



SPM Flex SPECIFICATIONS

Chemcassette® Tape-Based Gas Detector

General Specifications

检测技术	磁带的Chemcassette基于具有先进的自动监测光学设计
尺寸	身高: 13.2 (33.6厘米)。宽度: 7.2 (18.3厘米)。 深度不带提手: 6.4 (16.3厘米)。深度处理: 9.5英寸 (24.1厘米)
重量	9.1 lbs. (4.1 kg)
安装螺丝	具体的: 在法兰头5/16×2: 在×2的耐振柱锚混凝土(麦克马斯特 - 卡尔94475A185或同等学历), 在添加0.255/16长度时, 安装支架遮阳罩木。安装支架遮阳罩时拉力螺钉木(麦克马斯特 - 卡尔95526A375或同等学历), 在添加0.25。长度时, 安装支架遮阳罩
电池类型	L锂离子 约70%的其原始容量后300充分充电/放电循环
工作温度	0 °C to 40 °C for most gases/applications
工作湿度	0-100%RH的单位(每个磁带/校准样品RH限制)。采样线需要额外的硬件 在高湿度条件下凝结, 可能会出现去除水分。样品必须是无冷凝。 干燥的环境下, 可能需要加湿。
流程System	自动流量控制旁路系统,250 或 500 毫升/分钟的磁带,更高的流量入口减少样品时间(内部旁路系统);样本 100 英尺
本地警报/状态	视觉:发光二极管报警,正常状态和故障 声音:用户可选择的:,低在1米~ 85分贝,介质在1米~ 85分贝,> 90分贝高1米
Interface	4大按钮,3.5。彩色液晶TFT显示器,web服务器
数据记录	R滚动到3个月(15秒没有气体阅读,1 sec.when阅读气体),历史事件 (1500事件——约。1年)
最大入口/ 出口压力差1	整体的最大负载之间的泵入口和排气不应超过10英寸水O
继电器	250 V, 6 A maximum
W线规	Minimum最大: 24; Maximum最小: 14
USB	2.0 or later
室内/室外使用	两者(电源仅是室内)
操作高度	海拔-1000至3000英尺:标准;海拔3000英尺至6000英尺: 由霍尼韦尔分析需要调整
Ingress Protection rating	IP65
外部开关或电路 断路器的要求 (描述和位置)	达到或超过当地所有规范和法规s
通风要求	安装与内4无障碍物。任一侧或在2英寸(10厘米)。(5厘米)以上 和检测器下面

Electrical	
电源	通用线路供电（90-260 VAC50/60赫兹），电池充电器和非涉密使用。电池：6+小时典型的条件下 - 充当备用电池在固定应用ns
耗电量	~1.9 A at 24 VDC (including battery-charging current)
电源适配器	制造商:FSP组 模型:FSP135-AAAN1 输入:100 - 240伏,2,50 - 60赫兹 输出:24 VDC,5.62 CCN:QQGQ(E190414) 马克符合性:UL列 d
通讯	
	继电器：报警1，报警2，故障（用户配置为常开/常闭） 4-20mA的 以太网（带有Modbus TCP / IP和web服务器） USB端口（对于记忆棒组态/数据传送） 通讯连接器和可选的通讯电缆：60 V，5 A最大
4 - 20毫安输出默认值和范围	
抑制	2 mA, programmable from 1.5-3.5 mA in 0.5 mA increments
维护	3 mA, programmable from 1.5-3.5 in 0.5 increments
故障	1 mA or less, not programmable (will be driven under 1 mA)
超量程	21.5 mA, programmable 21-22 mA
4-20 mA Configurations	Sink, source, isolated
储存条件	
探测器	0 °C至40 °C，0-100%RH非冷凝
Chemcassette墨盒	看到Chemcassette盒上的标签储存条件ns
认证	
Detector	UL 61010-1, 3rd Edition, 2012-05 (ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - Part 1: General Requirements CAN/CSA-C22.2 No. 61010-1, 3rd Edition, 2012-05, (ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - Part 1: General Requirements) IEC 61010-1:2010, 3rd Edition FCC approval for RFID board + Canadian and European
Battery	UL/cUL Recognition to UL 2054 + 60950-1 IEC 62133 1st Edition CB Certification UN Test Report to UN 38.3
Self-declared European CE Mark on detector for:	EMC, LVD, ROHS, WEEE

