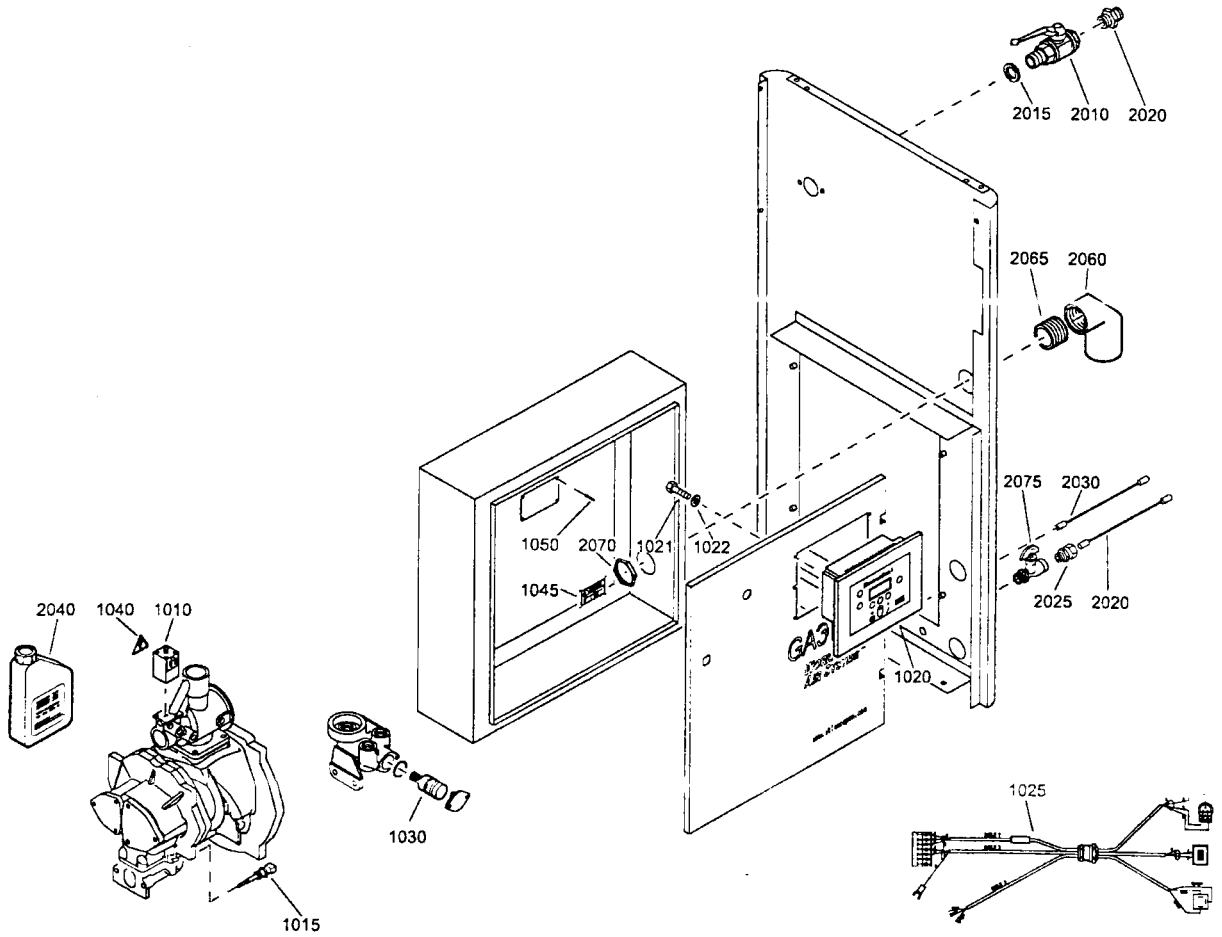
60760_20

Unloading valve

Ref.	Part number		Qty	Name	Remarks
			1	**Unloading valve**	
	1613 7568 84			Load / Unload control	
	1613 7568 85			Modulating control	
1020		•	1	Valve housing	
1025		•	1	Plain bearing	
1030	1613 6800 00	•	1	Spring	
1035	1613 6969 00	•	2	Piston ring	
1040	1613 7031 00	•	1	Piston	
1045	0663 2105 46	•	1	O-ring	
1050	0335 2140 00	•	1	Circlip	
1055		•	1	Cover	
	1613 6966 00			Load / Unload control	
	1613 6966 01			Modulating control	
1060	0291 1110 00	•	1	Lock nut	
1065	0653 1033 00	•	1	Flat gasket	
1070	0663 7132 00	•	1	O-ring	
1075	0335 2136 00	•	1	Circlip	
1080	1613 6794 00	•	1	Cover	
1085	1613 6783 00	•	1	Piston	
1090	1513 0011 00	•	1	Spring	
1095	1613 6796 00	•	1	Valve seat	
1100	1613 7032 01	•	1	Piston rod	
1105	1613 6802 00	•	1	Spring	
1110		•	1	Valve	
	1613 7699 01			Load / Unload control	
	1613 7687 81			Modulating control	
1115	0663 2101 85	•	1	O-ring	
1120	0686 6128 00	•	4	Plug	
1125		•	1	Plug	
1130		•	1	Spring	
1135		•	1	Plug	

7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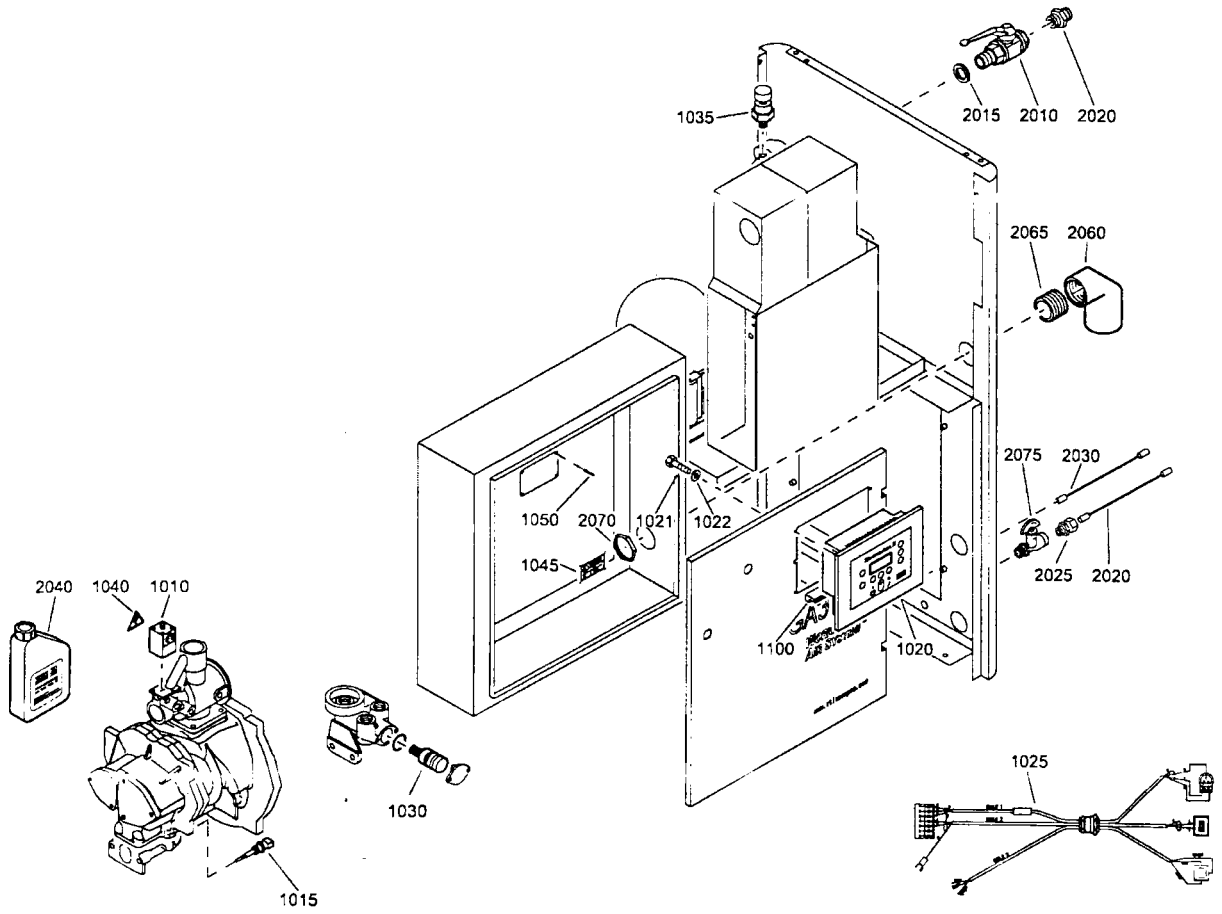
61588_09

Regulating system - Pack

Ref.	Part number	Qty	Name	Remarks
1010		1	Solenoid valve	
	1089 0621 19		115V 60Hz	
	1089 0621 14		230V/50Hz	
	1089 0621 13		230V/60Hz	
	0663 2104 83 •	2	O-ring	
1015	1089 0574 04	1	Temp.sensor	
1020	1900 0711 01	1	Regulator	
1021	0147 1169 03	4	Hexagon bolt	
1022	0301 2315 00	4	Washer	
1025		1	Wire harness	
	1622 0005 13		IEC	
	1622 0005 14		CSA/UL	
1030		1	Thermostat	
	1619 7333 00		40°C	
	1613 7064 01		60°C	
	1619 7493 00		75°C	
1040	1088 1001 01	1	Warning mark	
1045		1	Listing mark	
	1613 5330 00		CSA/UL	
1050		4	Blind rivet	
	0129 3104 00		CSA/UL	
2010	0852 0010 15	1	Ball valve	
2015	0661 1000 44	1	Seal washer	
2020		1	Adaptor	
	0603 4100 25		NPT	
2025	0070 6002 04	AR	Plastic tube	
2030	0581 0000 33	1	Coupling	
2035	0070 6002 05	AR	Plastic tube	
2040	1613 6532 01	1	Oil can	
2060		1	Elbow	
	0697 9750 20		IEC	
2065		1	Threaded nipple	
	1622 0153 01		IEC	
2070		1	Nut	
	0697 9808 00		IEC	
2075	1613 8892 00	1	Cock	

8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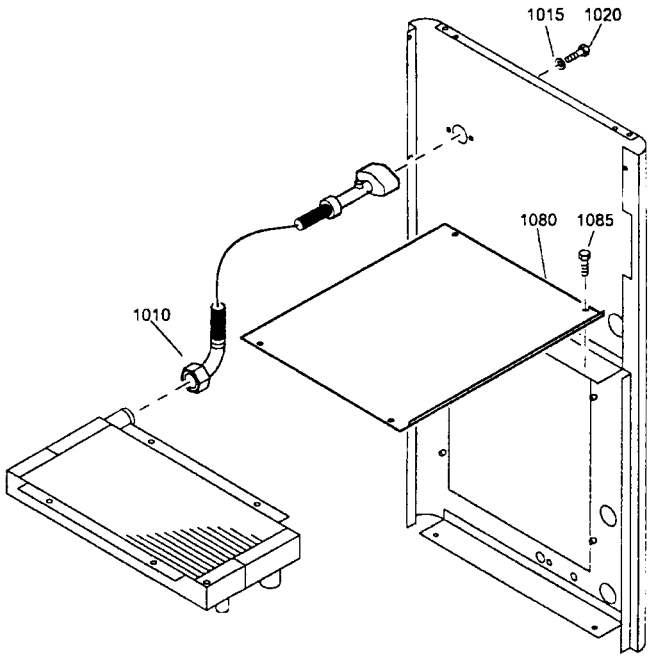
61589_09

Regulating system - WorkPlace

Ref.	Part number	Qty	Name	Remarks
1010		1	Solenoid valve	
	1089 0621 19		115V/60Hz	
	1089 0621 14		230V/50Hz	
	1089 0621 13		230V/60Hz	
	0663 2104 83 •	2	O-ring	
1015	1089 0574 04	1	Temp.sensor	
1020	1900 0710 01	1	Regulator	
1021	0147 1169 03	4	Hexagon bolt	
1022	0301 2315 00	4	Washer	
1025		1	Wire harness	
	1622 0005 23		IEC	
	1622 0005 24		CSA/UL	
1030		1	Thermostat	
	1619 7333 00		40°C	
	1613 7064 01		60°C	
	1619 7493 00		75°C	
1035	1089 0575 51	1	Press.transduce	
1040	1088 1001 01	1	Warning mark	
1045		1	Listing mark	
	1613 5330 00		CSA/UL	

Ref.	Part number	Qty	Name	Rem
1050		4	Blind rivet	
	0129 3104 00		CSA/UL	
1100	1088 0031 30	1	Connector	
2010	0852 0010 15	1	Ball valve	
2015	0661 1000 44	1	Seal washer	
2020		1	Adaptor	
	0603 4100 25		NPT	
2025	0070 6002 04	AR	Plastic tube	
2030	0581 0000 33	1	Coupling	
2035	0070 6002 05	AR	Plastic tube	
2040	1613 6532 01	1	Oil can	
2060		1	Elbow	
	0697 9750 20		IEC	
2065		1	Threaded nipple	
	1622 0153 01		IEC	
2070		1	Nut	
	0697 9808 00		IEC	
2075	1613 8892 00	1	Cock	

9 Air outlet - Pack

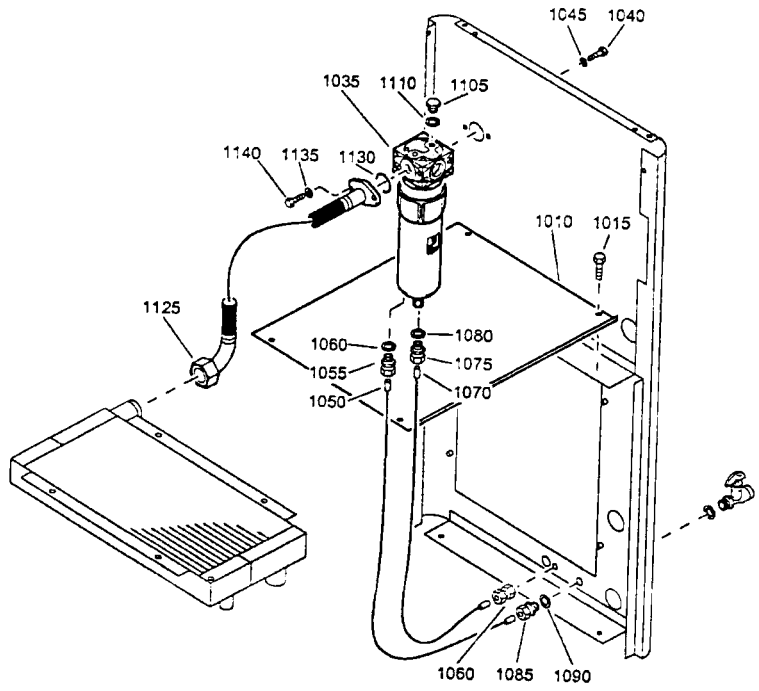


61585_06

Ref.	Part number	Qty	Name	Remarks
1010	1622 0075 10	1	Hose assembly	
1015	0301 2335 00	2	Washer	
1020	0147 1961 84	2	Hexagon bolt	
1080	**1622 0120 80**	**1**	**Baffle assembly**	1)
1085	0147 1963 08	4	Hexagon bolt	

1) Lined with / Bekleed met / Beklädd med / Ausgekleidet mit /Garnir de / Rivestido de / Allineato con / Foret med / Revestido com / Kledd med / Vuorattu : Foam: 0395 6001 66 (AR) 25 x 2040 x 1650

Air outlet - Workplace



61586_0(

Ref.	Part number	Qty	Name	Remarks
1010	1622 0120 80	1	Baffle assembly	1)
1015	0147 1963 08	4	Hexagon bolt	
1035	**1613 8224 80**	**1**	**WSD25**	
	2901 0712 00 •	1	Drain valve kit	
	2901 0748 00 •	1	Separation kit	
1040	0147 1961 84	2	Hexagon bolt	
1045	0301 2335 00	2	Washer	
1050	0070 6002 05	AR	Plastic tube	
1055	0581 0000 35	1	Coupling	
1060	0661 1000 38	2	Seal washer	
1065	0581 0000 55	1	Pipe coupling	
1070	0070 6002 04	AR	Plastic tube	
1075	0581 0000 34	1	Coupling	
1080	0661 1000 38	2	Seal washer	

Ref.	Part number	Qty	Name	Remarks
1085	0581 0000 33	1	Coupling	
1090	0653 1046 00	1	Flat gasket	
1105	0686 3716 01	1	Hexagon plug	
1110	0661 1000 38	1	Seal washer	
1125	1622 0074 00	1	Hose assembly	
1130	0663 3133 00	2	O-ring	
1135	0301 2335 00	2	Washer	
1140	0147 1326 03	2	Hexagon bolt	

1) Lined with / Bekleed met / Beklädd med / Ausgekleidet mit /Garnir de / Rivestido de / Allineato con / Foret med / Revestido com / Kledd med / Vuorattu : Foam: 0395 6001 66 (AR) 25 x 2040 x 1650

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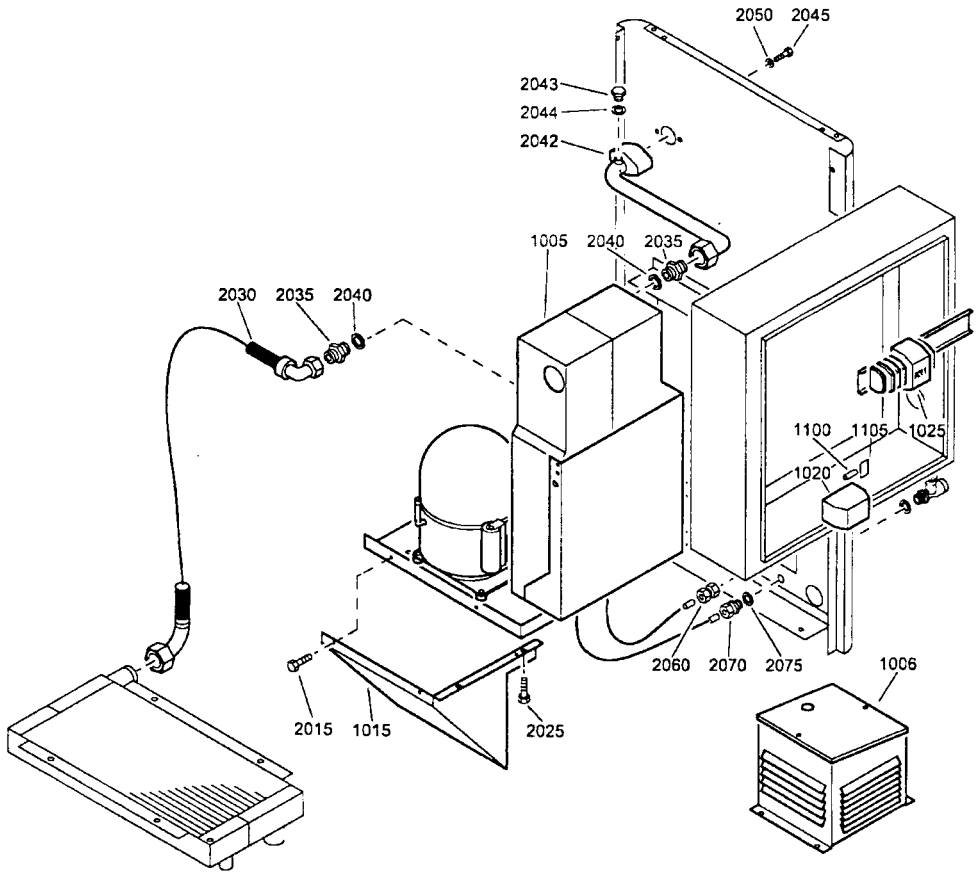
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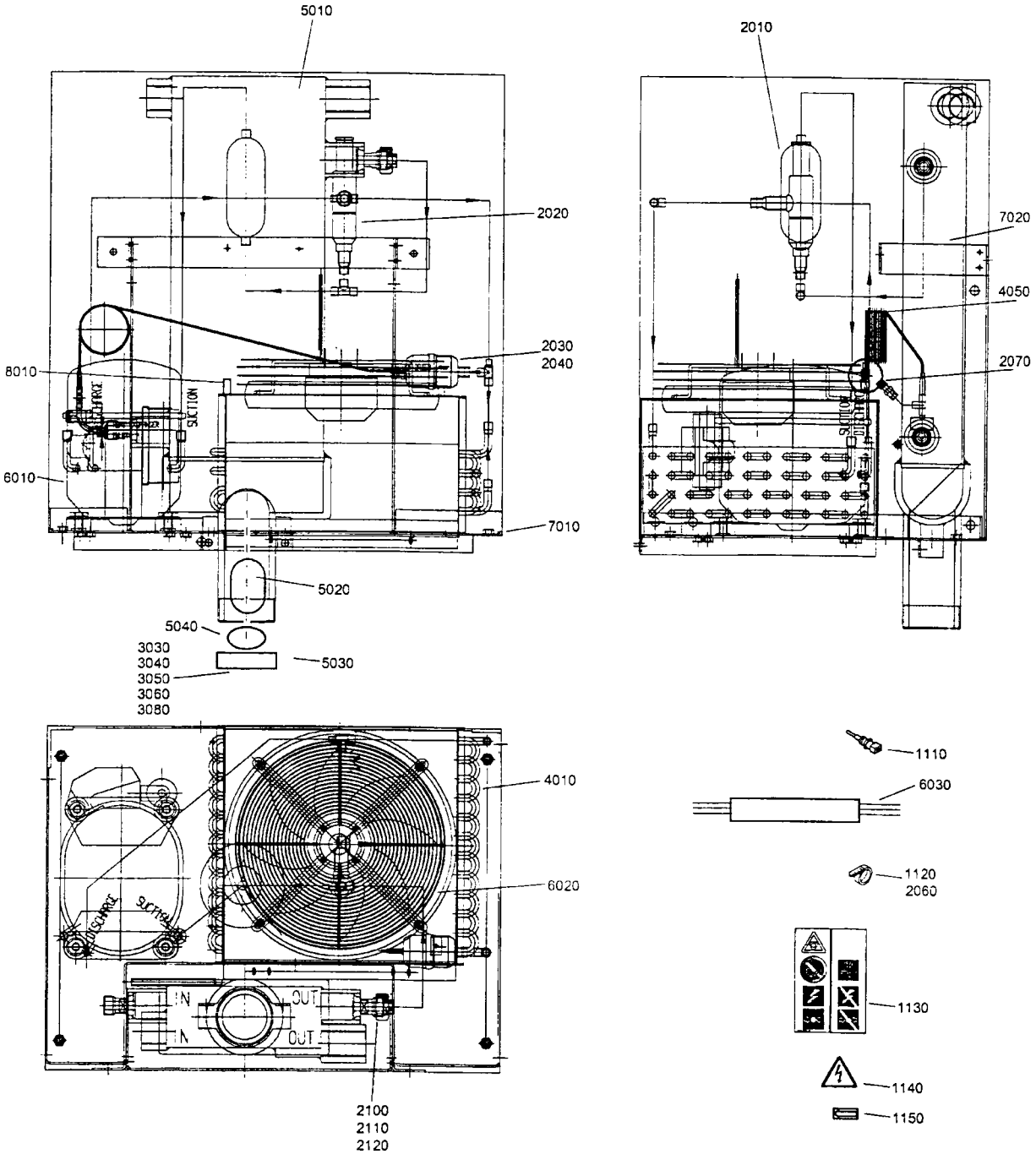
61587_06

