操作使用说明书
气体取样探头
***GAS* 222.xx ATEX**

请在安装和使用前仔细阅读此手册。敬请特别注意所有安全守则，以避免不必要的意外伤害事故。Bühler Technologies GmbH /德国比勒科技有限责任公司对由不当操作以及在未授权情况下擅自改动机器设备所引起的后果不承担任何责任。

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1 简介

气体取样探头系列 GAS 222.xx-ATEX 设计用于工业系统应用。取样探头是是样气预处理系统中一个重要的组成部分。认真阅读使用说明书，检查应用参数是否与所选购的取样探头匹配(参见参数表内的制图)。检查发货箱，确定所有部件齐全。

基于探头的相似，此说明书适用所有 GAS 222.xx-ATEX 系列。探头型号标明在铭牌上，包括系列号，订货号和探头具体型号。

如果对其中任何一款探头类型有附加说明，将会在说明书中予以注明。

注意探头的功能极限。请在定购探头零件时注意与滩头主件的配套性。

2 重要注意事项

设备操作只有在下列条件完全满足时进行:

- 确保设备按照安装及操作手册使用，根据不同的应用目的选用相应设备
- 设备安装在本安型电路中(请注意指示 94/9 EC, EN 60079-14 和 EN 61241-14)
- 控制器安装在潜在易爆环境外
- 保证监控和保险措施妥当
- 在安装及操作手册中未注明的设备维护和维修，都由德国比勒科技有限责任公司完成
- 使用原装配件
- 在危险区域安装电子设备敬请根据 EC 指示 94/9 EC 以及相应的国家安全条例

该说明书作为设备的一部分，请保存备用。生产厂家保留在未事先申明的情况下修改说明书的权利。

各种安全警告的定义:

提示	提示设备或仪器重要信息的关键词
注意	提示有低危险的危险情况的关键词，如不避免可能会引起设备损伤或轻微至中度的身体损伤
警告	提示有中度危险的危险情况的关键词，如不避免可能会引起重度身体损伤或者死亡
危险	提示有高速危险的危险情况的关键词，如不避免会引起重度身体损伤或者直接死亡

	危险警告		易爆区域危险警告		请断开电源
	高压危险警告		热表面警告		请戴防毒面具
	有毒气体吸入危险警告		爆炸警告		请戴防护面具
	酸性和腐蚀性物质危险警告				请戴防护手套

	**提示** **此设备通过审核可应用于潜在易爆环境下** 遵守国家及国际关于电子设备在潜在易爆环境下安装的法规: - EN 60079-14 “带易爆气体的电子设备 – 14 章: 在潜在易爆环境下的电子产品安装” - EN 61241-14 “电子设备在易燃灰尘条件下的使用 – 选择和安装”
	**提示** **在潜在易爆环境下的使用** 所有取样探头的基本件都适用于潜在易爆环境下的 Zone 1 和 21。取决于附件(如 电磁阀，加热的反吹气罐 …)，应用范围必须严格控制。 如果安装了在 Category 3G 和/或 3D 下的附件，应用范围必须限制在 Zone 2 和/或 Zone 22。请注意附件的铭牌(特别是保护等级)，并且必须严格遵守此说明书中所有安全操作条款。请同时留意附件说明书中给出的安全守则。

2.1 潜在危险提示

该设备必须由熟知安全要求事项和潜在危险的专业技术人员安装。
确保安装位置满足相关安全守则和技术指示。防止故障和保障人身及设备不受损伤。
操作人必须确保以下条件:
- 仔细阅读安全注意事项和操作守则，并保证在要求的条件下对设备进行操作。
- 遵循当地安全操作规章
- 遵循安装使用说明书和数据性能表格
- 使用保护设备，进行设备维护工作
- 报废处理时参见当地相关报废条例

维护及修理:
- 设备修理必须由比勒公司专业人员进行
- 只能进行在安装及使用手册中说明的修改，维护和安装
- 只能使用原装配件
- 对不同设备进行维护时，必须遵循相关的安全守则和操作指令。

