

## 4385.650 grease control unit

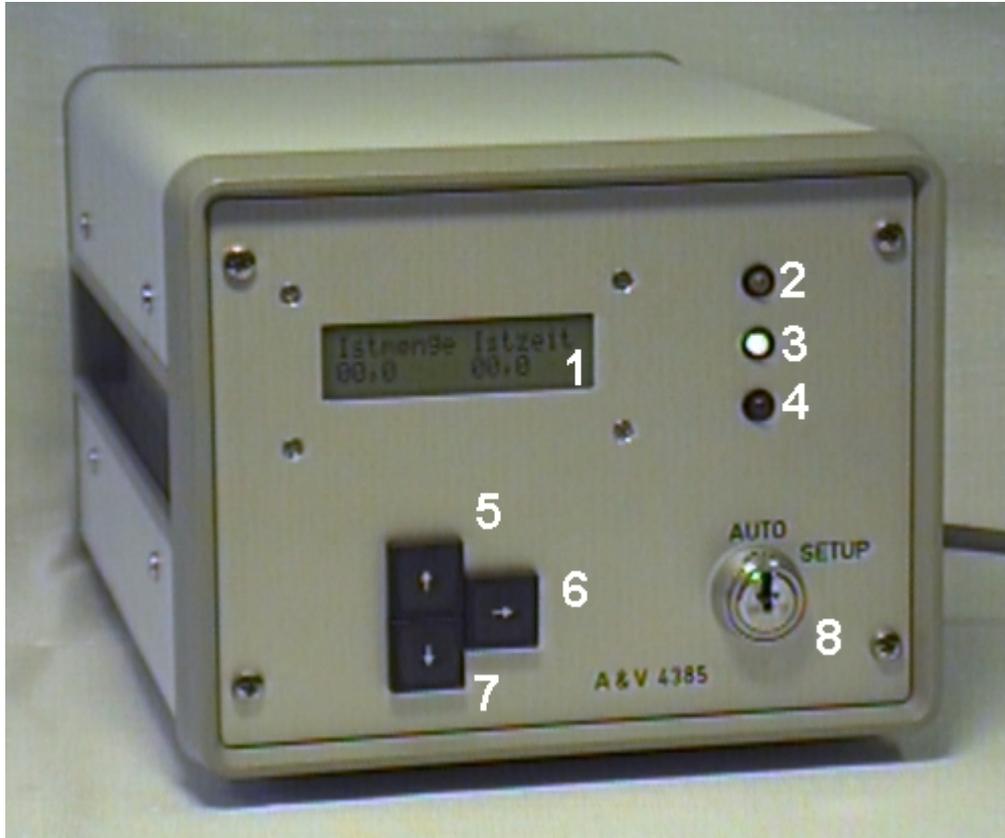
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The unit A&V 4385 controls the grease filling of joints for automobiles. The presets for up to 32 different joints may be stored. They are safe, even when power is switched off. The machine control selects the number for the actual preset when starting the filling.

