Dräger X-pid 9x00 Analysis PID

Order no. 68 50 012

Dräger X-pid 9x00 Seeker PID

Order no. 68 50 013

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life	UV lamp
Dräger X-pid 9000/9500	no	yes	1 year	> 5 years (10,000 h)	10.6 eV

MARKET SEGMENTS

Chemical industry, painters, storage and use of fuels (e.g. gas stations), selective measurements of e.g. benzene or 1,3-Butadiene

TECHNICAL SPECIFICATIONS (IN SYSTEM)

Resolution:*	0 – 9.99 ppm	0.01 ppm
	> 10 – 99.9 ppm	0.1 ppm
	> 100 ppm	1 ppm
General technical data		
Ambient conditions		
Temperature:	(-10 to 35)°C (14 to 95)°F	
Humidity:	10 to 90 % RH (to 95 % RH intermittent)	
Pressure:	700 to 1300 hPa	
Warm-up time:	10 minutes	

FOR THE MEASUREMENT MODE SEEKER:

Response time:	approx. 45 seconds (isobutylene, w/o hose)
Detection limit:	0.01 ppm isobutylene (isobutylene response)
Measurement range:	0 to 60 ppm isobutylene (isobutylene response)
Precision[1]	< 2 % at 10.0 ppm isobutylene
(k = 1, ~68 %)	< 2 % at 5.00 ppm Benzene
Linearity error:	not specified
Influence of pressure:	not specified
Influence of humidity, at 40 °C (104 °F) (0 to 95 % RH, non-condensing)	
Zero point:	not specified
Sensitivity:	not specified
Test gas:	Mixture of 10 ppm i-C_4H_8 (isobutylene) and 10 ppm C_7H_8 (Toluene)

* depends on the response factor of the sample gas

FOR THE MEASUREMENT MODE ANALYSIS:

Response time:	none (provided that substance concentration is present at the device at the start of the analysis)
Detection limit:	Substance-dependent, see table with target substances
Measurement range:	Substance-dependent, see table with target substances
Precision[1]	< 2 % at 10.0 ppm isobutylene
(k = 1, ~68 %)	< 2 % at 5.00 ppm Benzene
Analyse time	Substance-dependent, due to the most non-volatile compound 20 s isobutylene analysis program 30 s benzene analysis program 30 s isobutylene & benzene analysis program
Influence of pressure:	No effect
Influence of humidity:	No effect
Test gas:	Mixture of 10 ppm i-C_4H_8 (isobutylene) and 10 ppm C_7H_8 (Toluene)

SPECIAL CHARACTERISTICS

The selective PID gas detector is ideally suited for users with large measurement volumes for toxic hazardous substances. Benzene, butadiene and other VOCs have a carcinogenic effect even in the lowest concentrations. A selective measurement is necessary, because other gases and vapors are often present. The gas measuring device enables short measuring times and results in laboratory quality.

FOR THE MEASUREMENT MODE ANALYSIS QUALIFIED AND QUANTIFIED TARGET COMPOUNDS

Response time: No t_{90}, provided that substance concentration is present at the device at the start of the analysis. Analysis time depends on the substance, due to the most non-volatile compound.
30 s benzene analysis program
10 s butadiene analyis program
30 s benzene & butadiene analysis program

Target compounds	CAS no.	Retention time, s	LOD[1], ppm	LOQ[2], ppm	UR[3], ppm
Acetone	67-64-1	8.10	0.17	0.50	50
Acroleine	107-02-8	7.80	0.33	1.00	100
Benzene	71-43-2	19.30	0.02	0.05	25
Butadiene, 1,3-	106-99-0	6.40	0.07	0.20	25
Butyl acetate	123-86-4	64.30	0.67	2.00	220
Butyraldehyde	123-72-8	12.23	4.00	12.00	210
Carbon disulfide	75-15-0	9.80	0.33	1.00	110
Cyclohexane	110-82-7	20.30	0.67	2.00	200
Dichloroethene, 1,1-	75-35-4	8.90	0,07	0.20	50
Dichloroethene, cis-1,2-	156-59-2	13.40	0,07	0.20	50
Dichloroethene, trans-1,2-	156-60-5	10.90	0,07	0.20	50
Ethanol	64-17-5	7.52	10.00	30.00	935
Ethylbenzene	100-41-4	88.70	1.00	3.00	300
Ethylene oxide	75-21-8	6.80	0.33	1.00	100
Heptane, n-	142-82-5	27.10	5.00	15.00	500
Hexane, n-	110-54-3	13.70	0.33	1.00	100
Isobutylene	115-11-7	6.30	0.07	0.20	100
Isopropyl alcohol	67-63-0	9.10	1.00	3.00	200
Methyl acrylate	96-33-3	14.40	0.67	2.00	200
Methyl bromide	74-83-9	6.80	0.17	0.50	100
Methyl Methacrylate	80-62-6	27.66	2.50	7.50	275
Phosphine	7803-51-2	5.30	0.67	2.00	100
Propanol, 1-	71-23-8	11.56	5.00	15.00	550
Propylene oxide	75-56-9	8.20	0.17	0.50	25
Styrene	100-42-5	111.30	1.00	3.00	300
Tetrachloroethylene	127-18-4	58.90	0.67	2.00	150
Tetrahydrofuran	109-99-9	16.50	1.00	3.00	200
Toluene	108-88-3	41.60	0.33	1.00	100
Trichloroethylene	79-01-6	24.90	0.33	1.00	100
Vinyl chloride	75-01-4	6.30	0.33	1.00	100
Xylene, m-	108-38-3	95.70	1.00	3.00	300
Xylene, o-	95-47-6	114.50	1.00	3.00	300
Xylene, p-	106-42-3	96.60	1.00	3.00	300

FOR THE MEASUREMENT MODE QUALIFIED TARGET COUMPOUNDS (BUT NOT QUANTIFIED)

Other target substances are qualified but not quantified for the Dräger X-pid® 9500. The measuring range has not always been determined experimentally; instead, no specification is possible in these cases. Qualified target substances can be added to analysis programs and assigned in analyses by their retention time. The concentration calculation is done via simplified assumptions without claiming high accuracy.

Target compounds	CAS no.	Retention time, s	LOD[1], ppm	LOQ[2], ppm	UR[3], ppm
Butanone, 2-	78-93-3	12.9	1	3	300
Butyl acrylate	141-32-2	125.5	-	-	-
Chlorobenzene	108-90-7	75.6	1	3	200
Epichlorohydrin	106-89-8	27.3	0.67	2	200
Ethyl acetate	141-78-6	14.6	1	3	300
Ethyl acrylate	140-88-5	24.9	1	3	200

[1] Limit of detection

[2] Limit of quantification

[3] Upper range