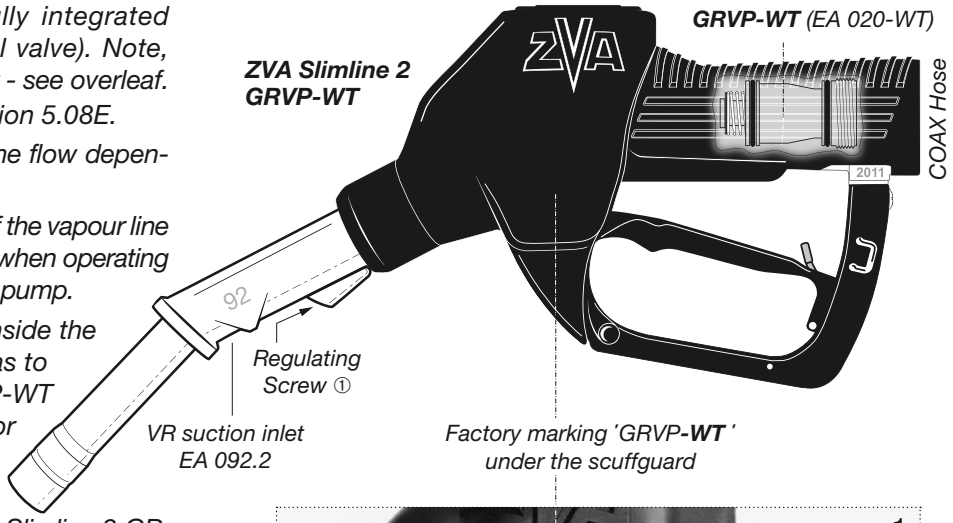
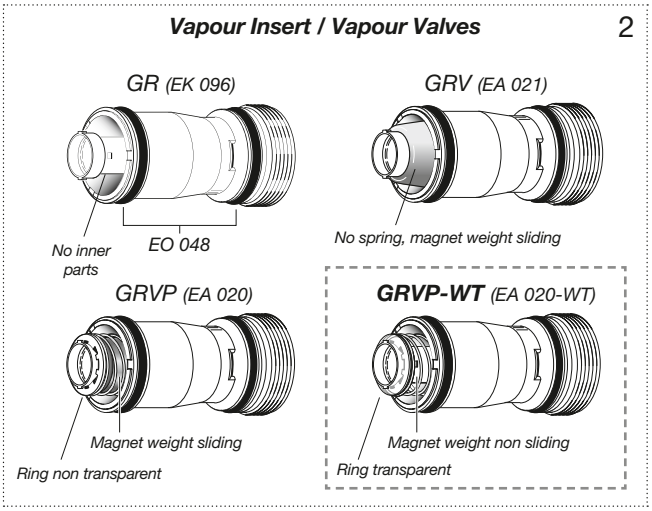
***ZVA Slimline 2 GRVP-WT*** *with fully integrated vapour regulating valve (proportional valve). Note,* ***special type****, suitable for wet test only - see overleaf. For standard type GRVP see information 5.08E.*

- *Variable control of the vapour volume flow depending on the fuel flow delivery.*
- *ON/OFF-Function: Secure closure of the vapour line when there is no fuel flow. Important when operating two or more hoses with one vacuum pump.*
- *No need for additional regulators inside the dispenser. Only a vacuum pump has to be connected. Therefore the GRVP-WT provides an ideal low cost option for retrofitting existing dispensers.*
- *The valve adds only 40 g to the nozzle compared to a standard ZVA Slimline 2 GR. Due to the full integration of the GRVP-WT into the nozzle body the hose length does not have to be corrected.*








*The* ***GRVP-WT*** *(EA 020-WT) is supplied ready for installation, pre-adjusted and tested for vapour tightness. Only the O-rings are supplied as spare parts. In the case of a malfunction the whole GRVP-WT unit is to be replaced.*