Air outlet - Pack FF - WorkPlace FF

Ref.	Part number	Qty	Name	Remarks
1005	**<<< >>>**	**1**	**Air dryer**	
1006		1	Trafokit	
	1603 0721 00		400-500V/50Hz	
	1603 0721 01		ID44 380-440-460-575V/ 60Hz	
	1603 0721 02		ID66-77 380-440-460-575V/ 60Hz	
1015		1	Baffle	
	1622 0134 00		GA11, GA15, GA18, GA22	
	1622 0135 00		GA30C	
1020		1	Contactor	
	1089 9415 11		GA11, GA15, GA18, GA22 230-440V/50Hz	
1025	**<<< >>>**	**1**	**Dryer rail**	
1100		1	Fuse link	
	1089 9168 54		GA11, GA15, GA18, GA22 460V/60Hz CSA/UL	
	1089 9168 62		GA11, GA15, GA18, GA22 200-230V/60Hz CSA/UL	
	1089 9168 62		575V/60Hz CSA/UL	
	1089 9168 62		GA30C 460V/60Hz CSA/UL	

Ref.	Part number	Qty	Name
1105		1	Label
	1079 9921 83		GA11, GA15, 200-230V/60I
	1079 9921 83		GA11, GA15, 575V/60Hz CS
	1079 9921 83		GA30C 575V/(
	1079 9921 83		GA30C 460V/(
	1079 9921 84		GA11, GA15, (460V/60Hz CS
2015	1619 2765 01	3	Screw
2025	1619 2766 00	4	Bolt
2030	1622 0073 00	1	Hose assembly
2035	2250 4983 00	2	Nipple
2040	0661 1000 44	2	Seal washer
2042	1622 0076 10	1	Pipe
2043	0686 3716 01	1	Hexagon plug
2044	0661 1000 38	1	Seal washer
2045	0147 1961 84	2	Hexagon bolt
2050	0300 0274 34	2	Washer
2060	0581 0000 55	1	Pipe coupling
2070	0581 0000 33	1	Coupling
2075	0653 1046 00	1	Flat gasket

12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2110
2120
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61115_17

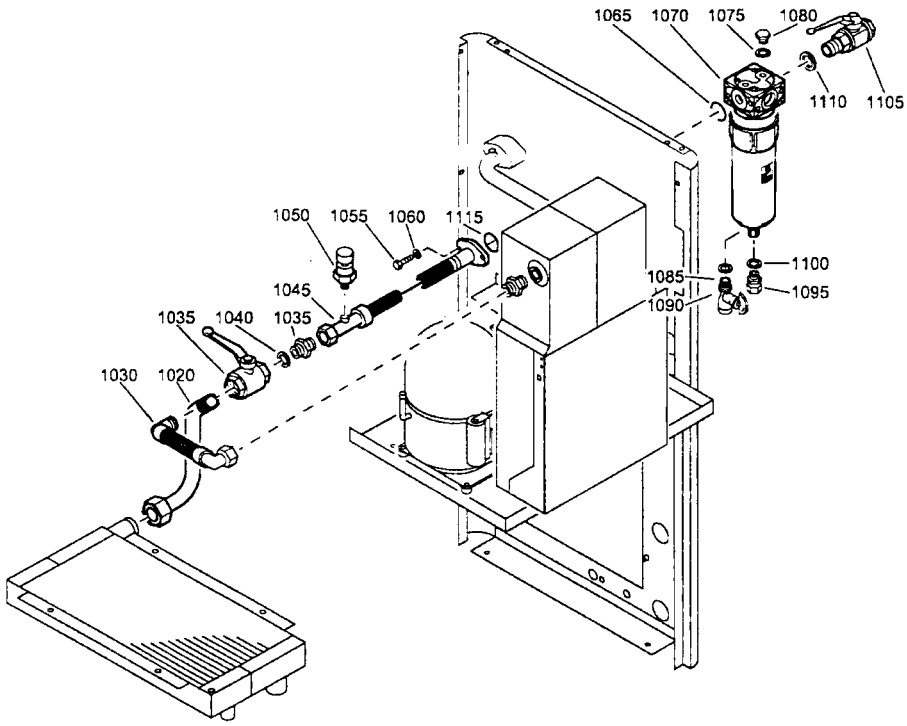
Air dryer

Ref.	Part number	Qty	Name	Remarks
	8092 3060 80	1	**Air dryer**	
	8092 3060 81		GA11 230V/50Hz,	
			GA15 230V/50Hz	
	8092 3062 82		GA11 200-220V/60Hz-CSA/UL,	
			GA15 200-220V/60Hz-CSA/UL	
	8092 3060 83		GA11 200-220V/50Hz-JPN,	
			GA15 200-220V/50Hz-JPN	
	8092 3060 84		GA11 440V/60Hz-CSA/UL, 1)	
			GA15 440V/60Hz-CSA/UL 1)	
	8092 3061 80		GA11 440V/60Hz-CSA/UL,	
			GA15 440V/60Hz-CSA/UL	
	8092 3061 81		GA18 230V/50Hz,	
			GA22 230V/50Hz	
	8092 3061 82		GA18 200-220V/60Hz-CSA/UL,	
			GA22 200-220V/60Hz-CSA/UL	
	8092 3061 83		GA18 200-220V/50Hz-JPN,	
			GA22 200-220V/50Hz-JPN	
	8092 3061 84		GA18 440V/60Hz-CSA/UL, 2)	
			GA22 440V/60Hz-CSA/UL 2)	
	8092 3062 80		GA18 440V/60Hz-CSA/UL,	
	8092 3062 81		GA22 440V/60Hz-CSA/UL	
	8092 3062 82		GA30C 230V/50Hz	
1110	1617 3077 81	1	GA30C 200-220V/60Hz-CSA/UL	
1120	1088 1301 01	8	GA30C 200-220V/50Hz-JPN	
1130	1079 9901 09	1	Temp. sensor	
1140	1088 1001 01	1	Cable tie	
1150	1617 2385 00	1	Decal	
2010	1617 1505 02	1	Warning mark	
2020	1617 1524 01	1	Rotation arrow	
2030	1617 1322 02	1	Accumulator	
2040	0348 0110 03	1	Hot gas bypass valve	
2060	0348 0101 13	1	Filter-dryer	
2070	1619 5563 02	1	Anchor	
2100	1617 0056 00	1	Cable tie	
2110	1617 0057 00	1	Schraderventiel	
2120	1617 0058 00	2	Sleeve	
3030	0581 0000 35	1	Ring	
3040	0661 1000 25	1	Nut	
3050	0070 6002 05	2	Straight coupling	
3060	0070 6002 04	AR	Seal washer	
3080	0581 0000 34	AR	Plastic tube	
4010		1	Plastic tube	
	1617 2283 00	1	Straight coupling	
	1617 2288 00		Condensor	
	1617 2295 00		GA11, GA15	
4050			GA18, GA22	
	1617 1415 93	1	GA30C	
			Cappillary tube assy	
			GA11, GA15	

Ref.	Part number	Qty	Name	Remarks
	1617 1415 94		GA18, GA22	
	1617 1415 95		GA30C	
5010		1	Heat exchanger	
	1617 2491 00		GA11, GA15	
	1617 2492 00		GA18, GA22, C	
5020	**1613 9227 80**	1	**Drain assy**	
	2901 0712 00 •	1	Drain valve kit	
5030	1617 2372 00	1	Connection drai	
5040	0663 7137 00	1	O-ring	
6010		1	Refrig.compress	
	1617 1483 05		GA11, GA15	
	1617 1483 07		GA11, GA15	
			60Hz-CSA/UL	
	1617 1483 06		GA11, GA15	
			50Hz-JPN	
	1617 1494 20		GA11, GA15	
			CSA/UL	
	1617 1494 01		GA18, GA22	
	1617 1494 03		GA18, GA22	
			60Hz-CSA/UL	
	1617 1494 14		GA18, GA22	
			50Hz-JPN	
	1617 1494 19		GA18, GA22	
			CSA/UL	
	1617 1494 16		GA30C	
	1617 1494 18		GA30C	
			60Hz-CSA/UL	
	1617 1494 17		GA30C	
			50Hz-JPN	
6020		1	Fan assy	
	1617 2770 81		230V/50Hz	
	1617 2770 82		200-220V/60Hz-CSA	
	1617 2770 84		440V/60Hz-CSA/UL	
6030		1	Wiring	
	1617 3092 00		GA11, GA15	
	1617 3093 00		GA11, GA15	(C, U)
	1617 3094 00		GA18, GA22	
	1617 3095 00		GA18, GA22	(C, U)
	1617 3096 00		GA30C	
	1617 3097 00		GA30C	(C, U)
7010	1617 2308 00	1	Frame	
7020	1617 2309 00	1	Bracket	
8010	1089 9214 26	1	Fan switch	

1-2) From following serial No. onwards:
Geldig vanaf volgend serienummer:
Fr.o.m. tillverkningsnummer:
Gültig ab Seriennummer:
Valable à partir du numéro de série suivant:
A partir del siguiente número de serie:
Dai seguenti numeri di serie in avanti:
Gælder fra følgende serienumre:
A partir do número de série:
Fra og med følgende serienummer:
Alkaen valmistusnumerosta
1) All - 260 361
2) All - 260 202

13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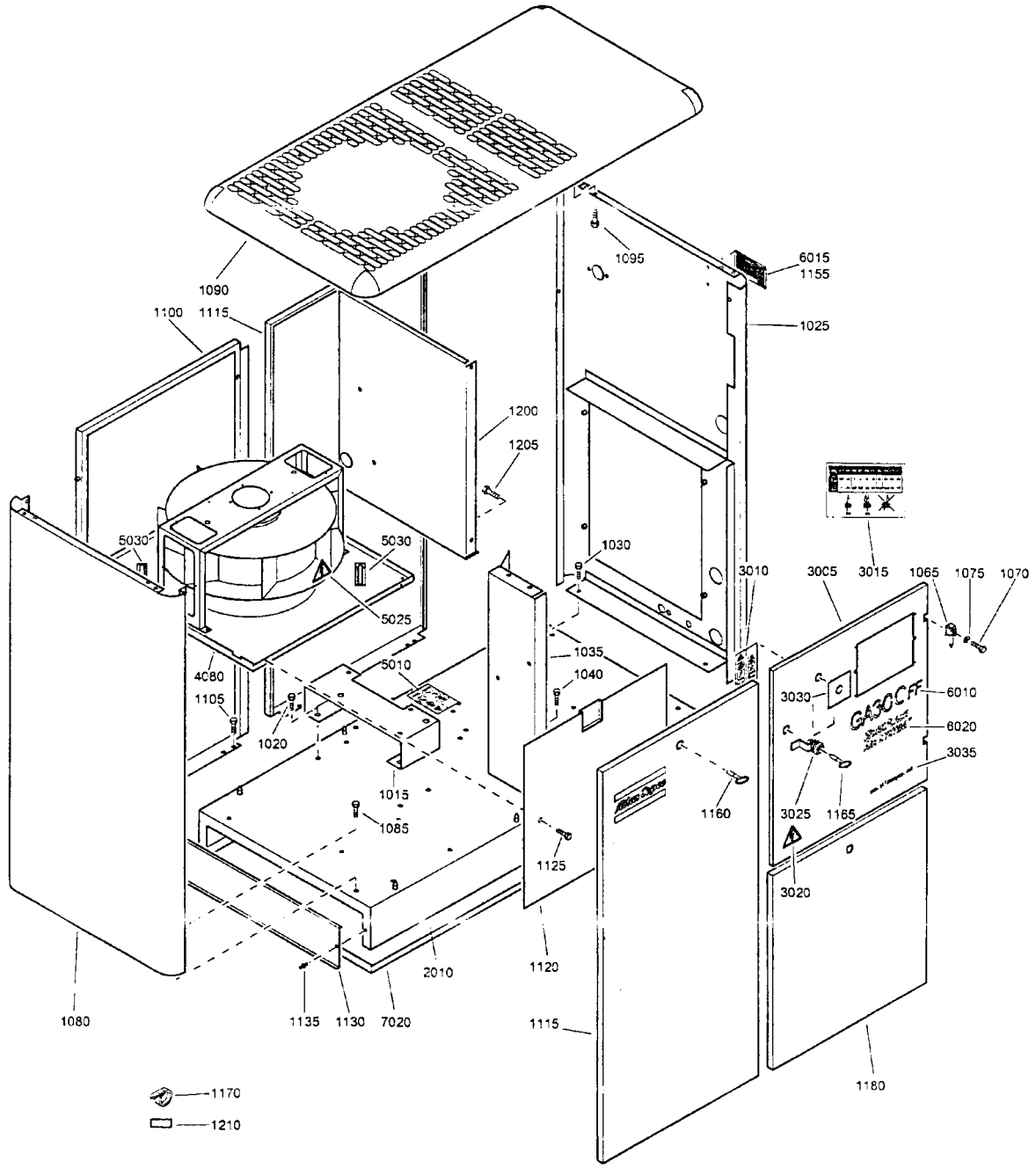
61592_03

By-pass dryer - Pack FF / Workplace FF

Ref.	Part number	Qty	Name	Remarks
	8092 2455 24	1	Dryer by pass	
1020	1622 0143 00 •	1	Pipe	
1025	1613 7764 01 •	1	Ball valve	
1030	1622 0142 00 •	1	Hose assembly	
1035	2250 4983 00 •	1	Nipple	
1040	0661 1000 44 •	1	Seal washer	
1045	1622 0141 00 •	1	Hose assembly	
1050	1089 0575 51 •	1	Press.transducer	
1055	0147 1325 03 •	2	Hexagon bolt	
1060	0301 2335 00 •	2	Washer	
1065	0663 3133 00 •	1	O-ring	
1070	1613 8224 80 •	1	WSD25	
1075	0686 3716 01 •	2	Hexagon plug	
1080	0661 1000 38 •	2	Seal washer	
1085	0605 8300 35 •	1	Bushing	
1090	1619 7336 00 •	1	Cock	
1095	0581 0000 35 •	1	Coupling	
1100	0661 1000 38 •	1	Seal washer	
1105	0852 0010 15 •	1	Ball valve	
1110	0661 1000 44 •	1	Seal washer	
1115	0663 3129 00 •	1	O-ring	

14 Bodywork



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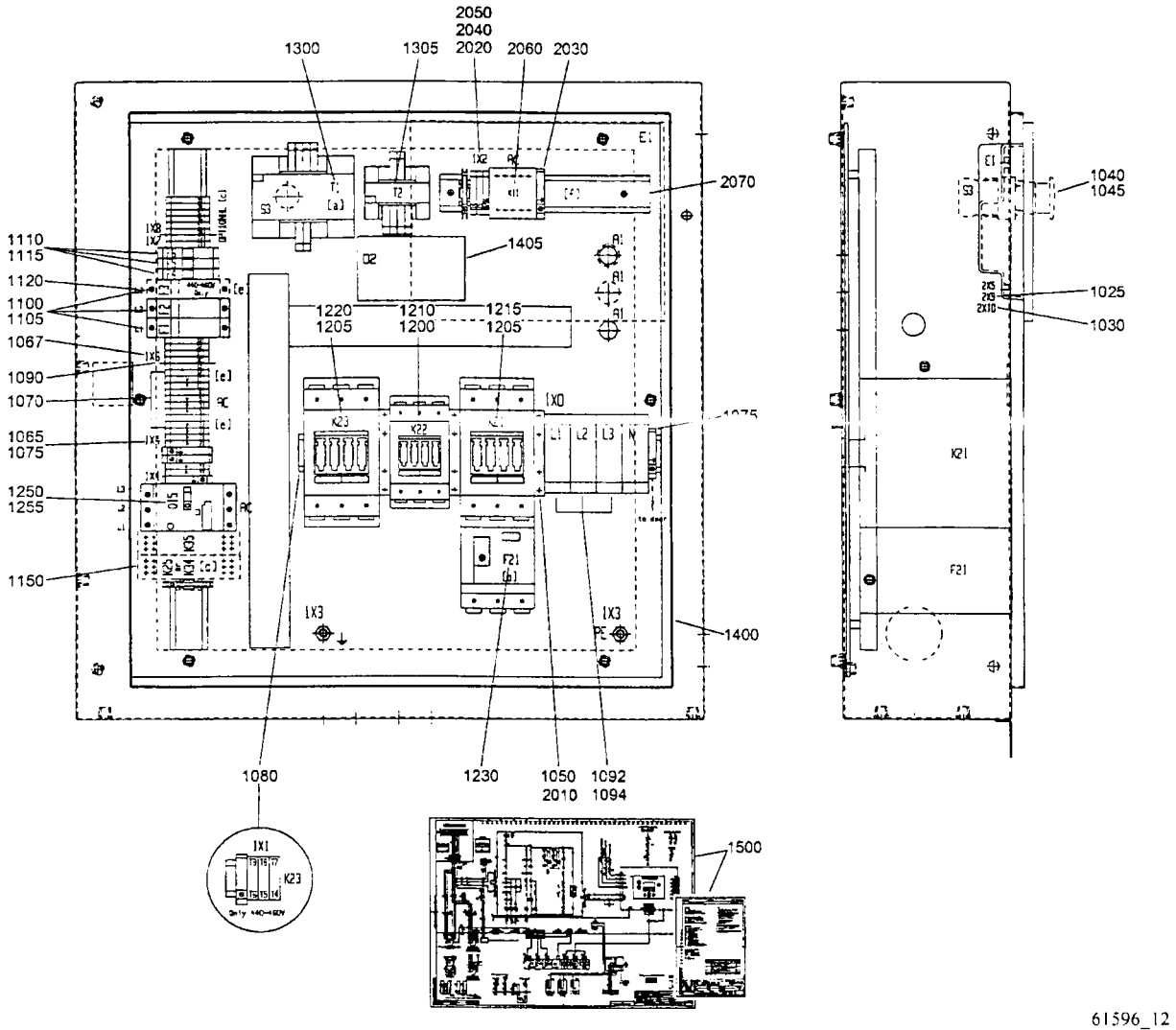
Ref.	Part number	Qty	Name	Remarks
1015	1622 0136 00	1	Support	
1020	1619 2766 00	4	Bolt	
1025	**1622 0116 80**	**1**	Panel assembly	1)
	•	1	Label	
	1079 9915 89		Automatic waterdrain	
	•	1	Label	
	1079 9915 98		Manual waterdrain	
1030	1619 2766 00	2	Bolt	
1035	1622 0363 00	1	Support	
1040	1619 2766 00	2	Bolt	
1050	0147 1963 08	4	Hexagon bolt	
1055	0147 1963 08	6	Hexagon bolt	
1065	1202 6400 00	2	Hinge	
1070	0147 1244 03	2	Hexagon bolt	