	**危险** **电击危险** 请断开所有电源连接，并确定在此过程中电源不会重新连接。 设备只允许由专业人员开启。	
 	**危险** 有毒和强腐蚀性气体 样气具有危害性。 请在排放样气时选择不会对人身健康带来危害的区域。 在设备维护过程中防止受到有毒或者强腐蚀性气体的危害，必要时请戴手套，防毒面具和防护面具等保护设备。	  
	**危险** **爆炸危险** 不适当的操作会引发气体泄露，有此可能引发爆炸，造成生命危险。 严格遵守此说明书要求操作设备。注意采样过程条件。检查取样管是否有气体泄露。	
	**危险** **爆炸危险** 安装或维护过程可能引发爆炸，造成生命危险。 安装，组装和维护只能在潜在易爆环境外进行。	

危险

在易爆环境下的应用

为了避免易燃气体和粉尘的燃烧或爆炸，请务必避免以下的危险情况：

使用范围！

探头的应用条件必须与其设计适用范围一致，与微量空气混合就会爆炸的气体样品或混合气体的条件下，不可使用本探头。

静电释放！

请用湿布清洁塑料外壳和铭片

火花形成！

保护设备，防止其受到外来碰撞

火焰突破！

为防止火焰突破请安装火焰防止筒

绝热压缩(爆炸危险)！

由于绝热压缩，通过反吹程序可能出现高温气体。禁止爆炸性气体的反吹

只有与氮气或其他惰性气体一起才允许对可燃气体进行反吹。

粉尘！

只允许在无粉尘区域打开电子设备或仪器的外壳

样气在 Zone20，21 或 22 间区域转换！

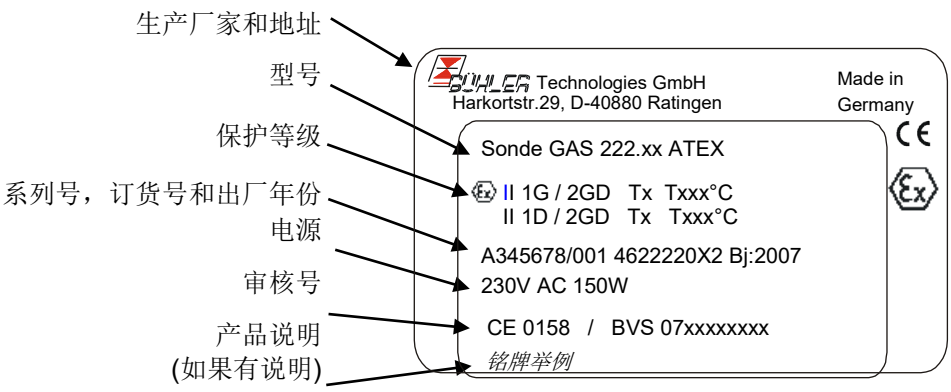
如果粉尘的颗粒物尺寸小于被使用的滤芯的孔径，可能产生工艺环境到探头内部存在防爆区域转换
采用滤芯的孔径一定要足够小于工艺管道气体中粉尘颗粒的平均尺寸。

粉尘燃烧！

如果气体取样探头在粉尘区域使用，请定期清除探头组成部分上的粉尘层。 同时请清除取样探头 GAS 222.20ATEX 热绝缘和加热系统之间的粉尘层。

可燃粉尘或粉尘层的点燃温度或闷烧温度都要明显高于探头的表面最大温度（参考适用标准和国家法规）

3 产品铭牌说明



4 产品说明

4.1 概述

此操作和安装手册说明取样探头 GAS 222.xx ATEX。

不同型号的探头在各自的章节中均有定义。您可以参考型号标牌找到对应的探头。GAS 后面的数字表示不同探头的型号。例如 GAS 222.31 ATEX。

首先提供一个说明书的简短说明(见附后的制图)。

根据不同的探头型号，所有探头均有自动 ATEX 加热器和直插式过滤器（过滤器在工艺管道中）或顺流过滤器（过滤器在探头内部）。

GAS 222.20 ATEX	探头带顺流过滤器
GAS 222.21 ATEX	探头带直插和/或顺流过滤器，截止阀和反吹接口
GAS 222.31 ATEX	探头带直插过滤器，截止阀和反吹接口
GAS 222.35 ATEX	探头带可置换型直插过滤器和反吹接口
探头的附件	见附后参数表 DC 461099

表 1: 探头型号

4.2 应用范围

取样探头 GAS 222.xx Atex 设计用于工业应用。所有类型的探头都适用于带易燃成份和粉尘的样气采集。过程气体或混合的样气成份都必须去除与探头材质，包括滤芯和取样管的易燃物质。