1. displays and setup elements

front view

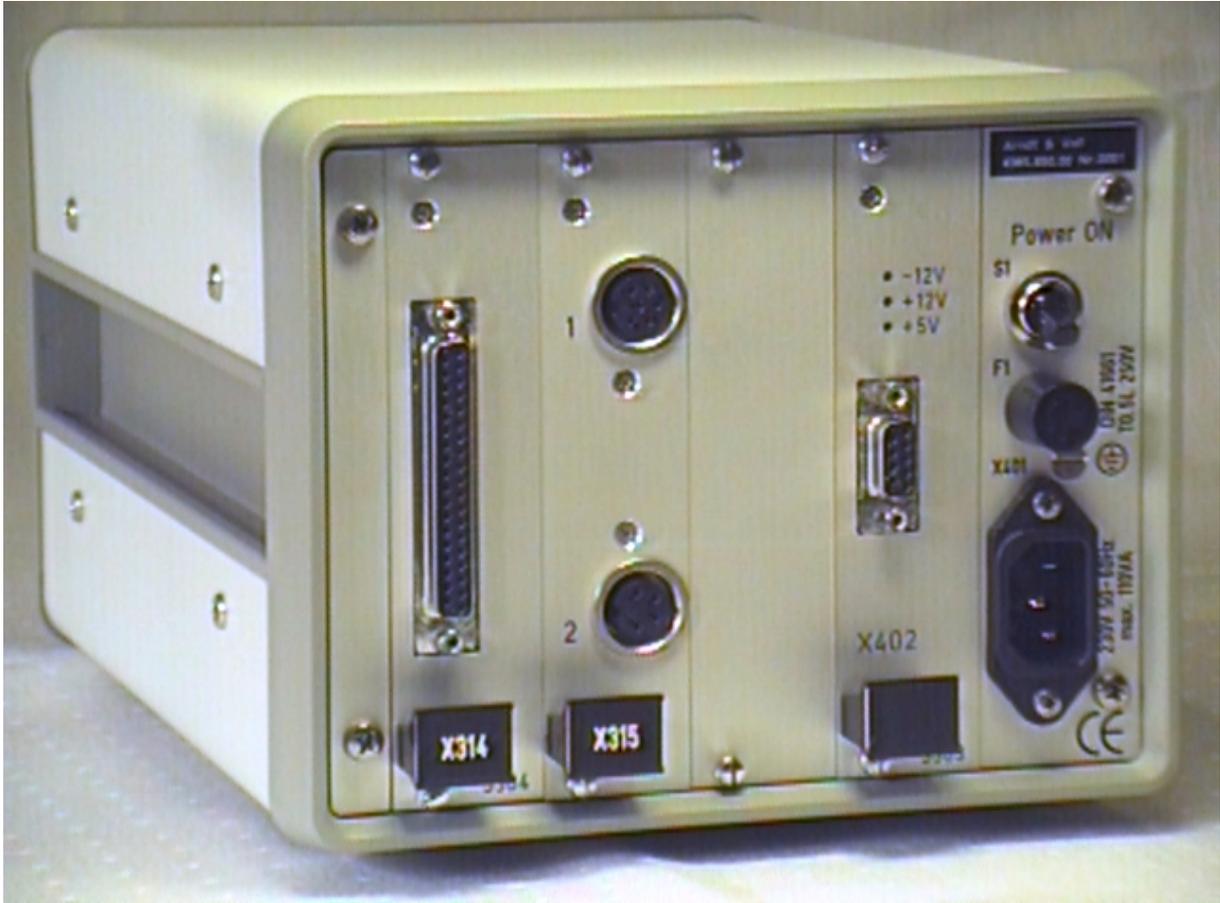
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- 1 - display
- 2 - lamp input error
- 3 - lamp GOOD
- 4 - lamp ALARM
- 5 - pushbutton UP
- 6 - pushbutton ENTER
- 7 - pushbutton DOWN
- 8 - keyswitch setup mode (SETUP) - automatic mode (AUTO)

back view

4385650b.bmp



- X314 - Input/Output to machine control
- X315-1 Input grease volume counter
- X315-2 Output magnet valve filling
- X401 - power supply input
- X402 - testpins
- S1 - power supply switch
- F1- power supply fuse
- 12V - control lamp -12V supply
- +12V - control lamp +12V supply
- + 5V - control lamp +5V supply

### presets:

nominal quantity      quantity to be filled in  
compensation quant.    is to compensate the tracking quantity, which reaches the joint after stopping the filling process because of the inertia of the grease.  
The tracking quantity has to be determined for every new adjustment.  
max. filling quantity    the largest allowed quantity  
min. filling quantity    the smallest allowed quantity  
max. filling time        the largest allowed filling time  
min. filling time        the smallest filling time, that has to be needed  
delay time                during this time, the measuring of the grease quantity will go on, when the filling has stopped.  
density (g/ccm)        specific weight of the grease

### controlling of:

filling quantity        min. (quantity ll) < (nominal - measured quantity) < max. (quantity ul)  
filling time            min. (time ll) < filling time < max. (time ul)  
volume counter        wrong timing of counter pulses

display modes        (changing the mode with pushbutton ENTER)

quantity    time        nominal quantity  
measured values of quantity and time of the latest cycle during setup mode (SETUP) the value for nominal quantity can be adjusted by pushing the pushbuttons UP or DOWN

b1 Typ vol                shows the state of the inputs and the volume counter  
0 = Input OFF; 1 = Input ON  
b1: Start; Typ: 5 bit model-nr.  
vol: 2 counter inputs from the volume counter

compensation quantity    during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN

quantity ul (upper limit)    during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN

quantity ll (lower limit)    during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN

delay time	during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN
time ul (upper limit)	during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN
time ll (lower limit)	during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN
density	during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN
model-nr. 000...0031	during setup mode (SETUP) the value can be adjusted by pushing the pushbuttons UP or DOWN

**ATTENTION:** When changing the display mode from "model-nr." to "quantity" the presets of the latest displayed type number will be recalled from the memory. So if you want to store the new preset values, you have to switch from the SETUP to AUTOMATIC mode before leaving the display mode "model-nr.". Otherwise the new values will be overwritten.

