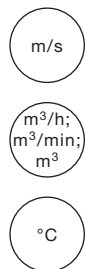


# Compressed air counter shaft probe DN40 - DN250

testo 6448




---

Possibility of installation under pressure

---

Measurement of flow velocity in the measuring range 0 to 80 m/s or 160 m/s; consumption measurement in m<sup>3</sup> and media temperature in °C

---

Recoil protection and ball valve ensure fast and safe installation and deinstallation of the compressed air probe

---

Highest flexibility thanks to different signal outputs:

- Analog output 4 to 20 mA (4-wire)
  - Pulse output
  - 2 switching outputs (consumption or volume flow-dependent)
- 

Integrated totalizer, also without additional evaluation unit

---

Operating menu with LED display

---

## Shaft probe

The mobile compressed air counter testo 6448 is designed for the recording and monitoring of compressed air consumption, and thus not only for the identification of leakages in compressed air systems and the allocation of costs by consumption, but also for the implementation of peak load management. The shaft probe can be used for measurements on different pipe diameters.

An optional drilling clamp allows the exact positional installation of the sensor, without the need for welding work. The affected compressed air pipeline can remain pressurized when installing the drilling clamp or for sensor maintenance/exchange.

## Patented recoil protection

The recoil protection guarantees high security for the commissioner, and combines three functions in one instrument:

1. the recoil protection, i.e. the sensor can only be inserted in one direction during installation.
2. the seal to the process, i.e. thanks to the O-ring, compressed air cannot escape during installation.
3. the positionable fixing, since a penetration depth and positioning which is exact to the millimeter, similar to a car's clutch, is possible.

# Technical data

## Parameters

Flow velocity	
Selectable units	m/s
Measuring range <sup>1</sup>	0 to 80 or 160 m/s
Accuracy	±3 % of meas. value ±3 % of fsv (at room temperature)
Sensor	Thermal, glass-coated ceramic sensor (calorimetric measurement procedure)
Response time	<0.1 sec (for damping parameter = 0), delayable via operating menu (0 to 1 sec)
<b>(Norm) volume flow</b>	
Selectable units	m³/h, m³/min, m³
Measuring range <sup>1</sup>	Maximum measuring range of volume flow is dependent on inner pipe diameter (see page 3)
<b>Temperature</b>	
Unit	°C
Measuring range	0 to +60 °C / 32 °F to +140 °F

## Inputs and outputs

### Analog outputs

Output type	4 to 20 mA (4-wire) freely scalable between zero and measuring range end
Load	max. 500 Ω

### Further outputs

Pulse output	Pulse speed freely settable in 1 m³ steps
Switch output	2 switch outputs, parameterizable (consumption or volume flow-dependent, NC, NO, hysteresis, window), loadable with max. 20 to 30 VDC or 250 mA each, switch status is displayed via 2 LEDs

### Supply

Voltage supply	19 to 30 V DC
Current consumption	<100 mA
Connection	M12 x 1 plug, loadable up to 250 mA, short-circuit-proof (synchronized), reverse-polarity-proof, overload-proof

## General technical data

### Design

Material housing	PBT-GF 20, PC (APEC), Makrolon, V2A (1.4301), Viton
Weight	850 g

### Display

Display	4-figure alphanumerical display, two operating buttons, operating menu, LED (4 x green for phys. units, 3 x yellow for display x 1,000 or switch status)
---------	--