Ref.	Part number	Qty	Name	Remarks
1075	0301 2321 00	2	Washer	
1080	**1622 0115 80**	**1**	**Panel assembly**	1)
1085	1619 2766 00	2	Bolt	
1090	**1622 0536 80**	**1**	**Roof assembly**	1)
	1613 9963 00 •	4	Corner	
	0129 3174 00 •	8	Blind rivet	
1095	0147 1963 08	5	Hexagon bolt	
1100	**1622 0537 80**	**1**	**Plate assembly**	1)
1105	1619 2766 00	1	Bolt	
1110	0147 1963 08	4	Hexagon bolt	
1115	**1622 0126 80**	**2**	**Panel assembly**	1)
	1513 0431 00 •	1	Door lock	
	1616 2987 00 •	2	Plug	
	0690 1116 01 •	1	House mark	
1120	**1622 0119 80**	**1**	**Panel assembly**	1)
	1079 9901 18 •	1	Warning label	
	1619 2665 00 •	AR	Seal	
1125	1619 2766 00	2	Bolt	
1130	**1622 0114 80**	**2**	**Panel assembly**	1)
1135	1615 8384 00	4	Rivet	
1140	0266 2110 00	1	Nut	
1145	0333 3227 00	1	Lock washer	
1150	0301 2335 00	1	Washer	
1155	0129 3103 00	4	Blind rivet	
1160	1089 9068 01	2	Key	
1165	1089 9154 02	1	Key	
1170	1088 1301 02	1	Cable strip	
1175	0147 1963 08	4	Hexagon bolt	
1180	**1622 0397 80**	**1**	**Door panel assy**	1)
	1616 2987 00 •	1	Plug	
	1513 0431 00 •	1	Door lock	
1200	**1622 0535 80**	**1**	**Baffle assembly**	1)
1205	0147 1963 08	2	Hexagon bolt	
1210	1619 3843 00	AR	Seal	
2020	1622 0113 10	1	Frame	
	1622 0199 80	**1**	**Door assembly**	1)
3005	1622 0199 00 •	1	Door panel	
3010	1079 9903 48 •	1	Warning label	
3015	1079 9906 09 •	1	Label	
3020	1088 1001 03 •	1	Warning mark	
3025	1619 7705 00 •	1	Lock	
3030	1613 9028 00 •	1	Decal	
3035	1079 9920 93 •	1	Label	
4080		1	Fan assy	
			WorkPlace / WorkPlace Full-feature	
	1622 0103 11		GA11 200-220V/60Hz CSA/UL	
	1622 0103 13		GA11 220-230V/440-460/60Hz CSA/UL	
	1622 0103 02		GA11 230-400V/50Hz	
	1622 0103 14		GA11 575V/60Hz CSA/UL	
	1622 0103 11		GA15 200-220V/60Hz CSA/UL	
	1622 0103 13		GA15 220-230V/440-460/60Hz CSA/UL	
	1622 0103 02		GA15 230-400V/50Hz	
	1622 0103 14		GA15 575V/60Hz CSA/UL	
	1622 0103 11		GA18 200-220V/60Hz CSA/UL	
	1622 0103 13		GA18 220-230V/440-460/60Hz CSA/UL	
	1622 0103 02		GA18 230-400V/50Hz	
	1622 0103 14		GA18 575V/60Hz CSA/UL	

Ref.	Part number	Qty	Name
	1622 0103 11		GA22 200-UL
	1622 0103 13		GA22 220-60Hz CSA/
	1622 0103 02		GA22 230--
	1622 0103 14		GA22 575V
	1622 0103 33		GA30C 220 60Hz CSA
	1622 0103 22		GA30C 230
	1622 0103 34		GA30C 575
			Pack/Pack F
	1622 0104 11		GA11 200-2 UL
	1622 0104 13		GA11 220-2 60Hz CSA/U
	1622 0104 02		GA11 230-40
	1622 0104 14		GA11 575V
	1622 0104 11		GA15 200-22 UL
	1622 0104 13		GA15 220-23 60Hz CSA/U
	1622 0104 02		GA15 230-40
	1622 0104 14		GA15 575V/6
	1622 0104 11		GA18 200-22 UL
	1622 0104 13		GA18 220-23 60Hz CSA/UL
	1622 0104 02		GA18 230-400
	1622 0104 14		GA18 575V/60
	1622 0104 11		GA22 200-220 UL
	1622 0104 13		GA22 220-230 60Hz CSA/UL
	1622 0104 02		GA22 230-400
	1622 0104 14		GA22 575V/60
	1622 0103 33		GA30C 220-23 60Hz CSA/UL
	1622 0103 22		GA30C 230-40
	1622 0103 34		GA30C 575V/6
5010	1079 9903 48	2	Warning label
5025	1088 1001 01	2	Warning mark
5030	1503 0786 00	2	Rotation arrow
6010		1	Decal
	1613 9027 15		GA11
	1613 9027 19		GA11 FF
	1613 9027 16		GA15
	1613 9027 20		GA15 FF
	1613 9027 17		GA18
	1613 9027 21		GA18 FF
	1613 9027 18		GA22
	1613 9027 22		GA22 FF
	1613 9027 31		GA30C
	1613 9027 32		GA30C FF
6015			
	1614 5933 00		bar
	1622 0395 00		psi
6020	1613 9846 00	1	Decal WorkPlace
7020	1622 0144 00	1	Oil containing fra

1) Lined with / Bekleed met / Beklädd med / Ausgekleidet mit /Garnir de / Rivestido de / Allineato con / Foret med / Revestido con / med / Vuorattu :
Foam: 0395 6001 66 (AR) 25 x 2040 x 16

15 Start cubicle - Star/Delta - Elektronikon I - IEC



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Ref.	Part number	Qty	Name	Remarks
		1	**Electr. panel**	
	1900 2051 01		GA11 230V/60Hz	
	1900 2051 02		GA11 400V/50Hz	
	1900 2051 13		GA11 460V/60Hz	3-phase dryer
	1900 2051 21		GA11-15 380V/60Hz	
	1900 2051 11		GA15 230V/60Hz	
	1900 2051 04		GA15 400V/50Hz	
	1900 2051 14		GA15-18 460V/60Hz	3-phase dryer
	1900 2051 05		GA18 230V/60Hz	
	1900 2051 06		GA18 400V/50Hz	
	1900 2051 22		GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1900 2051 12		GA22 230V/60Hz	
	1900 2051 08		GA22 400V/50Hz	
	1900 2051 15		GA22 460V/60Hz	3-phase dryer
	1900 2051 10		GA30C 400V/50Hz	
1025	1088 0031 06 •	1	Connector	
1030	1088 0031 32 •	1	Connector	
1040	1089 0362 50 •	2	Contact block	
1045	1089 0362 51 •	1	Push button	
1050	•	1	Terminal	
	1089 0506 04		GA11 230V/60Hz	
	1089 0506 07		GA11 400V/50Hz	
	1089 0506 07		GA11 460V/60Hz	3-phase dryer
	1089 0506 07		GA11-15 380V/60Hz	
	1089 0506 04		GA15 230V/60Hz	
	1089 0506 07		GA15 400V/50Hz	
	1089 0506 07		GA15-18 460V/60Hz	3-phase dryer
	1089 0506 04		GA18 230V/60Hz	
	1089 0506 07		GA18 400V/50Hz	

Ref.	Part number		Qty	Name	Remarks
	1089 0506 04				GA18-22 380V/60Hz, GA30C 460V/60Hz
	1089 0506 04				GA22 400V/50Hz
	1089 0506 04				GA22 460V/60Hz 3-phase dryer
	1089 0506 04				GA30C 400V/50Hz
1065	1089 0506 64	•	1	Terminal	
1067	1089 0506 63	•	1	Terminal	
1070	1089 0506 62	•	3	Terminal	
1075	1089 0506 27	•	4	Terminal	
1080		•		Terminal	
	1089 0506 63		3	GA11 460V/60Hz 3-phase dryer	
	1089 0506 61		1	GA15-18 460V/60Hz 3-phase dryer	
	1089 0506 61		1	GA22 460V/60Hz 3-phase	
	1089 0506 07		1	GA30C 460V/60Hz 3-phase dryer	
1090	1089 0506 23	•	1	Barrier	
1092		•	3	Cover	
	1089 0542 10			GA22 230V/60Hz	
1094		•	3	Terminal	
	1089 0506 15			GA22 230V/60Hz	
1100	1089 0612 01		3	Fuse holder	
1105		•		Fuse	
	1089 0612 26		3	GA11 460V/60Hz 3-phase dryer	
	1089 0612 26		3	GA15-18 460V/60Hz 3-phase dryer	
	1089 0612 26		3	GA22 460V/60Hz 3-phase dryer	
	1089 0612 61		2	GA11 230V/60Hz	
	1089 0612 61		2	GA11 400V/50Hz	
	1089 0612 61		2	GA15 400V/50Hz	
	1089 0612 61		2	GA18 230V/60Hz	
	1089 0612 61		2	GA18 400V/50Hz	
	1089 0612 61		2	GA30C 400V/50Hz	
	1089 0612 61		2	GA15 230V/60Hz	
	1089 0612 61		2	GA11-15 380V/60Hz	
	1089 0612 61		2	GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1089 0612 61		2	GA22 400V/50Hz	
	1089 0612 61		2	GA22 230V/60Hz	
1110	1089 0506 16	•	3	Fuse terminal	
1115	1089 9037 09	•	3	Fuse	
1120	1089 0612 24	•	1	Fuse	
	1089 0612 24			GA11 230V/60Hz	
	1089 0612 24			GA11 400V/50Hz	
	1089 0612 24			GA11-15 380V/60Hz	
	1089 0612 24			GA15 230V/60Hz	
	1089 0612 24			GA15 400V/50Hz	
	1089 0612 24			GA18 230V/60Hz	
	1089 0612 24			GA18 400V/50Hz	
	1089 0612 24			GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1089 0612 24			GA22 230V/60Hz	
	1089 0612 24			GA22 400V/50Hz	
	1089 0612 24			GA30C 400V/50Hz	
1150		•	1	Phase sequence relay	
	1089 9461 02			GA11 230V/60Hz	
	1089 9461 01			GA11 400V/50Hz	
	1089 9461 01			GA15 400V 50Hz	
	1089 9461 01			GA18 230V/60Hz	
	1089 9461 01			GA18 400V/50Hz	
	1089 9461 01			GA22 400V/50Hz	

Ref.	Part number		Qty	Name
	1089 9461 01			GA30C 400V
	1089 9461 02			GA15 230V/
	1089 9461 02			GA22 230V/
	1089 9461 03			GA11 460V/ dryer
	1089 9461 03			GA15-18 460 phase dryer
	1089 9461 03			GA22 460V/6 dryer
	1089 9461 03			GA11-15 380
	1089 9461 03			GA18-22 380
				GA30C 460V
1200		•	1	Contactor
	1089 9415 21			GA11 230V/6
	1089 9415 30			GA11 400V/5
	1089 9415 30			GA11 460V/6 dryer
	1089 9415 21			GA11-15 380V
	1089 9415 23			GA15 230V/60
	1089 9415 21			GA15 400V/50
	1089 9415 21			GA15-18 460V phase dryer
	1089 9415 31			GA18 230V/60
	1089 9415 21			GA18 400V/50
	1089 9415 31			GA18-22 380V
	1089 9415 31			GA30C 460V/6
	1089 9415 23			GA22 230V/60
	1089 9415 23			GA22 400V/50
	1089 9415 23			GA22 460V/60 dryer
1205	1089 9415 23	•	2	GA30C 400V/50 Contactor
	1089 9415 31			GA11 230V/60H
	1089 9415 22			GA11 400V/50H
	1089 9415 23			GA15 400V/50H
	1089 9415 33			GA18 230V/60H
	1089 9415 23			GA18 400V/50H
	1089 9415 31			GA22 400V/50H
	1089 9415 32			GA30C 400V/50H
	1089 9415 32			GA15 230V/60H
	1089 9415 41			GA22 230V/60H
	1089 9415 22			GA11 460V/60H dryer
	1089 9415 23			GA15-18 460V/60 phase dryer
	1089 9415 31			GA22 460V/60H dryer
	1089 9415 23			GA11-15 380V/60
	1089 9415 32			GA18-22 380V/60
				GA30C 460V/60H
1210	1089 9415 09	•	1	Contact block 1
1215	1089 9415 55	•	1	Contact block 2
1220	1089 9415 56	•	1	Contact block 2
1230		•	1	Overload relay
	1089 9424 38			GA11 230V/60Hz
	1089 9424 29			GA11 400V/50Hz
	1089 9424 28			GA11 460V/60Hz 3-dryer
	1089 9446 06			GA11-15 380V/60H
	1089 9424 39			GA15 230V/60Hz
	1089 9424 30			GA15 400V/50Hz
	1089 9424 30			GA15-18 460V/60Hz phase dryer
	1089 9424 41			GA18 230V/60Hz
	1089 9424 31			GA18 400V/50Hz

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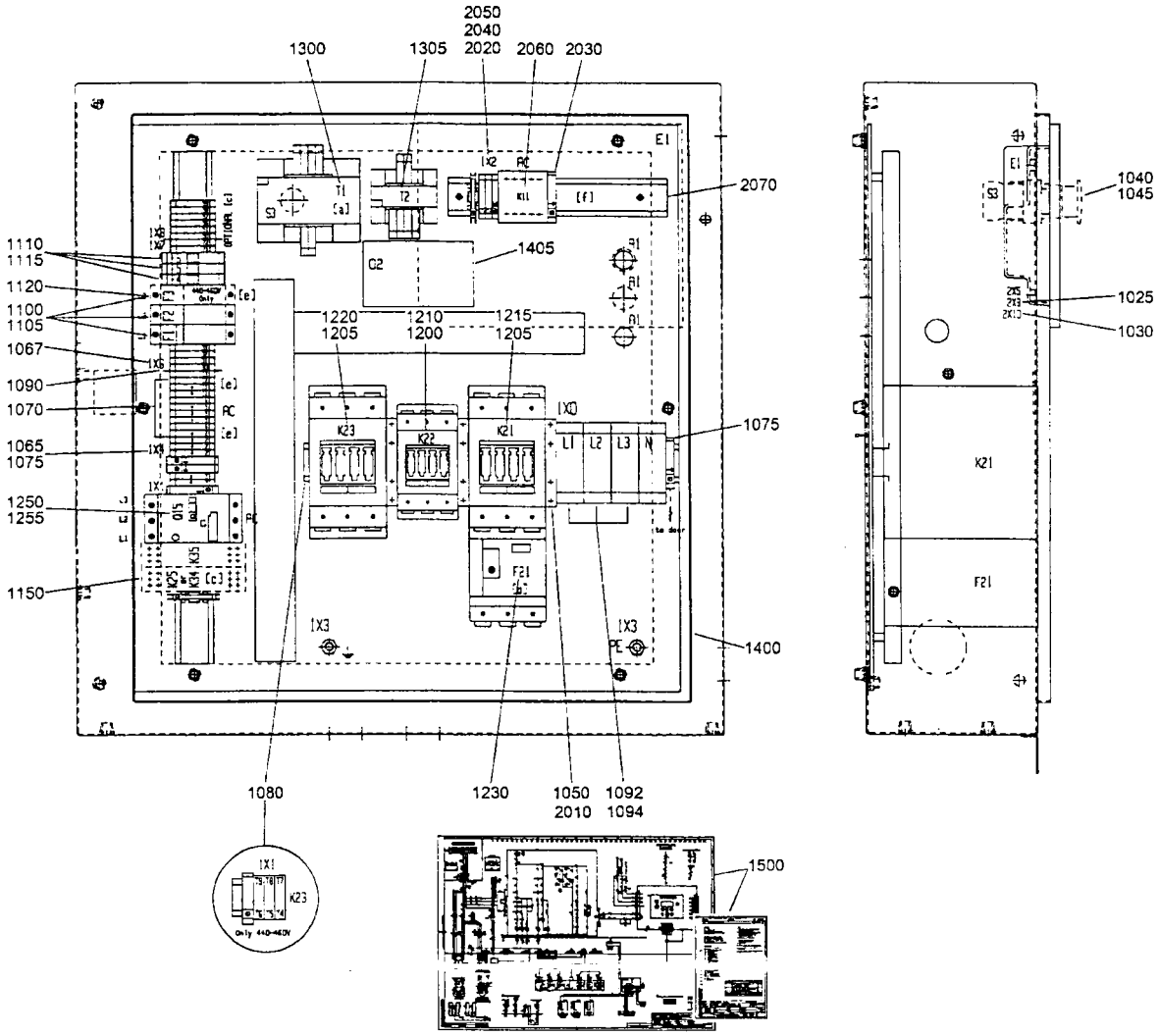
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Start cubicle - Star/Delta - Elektronikon I - IEC

Ref.	Part number	Qty	Name	Remarks
	1089 9446 11		GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1089 9424 46		GA22 230V/60Hz	
	1089 9424 38		GA22 400V/50Hz	
	1089 9424 38		GA22 460V/60Hz 3-phase dryer	
	1089 9424 40		GA30C 400V/50Hz	
1250	1089 9416 01 •	1	Aux.contact block	
1300	•	1	Transformer	
	1089 9436 02		GA11 230V/60Hz	
	1089 9136 94		GA11 400V/50Hz	
	1089 9436 01		GA11 460V/60Hz 3-phase dryer	
	1089 9436 01		GA11-15 380V/60Hz	
	1089 9136 94		GA15 230V/60Hz	
	1089 9436 01		GA15 400V/50Hz	
	1089 9436 02		GA15-18 460V/60Hz 3-phase dryer	
	1089 9136 94		GA18 230V/60Hz	
	1089 9436 02		GA18 400V/50Hz	
	1089 9436 02		GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1089 9136 95		GA22 230V/60Hz	
	1089 9436 02		GA22 400V/50Hz	
	1089 9136 95		GA22 460V/60Hz 3-phase dryer	
1305	1089 9136 92 •	1	GA30C 400V/50Hz	
1255	•	1	Transformer	
	1089 9416 25		GA11 230V/60Hz	
	1089 9416 22		GA11 400V/50Hz	
	1089 9416 22		GA11 460V/60Hz 3-phase dryer	
	1089 9416 22		GA11-15 380V/60Hz	
	1089 9416 25		GA15 230V/60Hz	
	1089 9416 22		GA15 400V/50Hz	
	1089 9416 22		GA15-18 460V/60Hz 3-phase dryer	
	1089 9416 25		GA18 230V/60Hz	
	1089 9416 21		GA18 400V/50Hz	
	1089 9416 22		GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1089 9416 25		GA22 230V/60Hz	
	1089 9416 22		GA22 400V/50Hz	
	1089 9416 22		GA22 460V/60Hz 3-phase dryer	
	1089 9416 23		GA30C 400V/50Hz	
1400	•	1	Mounting plate	
	1622 0070 00		GA11 230V 60Hz	
	1622 0070 00		GA11 230V/60Hz	
	1622 0070 00		GA11 400V/50Hz	
	1622 0070 01		GA11 460V/60Hz 3-phase dryer	
	1622 0070 00		GA11-15 380V/60Hz	
	1622 0070 00		GA15 230V 60Hz	
	1622 0070 00		GA15 400V/50Hz	
	1622 0070 01		GA15-18 460V/60Hz 3-phase dryer	
	1622 0070 00		GA18 230V/60Hz	
	1622 0070 00		GA18 400V/50Hz	
	1622 0070 00		GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1622 0070 00		GA22 230V/60Hz	
	1622 0070 00		GA22 400V/50Hz	
	1622 0070 01		GA22 460V/60Hz 3-phase dryer	
	1622 0070 00		GA30C 400V/50Hz	
1405	1613 6639 00 •	1	Data plate	
1500		1	Service dias	
	9820 3554 01		GA11 230V	
	9820 3554 01		GA11 400V	
	9820 3554 02		GA11 460V dryer	
	9820 3554 01		GA11-15 38	
	9820 3554 01		GA15 220V	
	9820 3554 02		GA15 400V	
	9820 3554 01		GA15-18 46 dryer	
	9820 3554 01		GA18 230V/	
	9820 3554 01		GA18 400V/	
	9820 3554 01		GA18-22 380 460V/60Hz	
	9820 3554 01		GA22 230V/6	
	9820 3554 02		GA22 400V/5	
	9820 3554 01		GA22 460V/6 dryer	
			GA30C 400V/	
	1900 2051 80	1	**Dryer rail**	
	1900 2051 80		GA11-15 FF 4	
	1900 2051 81		GA18 FF 400V	
	1900 2051 81		GA22 FF 400V	
	1900 2051 82		GA30C FF 400	
			GA11-15 FF 46	
	1900 2051 82		phase dryer	
			GA18-22 FF 46	
	1900 2051 82		phase dryer	
	1900 2051 83		GA30C FF 460V	
	1900 2051 83		GA11-15 FF 200	
	1900 2051 83		GA18-22 FF 200	
	1900 2051 83		GA11-15 FF 230	
	1900 2051 83		GA18-22 FF 230	
	1900 2051 83		GA30C FF 230V	
	1900 2051 84		GA30C FF 200-2	
			GA11-15 FF 380V trafo	
	1900 2051 84		GA18-22 FF 380V trafo	
2010	•	1	Terminal	
	1089 0506 06		GA11-15-18 FF 40 50Hz	
	1089 0506 03		GA22-30C FF 400	
2020	1089 0506 27 •	1	Terminal	
2030	1089 0506 30 •	1	End bracket	
2040	•	1	Terminal	
	1089 0506 60		GA22-30C FF 400V	
2050	•		Terminal	
	1089 0506 63	1	GA11-15-18 FF 400 50Hz	
	1089 0506 62	1	GA22-30C FF 400V	
	1089 0506 63	1	GA11-15-18-22 FF 4 60Hz 3-phase dryer	
	1089 0506 62	2	FF 200-230V	
	1089 0506 62	2	FF with trafo	
2060	•	1	Contactor	
	1089 9415 11		GA11-15-18 FF 400V 50Hz	
	1089 9415 11		GA22-30C FF 400V+	
	1089 9415 11		GA11-15-18-22 FF 46 60Hz 3-phase dryer	
	1089 9415 12		FF 200-230V	
	1089 9415 12		FF with trafo	
2070	9139 5000 16 •	AR	Rail	

