

TICs DETECTION TUBES

Detection tubes for most common TICs

Tubes dimensions \varnothing 6 x 105 mm

Usable in different hand and electric pumps



Tube DT11 in a hand pump UNIVERSAL, CZ



Tube DT12 in a hand pump Draeger, DE



El. pump CHP-5, ORITEST, CZ

PRODUCT INFORMATION**TIC DETECTION TUBE****DT 001**

<i>Application</i>	PHOSGENE
<i>Code</i>	DT-001
<i>Marking</i>	Phosgene COCl ₂ DT-001
<i>Sensitivity</i>	0,5 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	Yellowish → red
<i>Reaction</i>	Phosgene and Diphosgene react with s 4-(p-nitrobenzyl)pyridine creating quartere ammonia salts
<i>Description</i>	The detection tube contains one indication layer formed by silica gel impregnated with 4-(p-nitrobenzyl)pyridine and N-fenylbenzylamine.
<i>Detection procedure</i>	A prescribed number of strokes are executed (equivalent air volume) .Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	Similar colour as phosgene creates also acethylchloride, benzoyl chloride and other acylation substances.
<i>Interferences</i>	High concentration of hydrogen chloride and other strongly acid gases and vapours may interfere
<i>Temperature</i>	0-50 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)

Construction

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<i>Application</i>	HYDROGEN CYANIDE, CYANOGEN CHLORIDE
<i>Code</i>	DT-002
<i>Marking</i>	Hydrogen cyanide HCN DT-002
<i>Sensitivity</i>	3 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	AC: grey → red - violet CK: yellowish → red - violet
<i>Reaction</i>	Hydrogen cyanide reacts with 4-nitrobenzaldehyde with presence of pyridine creating coloured benzoine. Cyanogen chloride reacts according to König with pyridine and dimedone to polymethic dye.
<i>Description</i>	The tube contains two layers and an ampoule with detection solution. The upper layer is a silica gel impregnated by natrium hypocarbonide, lower layer is a silica gel impregnated with dimedone, and detection solution contains 4-nitrobenzaldehyd in pyridine.
<i>Detection procedure</i>	First to crush the ampoule, then to provide described number of strokes (equivalent air volume). Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	Tabun can be also detected (creates hydrogen cyanide). Cyanogen bromide and fosgenoxime react similarly as cyanogens chloride.
<i>Temperature</i>	0-50 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)
<i>Construction</i>	



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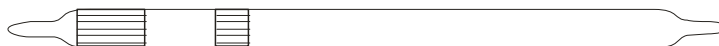
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<i>Application</i>	CHLORINE
<i>Code</i>	DT-003
<i>Marking</i>	Chlorine Cl ₂ DT-003
<i>Sensitivity</i>	3 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	Yellow - red
<i>Reaction</i>	Reaction of chlorine with potassium bromide releases bromide that creates a red product with fluoresceine.
<i>Description</i>	The tube contains one indication layer, silica gel impregnated with chromogen reagents (potassium bromide and fluoresceine).
<i>Detection procedure</i>	To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	The tube can detect also another strong oxidating reagents mainly bromide or natrium dioxide (in a higher concentration).
<i>Interferences</i>	Tube sensitivity is influenced presence of high concentration of acid gases and vapours..
<i>Temperature</i>	0-50 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)

Construction



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<i>Application</i>	NATRIUM OXIDES
<i>Code</i>	DT-004
<i>Marking</i>	Natrium oxides NO _x DT-004
<i>Sensitivity</i>	2 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	White – yellow up brown
<i>Reaction</i>	Reaction of natrium dioxide with potassium iodide releasing iodide
<i>Description</i>	The tube contains one indication layer, silica gel impregnated with potassium iodide.
<i>Detection procedure</i>	To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	The tube can detects also other strong oxidizers mainly chlorine and bromine.
<i>Temperature</i>	0-50 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%).
<i>Construction</i>	



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<i>Application</i>	SULPHUR DIOXIDE
<i>Code</i>	DT-005
<i>Marking</i>	Sulphur dioxide SO ₂ DT-005
<i>Sensitivity</i>	5 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	White – yellow
<i>Reaction</i>	Reaction of sulphur dioxide with Ellman reagent creating coloured thiolate.
<i>Description</i>	The tube contains one indication layer, silica gel impregnated Ellman reagent and the buffer.
<i>Detection procedure</i>	To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	Sulphide reacts similarly
<i>Interferences</i>	Presence of high concentration of acid gases and vapours.
<i>Temperature</i>	0-40 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)