### Operation

Parameterization	2 operating buttons
------------------	---------------------

### Miscellaneous

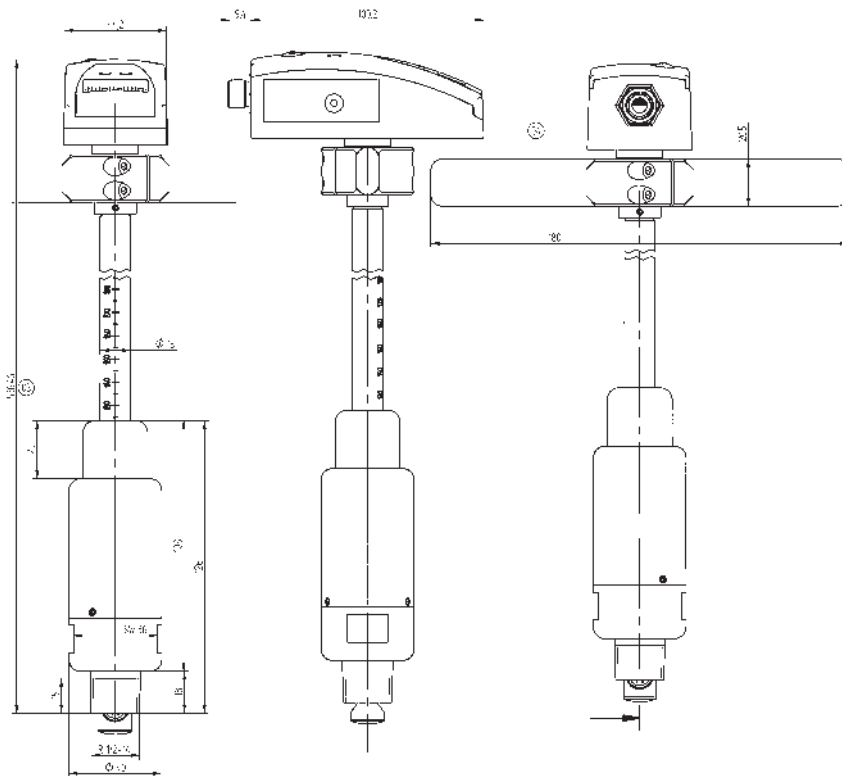
Protection class	IP 65/III
EMC	according to guideline 89/336 EEC
Media contact	V2A (1.4301), PEEK, polyester, Viton, anodized aluminium, glass-coated ceramics
Norm reference	Calculation of volume flow due to manual input possibility of temperature, humidity and pressure. Works settings: 15 °C, 1013.25 hPa, 0 %RH

## Operating conditions

Humidity (sensor)	rel. humidity <90 %RH
Operating temperature (housing)	0 to +60 °C (+32 to +140 °F)
Storage temperature	-25 to +85 °C (-13 to +185 °F)
Measurement medium	Compressed air, with special calibration also CO2 or N2
Process pressure	PN 16 (max 16bar/232psi)
Pressure tightness/ pipe clamp	16 bar (max.) for DN40-DN200; 10 bar (max.) for DN250-DN300
Air quality	ISO 8573: recommended classes 1-4-1

<sup>1</sup> Specifications according to DIN 2533 (+15 °C, 1013.25 hPa, 0 %RH)