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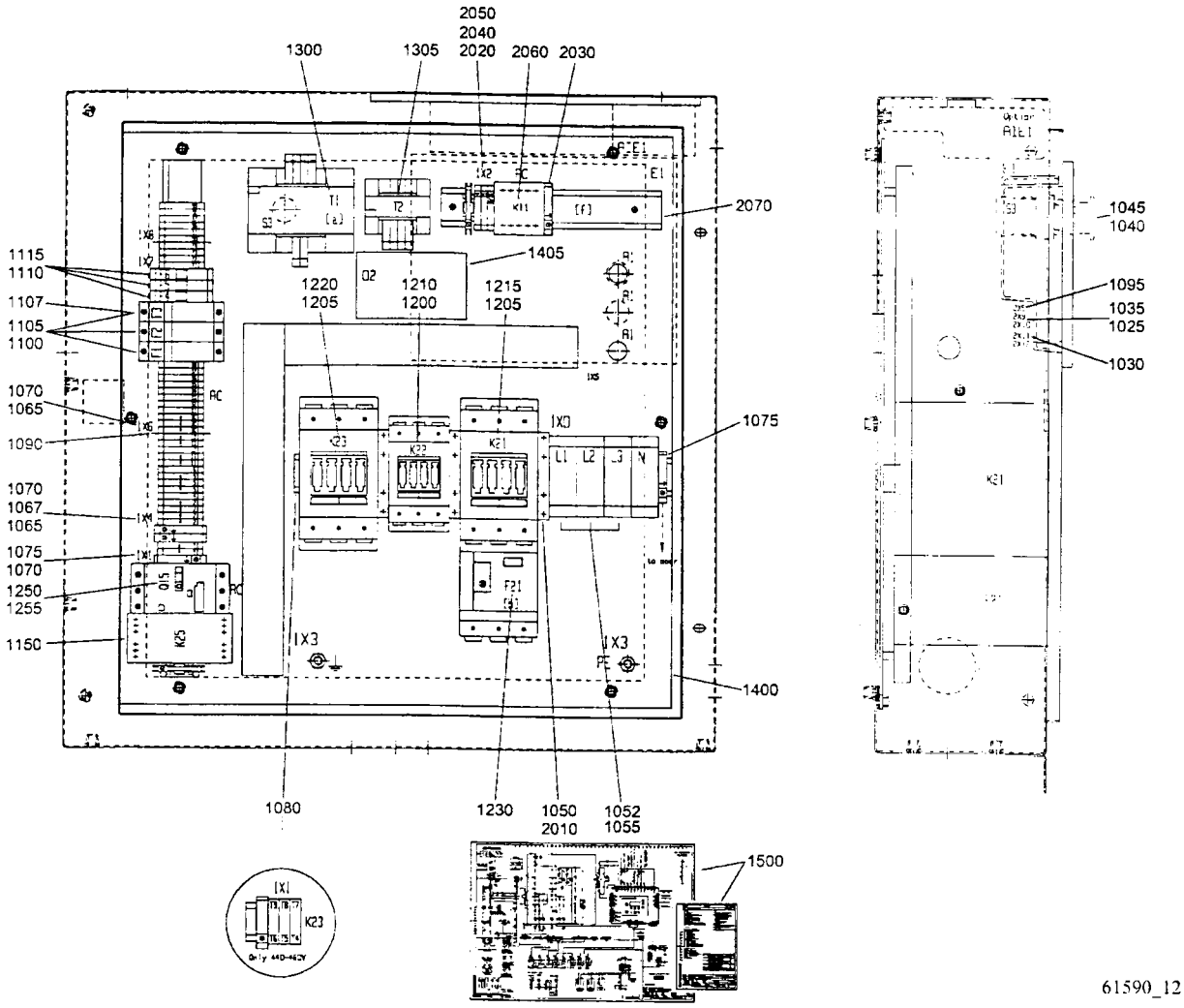
Start cubicle - Star / Delta - Elektronikon II - IEC



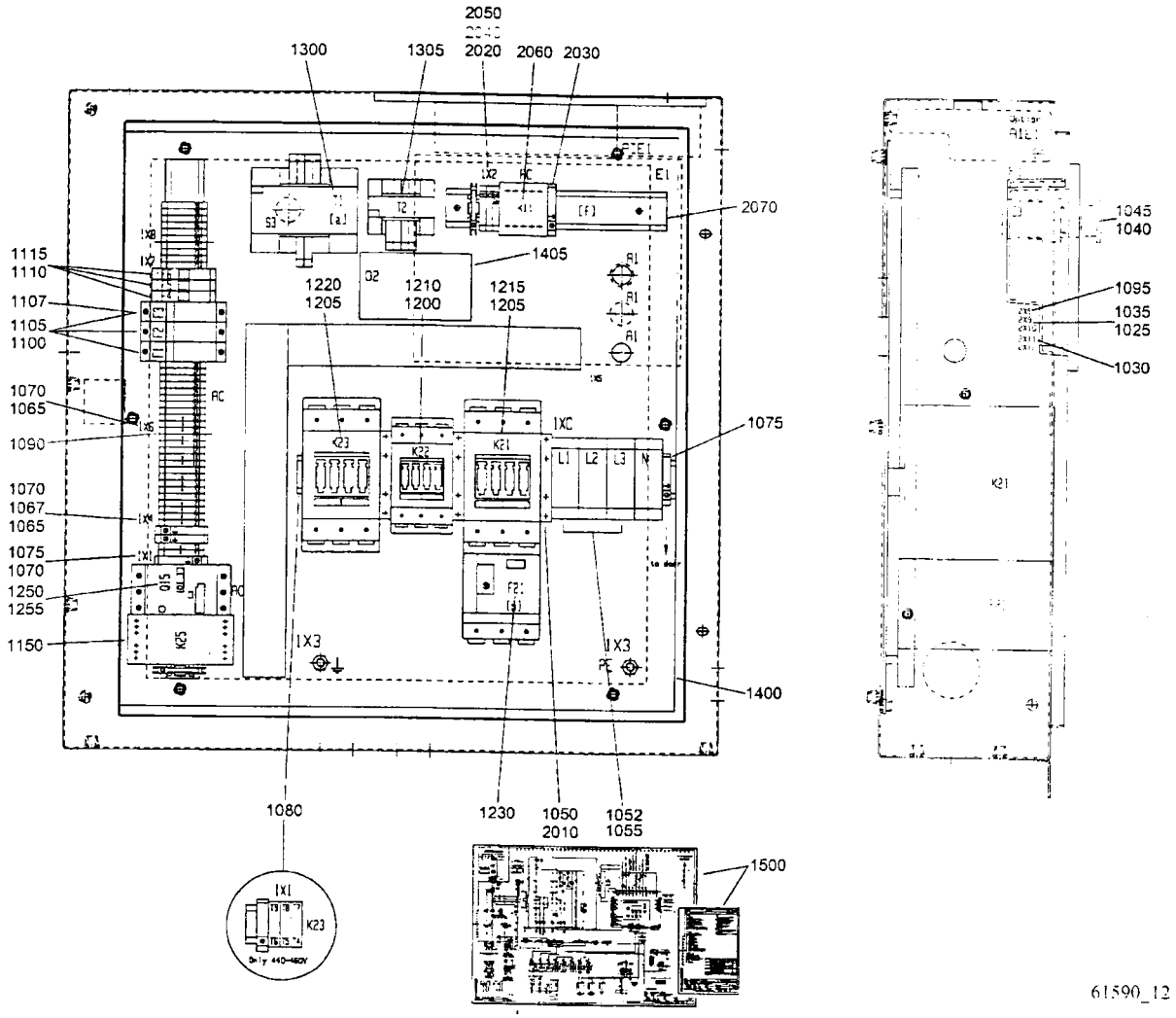
Ref.	Part number	Qty	Name	Remarks
		1	Electr. panel	
	1900 2051 51		GA11 230V/50Hz	
	1900 2051 52		GA11 400V/50Hz	
	1900 2051 63		GA11 460V/60Hz	
	1900 2051 71		GA11-15 380V/60Hz	
	1900 2051 53		GA15 230V/50Hz	
	1900 2051 61		GA15 230V/60Hz	
	1900 2051 54		GA15 400V/50Hz	
	1900 2051 64		GA15-18 460V/60Hz	
	1900 2051 55		GA18 230V/50Hz	
	1900 2051 56		GA18 400V/50Hz	
	1900 2051 57		GA22 230V/50Hz	
	1900 2051 62		GA22 230V/60Hz	
	1900 2051 58		GA22 400V/50Hz	
	1900 2051 65		GA22 460V/60Hz	
	1900 2051 59		GA30C 230V/50Hz	
	1900 2051 60		GA30C 400V/50Hz	
	1900 2051 72		GA30C 460V/60Hz, GA18-22 380V/60Hz	
1025	1088 0031 13 •	1	Connector	

Ref.	Part number	Qty	Name	Remarks
1030	1088 0031 29 •	1	Connector	
1035	1088 0031 49 •	1	Connector	
1040	1089 0362 50 •	2	Contact block	
1045	1089 0362 51 •	1	Push button	
1050	1089 0506 04 •	1	Terminal	
1052	•	3	Terminal	
	1089 0506 15		GA22 230V/60Hz	
	1089 0506 15		GA30C 230V/50Hz	
1055	•	3	Cover	
	1089 0542 10		GA22 230V/60Hz	
	1089 0542 10		GA30C 230V/50Hz	
1065	1089 0506 64 •	2	Terminal	
1067	•	1	Terminal	
	1089 0506 63		GA15-18 460V/60Hz 3-phase dryer	
	1089 0506 63		GA22 460V/60Hz 3-phase dryer	
1070	1089 0506 62 •	4	Terminal	
1075	1089 0506 27 •	4	Terminal	

Ref.	Part number	Qty	Name	Remarks
1080	•		Terminal	
	1089 0506 63	2	GA11 460V/60Hz 3-phase dryer	
	1089 0506 61	1	GA15-18 460V/60Hz 3-phase dryer	
	1089 0506 61	1	GA22 460V/60Hz 3-phase dryer	
	1089 0506 07	1	GA30C 460V/60Hz, GA22 380V/60Hz	
1090	1089 0506 23 •	1	Barrier	
1095	1088 0031 02 •	1	Connector	
1100	1089 0612 01 •	3	Fuse holder	
1105	•		Fuse	
	1089 0612 26	3	GA11 460V/60Hz 3-phase dryer	
	1089 0612 26	3	GA15-18 460V/60Hz 3-phase dryer	
	1089 0612 26	3	GA22 460V/60Hz 3-phase dryer	
	1089 0612 61	2	GA11 230V/50Hz	
	1089 0612 61	2	GA11 400V/50Hz	
	1089 0612 61	2	GA11-15 380V/60Hz	
	1089 0612 61	2	GA15 230V/50Hz	
	1089 0612 61	2	GA15 230V/60Hz	
	1089 0612 61	2	GA15 400V/50Hz	
	1089 0612 61	2	GA18 230V/50Hz	
	1089 0612 61	2	GA18 400V/50Hz	
	1089 0612 61	2	GA18-22 380V 60Hz, GA30C 460V/60Hz	
	1089 0612 61	2	GA22 230V/50Hz	
	1089 0612 61	2	GA22 230V/60Hz	
	1089 0612 61	2	GA22 400V/50Hz	
	1089 0612 61	2	GA30C 230V/50Hz	
	1089 0612 61	2	GA30C 400V/50Hz	
1107	•	1	Fuse	
	1089 0612 24		GA11 400V/50Hz	
	1089 0612 24		GA11-15 380V/60Hz	
	1089 0612 24		GA15 230V/50Hz	
	1089 0612 24		GA15 230V/60Hz	
	1089 0612 24		GA15 400V/50Hz	
	1089 0612 24		GA18 230V/50Hz	
	1089 0612 24		GA18 400V/50Hz	
	1089 0612 24		GA22 230V/50Hz	
	1089 0612 24		GA22 230V/60Hz	
	1089 0612 24		GA22 400V/50Hz	
	1089 0612 24		GA30C 230V/50Hz	
	1089 0612 24		GA30C 400V/50Hz	
	1089 0612 24		GA30C 460V 60Hz, GA18-22 380V 60Hz	
1110	1089 0506 16 •	3	Fuse terminal	
1115	1089 9037 09 •	3	Fuse	
1150	•	1	Phase sequence relay	
	1089 9461 02		GA11 230V/50Hz	
	1089 9461 01		GA11 400V/50Hz	
	1089 9461 03		GA11 460V 60Hz 3-phase dryer	
	1089 9461 03		GA11-15 380V/60Hz	
	1089 9461 01		GA15 230V/50Hz	
	1089 9461 02		GA15 230V/60Hz	
	1089 9461 01		GA15 400V/50Hz	
	1089 9461 03		GA15-18 460V/60Hz 3-phase dryer	
	1089 9461 01		GA18 230V/50Hz	
	1089 9461 01		GA18 400V/50Hz	
	1089 9461 03		GA18-22 380V/60Hz, GA30C 460V/60Hz	

Ref.	Part number	Qty	Name	Remarks
	1089 9461 01		GA11 230V/50Hz	
	1089 9461 02		GA11 400V/50Hz	
	1089 9461 01		GA11-15 380V/60Hz	
	1089 9461 03		GA15 230V/50Hz	
	1089 9461 01		GA15 230V/60Hz	
	1089 9461 01		GA15 400V/50Hz	
1200	•	1	GA18 230V/50Hz	
	1089 9415 21		GA18 400V/50Hz	
	1089 9415 30		GA18-22 380V/60Hz, GA30C 460V/60Hz	
	1089 9415 30		GA22 230V/50Hz	
	1089 9415 21		GA22 230V/60Hz	
	1089 9415 23		GA22 400V/50Hz	
	1089 9415 23		GA30C 230V/50Hz	
	1089 9415 21		GA30C 400V/50Hz	
	1089 9415 21		GA30C 460V 60Hz, GA18-22 380V 60Hz	
	1089 9415 31		GA22 230V/50Hz	
	1089 9415 21		GA22 230V/60Hz	
	1089 9415 31		GA22 400V/50Hz	
	1089 9415 31		GA30C 230V/50Hz	
	1089 9415 23		GA30C 400V/50Hz	
	1089 9415 23		GA30C 460V 60Hz, GA18-22 380V 60Hz	
	1089 9415 33		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 23		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 23		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 31		GA30C 460V 60Hz, GA22 380V 60Hz	
1205	•	2	GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 31		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 22		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 22		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 23		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 32		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 32		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 23		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 23		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 33		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 23		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 41		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 41		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 31		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 31		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 42		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9415 32		GA30C 460V 60Hz, GA22 380V 60Hz	
1210	1089 9415 09 •	1	GA30C 460V 60Hz, GA22 380V 60Hz	
1215	1089 9415 55 •	1	GA30C 460V 60Hz, GA22 380V 60Hz	
1220	1089 9415 56 •	1	GA30C 460V 60Hz, GA22 380V 60Hz	
1230	•	1	GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 29		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 28		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9446 06		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 39		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 39		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 30		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 30		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 41		GA30C 460V 60Hz, GA22 380V 60Hz	
	1089 9424 31		GA30C 460V 60Hz, GA22 380V 60Hz	

16 Start cubicle - Star / Delta - Elektronikon II - IEC



Ref.	Part number		Qty	Name	Remarks
	1089 9424 46			GA22 230V/50Hz	
	1089 9424 46			GA22 230V/60Hz	
	1089 9424 38			GA22 400V/50Hz	
	1089 9424 38			GA22 460V/60Hz 3-phase dryer	
	1089 9424 47			GA30C 230V/50Hz	
	1089 9424 40			GA30C 400V/50Hz	
	1089 9446 11			GA30C 460V/60Hz, GA18-22 380V/60Hz	
1250	1089 9416 01	•	1	Aux.contact block	
1255		•	1	Circuit breaker	
	1089 9416 24			GA11 230V/50Hz	
	1089 9416 21			GA11 400V/50Hz	
	1089 9416 21			GA11 460V/60Hz 3-phase dryer	
	1089 9416 21			GA11-15 380V/60Hz	
	1089 9416 24			GA15 230V/50Hz	
	1089 9416 24			GA15 230V/60Hz	
	1089 9416 21			GA15 400V/50Hz	

Ref.	Part number		Qty	Name	Remarks
	1089 9416 21			GA15-18 460V/60Hz 3-phase dryer	
	1089 9416 24			GA18 230V/50Hz	
	1089 9416 21			GA18 400V/50Hz	
	1089 9416 24			GA22 230V/50Hz	
	1089 9416 24			GA22 230V/60Hz	
	1089 9416 21			GA22 400V/50Hz	
	1089 9416 21			GA22 460V/60Hz 3-phase dryer	
	1089 9416 26			GA30C 230V/50Hz	
	1089 9416 23			GA30C 400V/50Hz	
	1089 9416 22			GA30C 460V/60Hz, GA18-22 380V/60Hz	
1300		•	1	Transformer	
	1089 9436 02			GA11 230V/50Hz	
	1089 9136 94			GA11 400V/50Hz	
	1089 9436 01			GA11 460V/60Hz 3-phase dryer	
	1089 9436 01			GA11-15 380V/60Hz	

