

---

**Replacement:**

for	: VA40 GE 40 m/s p3 ZG8 Ex-d
<b>with scaling</b>	<b>: 4 ... 20 mA = 0 ... 17,56 m/s = 0 ... 10.000 Nm<sup>3</sup>/h</b> <b>in Di 448,8 mm with +18 °C and 1008 hPa abs.</b>
with serial no.	: va40 4286 E 100 °C
delivered	: 03/2014 (B14-0145)
to	: Dürr Systems AG
your purchase order	: 516/4500546874 / 27.01.2014

---

Pos. Artikel-Nr. / Bezeichnung Anzahl

**Vortex Flow Sensor VA:**

1 B009/000 1

**VA40 GE 40 m/s p3 ZG8 Ex-d**

Vortex flow sensor VA40 with integrated transducer UVA as in Drawing 8 (see Document U346)

S/N : va40 \_\_\_\_\_

Measuring range air/gases : 0.5 ... 40 m/s  
actual flow velocity **v**  
Working temperature range : see 'Probe type VA40'  
Maximum working pressure : up to 3 bar / 300 kPa overpressure  
Materials : stainless steel, ceramics,  
sensor housing 1.4581,  
probe tube 1.4404,  
seal: see 'Probe type VA40',  
silicone-free sensor  
ATEX protection : II 1/2 G Ex ia/d e [ia] IIC T6 Ga/Gb (gas)  
II 1/2 D Ex ia/tb IIIC TX Da/Db (dust)  
for category 1 (zone 0 or 20),  
transducer housing category 2  
(zone 1 or 21)

**Calibration values v/t** : 6 values  
Calibration medium : air

**with in the Ex-d housing integrated  
transducer UVA**

Output flow : 4 ... 20 mA, max. 500 Ohm  
Output : limit value or quantity pulse,  
potential-free relay contact  
max. 300 mA / 27 V DC

HART interface : for setting the parameters  
with UCOM software

Power supply : 24 V DC (20 ... 27 V DC)

**Parameter setting no.** : **00000**  
Parameters : analog output, profile factor,  
tube inside diameter, time  
constant, limit value or quantity  
pulse (rating adjustable),  
switchover actual/standard flow with  
parameters 'working pressure' and  
'working temperature'

**Höntzsch GmbH**

Pos. Artikel-Nr. / Bezeichnung

2 B009/080 1

**Probe type VA40 ´ max. 100 °C, Viton ´**  
Working temperature range : -20 ... +100 °C  
Ambient temperature range : -20 ... +50 °C  
Seal : Viton

3 B009/051 1

**Installation length VA40 GE measurement C : 500 mm**  
Material : stainless steel 1.4404  
**with integrated probe guide piece:**

4 B004/103 1

**SFB 21,3 E-70 / F-DN50 PN16 ZG1**  
Probe guide piece SF design as in Drawing 1 for connection to single ended flange nipples. Probe attachment by clamping bush. For any repeated positioning with lower overpressure / underpressure.

Installation length : approx. 70 mm  
Through hole : 21.3 mm  
Material : stainless steel  
Seal : TEFLON clamping bush  
Working temperature range : -40 ... +240 °C  
Flange : DN50 PN16

Your measuring tube is to be fitted with a single ended flanged nipple. Please make sure that probe length, flanged nipple length and required probe insertion depth match up.

## Remark

## Compatibility material / medium

---

Pos.	Artikel-Nr. / Bezeichnung	Anzahl
------	---------------------------	--------

Please check the compatibility of the given materials with your medium.

#### **Cleaning VA sensors**

Notes on cleaning the sensors can be found in the manual.

#### **Solid matter laden gases**

When measuring in solid matter laden gases the sensor VA ought to be cleaned from time to time as necessary. The time interval depends on the type and content of the solid matter.

The particles must not be abrasive.

#### **Moisture or condensate in gases**

Moisture in gases is of no disadvantage as long as condensate does not set in. Should condensate arise then it can influence the measurement. The limitations between 100% saturated flow of gas, partial condensate attack on the sensor, severe or slight continuous condensate attack are flowing. The probability of condensate influencing measurement can be kept to a minimum by ensuring that the probe is horizontally positioned in the case of partial or slight condense making drainage at the strut and ultrasonic sender and receiver easier.

#### **Input and output sections**

When measuring in a measurement section of inside diameter  $D_i$  it must be observed that optimal measurement accuracy when converting the local velocity  $v_p$  to the average velocity  $v_m = v_p \cdot PF$  (PF = profile factor) is only guaranteed for when input/output sided irrotational flow prevails and in addition the condition

- 20  $D_i$  straight, undisturbed input section
- 10  $D_i$  straight, undisturbed output section

is met with.

Should a suitably long, straight section line not be available then the measurement cross section is to be placed so that 2/3 of the straight pipe section are in front of the measurement cross section and 1/3 behind the measurement cross section.

#### **Assembly instruction probe guide piece with thread connection**

The connection thread of probe guide piece is not greased. Use temperature and media compatible lubricant for assembly.

#### **Manual / Documentation**

1x per instrumentation free of charge, in German or English, as

#### **Höntzsch GmbH**

Pos.	Artikel-Nr. / Bezeichnung	Anzahl
	paper document or CD-ROM. CD-ROM with WORD and PDF documents.	

6	HBVAZG8EXD	1
	<b>Manual VA40-ZG8 Ex-d</b>	
	• Technical Data Sheet	: t____
	• Data Sheet VA ... ZG8 with UVA in housing Ex-d	: U346
	• Instruction manual UxA-Ex-d and Declaration of conformity	: U414
	• User's Information Probes VA	: U206
	• Instruction manual UxA in housing Ex-d	: U377
	• <b>Factory setting</b>	
	• Data Sheet Calibration	: U325

7	HBAPPENDIXSIL2	1
	<b>Appendix: Safety Manual SIL 2 (IEC 61508)</b>	
		: U400
		: SIL Label

=====