所有探头的基本模式都适用于从潜在易爆环境下 Zone 20, 21, 22(带易燃粉尘)和 **Zone 0, 1, 2(带易爆性质)** 的样气采集。21 Atex, 31 Atex 和 35 Atex 不能进行易爆气体的反吹。

所有基本模型的探头都适用于易爆环境 **Zone 1 和 21**(Group IIC, Category 2GD)。

所以所有基本类型探头都标明有 II 1GD / 2GD

从 Zone 0, 20 采样　　在 Zone 1, 21 应用

请注意，安装的附件可能改变审核过的探头范围，见表 2。

取样探头 GAS 222.xx Atex		
型号	**带附件**	**范围**
21 Atex, 31 Atex, 35 Atex	压力气罐 PAV 01 (零件号 46222PAV 带附件)	II 1D / 2GD
21 Atex, 31 Atex,	直插式过滤器*, 陶瓷 (零件号 46222307 + 46222307F)	II 1D 3G / 2GD
20 Atex , 21 Atex,	顺流过滤器*, 陶瓷 (零件号 46222026 + 46222026P)	II 1D 3G / 2GD
20 Atex, 21 Atex,	取样管 (零件号 46222001, 462220011, 46222006, 46222004, 46222016, 46222017, 46222018	II 1G / 2GD
20 Atex, 21 Atex,	取样管, 陶瓷** (零件号 4622200205, 4622200210, 4622200215)	II 3G / 2GD
21 Atex, 31 Atex,	气动驱动带终端开关 Atex (零件号 46222019)	II 1GD / 2G3D

* 附件不适用于低燃点的粉尘 <3 mJ.

** 禁止 Zone 2 的样气采集，如果有与应用或过程相关的静电出现。

表 2: 探头带附件的应用区域

过程气体或混合的样气成份都必须去除与探头材质，包括滤芯和取样管的易燃物质。

系统部件的最高表面温度取决于过程加热的介质温度。

气体入口温度，最高表面温度和设备温度等级:

	探头入口在线介质的最高温度[° C / ° F]	探头的温度等级	最高表面温度 [° C / ° F]
GAS 222.xx ATEX	T ≤ 135 / 275	T4	130 / 266

图 3: 温度等级

	**危险** **过高介质温度有爆炸的危险** 探头的高表面温度可能由采样介质的高温引起。 探头的最高表面温度(见表 3)不能超出易燃粉尘和气体的燃烧温度(发光)。 粉尘的燃烧温度必须高于表面温度 1.5 倍。如果探头不带直插式过滤器，粉尘的发光温度必须至少高于最高表面温度 150K。其它情况下发光温度必须高于表面温度 75K。
	**危险** **静电、火星或粉尘有可能造成爆炸危险** **只能使用湿毛巾清**洁塑料外壳部件和标牌。 **避免**设备受到外部撞击。 **如果可能**，请在绝尘房间内安装电除尘设备。如果不可能实现，尽量避免粉尘进入探头外壳。

4.3 发货范围

1x 带天气保护罩的气体取样探头
1x 法兰和螺丝
1x 安装及使用手册

	**危险** **附件的爆炸危险** 未经过潜在易爆环境检测的附件的安装，将增加爆炸危险。 注意附件铭牌上的说明。确定只使用适用于潜在易爆环境的附件。注意应用标准和相关法律。

5 产品运输和存储要求

气体取样探头只能在原包装或者适当的再包装情况下进行运输。
如果在一段时间内不使用探头，请在储存时防热防湿。
取样探头必须储存在有顶，干燥，防尘防震的空间内，空间温度在 - 20° C 至+60° C。