Ref.	Part number	Qty	Name	Remarks
	1089 9136 95		GA15 230V/50Hz	
	1089 9436 02		GA15 230V/60Hz	
	1089 9136 94		GA15 400V/50Hz	
	1089 9436 01		GA15-18 460V/60Hz 3-phase dryer	
	1089 9436 02		GA18 230V/50Hz	
	1089 9136 94		GA18 400V/50Hz	
	1089 9136 95		GA22 230V/50Hz	
	1089 9436 02		GA22 230V/60Hz	
	1089 9136 95		GA22 400V/50Hz	
	1089 9436 02		GA22 460V/60Hz 3-phase dryer	
	1089 9436 02		GA30C 230V/50Hz	
	1089 9136 95		GA30C 400V/50Hz	
	1089 9436 02		GA30C 460V/60Hz, GA18-22 380V/60Hz	
1305	1089 9136 92 •	1	Transformer	
1400	•	1	Mounting plate	
	1622 0070 00		GA11 230V/50Hz	
	1622 0070 00		GA11 400V/50Hz	
	1622 0070 01		GA11 460V/60Hz 3-phase dryer	
	1622 0070 00		GA11-15 380V/60Hz	
	1622 0070 00		GA15 230V/50Hz	
	1622 0070 00		GA15 230V/60Hz	
	1622 0070 00		GA15 400V/50Hz	
	1622 0070 01		GA15-18 460V/60Hz 3-phase dryer	
	1622 0070 00		GA18 230V/50Hz	
	1622 0070 00		GA18 400V/50Hz	
	1622 0070 00		GA22 230V/50Hz	
	1622 0070 00		GA22 230V/60Hz	
	1622 0070 00		GA22 400V/50Hz	
	1622 0070 01		GA22 460V/60Hz 3-phase dryer	
	1622 0070 00		GA30C 230V/50Hz	
	1622 0070 00		GA30C 400V/50Hz	
	1622 0070 00		GA30C 460V/60Hz, GA18-22 380V/60Hz	
1405	1613 6639 00 •	1	Data plate	
1500	•	1	Service diagram	
	9820 3554 11		GA11 230V/50Hz	
	9820 3554 11		GA11 400V/50Hz	
	9820 3554 12		GA11 460V/60Hz 3-phase dryer	
	9820 3554 11		GA11-15 380V/60Hz	
	9820 3554 11		GA15 230V/50Hz	
	9820 3554 11		GA15 230V/60Hz	
	9820 3554 11		GA15 400V/50Hz	
	9820 3554 12		GA15-18 460V/60Hz 3-phase dryer	
	9820 3554 11		GA18 230V/50Hz	
	9820 3554 11		GA18 400V/50Hz	
	9820 3554 11		GA22 230V/50Hz	
	9820 3554 11		GA22 230V/60Hz	
	9820 3554 11		GA22 400V/50Hz	
	9820 3554 12		GA22 460V/60Hz 3-phase dryer	
	9820 3554 11		GA30C 230V/50Hz	
	9820 3554 11		GA30C 400V/50Hz	
	9820 3554 11		GA30C 460V/60Hz, GA18-22 380V/60Hz	

Ref.	Part number	Qty	Name	Remarks
				1
	1900 2051 80			
	1900 2051 80			
	1900 2051 81			
	1900 2051 81			
	1900 2051 82			
	1900 2051 82			
	1900 2051 82			
	1900 2051 83			
	1900 2051 83			
	1900 2051 83			
	1900 2051 83			
	1900 2051 83			
	1900 2051 83			
	1900 2051 84			
	1900 2051 84			
2010	•	1		
	1089 0506 06			
	1089 0506 03			
2020	1089 0506 27 •	1		
2030	1089 0506 30 •	1		
2040	•	1		
	1089 0506 60			
2050	•			
	1089 0506 63	1		
	1089 0506 62	1		
	1089 0506 63	1		
	1089 0506 62	2		
	1089 0506 62	2		
2060	•	1		
	1089 9415 11			
	1089 9415 11			
	1089 9415 11			
	1089 9415 12			
	1089 9415 12			
2070	9139 5000 16 •	AR	Rail	

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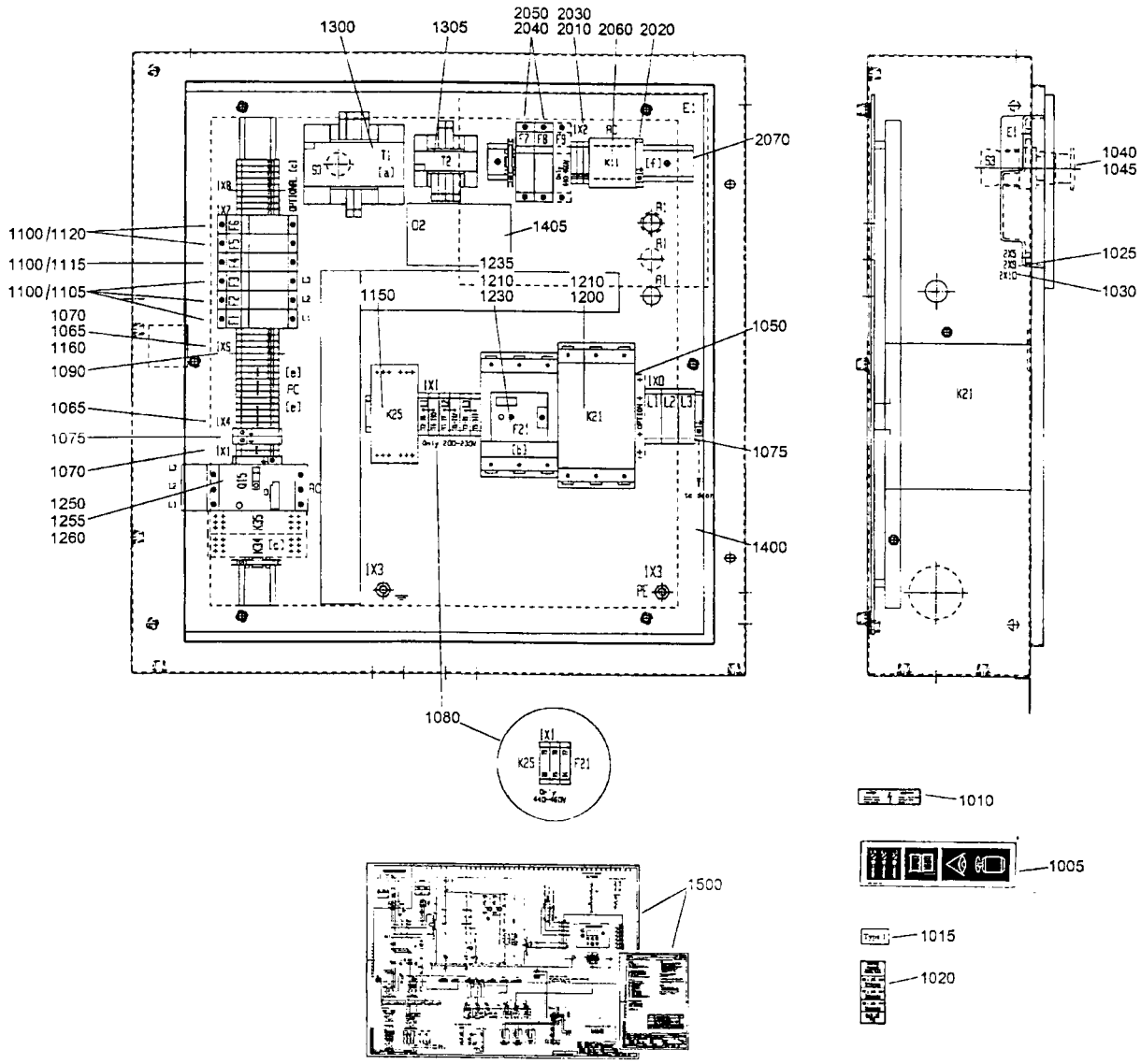
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1080
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1005
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1500

61599_12

Start cubicle - DOL - Elektronikon I - 60Hz - CSA/UL

Ref.	Part number		Qty	Name	Remarks
			1	**Electr. panel**	
	1900 2056 01			GA11 200-230V	
	1900 2056 02			GA15 200-230V	
	1900 2056 03			GA18 200-230V	
	1900 2056 04			GA18-22 200V, GA22 230V	
	1900 2056 05			GA11 460V 3-phase dryer	
	1900 2056 06			GA15-18 460V 3-phase dryer	
	1900 2056 07			GA22 460V 3-phase dryer	
	1900 2056 08			GA30C 460V	
	1900 2056 09			GA11 575V	
	1900 2056 10			GA15 575V	
	1900 2056 11			GA18-22 575V	
	1900 2056 12			GA30C 575V	
1005	1079 9901 68	•	1	Warning label	
1010	1613 3431 00	•	1	Label	
1015	1079 9911 01	•	1	Label	
1020	1079 9922 51	•	1	Label	
1025	1088 0031 06	•	1	Connector	
1030	1088 0031 32	•	1	Connector	
1040	1089 0362 50	•	2	Contact block	
1045	1089 0362 51	•	1	Push button	
1050		•	1	Terminal	
	1089 0506 04			GA11 200-230V	
	1089 0506 04			GA15 200-230V	
	1089 0506 07			GA11 460V 3-phase dryer	
	1089 0506 07			GA15-18 460V 3-phase dryer	
	1089 0506 04			GA22 460V 3-phase dryer	
	1089 0506 04			GA30C 460V	
	1089 0506 07			GA11 575V	
	1089 0506 07			GA15 575V	
	1089 0506 07			GA18-22 575V	
	1089 0506 04			GA30C 575V	
1065		•		Terminal	
	1089 0506 63		4	GA11 200-230V	
	1089 0506 63		4	GA15 200-230V	
	1089 0506 63		4	GA18 230V	
	1089 0506 63		4	GA18-22 200V, GA22 230V	
	1089 0506 64		1	GA11 460V/60Hz 3-phase dryer	
	1089 0506 63		1	GA15-18 460V/60Hz 3-phase dryer	
	1089 0506 64		1	GA15-18 460V/60Hz 3-phase dryer	
	1089 0506 64		1	GA22 460V/60Hz 3-phase dryer	
	1089 0506 63		4	GA30C 460V/60Hz	
	1089 0506 63		4	GA11 575V	
	1089 0506 63		4	GA15 575V	
	1089 0506 63		4	GA18-22 575V	
	1089 0506 63		4	GA30C 575V	
1070		•		Terminal	
	1089 0506 62		3	GA11 200-230V	
	1089 0506 62		3	GA15 200-230V	
	1089 0506 62		3	GA18 230V	
	1089 0506 62		3	GA18-22 200V, GA22 230V	
	1089 0506 62		5	GA11 460V 3-phase dryer	
	1089 0506 62		5	GA15-18 460V 3-phase dryer	
	1089 0506 62		5	GA22 460V 3-phase dryer	
	1089 0506 62		3	GA30C 460V	
	1089 0506 62		3	GA11 575V	
	1089 0506 62		3	GA15 575V	
	1089 0506 62		3	GA18-22 575V	
	1089 0506 62		3	GA30C 575V	

Ref.	Part number		Qty	Name	Remarks
1075	1089 0506 27	•	4	Terminal	
1080		•		Terminal	
	1089 0506 06		6	GA11 200-230V	
	1089 0506 06		6	GA15 200-230V	
	1089 0506 03		6	GA18 230V	
	1089 0506 03		6	GA18-22 200V, GA22 23	
	1089 0506 63		2	GA11 460V 3-phase drye	
	1089 0506 61		1	GA15-18 460V 3-phase d	
	1089 0506 61		1	GA22 460V 3-phase drye	
	1089 0506 07		1	GA30C 460V	
1090	1089 0506 23	•	1	Barrier	
1100	1089 0612 01	•	6	Fuse holder	
1105	1089 9168 26	•	3	Fuse	
1115	1089 9168 07	•	1	Fuse	
1120	1089 9168 09	•	2	Fuse	
1150	1089 9461 02		1	Phase sequence relay	
1160		•	1	Terminal	
	1089 0506 63			GA22 460V 3-phase dryer	
1200		•	1	Contactor	
	1089 9415 45			GA11 200-230V	
	1089 9415 46			GA15 200-230V	
	1089 9221 48			GA18 230V	
	1089 9221 93			GA18-22 200V, GA22 230	
	1089 9415 34			GA11 460V 3-phase dryer	
	1089 9415 36			GA15-18 460V 3-phase dry	
	1089 9415 45			GA22 460V 3-phase dryer	
	1089 9415 46			GA30C 460V	
	1089 9415 34			GA11 575V	
	1089 9415 34			GA15 575V	
	1089 9415 36			GA18-22 575V	
	1089 9415 45			GA30C 575V	
1210		•	4	Terminal cover	
	1089 9362 09			GA18 230V	
	1089 9362 09			GA18-22 200V, GA22 230V	
1230		•	1	Overload relay	
	1089 9424 46			GA11 200-230V	
	1089 9424 47			GA15 200-230V	
	1089 9205 12			GA18 230V	
	1089 9205 13			GA18-22 200V, GA22 230V	
	1089 9424 38			GA11 460V 3-phase dryer	
	1089 9424 39			GA15-18 460V 3-phase drye	
	1089 9424 45			GA22 460V 3-phase dryer	
	1089 9424 46			GA30C 460V	
	1089 9424 37			GA11 575V	
	1089 9424 38			GA15 575V	
	1089 9424 39			GA18-22 575V	
	1089 9424 45			GA30C 575V	
1235		•	1	Connector/adapt	
	1089 9424 99			GA11 200-230V	
	1089 9424 99			GA15 200-230V	
	1089 9424 98			GA11 460V 3-phase dryer	
	1089 9424 98			GA15-18 460V 3-phase dryer	
	1089 9424 99			GA22 460V 3-phase dryer	
	1089 9424 99			GA30C 460V	
	1089 9424 98			GA11 575V	
	1089 9424 98			GA15 575V	
	1089 9424 98			GA18-22 575V	
	1089 9424 99			GA30C 575V	

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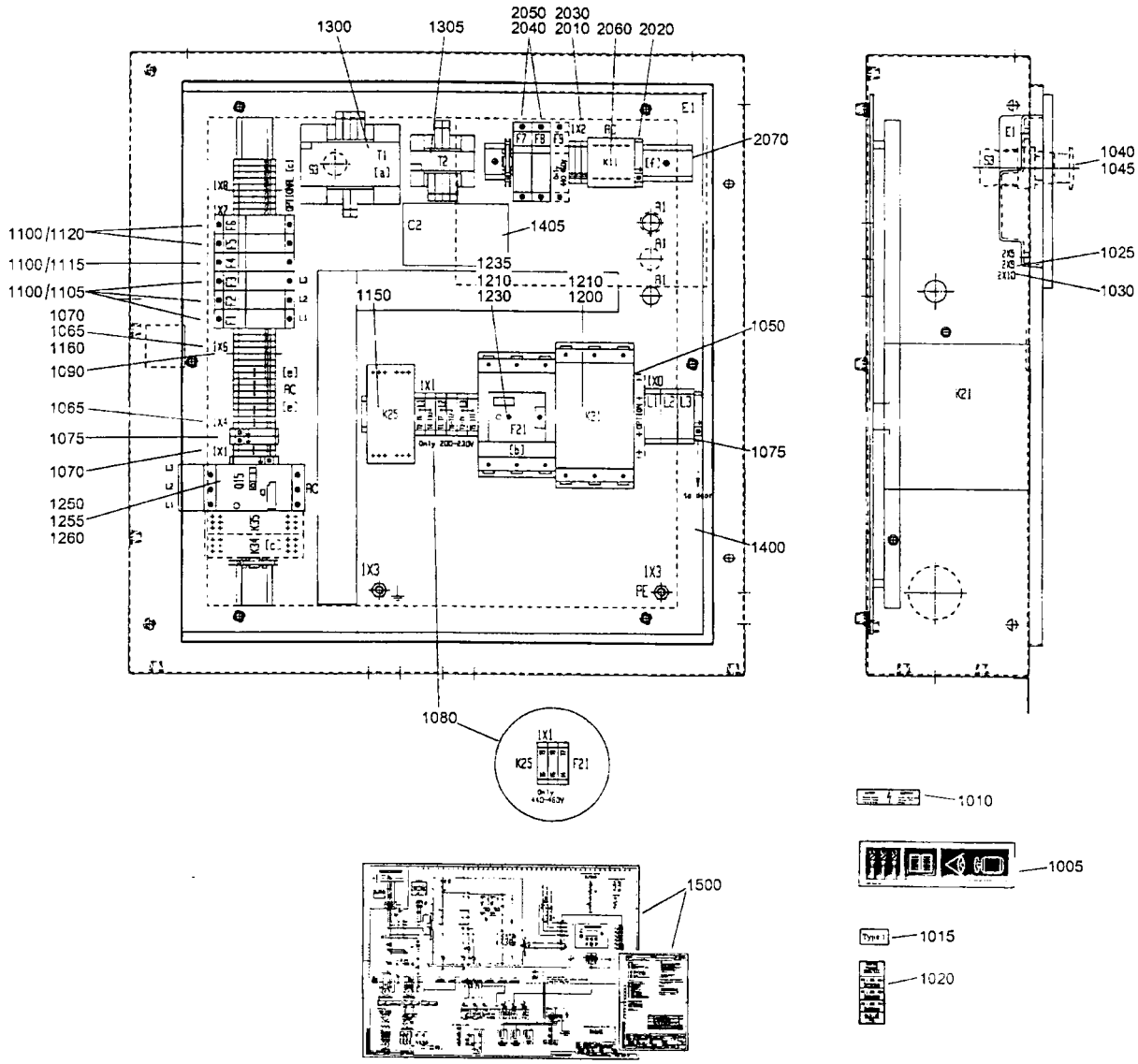
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2040 2010 2060 2020
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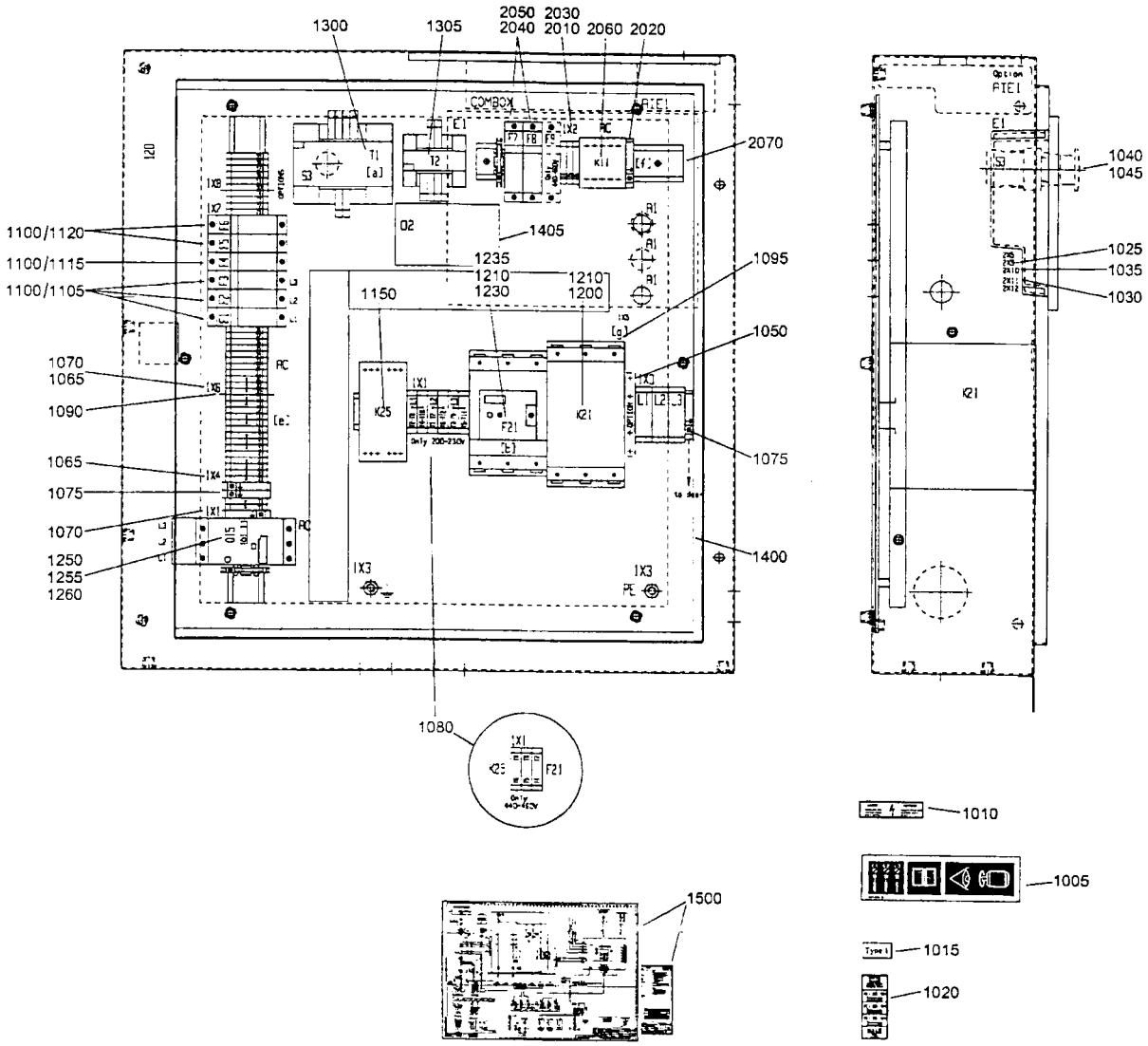
Start cubicle - DOL - Elektronikon I - 60Hz - CSA/UL

