

HYGITEST SORBENT TUBES

FOR LOW FLOW VAPOUR AND GAS SAMPLING

HYGITEST Association offers a line of standard Charcoal, Silica gel and Tenax sorbent tubes for low flow adsorption sampling of toxic substances in the air. HYGITEST sorbent tubes comply with all US NIOSH specifications for tube dimensions, adsorbent quality and particle size, divider composition and pore size. These tubes are designed for use in conjunction with all low flow air sampling systems and common tube holding systems. Typically each tube is divided into two adsorbent sections. The first section is twice the size of the back section and will collect the compounds of interest. The second section is a backup section to determine if airborne contaminants breakthrough occurred on the front section. HYGITEST sorbent tubes are manufactured under stringent quality control to provide:

- Physical dimensions to assure proper fit in tube holder systems
- Uniform pressure drop to assure repeatable sampling results
- Accurate sorbent weight for uniform testing results
- Highest sorbent material purity for contamination-free samples.

HYGITEST sorbent tubes are packed up in sturdy, molded black polyethylene boxes to resist breakage. These boxes secure tubes during transport, storage and day-to-day handling, allow easy labeling and organizing of test samples, protect against damaging light and U.V. rays. Each single box snaps shut to protect any sampled and unused tubes. Boxes contain 10 tubes each and are packed five boxes per carton (sold in 50-tube quantities). Each box of 10 tubes comes with 10 pairs of end caps for sealing after sampling.

The manufacturing range of the Association covers indicator tubes for express analysis of toxic gases and vapours, special hygienic control tests, appliances for toxic aerosols determination, sample-collecting devices for gases and dust in working areas and environment, glassware for hygienic control, plastic disposable articles, etc.

Various kinds of indicator tubes are produced:

AT- express control indicator tubes;

LT-long-term indicator tubes for mean-shift exposure /TWA/ determination;

PM-personal passive monitors;

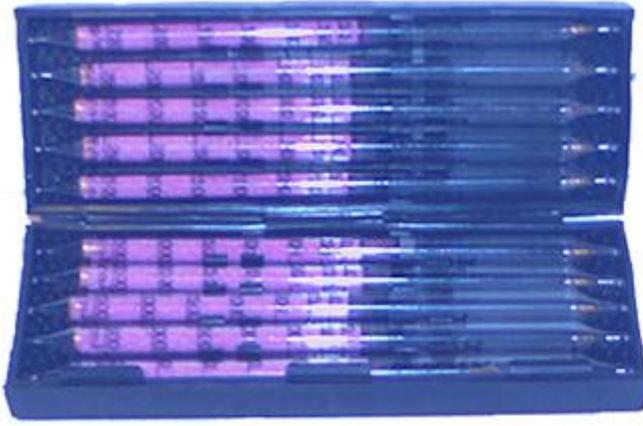
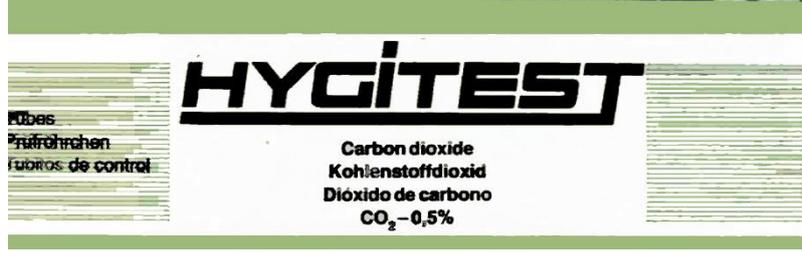
ST-sampling tubes with adsorbent;

HST-Head-space tubes for gas analysis in liquids;

TT-special test tubes, etc.

HYGITEST Association is housed in the building of the Research Institute of Hygiene and Occupational Health in Sofia. The close integration of production and research is a guarantee for effective quality control, continuous development and improved express control.

