



## Compressed air counter DN 15-50




**SPECIFICATIONS**

testo 6441, testo 6442, testo 6443, testo 6444



The compressed air counters testo 6441 to testo 6444 are designed for the measurement, monitoring and recording of compressed air consumption, and therefore also for the determination of leakages in compressed air systems, consumption-based allocation of costs and the implementation of peak load management. Using the compressed air counters testo 6441 to testo 6444, transparency of consumption is created for compressed air, similarly as for the media current, water or gas, thus increasing the motivation of those responsible for the process regarding cost reduction measures and energy savings. The compressed air counters testo 6441 to testo 6444 record norm volume flow according to the calorimetric principle, which means the measurement procedure is independent of the process pressure and does not cause a permanent pressure drop. While the thermal, glass-coated ceramic sensor offers a high level of robustness and fast response times, the integrated inflow and outflow pipes ensure optimum accuracy.



**SPECIFICATIONS**

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- Measurement of norm volume flow in the measuring range 0.25 to 700 Nm<sup>3</sup>/h (DN15 to DN50 or 1/2"-2"); consumption quantity in Nm<sup>3</sup>; media temperature in °C
- Sensor positioned exactly in measurement stretch with defined inner diameter and volume flow adjustment ensure highest accuracy
- Highest flexibility thanks to different signal outputs:
  - Analog output 4 to 20 mA (4-wire )
  - Pulse output
  - 2 switch outputs (parameterizable: consumption or volume flow-dependent, opener, closer, hysteresis, window)
- Built-in totalizer, even without additional analysis unit
- Operating menu with LED display

Areas of application:

- Leakage detection, compressed air consumption measurement
- Consumption cost allocation
- Peakload management
- Min./max. monitoring
- Control of consumption-dependent maintenance strategies
- Automatic, exact compressed air dosage


**Compressed air counter DN 15-50**
**Technical data testo 6441–6444**

	testo 6441	testo 6442	testo 6443	testo 6444
<b>Measurement parameters</b>				
<b>(Norm) volume flow</b>				
Selectable units	Nm <sup>3</sup> /h; NI/min; Nm <sup>3</sup>			
Measuring range (1:300)	0.25 to 75 Nm <sup>3</sup> /h	0.75 to 225 Nm <sup>3</sup> /h	1.3 to 410 Nm <sup>3</sup> /h	2.3 to 700 Nm <sup>3</sup> /h
Measurement uncertainty (norm volume flow)	For compressed air quality classes (ISO 8573: particles-humidity-oil) 1-4-1: ±3 % of meas. value ±0.3 % of final value For compressed air quality classes (ISO 8573: particles-humidity-oil) 3-4-4: ±6 % of meas. value ±0,6 % of final value			
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>Temperature</b>				
Unit	°C			
Measuring range	0 to +60 °C / 32 °F to +140 °F			

<b>Inputs and outputs</b>	
<b>Analog outputs</b>	
Output type	4 to 20 mA (4-wire) freely scalable between zero and measuring range end
Load	max. 500 Ω
<b>Further outputs</b>	
Pulse output	Consumption quantity counter (value remains available after reset or power cut due to non-volatile memory), value 1 or 10 Nm <sup>3</sup> , pulse length 0.02 s to 2 s, 24 VDC level
Switch output	2 switch outputs, parameterizable (consumption or volume flow-dependent, opener, closer, hysteresis, window), loadable with max. 20 to 30 VDC or 250 mA each, switch status is displayed via 2 LEDs.
<b>Supply</b>	
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