6 设备安装和连接

6.1 安装

危险

在易爆区域的应用

易燃气体或粉尘可以燃烧或爆炸。

气体取样探头不可以超出其适用范围。也不可以用来抽取超出防爆范围的气体或混合气体。

危险

样气在 Zone20，21 或 22 间区域转换的风险

如果粉尘的颗粒物尺寸小于被使用的滤芯的孔径，可能产生工艺环境到探头内部

存在防爆区域转换

采用滤芯的孔径一定要足够小于工艺管道气体中粉尘颗粒的平均尺寸。

危险

粉尘燃爆危险

如果探头被使用在高粉尘环境中，请定期清理附着在部件上的粉尘。

同时要清除 probe GAS 222.20 ATEX 1 隔热外壳上的粉尘膜。

除了注意探头最高表面温度外更应该注意探头表面粉尘或粉尘膜的燃点和闷烧温度（注意应用标准和法规）。

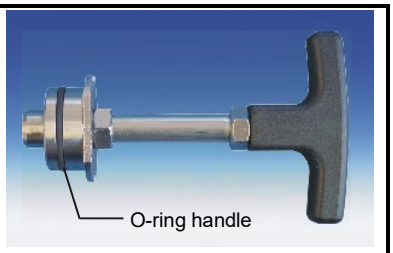
如果可能，请在绝尘房间内安装电除尘设备。如果不可能实现，尽量避免粉尘进入探头外壳。

安装法兰和取样探头将同时发货到顾客手中，安装地点和安装位置取决于应用。条件允许的情况下，将扩展管向下倾斜。探头安装的地方应安装天气保护罩。确保安装入口的安全并留出足够空间便于维护和维修探头时能直接把带扩展管的探头取出。

提示

顺流过滤器和手柄上的 O-型垫圈是相对独立的部件，都必须安装进探头。

禁止不带顺流过滤器的操作！



探管，直插式过滤器和其他必要的扩展件都必须固定。最后，取样探头会通过发货附带的垫圈和螺丝等固定在应用地点。

对于加热探头，在正确的安装后，必须保证所有的暴露在空气中的金属部件绝缘。这是为了防止出现冷桥。绝缘层材质的选择必须符合应用要求并能防御恶劣的天气。

6.2 气路管道连接

取样探头各接口规格请见下表：

	探头 GAS 222 系列	反吹储气罐 PAV 01	球阀 气动截止阀	控制阀 3/2 路电磁阀
法兰 1)	DN65 / PN6 / DN3“-150 2)			
样气入口	G3/4			
样气出口	NPT 1/4			
反吹口	G3/8			
校验气入口 1)	tubeø6 tubeø1/4 2)			
充气适配器		NPT 1/4		
冷凝液排出口		G1/2		
旁路接口		NPT 1/4		
起控制作用压缩空气			G1/8	G1/4 NPT 1/4 2)

1)根据所选型号不同而不同　　2) 仅适用于 GAS 222.xx ANSI 和 GAS 222.xx AMEX 型探头

探管必须通过合适的螺丝小心安装，校正接口的连接也是如此。

GAS 222.21, -.31, -.35 系列探头配有 G3/8 口径的反吹接口。这个反吹接可以用于连接比勒的原厂反吹系统。
在探头调试前，反吹口将被密封且不漏气。

危险

有毒和强腐蚀性气体

有毒和□ □ 蚀性气体有可能因为泄露或打开反吹接口而外溢。

在加热探头上的连接装置（NPT1/4”）越短越好，探管的绝缘层应离探头越近越好。要拆除绝缘层只需要松开探头上的固定螺丝。

注意

破裂危险
绝缘层易碎。防止从高空跌落。

探管必须用加固夹固定好，较长的探管需要更多的固定夹。
当所有的探管都固定好并且经过检查后，将绝缘层装回原处并仔细检查。

警告

气体发散或者喷射
检查所有管路连接都已密封，加固。

6.3 反吹线路和压力气罐的连接（用于 GAS 222.21 ATEX, 31 ATEX 和 35 ATEX）

取样探头 21 Atex, 31 Atex, 和 35 Atex 禁止在易燃易爆环境下进行反吹。

危险

隔热压缩引起的爆炸危险

高温样气在反吹时可通过隔热压缩实行采样。

但易爆样气不可进行反吹。

易燃气体反吹只能采用氮气或者其他惰性气体

取样管必需配备合适的接头。

如果取样探头配备有反吹气罐(可选)，必须在气罐入口(氮气)前安装一个手动球阀。总是采用合适反吹地气体。

提示

只有在惰性气体的压力大于处理系统压力时(例如压力差为至少 3 bar/43psi)，反吹才有可能。

危险

加压气罐破裂
气体泄漏带来的气罐破裂，小心飞溅的气罐碎片对人身带来的伤害。

气罐的最大工作压力是 6 bar/87 psi。

6.4 电路连接

警告

该设备必须由专业人士安装。

危险

错误的电源电压可能会损坏设备。

在连接时，请注意正确型号铭牌上正确的电源电压。

取样探头带有自我调节热源。根据接线端的标记与电源相连。因为安全因素的影响(防火)，热源的生产厂家规定使用 30mA FI 开关。取样管必需根据下表配备正确的线路保护开关保险(参数参见相应制图)。