DETECTABLE GASES

Family	Gas	Range	TLV1	LAL	Default Alarm		at 2TLV gas conc.(sec)	Tubing length (m)	Particulates Filter2	Sample Response Linetime (T50)	Max. Sample	ChemCassette		Optimum Temp range (°C)	Optimum %RH range for best accuracy7,8
					A1	A2						Name	P/N (30-14d)		
Hydrides	Arsine (AsH ₃)	0.5-500ppb	5 ppb		1 ppb	2.5 ppb	5 ppb	55				90d		10-70% RH 4, 6	
	Phosphene (PH ₃)	3-3000 ppb	300 ppb	2014 NIC: 0.1ppmTWA; 0.5ppm STEL-C	5 ppb	150 ppb	300 ppb	6						30-70% RH 4, 6	
	Diborane (B ₂ H ₆)	5-1000 ppb	100 ppb		10 ppb	50 ppb	100 ppb	14						30-70% RH 5, 6	
	Silane (SiH ₄)	0.03 - 50 ppm	5 ppm		0.05 ppm	2.5 ppm	5 ppb	13	30	A	Flex CC XP Hydrides	1265-3000	1265-4000	0-40	34-50% RH 4, 6
	Germane (GeH ₄)	50-2000 ppb	200 ppb		100 ppb	100 ppb	200 ppb	245							40-50% RH 4, 6
	Hydrogen Selenide (H ₂ Se)	2-500 ppb	50 ppb		5 ppb	25 ppb	50 ppb	14							10-60% RH 4, 6
	Hydrogen Sulphide (H ₂ S)	0.001-9.999 ppm	1 ppm		0.005 ppm	0.5 ppm	1 ppm	7							10-75% RH 4, 6
Mineral Acids	Hydrogen Fluoride (HF)	0.02-20 ppm	0.5 ppm	2 ppm STEL-C	0.03 ppm	1 ppm	2 ppm	7						15-75% RH 5, 6	
	Hydrogen Chloride (HCl)	0.02-20 ppm	2 ppm	STEL-C	0.03 ppm	1 ppm	2 ppm	5	5	B, C	Flex CC XP Mineral Acids	1265-3001	1265-4001	0-35	30-50% RH 5, 6
	Hydrogen Bromide (HBr)	0.02-10 ppm	2 ppm	STEL-C	0.03 ppm	1 ppm	2 ppm	5						20-50% RH 5, 6	
	Boron Trifluoride (BF ₃)	0.05-10 ppm	1 ppm	STEL-C	0.1 ppm	0.5 ppm	1 ppm	5						15-60% RH 5, 6	
Mineral Acids (export unrestricted)	Hydrogen Fluoride (HF)	0.4-20 ppm	0.5 ppm	2 ppm STEL-C	0.4 ppm	1 ppm	2 ppm	7						15-75% RH 5, 6	
	Hydrogen Chloride (HCl)	0.02-20 ppm	2 ppm	STEL-C	0.03 ppm	1 ppm	2 ppm	5	5	B, C	Flex CC-U XP Mineral Acids	1265-3012	1265-4012	0-35	30-50% RH 5, 6
	Hydrogen Bromide (HBr)	0.02-10 ppm	2 ppm	STEL-C	0.03 ppm	1 ppm	2 ppm	5						15-60% RH 5, 6	
	Boron Trifluoride (BF ₃)	0.05-10 ppm	1 ppm	STEL-C	0.1 ppm	0.5 ppm	1 ppm	5						15-60% RH 5, 6	
Oxidizers	Chlorine (Cl ₂)	0.005 - 5 ppm	0.5 ppm		0.02 ppm	0.25 ppm	0.5 ppm	7	30		Flex CC XP Chlorine	1265-3002	1265-4002	0-40	30-55% RH 4, 6
	Chlorine (Cl ₂)	0.01-5 ppm	0.5 ppm		0.05 ppm	0.25 ppm	0.5 ppm	9						0-85% RH	
	Fluorine (F ₂)	0.01-10 ppm	1 ppm	0.1 ppm OSHA PEL	0.05 ppm	0.5 ppm	1.0 ppm	5	6	B, C	Flex CC Fluorine/Oxidizers	1265-3004	1265-4004	0-40	0-85% RH
	二氧化氮 (NO ₂)	0.03-10 ppm	0.2 ppm		0.05 ppm	0.1 ppm	0.2 ppm	56	30					10-70% RH 5, 6	
	Chlorine Dioxide (ClO ₂)	20-1000 ppb	100 ppb		25 ppb	50 ppb	100 ppb	36	15					5-90% RH	
Amines	Ammonia (NH ₃)	0.01-150 ppm	25 ppm		0.05 ppm	12.5 ppm	25 ppm	5						0-90% RH 4	
	Dimethylamine (DMA) (H ₂ C ₂ N ₂)	0.5-50 ppm	5 ppm		0.1 ppm	2.5 ppm	5 ppm	10						5-90% RH 4	
	Tetrakis (Dimethylamido) Titanium (TDMAT) (C ₈ H ₂₀ N ₄ Ti)	0.01 -20 ppm	n/a		0.05 ppm	1 ppm	2 ppm	14						5-90% RH 4	
	Trimethylamine (TMA) (C ₃ H ₉ N)	0.5-50 ppm	5 ppm		0.1 ppm	2.5 ppm	5 ppm	10						0-90% RH 4	
Phosgene	Phosgene (COCl ₂)	7-4000 ppb	100 ppb			50 ppb	100 ppb		30	A	Flex CC XP Phosgene	1265-3007	1265-4007	0-40	10-90% RH
Diisocyanates	Toluene Diisocyanate (TDI)(C ₉ H ₇ N ₂ O ₂)	0.3-150 ppb	1 ppb	2014 NIC (1 ppb TWA; 3 ppb STEL)	0.5 ppb	1 ppb	2 ppb							25-65% RH	
	Methylene Bisphenyl Isocyanate (MDI) (C ₁₅ H ₁₆ N ₂ O ₂)	2-60 ppb	5 ppb			2.5 ppb	5 ppb		0.15	no filter	Flex CC Diisocyanates	1265-3006	1265-4006	0-40	TBD
	Hexamethylene Diisocyanate (HDI)(C ₁₂ H ₁₈ N ₂ O ₂)	2-60 ppb	5 ppb			2.5 ppb	5 ppb							TBD	
Hydrazines	肼 (N ₂ H ₄)	5-1000 ppb	10 ppb			5 ppb	10 ppb							10-70% RH 3	
	Monomethyl hydrazine (MMH) (CH ₃ N ₂)	3-2000 ppb	10 ppb			5 ppb	10 ppb		3	no filter	Flex CC Hydrazines	1265-3008	1265-4008	0-40	TBD
	二甲基联氨 (胂) (C ₂ H ₈ N ₂)	3-5000 ppb	10 ppb			5 ppb	10 ppb							TBD	
Hydrogen Cyanide (HCN)	0.5-30 ppm	4.7 ppm			2.4 ppm	47 ppm		30	A	Flex CC Hydrogen Cyanide n/a		1265-4009	0-30	30-75% RH	
Sulphur Dioxide (SO ₂)	5-2500 ppb	250 ppb				120 ppb	250 ppb		31	B, C	Flex CC1265-Sulfur Dioxide3005		1265-4005	0-40	TBD
Ozone (O ₃)	10-1000 ppb	100 ppb				50 ppb	100 ppb		31	no filter	Flex CC Ozone	1265-4011	1265-4011	0-40	30-55% RH
Hydrogen Peroxide (H ₂ O ₂)	0.1-3 ppm	100 ppb					100 ppb		15	no filter	Flex CC1265-Hydrogen Peroxide 3010		1265-4010	0-40	TBD