<b>General technical data</b>				
<b>Design</b>				
Material housing	PBT (GF 20%), diecast zinc, silica-free			
Long measurement stretch	300 mm	475 mm		
Pipe diameter	DN 15 (for 1/2" pipes)	DN 25 (for 1" pipes)	DN 40 (for 1 1/2" pipes)	DN 50 (for 2" pipes)
Weight	0.9 kg	1.1 kg	3.0 kg	3.8 kg
<b>Display</b>				
Housing material	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)			
Max. display value norm volume flow	90 Nm <sup>3</sup> /h	270 Nm <sup>3</sup> /h	492 Nm <sup>3</sup> /h	840 Nm <sup>3</sup> /h
Temperature display	0 to +60 °C, measurement error ±2 K, (+32 to +140 °F)			
<b>Operation</b>				
Parameterization	2 operating buttons			
<b>Installation</b>				
Measurement stretch: thread (both sides) / material	R 1/2, outer thread Stainless steel 1.4301	R1, outer thread Stainless steel 1.4301	R1 1/2, outer thread Stainless steel 1.4401	R2, outer thread Stainless steel 1.4401
<b>Miscellaneous</b>				
Protection class	IP 65/III			
EMC	according to guideline 89/336 EEC			
Media contact	Materials stainless or galvanized steel, PEEK, polyester, Viton, anodized aluminium; ceramic			
Norm reference	Norm flow velocity (ze. g. Nm/s) and norm volume flow (e. g. Nm <sup>3</sup> /h) refer to DIN ISO 2533, 15 °C, 1013.25 mbar, 0 %RH			

<b>Operating conditions</b>	
Humidity (sensor)	re. 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, on request also CO <sub>2</sub> or N <sub>2</sub>
Process pressure	PN 16 (max 16bar/232psi)
Air quality	ISO 8573: recommended classes 1-4-1

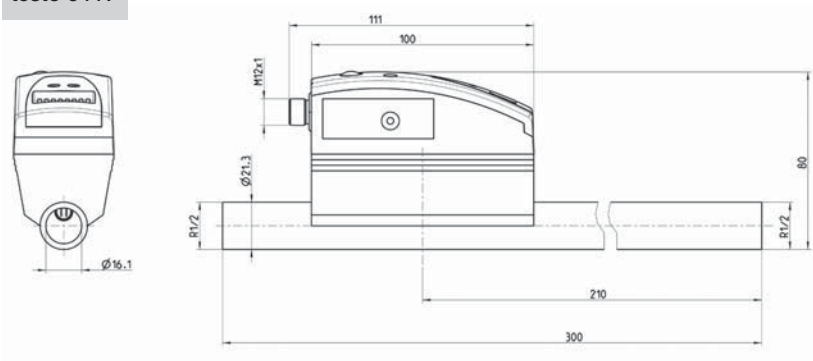
Subject to change without notice.