### 2. power supply input

Connection of the connector X401 of A&V 4385 with a cable (Euro-Norm) to 230V, 50/60 Hz and switching ON the switch S1 at the back of the unit.

### 3. setup mode: keyswitch in position SETUP

The lamps 3 (GOOD) und 4 (ALARM) are off.

The preset values may be adjusted with the input pushbuttons.

pushbutton ENTER:	changing the display mode
pushbutton UP:	increment the displayed value
pushbutton DOWN:	decrement the displayed value

In case of values which are not logic, the yellow lamp 2 (ERROR) will turn on. If switching to automatic mode in this case, the lamp 3 (ALARM) will turn on additional and no filling may be started.

#### 4. automatic mode: keyswitch in position AUTO

The lampe 3 (GOOD) is lightning.  
It is impossible to change the preset values.

pushbutton ENTER:      changing the display mode

The unit is ready for filling indepent from the display mode.  
The preset values of the latest displayed model-nr. will be stored when changing from SETUP to AUTOMATIK.  
Output BEREIT/READY will be set. The lamp GREEN is lighting.  
Input b1 starts the filling by switching on output d1 (valve).  
Equivalent to the model-nr. input the preset values will be read in from the memory. All display lamps are switched off.  
The pulses from the volume counter are added. When reaching the number of pulses which are proportional to the preset grease quantity (nominal - compensation), output d1 will be switched off. During the delay time after this, the counting of the pulses will go on to get the inertion of the grease.  
If all values are inside their tolerance limits, the signals i.O./GOOD and BEREIT/READY are set. The lamp GREEN is lighting.  
When the values are out of the tolerance limits, only signal BEREIT/READY is set and lamp RED is lighting.  
When the volume counter showed an error, the signal STÖRUNG/ERROR is set.

#### 5. connections

pin assignment of the connectors at the back

identifier	signification	connection	pin assignment
X314-	input/output to machine control		37point fem. SUB-D
X315-1	b5 volume counter	6point female serie 680	1= Input A 2= Input B 3,4= frei 5= +24V output 6= ground
X315-2	d1 output filling valve	4point female serie 680	1= valve 2= STATION 1 3,4= ground
	output signal +24V		

#### Remark:

+24V and ground are outputs for supplying the external components.  
Input- or signal level: 0-3V OFF; 10-24V ON.  
Load peak for outputs: 24V, 0,3 A

**Additional:**    drawing 4385\_5b4      connection to machine control  
and signal flow chart

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### Security comments according to VDE 0411

#### General technical

time for warming up	20 minutes
temperature	0...+40 Grd C
atmospheric humidity	on to 75% rel.
frequency	50/60 Hz
power supply voltage	230V +/-10%
security	according to VDE 0411, protection class 1

This unit is built and checked under DIN 57411 part 1/VDE 0411 part 1 and left the factory in a safe and perfect condition. To preserve this condition and to guarantee a safe working the user has to follow the comments and warnings which are given in this instructions.

Before turning on the power you have to make sure, that the voltage of operation and the mains voltage correspond.

The mains plug may only be inserted into a socket with ground contact. The safety effect may not be abolished by an extension lead without ground connection.

The opening of covers or removing of components, except if it is possible to do by hand, might uncover parts or connections under dangerous voltage.

Racks may only be used inside a cover.

If an adjustment, a maintenance or a repair at the opened unit under voltage is unavoidable, it may be done only by a qualified employee, who is well acquainted with the dangers involved.

#### **ATTENTION:**

After the end of those works, the unit has to be checked according to VDE 0411, part 1.

You have to make sure, that only fuses of the given type and values are taken for replacement. The use of mended fuses or short-circuiting them is inadmissible.

If it is presumed, that a safe work is not possible, you have to take this unit out of work. A safe work may not be possible, if

- there are visible damages at the unit.
- the unit doesn't work.
- after longer storage under unfavourable circumstances.
- after heavy stress of transport.