## *Distinguishing Features, Modification Hints*

*ZVA Slimline 2 GRVP-WT is supplied with factory checked and preset vapour valve EA 020-WT. To identify the nozzle type, please note the factory marking, picture 1.*

*There are four different types of vapour inserts/valves for ZVA Slimline 2 GR. When changing vapour inserts/valves (e.g. for type modification) please note their distinguishing features, picture 2.*

*When changing vapour inserts/valves please also note the following hints:*

*For assembly, grease the O-Rings EO 048. Screw the valve hand-tight into the nozzle body with assembly tool EW 19-22. Fit strainer before connecting to the COAX hose. Please also note that GRVP and GRVP-WT nozzles need the special VR suction inlet EA 092.2.*

*Before using the nozzle check that the fuel area is tight (no dripping from the vapour spout). Leaks may be caused by dirt during assembly or damaged O-rings.*

*This work should be done in a suitable workshop facility and not in the field.*

## *Commissioning / Putting into Use*

***ZVA Slimline 2 GRVP-WT*** *is supplied ready for use and can be directly connected to COAX VR hoses. The vacuum pump manufacturers instructions for the required pump speed to achieve the necessary vapour performance must be observed, as laid down by the TÜV certificate.*

*The fuel performance of the dispenser is controlled by using the high latch position on the nozzle and if necessary, reduced to 40 l/min (for example using a bypass valve). Afterwards, the fine tuning of the system is effected by adjustment of the regulating screw ①.*

## *TÜV Stage II Certificates*

*New system approvals for ZVA Slimline 2 GRVP-WT by the TÜV Süd in use with the following vacuum pumps:*

***Dürr Typ MEX 0831-11, MEX 0831-10, MEX 0544*** *to* ***EN 16321****, Certificate No. VR2 - 1401 - 101 EU.*

***Gardner Denver Thomas 8014-6.0*** *to* ***EN 16321****, Certificate No. VR2 - 1401 - 141 EU.*

*All previous approval certificates for ZVA 200 GRVP remain valid also for ZVA Slimline 2 GRVP-WT, by using the supplementary certificate TÜV Süd No. 85-2.xxx.*

***Dry Test***

*No dry test possible.*
*If necessary, use ZVA Slimline 2 GRVP.*

***Wet Test***

*Take the ZVA Slimline 2 GRVP-WT from the nozzle boot. The vacuum pump starts.*

*Tightly connect the Elaflex universal connector UMAX 2 onto the vapour spout and connect its hose to the gas meter [**fig.1**]. Prevent the vapour recovery from being influenced by the measurement accumulation of liquids in the connecting hose. Please check the connections to the gas meter and the UMAX 2 connector (visual inspection of the sealing surfaces)*

*Start measurement with dispensing min. 20 litres of petrol into a canister. Measure the fuel delivery rate.*

*The GRVP-WT vapour valve opens due to fuel flow. In this position, turn the regulation screw with the hexagonal spanner EW SK 3 to adjust the vapour volume rate [**fig. 2**].*

*For the **volume measurement method** the display of the gas meter has to be recorded at the start and at the end of the petrol flow. The difference yields the recovered vapour volume. The petrol volume is read out on the calibrated dispenser.*

***Correction factor 'K'**: As ambient air is sucked in during the wet test, the calculated air volumetric flow must be divided by the correction factor. If this is not already done automatically by the handheld control, the vapour recovery rate is calculated using one of the following equations:*