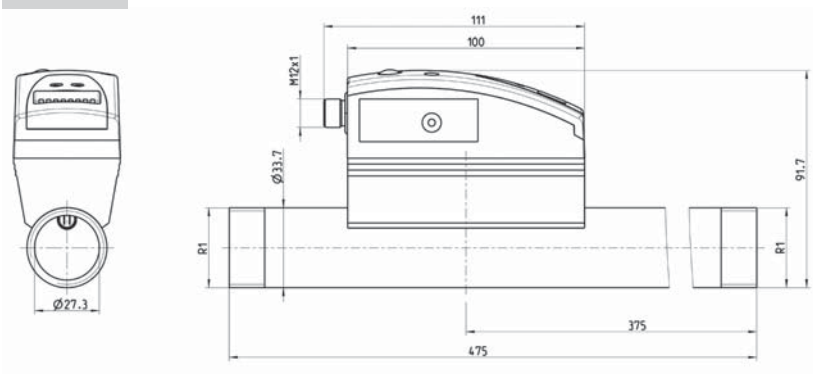
Compressed air counter DN 15-50

Technical drawings

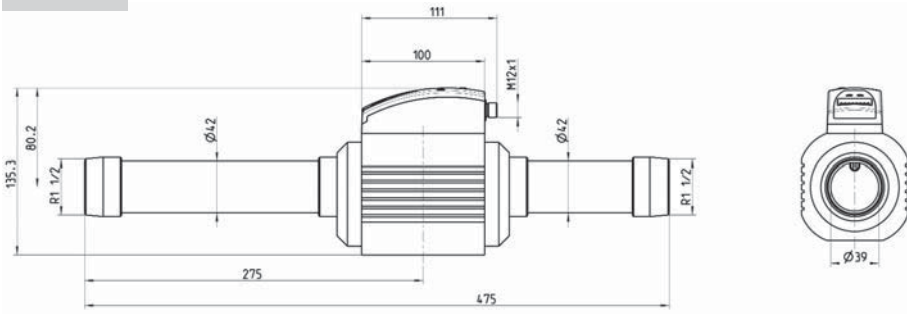
testo 6441



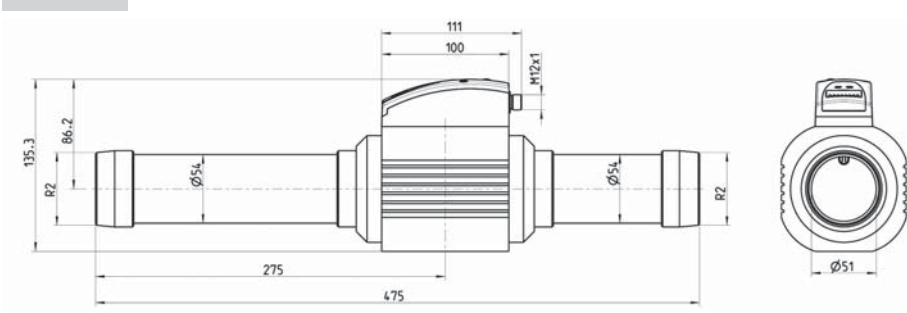
testo 6442



testo 6443



testo 6444

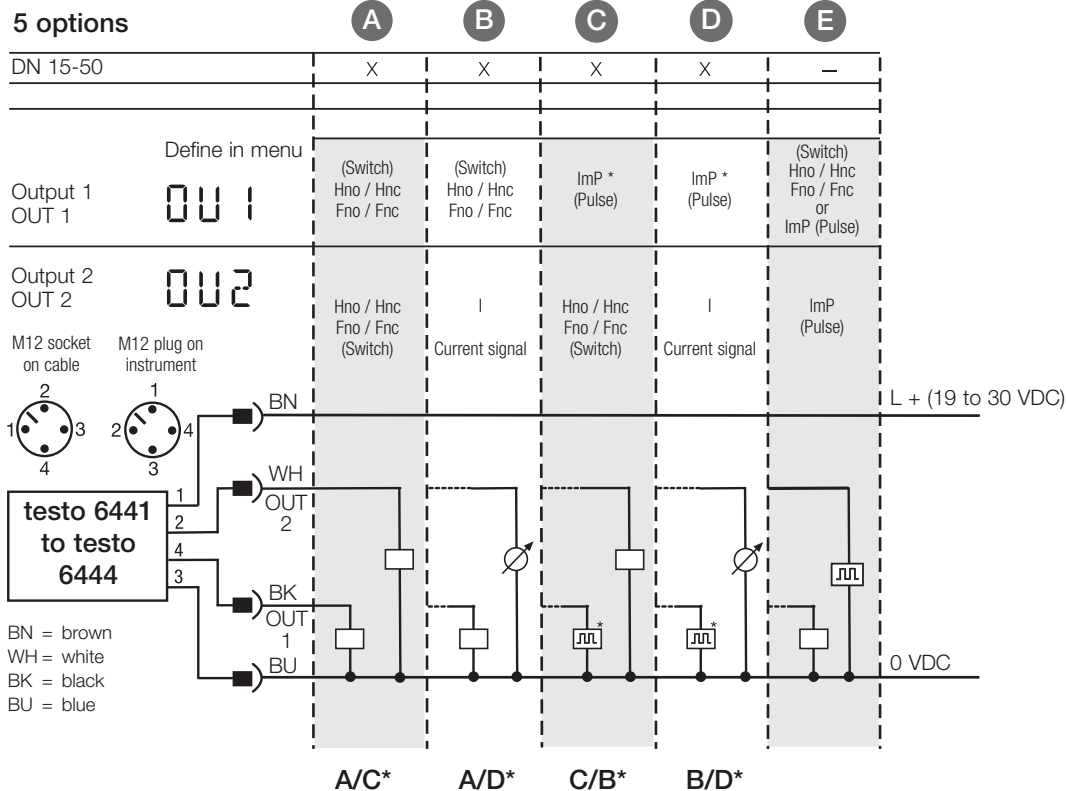


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## Compressed air counter DN 15-50

### Electrical connection



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

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

### Order data testo 6441 to testo 6444

	Part no.
Compressed air counter DN 15 / ½" *	0555 6441
Compressed air counter DN 25 / 1" *	0555 6442
Compressed air counter DN 40 / 1½" *	0555 6443
Compressed air counter DN 50 / 2" *	0555 6444

\* a connection cable, e.g. part no. 0699 3393, is required for operation

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