HYGITEST INDICATOR TUBES



The Hygitest indicator tubes are used for express determination of toxic gases and vapours concentrations in industrial environment. The analyses are quick, easy to perform and unexpensive. No special training is required for the operating staff. For this reason the indicator tubes are widely used in all branches of industry, agriculture, transport, etc. They are used for apparatus leakage determination, control of technological processes and determination of toxic substances in the environmental air, for hygienic evaluation, testing the presence of toxic and inflammable substances in confined spaces, determination of workers personal exposure, determination of gas components in liquids, etc. A feature worth mentioning is that the data on the substance is determined instantly on the spot. The HYGITEST indicators are glass tubes, filled with solid granular material-carrier, impregnated with an appropriate chemical reagent. The tips of the tube are sealed, thus its content is isolated from the environment. Before analysis, the tips of the tube are broken and the tube is inserted in the special sampling pump, HYGITEST or DRAEGER type, sucking the air quantity necessary for each kind of tube. In the presence of the substance to-be-analysed, the reagent system in the tube changes its colour and the length of the discoloration is directly proportional to the concentration of the substance determined. The concentration is read directly on the scale, printed on the outside surface of the indicator tube. All data necessary for reproduction of analysis and obtaining of precise results are presented in the detailed operating instruction, enclosed in each package of indicator tubes.

ANALYSIS INDICATOR TUBES-AT

Analysis indicator tubes are intended for instant on-the-spot determination of the concentration of toxic substances in the air. Depending on the concentration range they can be used for determination of toxic substances in the working medium, in the atmospheric air and also in emissions. Sampling with them does not exceed 10 minutes, usually within 3 to 5 minutes. For the purpose they are precisely calibrated so that the determination error does not exceed the $\pm 25\%$ limit admissible in hygienic practice. The reproducibility of the indications of the tubes from one batch, expressed by a coefficient of variation, is usually within the range 10 to 15%, depending on the tube type and the skill of the operator. Indicator tubes, with indications affected by the humidity of analysed air are calibrated with dynamic dosage apparatuses with controlled air flow humidity. Calibration curves for each humidity value are obtained from 3 to 16 d/m³, but a scale valid at 9 d/m³ (50% relative humidity at 20gr C/ is usually printed on the tube. The results from the analyses under other humidity conditions are multiplied by correction coefficients, given in the instruction, in each package of indicator tubes. A large number of the humidity-affected indicator tubes is already being supplied with a drying filter layer, eliminating the necessity of correction coefficients.

The analysis with the indicator tubes is realized by means of special sampling pumps. HYGITEST analysis tubes are calibrated with two types of pumps: DRAEGER bellows pump widely used in the world practice and BPP-2M piston pump produced by HYGITEST. The results, obtained by the two types of pumps, coincide in the majority of cases. In case of lack of coincidence this is mentioned in the instructions.

LONG-TERM INDICATOR TUBES-LT

The long-term indicator tubes- HYGITEST LT are used for determination of mean concentration of toxic gases and vapours during a longer period of time, e. g. 2,4 or 8 hours. They are integrating analysis devices giving an idea of the mean-shift concentration in the working environment or the mean-shift exposure of workers. Samples are collected by a water aspirator or special low-rate sampling pumps/as Compur 4903, Acuhaler, Polymer, Gilian 113D/. The latter are particularly useful for sampling in assessment of workers personal exposure. The long-term indicator tubes HYGITEST LT relieve the Sample-collecting workers of the tiresome manual sampling. They are economically feasible since the assessment of environmental pollution is obtained by one to four long-term indicator tubes, throughout the whole working day, instead of 10-20 short-term indicator tubes.

ALCONAL TEST TUBES

The ALCONAL*indicator tubes are widely used for determination of alcohol in exhaled air/ALCONAL= ALCOHOL+ ANALYSIS/. They are used by traffic control authorities as well as for self-control of the drivers of motor vehicles. They are also used for workers control in industries where alcohol drinking is forbidden.

SORBANT TUBES FOR LOW FLOW VAPOR AND GAS SAMPLING

HYG sampling tubes are standart sorbant tubes for low flow adsorbation sampling of toxic substances in the air. The quality indices of HYG sorbent tubes comply with all US NIOSH specifications for tubes dimensions, adsorbent quality and partical size, divider composition pore size. The tubes are packed in plastic boxes. Boxes contain 10 tubes each and are packed five boxes per carton (sold in 50-tube quantities). Each tube comes with a pair of end caps for sealing after sampling. The figures below show a typical shapes of HYG sorbent tubes.