Ref.	Part number		Qty	Name	Remarks
1250	1089 9416 01	•	1	Aux.contact block	
1255		•	1	Circuit breaker	
	1089 9416 65			GA11 200-230V	
	1089 9416 65			GA15 200-230V	
	1089 9416 65			GA18 230V	
	1089 9416 65			GA18-22 200V, GA22 230V	
	1089 9416 62			GA11 460V 3-phase dryer	
	1089 9416 62			GA15-18 460V 3-phase dryer	
	1089 9416 62			GA22 460V 3-phase dryer	
	1089 9416 63			GA30C 460V	
	1089 9416 62			GA11 575V	
	1089 9416 62			GA15 575V	
	1089 9416 62			GA18-22 575V	
	1089 9416 61			GA30C 575V	
1260	1089 9416 75	•	1	Connection block	
1300		•	1	Transformer	
	1089 9436 02			GA11 200-230V	
	1089 9436 02			GA15 200-230V	
	1089 9436 02			GA18 230V	
	1089 9436 02			GA18-22 200V, GA22 230V	
	1089 9436 01			GA11 460V 3-phase dryer	
	1089 9436 01			GA15-18 460V 3-phase dryer	
	1089 9135 03			GA22 460V 3-phase dryer	
	1089 9436 02			GA30C 460V	
	1089 9436 01			GA11 575V	
	1089 9436 01			GA15 575V	
	1089 9436 01			GA18-22 575V	
	1089 9436 02			GA30C 575V	
1305	1089 9135 03	•	1	Transformer	
1400		•	1	Mounting plate	
	1622 0070 00			GA11 200-230V	
	1622 0070 00			GA15 200-230V	
	1622 0070 00			GA18 230V	
	1622 0070 00			GA18-22 200V, GA22 230V	
	1622 0070 01			GA11 460V 3-phase dryer	
	1622 0070 01			GA15-18 460V 3-phase dryer	
	1622 0070 01			GA22 460V 3-phase dryer	
	1622 0070 00			GA30C 460V	
	1622 0070 00			GA11 575V	
	1622 0070 00			GA15 575V	
	1622 0070 00			GA18-22 575V	
	1622 0070 00			GA30C 575V	
1405	1614 8949 00	•	1	Data plate	
1500		•	1	Service diagram	
	9820 3554 03			GA11 200-230V	
	9820 3554 03			GA15 200-230V	
	9820 3554 03			GA18 230V	
	9820 3554 03			GA18-22 200V, GA22 230V	
	9820 3554 04			GA11 460V 3-phase dryer	
	9820 3554 04			GA15-18 460V 3-phase dryer	
	9820 3554 04			GA22 460V 3-phase dryer	
	9820 3554 03			GA30C 460V	
	9820 3554 03			GA11 575V	
	[illegible]			[illegible]	
	9820 3554 03			GA18-22 575V	
	9820 3554 03			GA30C 575V	
			1	**Dryer rail**	
	1900 2056 80			GA18-22 FF 220-230V	
	1900 2056 80			GA11-15 FF 575V	
	1900 2056 80			GA18-22 FF 575V	
	1900 2056 80			GA30C FF 575V	
	1900 2056 80			GA30C FF 460V	
	1900 2056 81			GA11-15 FF 460V 3-phase dryer	

Ref.	Part number		Qty	Name
	1900 2056 81			GA18-22 F dryer
2010	1089 0506 27	•	1	Terminal
2020	1089 0506 30	•	1	End bracke
2030		•		Terminal
	1089 0506 62		2	GA18-22 F, GA11-15-1 575V, GA3
	1089 0506 62		3	GA11-15-1 phase dryer
2040		•		Fuse holder
	1089 0612 01		2	GA18-22 FF GA11-15-18 575V, GA30
	1089 0612 01		3	GA11-15-18 phase dryer
2050		•		Fuse link
	1089 9168 54		3	GA11-15-18- phase dryer
	1089 9168 62		2	GA18-22 FF GA11-15-18- 575V, GA30C
2060		•	1	Contactor
	1089 9415 15			GA18-22 FF GA11-15-18- 575V, GA30C
	1089 9415 14			GA11-15-18-2 phase dryer
2070	9139 5000 16	•	AR	Rail

18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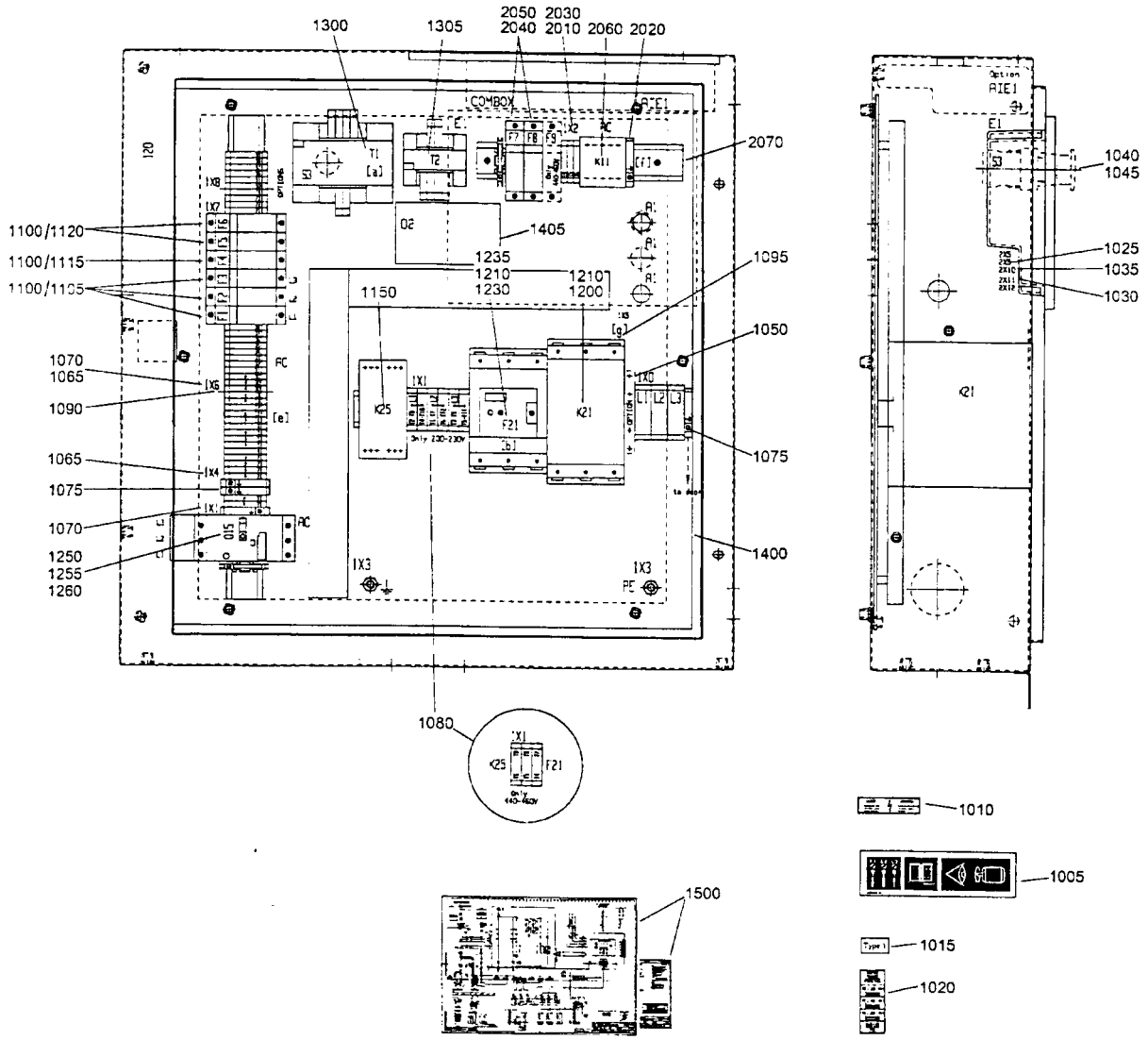
61603_12

Start cubicle - DOL - Elektronikon II 60Hz - CSA/UL

Ref.	Part number	Qty	Name	Remarks
		1	**Electr. panel**	
	1900 2056 51		GA11 200-230V	
	1900 2056 52		GA15 200-230V	
	1900 2056 53		GA18 230V	
	1900 2056 54		GA18-22 200V, GA22 230V	
	1900 2056 55		GA11 460V 3-phase dryer	
	1900 2056 56		GA15-18 460V 3-phase	
	1900 2056 57		GA22 460V 3-phase dryer	
	1900 2056 58		GA30C 460V	
	1900 2056 59		GA11 575V	
	1900 2056 60		GA15 575V	
	1900 2056 61		GA18-22 575V	
	1900 2056 62		GA30C 575V	
1005	1079 9901 68 •	1	Warning label	
1010	1613 3431 00 •	1	Label	
1015	1079 9911 01 •	1	Label	
1020	1079 9922 51 •	1	Label	
1025	1088 0031 13 •	1	Connector	
1030	1088 0031 29 •	1	Connector	
1035	1088 0031 49 •	1	Connector	
1040	1089 0362 50 •	2	Contact block	
1045	1089 0362 51 •	1	Push button	
1050		• 1	Terminal	
	1089 0506 04		GA11 200-230V	
	1089 0506 04		GA15 200-230V	
	1089 0506 07		GA11 460V 3-phase dryer	
	1089 0506 07		GA15-18 460V 3-phase	
	1089 0506 04		GA22 460V 3-phase dryer	
	1089 0506 04		GA30C 460V	
	1089 0506 07		GA11 575V	
	1089 0506 07		GA15 575V	
	1089 0506 07		GA18-22 575V	
	1089 0506 04		GA30C 575V	
1065		•	Terminal	
	1089 0506 64	2	GA11 200-230V	
	1089 0506 64	2	GA15 200-230V	
	1089 0506 64	2	GA18 230V	
	1089 0506 64	2	GA18-22 200V, GA22 230V	
	1089 0506 64	2	GA11 460V 3-phase dryer	
	1089 0506 63	1	GA15-18 460V 3-phase	
	1089 0506 64	2	GA15-18 460V 3-phase	
	1089 0506 63	1	GA22 460V 3-phase dryer	
	1089 0506 64	2	GA22 460V 3-phase dryer	
	1089 0506 64	2	GA30C 460V	
	1089 0506 64	2	GA11 575V	
	1089 0506 64	2	GA15 575V	
	1089 0506 64	2	GA18-22 575V	
	1089 0506 64	2	GA30C 575V	
1070	1089 0506 62 •	3	Terminal	
1075	1089 0506 27 •	4	Terminal	
1080		•	Terminal	
	1089 0506 06	6	GA11 200-230V	
	1089 0506 06	6	GA15 200-230V	
	1089 0506 03	6	GA18 230V	
	1089 0506 03	6	GA18-22 200V, GA22 230V	
	1089 0506 63	2	GA11 460V 3-phase dryer	
	1089 0506 61	1	GA15-18 460V 3-phase	
	1089 0506 61	1	GA22 460V 3-phase dryer	
	1089 0506 07	1	GA30C 460V	
1090	1089 0506 23 •	1	Barrier	
1095	1088 0031 02 •	1	Connector	

Ref.	Part number	Qty	Name
1100	1089 0612 01 •	6	Fuse holde
1105	1089 9168 26 •	3	Fuse
1115	1089 9168 07 •	1	Fuse
1120	1089 9168 09 •	2	Fuse
1150	1089 9461 02 •	1	Phase seq r
1200		• 1	Contactor
	1089 9415 45		GA11 200-
	1089 9415 46		GA15 200-
	1089 9221 48		GA18 230V
	1089 9221 93		GA18-22 20
	1089 9415 34		GA11 460V
	1089 9415 36		GA15-18 46
	1089 9415 45		GA22 460V
	1089 9415 46		GA30C 460V
	1089 9415 34		GA11 575V
	1089 9415 34		GA15 575V
	1089 9415 36		GA18-22 575
	1089 9415 45		GA30C 575V
1210		• 4	Terminal cove
	1089 9362 09		GA18 230V
	1089 9362 09		GA18-22 200
1230		• 1	Overload relay
	1089 9424 46		GA11 200-230
	1089 9424 47		GA15 200-230
	1089 9205 12		GA18 230V
	1089 9205 13		GA18-22 200V
	1089 9424 38		GA11 460V 3-
	1089 9424 39		GA15-18 460V
	1089 9424 45		GA22 460V 3-
	1089 9424 46		GA30C 460V
	1089 9424 37		GA11 575V
	1089 9424 38		GA15 575V
	1089 9424 39		GA18-22 575V
	1089 9424 45		GA30C 575V
1235		• 1	Connector/adapt
	1089 9424 99		GA11 200-230V
	1089 9424 99		GA15 200-230V
	1089 9424 98		GA11 460V 3-ph
	1089 9424 98		GA15-18 460V 3
	1089 9424 99		GA22 460V 3-ph
	1089 9424 99		GA30C 460V
	1089 9424 98		GA11 575V
	1089 9424 98		GA15 575V
	1089 9424 98		GA18-22 575V
	1089 9424 99		GA30C 575V
1250	1089 9416 01 •	1	Aux.contact block
1255		• 1	Circuit breaker
	1089 9416 64		GA11 200-230V
	1089 9416 64		GA15 200-230V
	1089 9416 64		GA18 230V
	1089 9416 64		GA18-22 200V, G
	1089 9416 61		GA11 460V 3-phas
	1089 9416 61		GA15-18 460V 3-p
	1089 9416 61		GA22 460V 3-phas
	1089 9416 63		GA30C 460V
	1089 9416 61		GA11 575V
	1089 9416 61		GA15 575V
	1089 9416 61		GA18-22 575V
	1089 9416 61		GA30C 575V
1260	1089 9416 75 •	1	Connection block

18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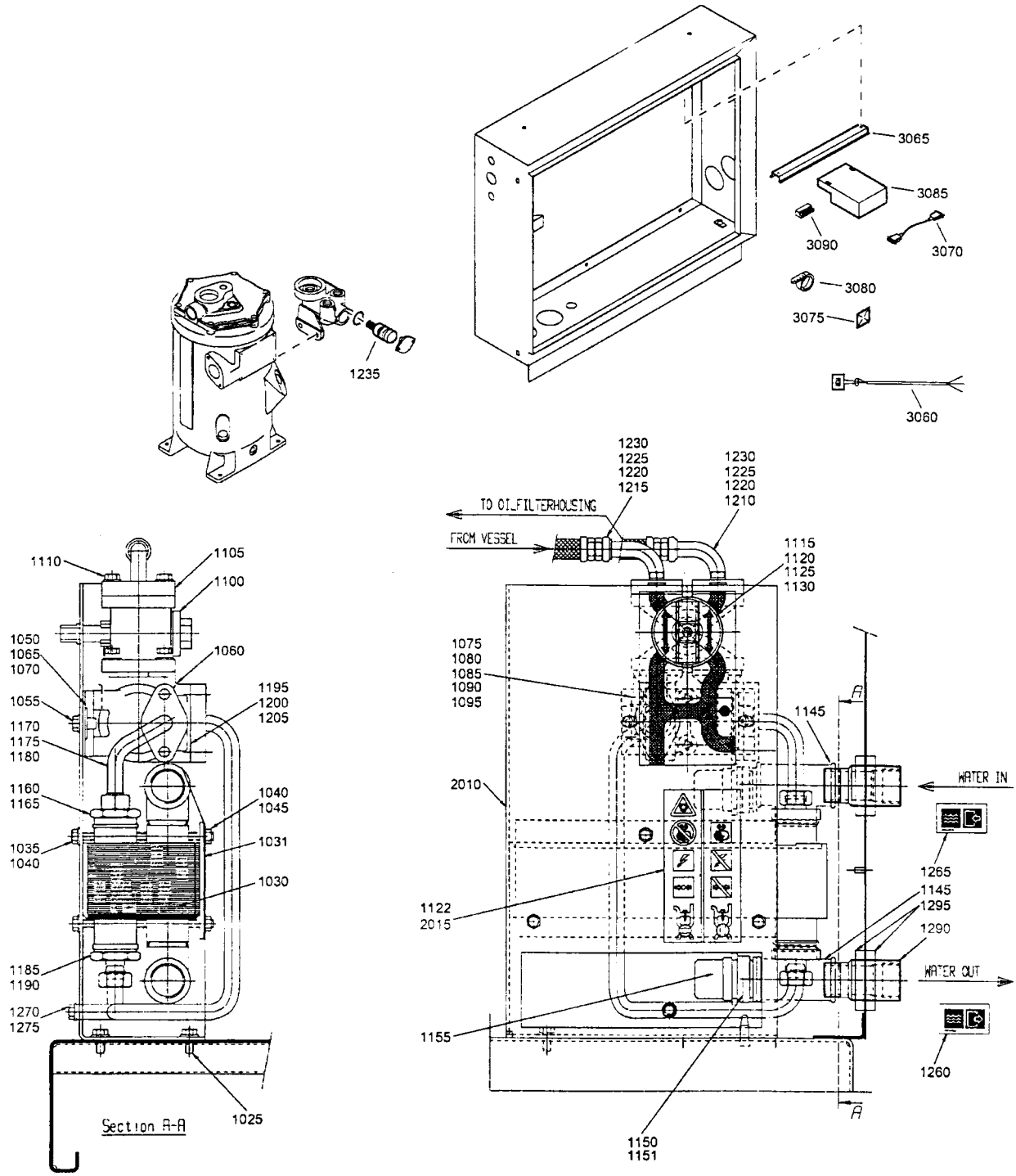
61603_12

Start cubicle - DOL - Elektronikon II 60Hz - CSA/UL

Ref.	Part number		Qty	Name	Remarks
1300		•	1	Transformer	
	1089 9436 02			GA11 200-230V	
	1089 9436 02			GA15 200-230V	
	1089 9436 02			GA18 230V	
	1089 9436 02			GA18-22 200V, GA22 230V	
	1089 9436 01			GA11 460V 3-phase dryer	
	1089 9436 01			GA15-18 460V 3-phase	
	1089 9436 02			GA22 460V 3-phase dryer	
	1089 9436 02			GA30C 460V	
	1089 9436 01			GA11 575V	
	1089 9436 01			GA15 575V	
	1089 9436 01			GA18-22 575V	
	1089 9436 02			GA30C 575V	
1305	1089 9135 03	•	1	Transformer	
1400		•	1	Mounting plate	
	1622 0070 00			GA11 200-230V	
	1622 0070 00			GA15 200-230V	
	1622 0070 00			GA18 230V	
	1622 0070 00			GA18-22 200V, GA22 230V	
	1622 0070 01			GA11 460V 3-phase dryer	
	1622 0070 01			GA15-18 460V 3-phase	
	1622 0070 01			GA22 460V 3-phase dryer	
	1622 0070 00			GA30C 460V	
	1622 0070 00			GA11 575V	
	1622 0070 00			GA15 575V	
	1622 0070 00			GA18-22 575V	
	1622 0070 00			GA30C 575V	
1405	1614 8949 00	•	1	Data plate	
1500		•	1	Service diagram	
	9820 3554 13			GA11 200-230V	
	9820 3554 13			GA15 200-230V	
	9820 3554 13			GA18 230V	
	9820 3554 13			GA18-22 200V, GA22 230V	
	9820 3554 14			GA11 460V 3-phase dryer	
	9820 3554 14			GA15-18 460V 3-phase	
	9820 3554 14			GA22 460V 3-phase dryer	
	9820 3554 13			GA30C 460V	
	9820 3554 13			GA11 575V	
	9820 3554 13			GA15 575V	
	9820 3554 13			GA18-22 575V	
	9820 3554 13			GA30C 575V	
			1	Dryer rail	
	1900 2056 80			GA18-22 FF 220-230V	
	1900 2056 80			GA11-15 FF 575V	
	1900 2056 80			GA18-22 FF 575V	
	1900 2056 80			GA30C FF 575V	
	1900 2056 80			GA30C FF 460V	
	1900 2056 81			GA11-15 FF 460V 3-phase dryer	
	1900 2056 81			GA18-22 FF 460V 3-phase dryer	
2010	1089 0506 27	•	1	Terminal	
2020	1089 0506 30	•	1	End bracket	
2030		•		Terminal	
	1089 0506 62		2	GA18-22 FF 220-230V, GA11-15-18-22-30C FF 575V, GA30C 460V	
	1089 0506 62		3	GA11-15-18-22 FF 460V 3-phase dryer	