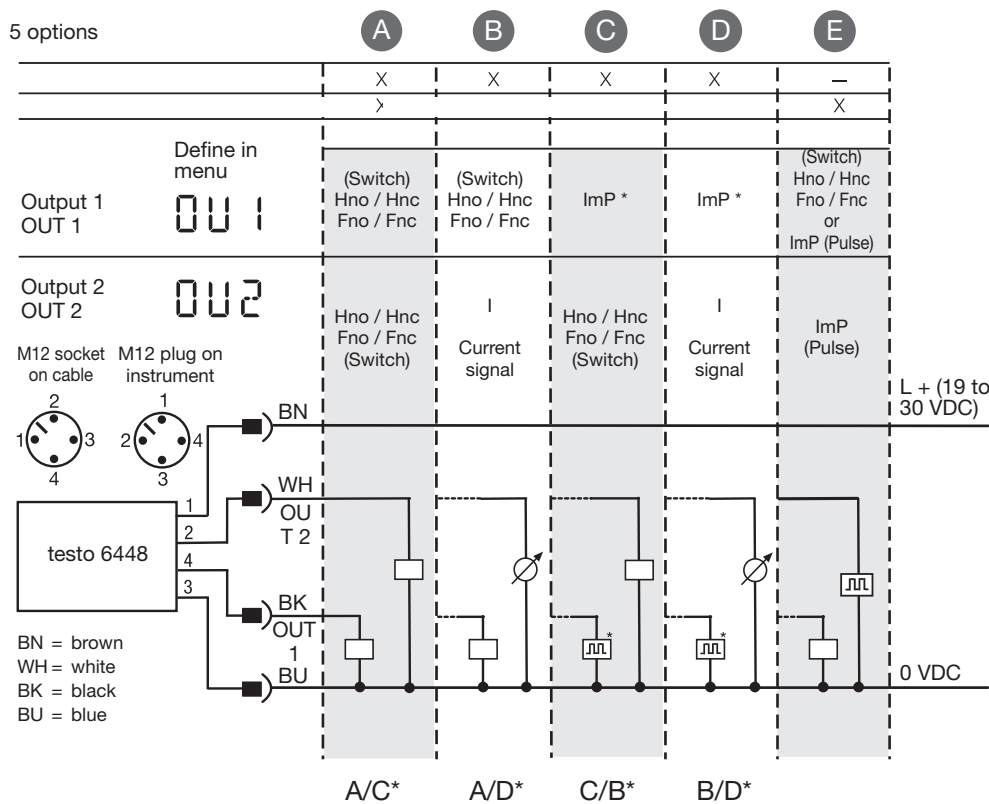
## Technical drawings



## Measuring range volume flow according to DIN2533

Version	80 m/s	160 m/s
DN 40	300 m <sup>3</sup> /h	600 m <sup>3</sup> /h
DN 50	500 m <sup>3</sup> /h	1000 m <sup>3</sup> /h
DN 65	940 m <sup>3</sup> /h	1880 m <sup>3</sup> /h
DN 80	1300 m <sup>3</sup> /h	2600 m <sup>3</sup> /h
DN 100	2200 m <sup>3</sup> /h	4400 m <sup>3</sup> /h
DN 125	3350 m <sup>3</sup> /h	6700 m <sup>3</sup> /h
DN 150	4975 m <sup>3</sup> /h	9950 m <sup>3</sup> /h
DN 200	8500 m <sup>3</sup> /h	17000 m <sup>3</sup> /h
DN 250	12825 m <sup>3</sup> /h	25650 m <sup>3</sup> /h

## Electrical connection



Terminal allocation	
1	Supply connection 19 to 30 VDC (+)
2	OUT 2 (analog output (4 to 20 mA) or switch output)
3	Supply connection 0 V (-)
4	OUT 1 (pulse output or switch output)
Wire colours for cable 0699 3393	
	brown
	white
	blue
	black

\* If menu selection ImPR = Yes -> Pulse output  
If menu selection ImPR = No -> Switch output (pre-selection counter)

# Options / Ordering example

## Order data testo 6448

AXXX configuration  
BXX Drilling clamp selection  
CXX Measurement fitting selection

### AXXX configuration

A0 accessories only \*  
A1 with transmitter incl.  
recoil protection \*\*  
AA0 80 m/s  
AA1 160 m/s  
AC0 Air (compressed air)  
AC1 Alternative gas: nitrogen  
AC2 Alternative gas: CO<sub>2</sub>  
AD0 factory protocol only  
AD1 ISO calibration protocol m/s  
at 6 points  
AD2 ISO calibration protocol m<sup>3</sup>/h  
at 6 points for specific  
nominal diameter  
(pls. indicate diameter)  
AE0 Standard length 285 mm  
(for DN40 to DN100)  
AE1 Length variant 435 mm  
(for DN125 to DN250)

\* If this selection is made, further configuration  
AXX is not necessary. Continue with BX.

\*\*Further Configuration necessary! Continue  
with AXX.

\*\*\*A connection cable, e.g. order no. 0699  
3393 is required for operation.

### BXX Drilling clamp selection

B00 without drilling clamp  
B01 drilling clamp DN40  
B02 drilling clamp DN50  
B03 drilling clamp DN65  
B04 drilling clamp DN80  
B05 drilling clamp DN100  
B06 drilling clamp DN125  
B07 drilling clamp DN150  
B08 drilling clamp DN200  
B09 drilling clamp DN250  
B10 drilling clamp DN300

### CXX Measurement fitting selection

C00 without measurement fitting / without ball  
valve  
C01 measurement fitting (incl. ball valve for  
other meas. parameter, e.g. dewpoint  
transmitter testo 6740)  
C02 ball valve (DN15)

## Ordering example

Order code for transmitter testo 6448 –  
Compressed air counter shaft probe

- With transmitter incl. recoil protection
- 80 m/s
- Air (compressed air)
- Without calibration
- Length variant 435 mm (for DN125 to  
DN250)
- Without drilling clamp
- Without measurement fitting /  
without ball valve

-> 0555 6448 A1 AA0 AC0 AD0 AE1 B0  
C0

Order code for transmitter testo 6448 –  
drilling clamp DN40:

- Accessories
- With drilling clamp DN40
- Without measurement fitting /  
without ball valve

-> 0555 6448 A0 B01 C0