CHARCOAL (COCONUT BASED) 70x6 mm

Catalogue # ST - CN

100/50 mg sorbent, 2 sections



CHARCOAL (COCONUT BASED) 70x6 mm

Catalogue # ST - CN

100/50 mg sorbent, 2 sections



CHARCOAL (COCONUT BASED) 110x10 mm

Catalogue # ST - CJ "JUMBO"

800/200 mg sorbent, 2 sections



SILICA GEL 70x6 mm

Catalogue # ST - AN

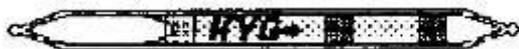
150/75 mg sorbent, 2 sections



SILICA GEL 110x8 mm

Catalogue # ST - AB

520/260 mg sorbent, 2 sections



TENAX 70x6 mm

Catalogue # ST - TE

30/15 mg sorbent, 2 sections



TENAX 110x8 mm

Catalogue # ST - TB

100/50 mg sorbent, 2 sections

Hygitest 2017 Sorbent tubes offer							
Model #	Description	Size (mm) OD x Length	Sec-tions	Bed Wt. (mg)	Ends	Separators	Quantity / Box
ST 01-01	Coconut Charcoal	6x70	2	50/100	GS	FFW	50
ST 01-01A	Coconut Charcoal	6x70	2	50/100	GS	FFW	10
ST 01-01M	Coconut Charcoal	6x70	2	50/100	GS	FFW	1000
ST 01-01W	Coconut Charcoal	6x70	2	50/100	GS	WWW	50
ST 01-01GO	Coconut Charcoal	6x70	2	50/100	GO	FFW	50
ST 01-02	Coconut Charcoal	8x110	2	200/400	GS	FWW	50
ST 01-02M	Coconut Charcoal	8x110	2	200/400	GS	FWW	1000
ST 01-02GO	Coconut Charcoal	8x110	2	200/400	GO	FWW	50
ST 01-03	Coconut Charcoal	10x110	2	200/800	GS	FWW	50
ST 01-03GO	Coconut Charcoal	10x110	2	200/800	GO	FWW	50
ST 01-04-05 (2 tubes)	Coconut Charcoal	8x110 8x110	1 1	200 400	GS	WW WW	50 sets
ST 01-06	Coconut Charcoal	8x150	3	350/350/3 50	GS	WWWW	50
ST 01-07	Coconut Charcoal	10x160	2	200/1800	GS	FFW	50
ST 01-08-09 (2 tubes)	Coconut Charcoal	8x110 8x110	1 1	200 400	GS GS	FW FW	50 sets
ST 03-01	Chromosorb® -102	6x70	2	33/66	GS	WWWW	50
ST 03-03-03 (2 tubes)	Chromosorb-102	6x70	1	50/100	GS	WW	50 sets
	Chromosorb-102	6x70	1	50/100	GS	WW	
ST 03-04	Chromosorb-102	8x110	2	100/200	GS	WWWW	20
ST 03-05	Chromosorb-102	8x110	2	50/100	GS	WWWW	50
ST 04-01	Chromosorb -104	6x70	2	37/75	GS	WWWW	50
ST 05-01	Chromosorb -106	6x70	2	37/75	GS	WWWW	50
ST 05-02	Chromosorb-106	7,2 x 70	2	50/100	GS	WWWW	50
ST 05-03	Chromosorb-106	10x150	2	300/600	GS	WWWW	10
ST 06-01	Chromosorb -108	6x70	2	37/75	GS	WWWW	50

ST 06-02	Chromosorb-108 = Anasorb 708	10x110	2	200/400	GS	WWW	50
ST 07-01	Florisil	6x70	2	50/100	GS	WWW	50
ST 07-02	Florisil	8x110	2	200/400	GS	WWW	50
ST 09-01	Microlite	6x70	1	200	GS	WW	50
ST 09-02	Microlite	8x110	1	500	GS	WW	50
ST 10-01	Molecular Sieve (Triethanolamine)	7,2 x 110	2	200/400	GS	WWW	50
ST 10-02-03	Molecular Sieve (Triethanolamine) (2 tubes) Oxidizer	7x70 (2 tubes) 7,2x110	1 (2 tubes) 1	400 (2 tubes) 800	GS	WW WW WW	10 sets
ST 11-02	Anasorb 747 +(hydrobromic acid)	6x70	2	100/50	GS	WWW	20
ST 12-01	Porapak [®] -N	6x70	2	44/88	GS	WWW	50
ST 39-01	Porapak - P	6x110	2	50/100	GS	FFW	50
ST 13-01	Porapak -Q	6x70	2	39/78	GS	WWW	50
ST 13-02	Porapak -Q	6x110	2	75/150	GS	WWW	50
ST 14-01	Porapak -R	6x70	2	35/70	GS	WWW	50
ST 15-02-03 (2 tubes)	Porapak -T	6x40 6x40	1 1	25 75	GO GO	WW WW	10 sets
ST 18-01	Silica Gel	6x70	2	75/150	GS	FWW	50
ST 18-01-01 (2 tubes)	Silica Gel/ Charcoal (Sodium hydroxide)	10x210	3	250/1250/ 750	GS	multiple separators	50
ST 18-02	Silica Gel	8x110	2	260/520	GS	FWW	50
ST 18-02W	Silica Gel	8x110	2	260/520	GS	WWW	50
ST 18-03	Silica Gel	8 x 110	2	150/300	GS	WWW	50
ST 18-04	Silica Gel	10x110	2	260/1040	GS	FWW	50
ST 18-11	Silica Gel (Specially cleaned)	6 x 70	2	75/150	GS	WWW	50
ST 18-12	Silica Gel (Specially cleaned)	8 x 110	2	260/520	GS	WWW	50
ST 18-13	Silica Gel (Specially cleaned)	7,2 x 110	2	200/400	GS	WWGW	50
ST 18-14	Silica Gel (Specially cleaned)	10 x 110	2	200/800	GS	FWW	50