Ref.	Part number		Qty	Name
2040		•		Fuse holder
	1089 0612 01		2	GA18-22 FF
				GA11-15-18
				575V, GA30
	1089 0612 01		3	GA11-15-18
				phase dryer
2050		•		Fuse link
	1089 9168 54		3	GA11-15-18
				phase dryer
	1089 9168 62		2	GA18-22 FF
				GA11-15-18
				575V, GA30
2060		•	1	Contactor
	1089 9415 15			GA18-22 FF
				GA11-15-18
				575V, GA30
	1089 9415 14			GA11-15-18
				phase dryer
2070	9139 5000 16	•	AR	Rail

19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Section A-A

61605_15

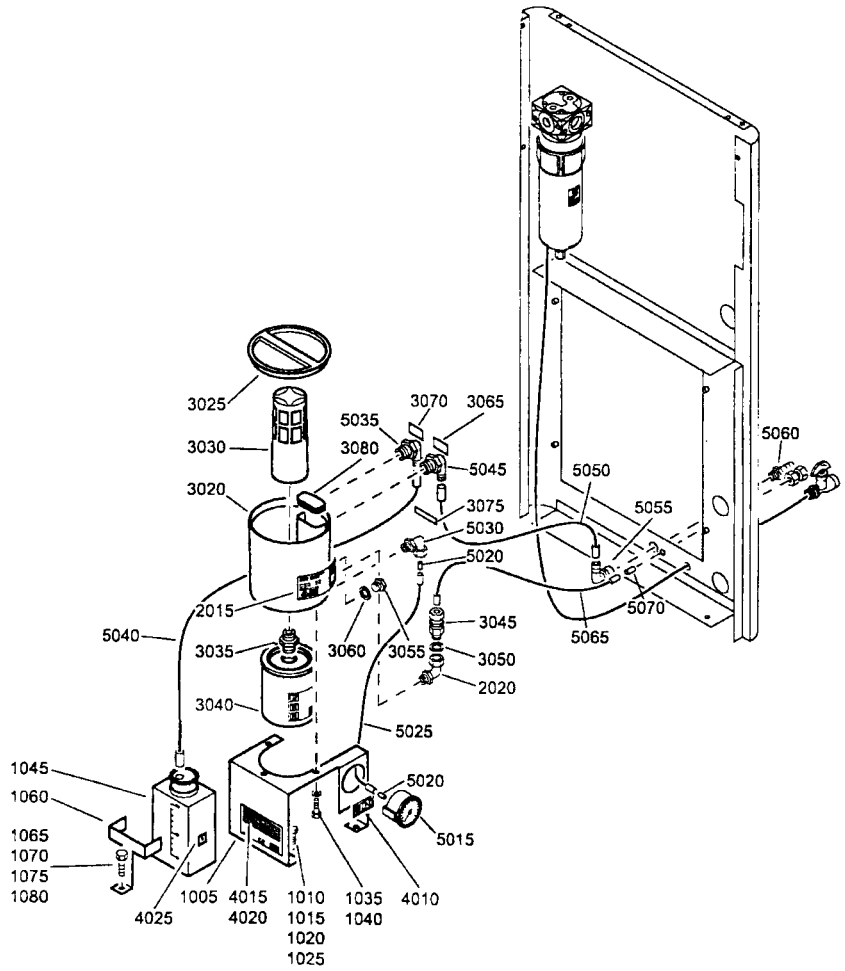
Energy recovery system

19

Ref.	Part number	Qty	Name	Remarks
1025	0226 0301 00	2	Tapping screw	
1030	1613 7805 00	1	Heat exchanger	
1031	1613 7799 00	1	Plate	
1035	0147 1344 03	3	Hexagon bolt	
1040	0301 2335 00	6	Washer	
1045	0266 2110 00	3	Nut	
1050	1613 7061 00	1	Bracket	
1055	1619 2766 00	2	Bolt	
1060	1202 7521 00	1	Therm.housing	
1065	0147 1321 03	2	Hexagon bolt	
1070	0301 2335 00	2	Washer	
1075	1614 6118 00	1	Flange	
1080	0663 2101 95	1	O-ring	
1085	0147 1246 03	2	Hexagon bolt	
1090	0301 2321 00	2	Washer	
1095	1619 7333 00	1	Thermostat 40°C	
1100	1202 7522 00	1	4-way valve	
1105	0663 2102 64	2	O-ring	
1110	0147 1325 03	4	Hexagon bolt	
1115	1202 7689 00	1	Handle	
1120	1202 7683 00	2	Label	
1122	1079 9902 89	1	Warning label	
1125	0147 1321 03	1	Hexagon bolt	
1130	0301 2335 00	1	Washer	
1145	0564 0000 64	2	Tee	
1150	0605 8700 51	2	Bushing	
1151	0661 1000 44	2	Seal washer	
1155	1089 0574 07	1	Temp.sensor	
1160	0571 0035 11	1	Hose connection	
1165	0661 1000 44	1	Seal washer	
1170	1622 0089 00	1	Pipe	
1175	0663 3129 00	1	O-ring	
1180	0147 1325 03	2	Hexagon bolt	

Ref.	Part number	Qty	Name	Remarks
1185	0571 0035 11	1	Hose connection	
1190	0661 1000 44	1	Seal washer	
1195	1622 0090 01	1	Pipe	
1200	0663 3129 00	1	O-ring	
1205	0147 1325 03	2	Hexagon bolt	
1210	1622 0093 00	1	Hose assembly	
1215	1622 0092 00	1	Hose assembly	
1220	0663 3129 00	2	O-ring	
1225	0147 1327 03	4	Hexagon bolt	
1230	0266 2110 00	4	Nut	
1235		1	Thermostat	
	1619 7596 00		65°C	
	1619 7595 00		70°C	
	1619 7493 00		75°C	
	1619 7614 00		83°C	
	1613 7064 02		87°C	
1260	1079 9913 69	1	Inform.label	
1265	1079 9913 79	1	Inform.label	
1270	0686 4201 00	1	Hexagon plug	
1275	0653 1046 00	1	Flat gasket	
1290	1622 0094 00	2	Pipe	
1295	0295 3109 00	4	Nut	
	1622 0088 81	**1**	**Support ass'y**	
2010	•	1	Support	
2015	1079 9902 89 •	1	Warning label	
2020	1202 7682 00 •	1	Label	
3060	1622 0663 03	2	Cable temp.sens	
3065	1622 0665 02	1	Din-rail	
3070	1622 0661 01	1	Cable mkiv	
3075	1088 1305 01	3	Push mount	
3080	1088 1301 01	4	Cable strip	
3085	1900 0710 41	1	AIE1 elektronik	
3090	1088 0031 01	1	Connector	

20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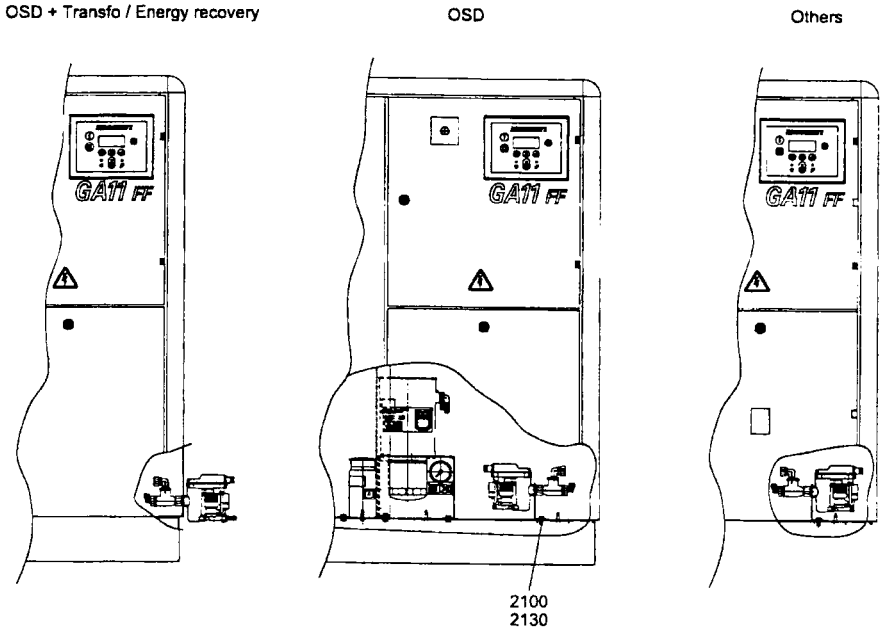
61606_06

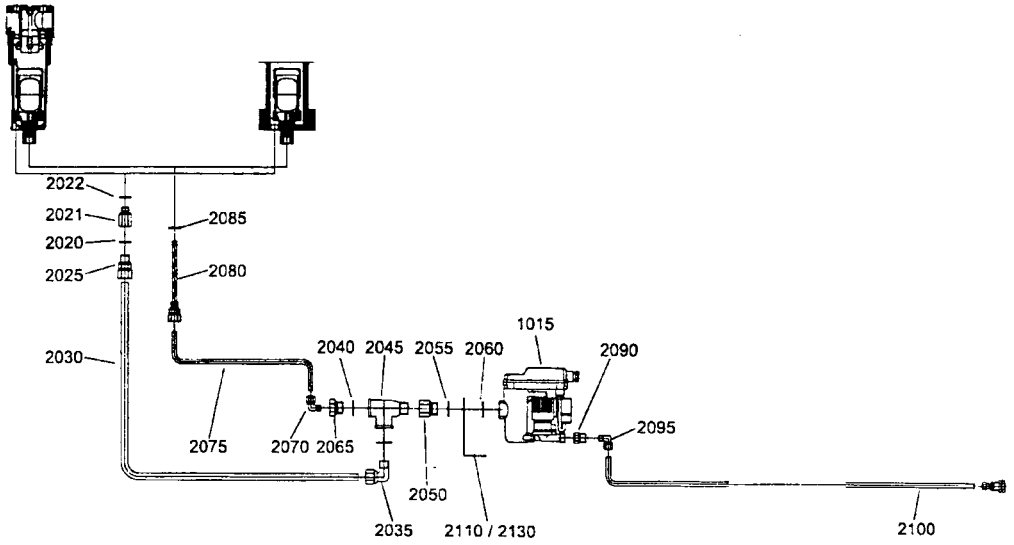
Drain system - Oil Separator condensate Drain

20

Ref.	Part number	Qty	Name	Remarks
	8092 2449 64	1	**Oil Separator condensate Drain**	
1005	1622 0087 00 •	1	Support	
1010	0301 2335 00 •	1	Washer	
1015	0333 3227 00 •	1	Lock washer	
1020	0266 2110 00 •	1	Nut	
1025	0147 1323 03 •	1	Hexagon bolt	
1035	0147 1322 03 •	3	Hexagon bolt	
1040	0301 2335 00 •	3	Washer	
1045	1613 7657 00 •	1	Oil can	
1060	1622 0091 00 •	1	Support	
1065	0301 2335 00 •	1	Washer	
1070	0333 3227 00 •	1	Lock washer	
1075	0266 2110 00 •	1	Nut	
1080	0147 1323 03 •	1	Hexagon bolt	
	1613 7603 82 •	1	**OSD assembly**	
2015	1079 9909 06 ••	1	Label	
2020	0560 4400 83 ••	1	Pipe fitting	
	1613 7603 80 ••	1	**OSD sub assembly**	
3020	1613 7603 00 •••	1	Housing	
3025	1613 7604 00 •••	1	Plug	
3030	1613 7299 00 •••	1	Filter	
3035	1613 7601 00 •••	1	Check valve	
3040	1613 7602 00 •••	1	Oil separator	
3045	1613 7378 00 •••	1	Strainer	
3050	0653 0500 47 •••	1	Gasket	
3055	0686 3716 02 •••	1	Hexagon plug	
3060	0653 9098 00 •••	1	Flat gasket	
3065	1079 9913 69 •••	1	Inform.label	
3070	1079 9912 28 •••	1	Decal	
3075	1079 9912 07 •••	1	Decal	
3080	1613 7945 00 •••	1	Plug	
4010	1079 9912 11 •	1	Decal	
4015	1613 7384 00 •	1	Data plate	
4020	0129 3104 00 •	4	Blind rivet	
4025	1079 9912 38 •	1	Decal	
5015	1615 7264 00 •	1	Pressure gauge	
5020	0584 9904 00 •	2	Sleeve	
5025	0070 6002 04 •	AR	Plastic tube	
5030	0581 2024 38 •	1	Elbow coupling	
5035	1613 7985 80 •	1	Elbow coupling	
5040	0070 6002 14 •	AR	Plastic tube	
5045	1613 7985 80 •	1	Elbow coupling	
5050	0070 6002 14 •	AR	Plastic tube	
5055	1613 7342 00 •	1	Elbow coupling	
5060	1613 7341 00 •	1	Pipe coupling	
5065	0070 6002 05 •	AR	Plastic tube	
5070	0584 0080 10 •	1	Cutting ring	

21 Drain system - Electronic Water Drain



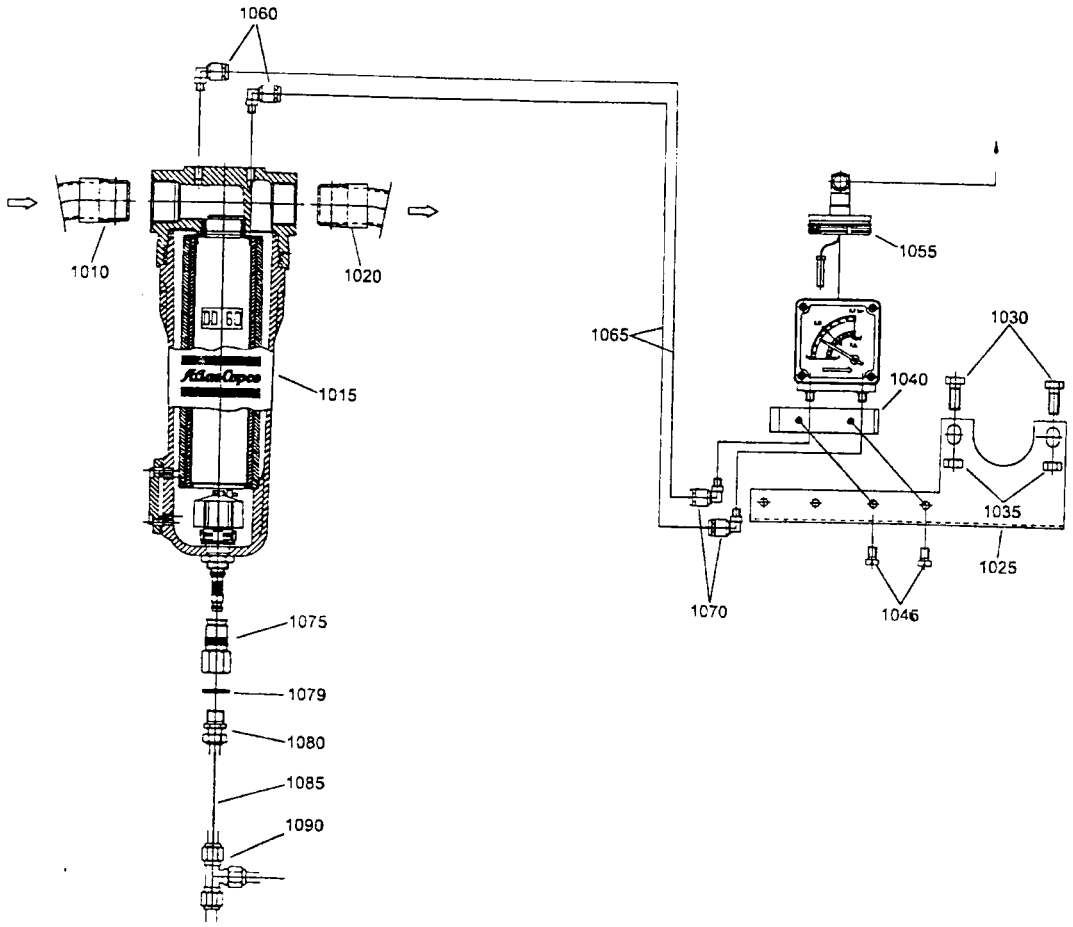


61604_06

Ref.	Part number	Qty	Name	Remarks
		1	**Electronic Water Drain**	
	8092 2450 60		110V/50-60Hz	
	8092 2450 52		230V/50-60Hz	
1015	•	1	EWD75	
	1613 8800 04		110V/50-60Hz	
	1613 8800 01		230V/50-60Hz	
2020	0661 1000 38 •	1	Seal washer	
2021	1622 0359 00 •	1	Straight pipe coupling	
2022	0653 1062 00 •	1	Flat gasket	
2025	0581 0000 45 •	1	Pipe coupling	
2030	0070 6002 06 •	AR	Plastic tube	
2035	0581 1200 29 •	1	Elbow	
2040	0653 1124 00 •	1	Flat gasket	
2045	1503 2566 13 •	1	Tee	

Ref.	Part number	Qty	Name	Remarks
2050	1613 9029 00 •	1	Nipple	
2055	0653 1124 00 •	1	Flat gasket	
2060	0653 1124 00 •	1	Flat gasket	
2065	0605 8814 06 •	1	Bushing	
2070	0581 1200 23 •	1	Elbow coupling	
2075	0070 6002 05 •	AR	Plastic tube	
2080	1613 8084 00 •	1	Pipe coupling	
2085	0661 1000 38 •	1	Seal washer	
2090	0607 1151 06 •	1	Reducing socket	
2095	0581 1200 26 •	1	Elbow coupling	
2100	0070 6002 05 •	AR	Plastic tube	
2110	1622 0097 00 •	1	Bracket	
2130	0226 0301 00 •	2	Tapping screw	

DD filter kit

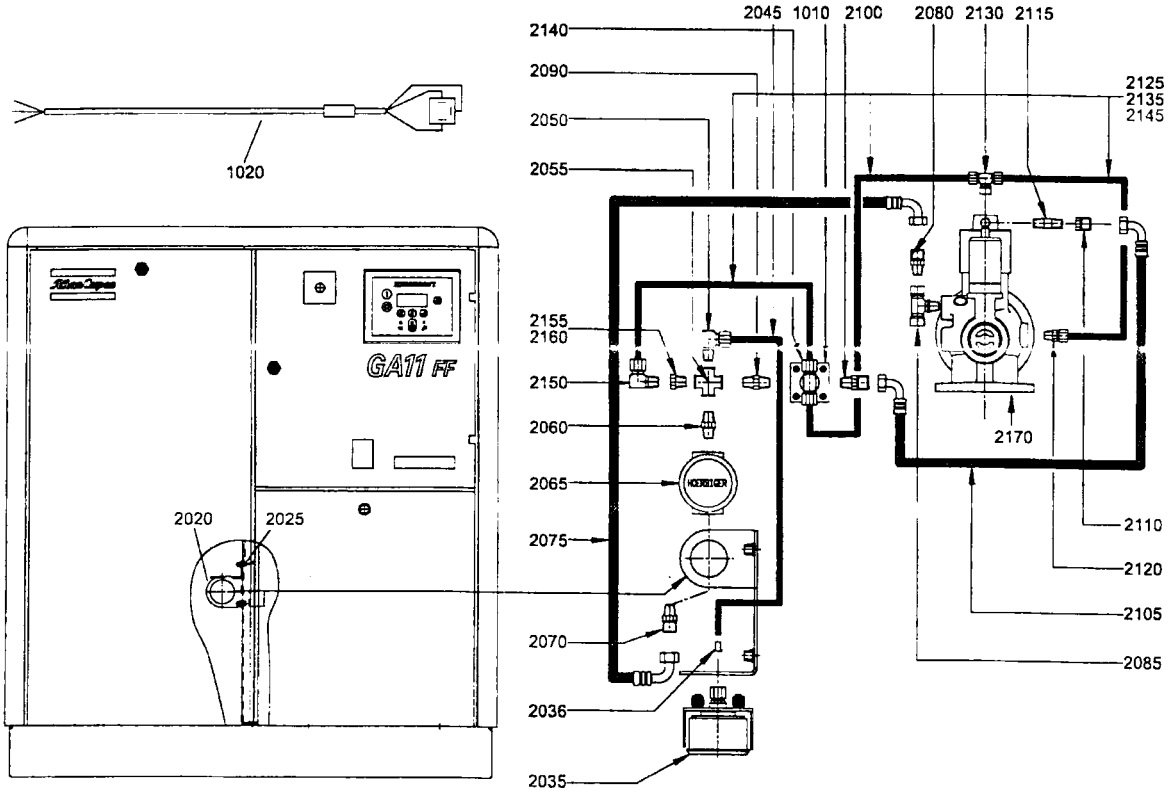


61607_03

Ref.	Part number	Qty	Name	Remarks
1010	1622 0140 00	1	Pipe	
1015	1617 7197 00	1	Filter DD60	
1020	1622 0081 00	1	Pipe	
1025	1622 0096 00	1	Bracket	
1030	0147 1323 03	2	Hexagon bolt	
1035	0266 2110 00	2	Nut	
1040	1617 7098 00	1	Support	
1045	0160 6060 00	2	Screw	
1055	1622 0098 80	2	Wire assembly	