1 Source: ACGIH 2014.

2 A = 780248 (disposable), B = 1830-0055 (filter membrane 0235-1072 must be replaced every 30 days), C = 1991-0147 (disposable)

Outside of RH range:

3 Tends to have lower response at higher humidities.

4 Tends to increase sensitivity at higher humidities (due to the chemistry of the reaction).

5 Tends to under-report at higher humidities (typically >75% RH) due to the gas characteristics to adhere or decompose on contact with water/moisture. The response seems to be lower but the actual gas concentration under these high humidity conditions will be lower than expected.

6 Tends to under-report in dry conditions (<25-30% RH).

7 Depending on the combination of temperature and humidity, even within the ranges specified above, a unit's performance efficiency can be influenced due to condensation, physical tape material changes, or optical changes. Consult Honeywell Analytics' Service Department.

8 Refer to TechNotes 971131 (Chemcassette®-based Instrument Accuracy and Precision) and 1998-0219 (Protocol for Testing Gas Detectors).

Honeywell Analytics Gas Detection Offerings

Honeywell Analytics gas detectors protect people, assets and environment from toxic and combustible gas hazards, helping to create safer, more comfortable, secure and productive environments. Our strength derives from Honeywell's leadership in sensor technology; in fact Honeywell operates four sensor manufacturing plants, supplying an entire industry with its core detective element.



Commercial

Gas detection from standalone units to fully engineered, multi-point systems, all offering cost-effective regulatory compliance.

- » Applications: parking structures, chillers, mechanical rooms, office towers, commercial buildings, shopping centers, swimming pools, golf courses, schools and universities, laboratories

Industrial

Renowned Sieger and Manning gas detection systems with advanced electrochemical, infrared and open path sensing technologies.

- » Applications: oil and gas, cold storage, water/wastewater treatment, chemicals, engine rooms, plastics and fibers, agriculture, printing and light industrial

Portables

Single or multi-gas detectors ranging from compact, lightweight designs for personal protection to systems-based, networkable instrumentation for industrial hygiene.

- » Applications: underground utility and electricity ducts, boiler rooms, post-fire sites, sewers, industrial plants, industrial hygiene, first responder teams, remote fleets



High Tech/Government

Reliable gas and chemical detection including infrared spectroscopy (MST) with no cross interference, to Chemcassette paper-based solutions (MDA Scientific) offering detection down to parts per billion.

- » Applications: semiconductor manufacturing, aerospace propulsion, specialty chemicals industry, research laboratories, emergency response

Technical Services

24/7 global network includes post-sales service and Systems Integration teams.

- » Emergency call out, service contracts, on/off-site repair, training and commissioning
- » Complete range of spares, consumables and accessories

Honeywell