ST 18-21	Silica Gel (2, 4-Dinitrophenyl hydrazine)	6x110	2	150/300	GS	WWW	20
ST 18-21A	Silica Gel (2,4-Dinitrophenyl hydrazine)	6x110	2	150/300	GS	WWW	100
ST 18-22	Silica Gel (2,4-Dinitrophenyl hydrazine)	6x110	2	200/400	GS	WWW	20
ST 18-23	Silica Gel (2,4-Dinitrophenyl hydrazine)	6x150	2	200/800	GS	WWW	20
ST 18-31	Silica Gel (Sulfuric acid)	6 x 70	2	100/200	GS	WWW	50
ST 18-32	Silica Gel (Sulfuric acid)	6 x 110	2	100/200	GS	WWW	50
ST 18-33	Silica gel (Sulfuric acid)	8x110	2	200/200	GS	WWW	50
ST 18-34	Silica Gel (Sulfuric acid)	6x70	2	75/150	GS	WWW	50
ST 18-35	Silica Gel	6x70	2	50/100	GS	FWW	50
ST 20-01	Tenax®	6x70	2	20/40	GS	FFW	50
ST 20-02	Tenax®	6x70	2	10/20	GS	WWW	50
ST 20-03-04 (2 tubes)	Tenax®	6x130 6x130	1 1	17 35	GS	WW WW	50 sets
ST 20-05	Tenax®	8x110	2	50/100	GS	WWW	50
ST 20-05A	Tenax®	8x110	2	50/100	GS	WWW	10
ST 21-01	XAD -2	8x110	2	200/400	GS	WWW	50
ST 21-02	XAD -2	7x70	2	40/80	GS	WWW	50
ST 21-03	XAD -2	8x110	2	30/100	GS	WWW	50
ST 21-04	XAD -2	8x110	2	50/100	GS	WWW	50
ST 21-05	XAD -2	8x110	2	75/150	GS	WWW	50
ST 21-11	XAD -2 (2-Hydroxymethyl)	6x110	2	75/150	GS	WWW	20
ST 21-12	XAD -2 (2-Hydroxymethyl)	6x110	2	60/120	GS	WWW	20
ST 21-13	XAD-2 (2-Hydroxymethyl)	8x110	2	225/450	GS	WWW	20
ST 21-14	XAD -2 (2-Hydroxymethyl)	6x70	2	23/45	GS	WWW	20
ST 21-16	XAD-2 + (Naphthylisothiocyanate)	6x70	2	80/40	GS	WWW	50
ST 21-31	XAD-2 (Octanoic acid)	6x70	2	50/100	GS	WWW	50
ST 23-01	XAD -7	6x70	2	30/60	GS	WWW	50
ST 23-02	XAD -7	6x110	2	50/100	GS	WWW	50
ST 24-01	Anasorb 747	6x70	2	70/140	GS	FWW	20
ST 25-01	Soda lime	7x110	2	200/600	GS	WWWG	50
ST 38-01	Oxydizer (conversion tube of ST 10-02-03)	7,2x110	1	800	GS	WW	10
ST 38-02	Oxydizer (filter tube)	7,2x110	1	800	GS	WW	10