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<i>Application</i>	SULPHIDE
<i>Code</i>	DT-006
<i>Marking</i>	Sulphide H ₂ S DT-006
<i>Sensitivity</i>	5 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	Light blue - brown
<i>Reaction</i>	Reaction of sulphide with cupric ions creating colouric cooper sulphide.
<i>Description</i>	The tube contains one indication layer, silica gel impregnated with cooper acetate.
<i>Detection procedure</i>	To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	The reaction is specific.
<i>Interferences</i>	The reaction system is very resistant to interferences.
<i>Temperature</i>	0-50 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)

Construction



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<i>Application</i>	CARBON DISULPHIDE
<i>Code</i>	DT-007
<i>Marking</i>	Carbon disulphide CS ₂ DT-007
<i>Sensitivity</i>	20 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	Light blue – yellow up brown
<i>Reaction</i>	Reaction of carbon disulphide with cupric ions and piperazine creating coloric cupric dithiocarbamate..
<i>Description</i>	The tube contains one indication layer, silica gel impregnated with cupric acetate and piperazine.
<i>Detection procedure</i>	To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	Sulphide creates similar colour.
<i>Temperature</i>	0-50 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)

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<i>Application</i>	AMMONIA
<i>Code</i>	DT-008
<i>Marking</i>	Ammonia NH ₃ DT-008
<i>Sensitivity</i>	50 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	Yellow – green up blue
<i>Reaction</i>	Reaction of ammonia with phosphoric acid a change of pH is indicated by acidobasic indicator with bromo-cresol greenth.
<i>Description</i>	The tube contains one indication layer, silica gel impregnated with bromo-cresol greenth, phosphoric acid and glycerine.
<i>Detection procedure</i>	To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	Similarly react also another alcalic gases and vapours, e.g. volatile, aliphatic and cyclic amines and hydrazines..
<i>Temperature</i>	0-50 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)

Construction



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Application **HYDROGEN CHLORIDE**

Code **DT-009**

Marking Hydrogen chloride HCl DT-009

Sensitivity 10 mg.m⁻³

Suction 10 strokes per 100 ml, or 1 litre

Colour Yellow - red

Reaction Reaction of hydrogen chloride with an alkalia, a change of pH is indicated by acido basic indicator with methyl orange..

Description The tube contains one indication layer, silica gel, impregnated with methyl orange.

Detection procedure To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.

Selectivity Similarly react also another acid gases and vapours, e.g. phosgene, phosphor chloride, organic and mineral acids.

Interferences 0-50 °C

Temperature The tube can be used in a broad range of air humidity (10 – 95%)

Humidity

Construction



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PRODUCT INFORMATION**TIC DETECTION TUBE****DT 010**

Application **FORMALDEHYDE**

Code **DT-010**

Marking Formaldehyde HCHO DT-010

Sensitivity 0,5 mg.m⁻³

Suction 10 strokes per 100 ml, or 1 litre

Colour White - violet

Reaction Reaction of formaldehyde with specific reagent creates coloured 6-merkpto-5-triazol-(4,3-b)-s-tetrazine.

Description The tube contains one indication layer and an ampoule with solution. The layer is of Silica gel impregnated with chromogene reagent. Saturated solution of natrium perchlorate in 10% natrium hydrate.

Detection procedure To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.

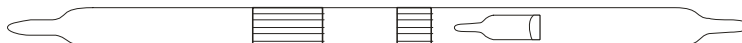
Selectivity Similar reaction is with volatile aldehydes. The colour could be different.

Intervferences Acid agents in air degreses the tube sensitivity.

Temperature 0-50 °C

Humidity The tube can be used in a broad range of air humidity (10 – 95%)

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PRODUCT INFORMATION**TIC DETECTION TUBE****DT 011**

<i>Application</i>	CARBON MONOXIDE
<i>Code</i>	DT-011
<i>Marking</i>	Carbon Monoxide CO, DT011
<i>Sensitivity</i>	30 mg.m ⁻³
<i>Suction</i>	10 strokes per 100 ml, or 1 litre
<i>Colour</i>	Light yellow → red
<i>Reaction</i>	Trivalent ferrum reduction to divalent one. Creates a colour complex with o-fenantroline.
<i>Description</i>	The tubes contains one indication layer and an ampoule with solution. The layer is of Silica gel impregnated with iron chloride. Ethanol solution of o-fenatroline is in the ampoule.
<i>Detection procedure</i>	To provide described number of strokes (equivalent air volume. Colour of the indication layer should be compared with the etalon on the label.
<i>Selectivity</i>	Similar reaction is with another reduction compounds e.g. sulphur dioxide, sulphide, thiols etc.
<i>Interferences</i>	Sulphide creates a brown colour even before the ampoule crushing.
<i>Temperature</i>	0-60 °C
<i>Humidity</i>	The tube can be used in a broad range of air humidity (10 – 95%)

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