(1) $$R = \frac{V_a}{k \cdot V_K}$$

(2) $$R = \frac{\overline{Q}_a}{k \cdot V_K} \cdot \frac{t}{60}$$

$R$ petrol *vapour / petrol rate*

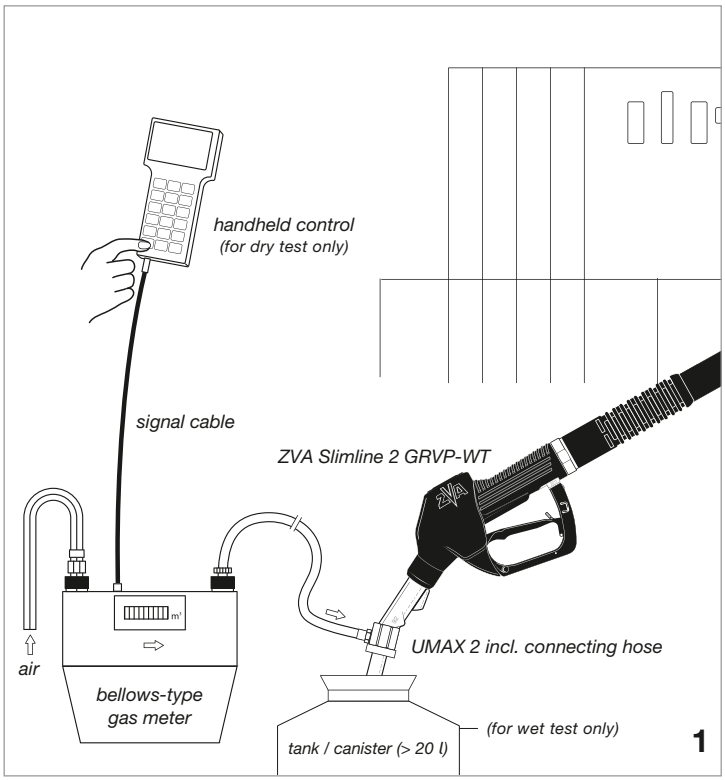
$V_a$ *determined air volume, in litres*

$V_k$ *volume of dispensed petrol during the measurement, in litres*

$k$ *correction factor (as specified in the certificate)*

$\overline{Q}_a$ *determined air volume flow rate in l/min$^{-1}$ (mean value)*

$t$ *measuring time in s*



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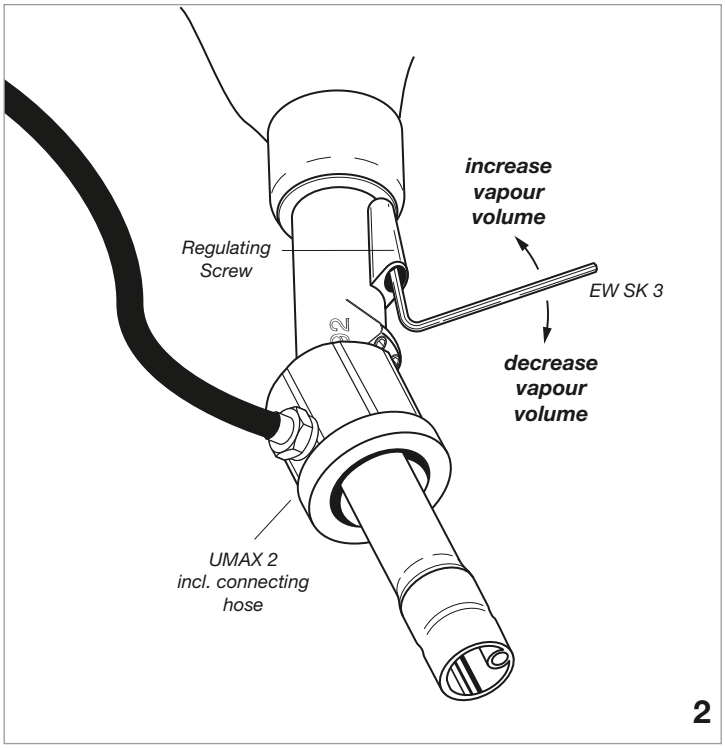

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*For further details please refer to:*

*EN 16321-2 and VDI 4205 Part 1-3:2003 (German / English)*
*VdTÜV-Merkblatt Tankanlagen 908 Part 2*