Ref.	Part number	Qty	Name	Remarks
1060	0583 8120 62	2	Push-in coupling	
1065	0070 6002 20	AR	Plastic tube	
1070	0583 8120 10	2	Elbow coupling	
1075	1617 7082 02	1	Quick coupling	
1079	0661 1000 38	1	Seal washer	
1080	0581 0000 35	1	Coupling	
1085	0070 6002 05	AR	Plastic tube	
1090	0581 2000 18	1	Coupling	

23 Modulating control

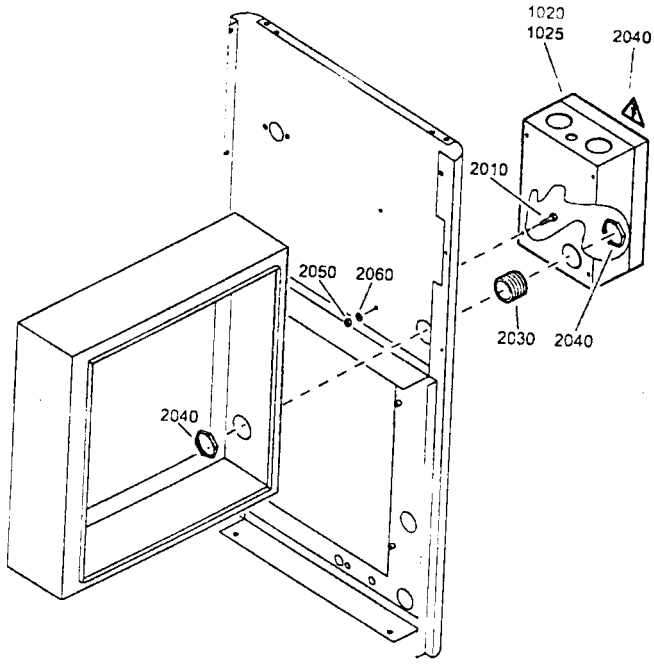


61583_20

Ref.	Part number	Qty	Name	Remarks
1015		1	Solenoid valve	
	1089 0621 01		50Hz	
	1089 0621 03		60Hz IEC	
	1089 0621 02		60Hz CSA/UL	
1020	1613 7769 04	1	Cable	
2020	1622 0095 00	1	Bracket	
2025	0147 1963 08	2	Hexagon bolt	
2035	1615 7264 00	1	Pressure gauge	
2036	0584 9904 00	1	Sleeve	
2045	0070 6002 04	AR	Plastic tube	
2050	0581 1200 16	1	Coupling(elbow)	
2055	0560 4400 85	1	Cross	
2060	1503 2564 10	1	Nipple	
2065	1613 6961 00	1	Regulator	
2070	1079 5840 26	1	Hexagon nipple	
2075	0575 0792 25	1	Hose assembly	
2080	1079 5840 26	1	Hexagon nipple	

Ref.	Part number	Qty	Name	Remarks
2085	1503 2566 21	1	Tee	
2090	1503 2564 01	1	Nipple	
2100	1079 5840 25	1	Hexagon nipple	
2105	0575 0401 18	1	Hose assembly	
2110	1079 5840 09	1	Hexagon nipple	
2115	0551 0001 62	1	Threaded pipe	
2120	0581 0000 78	1	Pipe coupling	
2125	0070 6002 05	AR	Plastic tube	
2130	0581 2000 27	1	Pipe coupling	
2135	0070 6002 05	AR	Plastic tube	
2140	0581 2000 27	1	Pipe coupling	
2145	0070 6002 05	AR	Plastic tube	
2150	0581 1200 26	1	Elbow coupling	
2155	1613 6968 04	1	Nozzle	
2160	1613 6968 03	1	Nozzle	
2170	**<<< >>>**	**1**	**Unloading valve**	

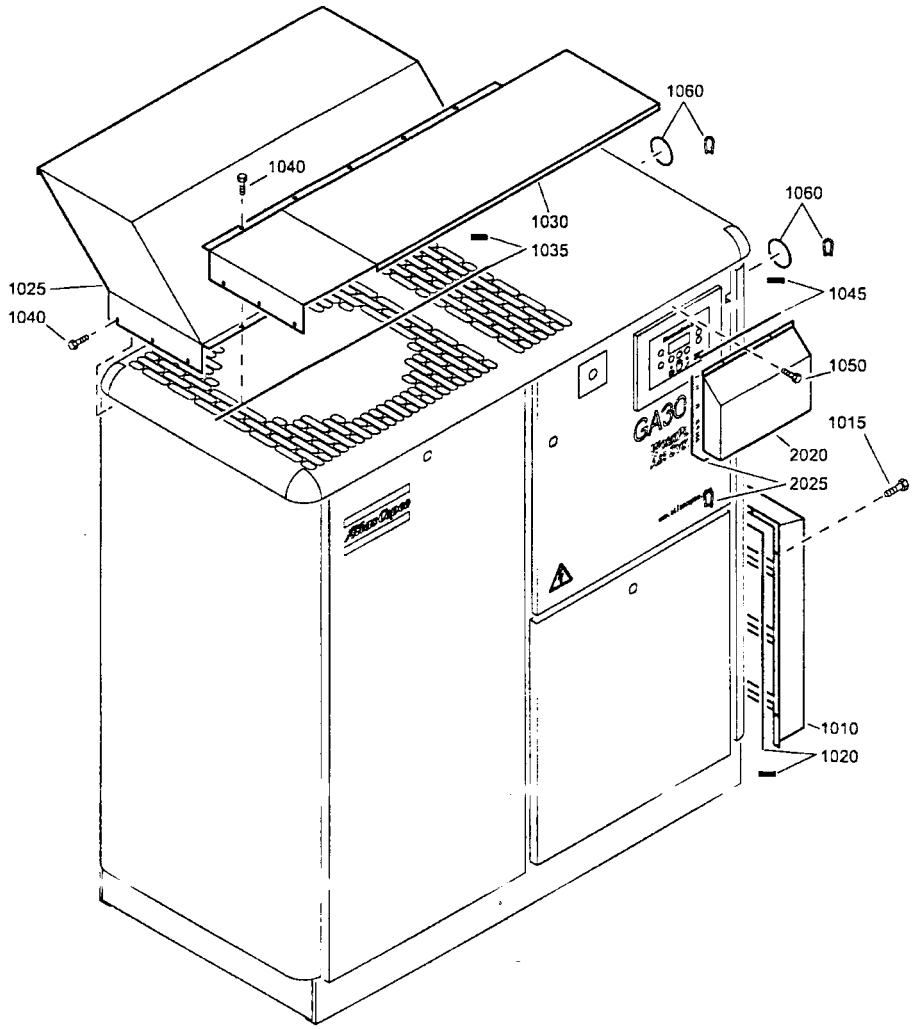
Main switch



61398_4

Ref.	Part number	Qty	Name	Remarks
		1	**Main switch**	
	8092 2458 62		GA11-15 200-230V, GA22 380V, GA30C 400-460V	
	8092 2458 54		GA11-18 380-575V, GA22 400-575V, GA30C 500-575V	
	8092 2458 70		GA18 200-230V, GA30C 380V	
	8092 2458 88		GA22 200-230V	
1020	• 1089 9445 23	1	Disconnecting switch	
	1089 9445 23		GA11-15 200-230V, GA22 380V, GA30C 400-460V	
			GA11-18 380-575V, GA22 400-575V, GA30C 500-575V	
	1089 9445 24		GA18 200-230V, GA30C 380V	
	1089 9445 24		GA22 200-230V	
1025	• 1089 9445 90	1	N-contact	
			GA11-18 380-575V, GA22 400-575V, GA30 500-575V	
2010	0160 6089 00 •	4	Screw	
2020	1088 1001 03 •	1	Warning mark	
2030	1622 0068 01 •	1	Threaded nipple	
2040	0697 9809 05 •	2	Lock nut	
2050	0266 2108 00 •	4	Nut	
2060	0301 2321 00 •	4	Washer	

25 Rain protection

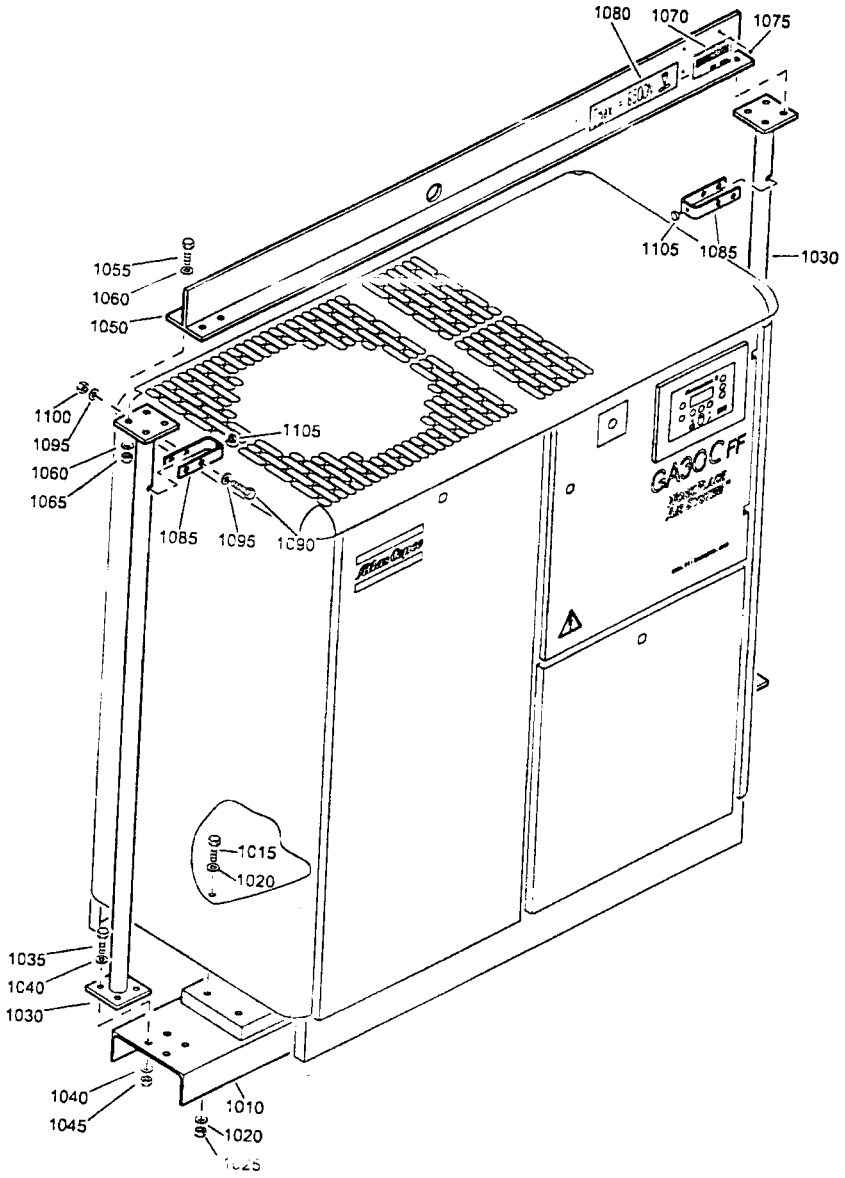


61593_10

Ref.	Part number	Qty	Name	Remarks
	8092 2465 14	**1**	**Rain protection**	
1010	1622 0147 00 •	1	Rain cowl	
1015	0226 3343 07 •	6	Tapping screw	
1020	1619 5188 00 •	AR	Seal	
1025	1622 0148 00 •	1	Baffle	
1030	1622 0149 00 •	1	Baffle	
1035	1619 3843 00 •	AR	Seal	

Ref.	Part number	Qty	Name	Remarks
1040	0226 3343 07 •	17	Tapping screw	
1050	0226 3256 00 •	3	Tapping screw	
1055	1619 3843 00 •	AR	Seal	
1060	1503 1056 00 •	AR	Seal	
	1613 7954 80 •	**1**	**Baffle ass'y**	
2020	••	1	Baffle	
2025	1503 1056 00 ••	AR	Seal	

Lifting device

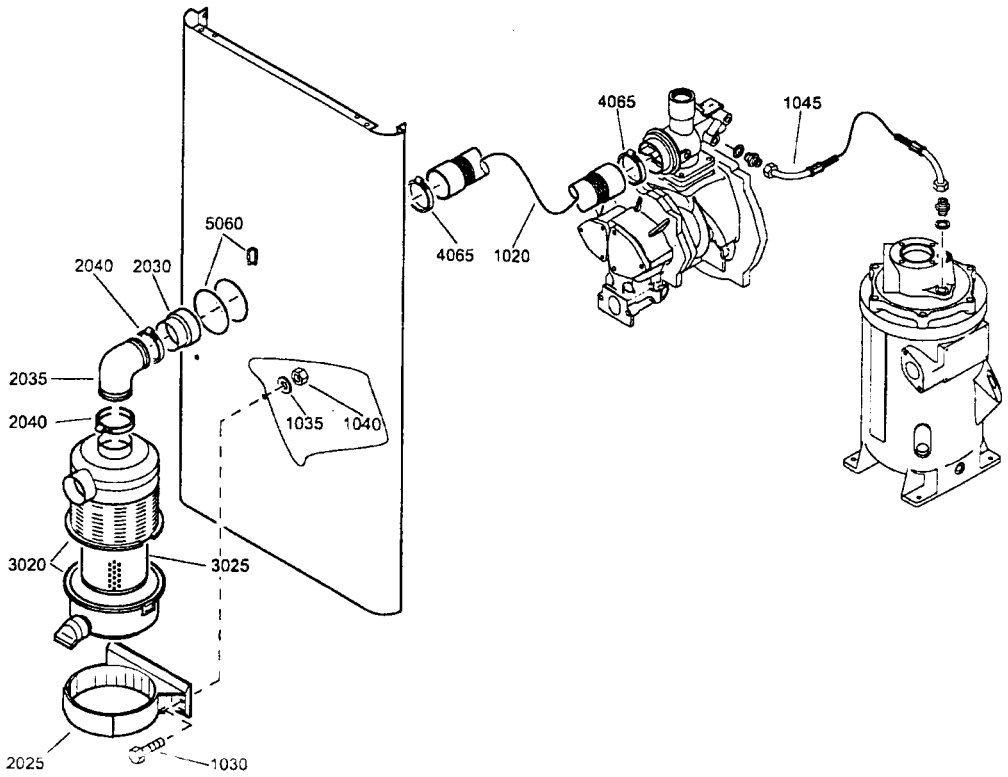


61591_1

Ref.	Part number	Qty	Name	Remarks
1010	1622 0150 00	1	Beam	
1015	0147 1369 03	6	Hexagon bolt	
1020	0301 2344 00	12	Washer	
1025	0291 1111 00	6	Lock nut	
1030	1622 0145 00	2	Support	
1035	0147 1365 03	8	Hexagon bolt	
1040	0301 2344 00	16	Washer	
1045	0291 1111 00	8	Lock nut	
1050	1622 0146 00	1	Beam	
1055	0147 1365 03	8	Hexagon bolt	

Ref.	Part number	Qty	Name	Remarks
1060	0301 2344 00	16	Washer	
1065	0291 1111 00	8	Lock nut	
1070	1613 7394 03	1	Data plate	
1075	0244 4184 00	4	Drive screw	
1080	1079 9920 96	1	Label	
1085	1622 0151 00	2	Bracket	
1090	0147 1369 03	2	Hexagon bolt	
1095	0301 2344 00	4	Washer	
1100	0291 1111 00	2	Lock nut	
1105	1619 0269 00	2	Rubber bumper	

27 Heavy duty filter



61595_02

Ref.	Part number	Qty	Name	Remarks
	8092 2455 32	**1**	**Heavy duty filter**	
1020	1622 0175 00 •	1	Hose ass'y	
1030	0147 1327 03 •	2	Hexagon bolt	
1035	0301 2335 00 •	2	Washer	
1040	0266 2110 00 •	2	Nut	
1045	0574 9911 12 •	1	Hose assembly	
	1622 0170 81 •	**1**	**Air filter ass'**	
2025	1622 0172 00 ••	1	Clamp	
2030	1622 0173 00 ••	1	Adapter	
2035	1622 0174 00 ••	1	Elbow	
2040	0347 6114 00 ••	2	Hose clip	
	1622 0170 80 ••	**1**	**Air filter ass'**	
3020	1622 0170 00 •••	1	Air filter	
3025	1622 0171 00 •••	1	Filter element	
4065	0347 6114 00	2	Hose clip	
5060	1503 1056 00	AR	Seal	

Service kits

Ref.	Part number	Qty	Name	Remarks
	2901 0002 01	**1**	**Unloading valve kit**	
	0291 1110 00 •	1	Lock nut	
	0335 2136 00 •	1	Circlip	
	0335 2140 00 •	1	Circlip	
	0653 1033 00 •	1	Flat gasket	
	0663 2101 85 •	1	O-ring	
	0663 2104 83 •	2	O-ring	
	0663 2105 46 •	1	O-ring	
	0663 7132 00 •	1	O-ring	
	0663 7142 00 •	1	O-ring	
	1202 6999 00 •	1	Gasket	
	1513 0011 00 •	1	Spring	
	1613 6783 00 •	1	Piston	
	1613 6802 00 •	1	Spring	
	1613 6969 00 •	2	Piston ring	
	1613 7310 00 •	1	Plate	
	1613 7699 01 •	1	Valve	
	2901 0006 00	**1**	**Integr. minimum pressure valve kit**	
	0333 3237 00 •	2	Lock washer	
	0335 3111 00 •	1	Retaining ring	
	0663 3133 00 •	1	O-ring	
	0663 3135 00 •	1	O-ring	
	0663 7136 00 •	1	O-ring	
	0663 9868 00 •	1	O-ring	
	1612 4048 00 •	1	Compr. Spring	
	1612 4049 00 •	1	Compr. Spring	
	1613 3223 01 •	1	Washer	
	1614 4662 00 •	2	Piston ring	
	2901 0245 01	**1**	**Oil can** ROTO-INJECTFLUID 5 l	
	2901 0522 00	**1**	**Oil can** ROTO-INJECTFLUID 20 l	
	2901 0695 00	**1**	**Filter kit**	
	0661 1000 39 •	1	Seal washer	
	0663 2102 15 •	1	O-ring	
	1613 6105 00 •	1	Oil filter	
	1613 8720 00 •	1	Filter element	

Ref.	Part number	Qty	Name	Remarks
	2901 0712 00	**1**	**Service kit WSD**	
	0663 2109 81 •	1	O-ring	
	0663 2111 28 •	1	O-ring	
	0663 3133 00 •	3	O-ring	
	1613 9227 80 •	1	Drain assembly	
	2901 0748 00	**1**	**Kit WSD 25/40**	
	0291 1108 00 •	1	Lock nut	
	0663 9289 00 •	1	O-ring	
	1613 9225 00 •	1	Clamp WSD 25/40	
	1613 9226 00 •	1	Ring WSD 25/40	
	2901 0779 00	**1**	**Oil separator kit With bolted Minimum Pressure valve**	
	0663 2111 23 •	1	O-ring	
	0663 2111 24 •	1	O-ring	
	1622 0079 00 •	1	Oil separator element	
	2901 0779 01	**1**	**Oil separator kit With screwed Minimum Pressure valve**	
	0663 2111 23 •	1	O-ring	
	0663 2111 24 •	1	O-ring	
	1622 0516 00 •	1	Oil sep element	
	2901 0850 00	**1**	**Element mounting kit**	
	0661 1000 38 •	1	Seal washer	
	0661 1000 39 •	1	Seal washer	
	0663 2103 22 •	1	O-ring	
	0663 2107 78 •	3	O-ring	
	0663 7134 00 •	3	O-ring	
	0663 7142 00 •	1	O-ring	
	2901 0088 00	**1**	**Maintenance kit**	
	2901 0002 01 •	1	Unl.valv.k.gall	
	2901 0006 00 •	1	Integr. mpv.kit	
	2901 0695 00 •	1	Filter kit gall	
	2901 0712 00 •	1	Service kit wsd	
	2901 0779 00 •	1	Oil sep. kit ga	