端子盒提供用于连接自动反吹电磁阀的端子口。各端子功能请参考附录中的脚针排列。
如果订购探头的时候同时定购了电磁阀，出厂时电磁阀是连接好的。

用于控制加热的端子和控制电磁阀的端子间距为 50mm。这保证即使加热和电磁阀的操作电压不同，也具有安全的连接。注意这个间距不可以被改变。

	保险 (用于线路保护类型 Type C)	
	U_{probe}= 230V, 50/60 Hz	U_{probe}= 115V, 50/60 Hz
GAS 222.20 Atex	2A	3A
GAS 222.21 Atex	3A	4A
GAS 222.31 Atex	3A	4A
GAS 222.35 Atex	2A	3A

定期检查线路保护开关。同时检查，热源可见部分是否被损坏，粉尘，湿气可能侵入热源，这样将导致热源产生火花或燃烧。禁止使用有破损的热源。

在安装过程中，注意遵守国家关于防止爆炸的规章制度。

在使用过程中，要定期检查加热带和管道是否存在机械损伤（目测）.

热源生产厂家推荐定期检查绝缘层电阻(见 7.6)。绝缘层电阻必须在天气保护罩和铜片之间进行测量，并且通过测量电压 2500 VDC，绝缘电阻最少为 10 MΩ。

如果订购探头时选购了电磁阀，电磁阀在出厂时已经连接到探头端子排上。

用于电磁阀和自动反吹系统的端子已经集成在探头的端子盒中（见附件中的端子接线图）。

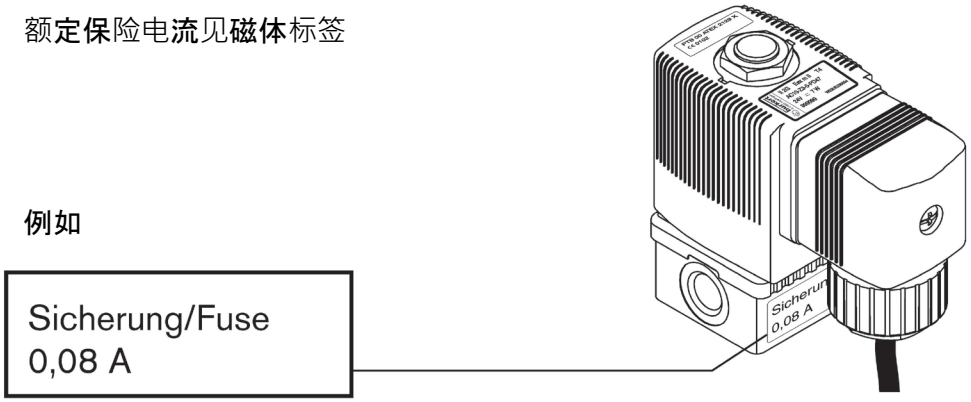
	**提示** **在潜在易爆环境下的使用** 必须遵守 EN 61241-0/-1 中提出的关于粉尘堆积和温度积累的要求。
	**危险** **开启电磁阀外壳可能造成爆炸危险** 电磁阀是一个封闭系统，不可以拆开！

为了防止短路，必须将保险丝（最大 3xIb 符合 IEC 60127-2-1 标准）或一个带有短路保护和过热保护功能的电机保护开关（调至对应额定电流）安装于磁体上游。对于额定磁感电流很小的情况下，可以选择一个最小额定值符合 IEC 标准的保险丝。保险丝即可安装于独立上游也可以安装于各自供电装置中。

保险丝的额定电压需要大于等于磁体额定电压。保险丝连接的分断能力必须大于等于安装现场的预期短路电流。

额定保险电流见磁体标签

例如



加热带终端和电磁阀端子之间需要有 50 毫米的距离，这也保证了在不同工作电压时加热带和电磁阀之间的安全距离，此距离不得修改。

保险

7 操作和维护

	**危险** **粉尘燃爆危险** **如果探**头被使用在高粉尘环境中，请定期清理附着在部件上的粉尘。 **同**时要清除 probe GAS 222.20 ATEX **隔**热外壳上的粉尘膜。 **除了注意探**头最高表面温度外更应该注意探头表面粉尘或粉尘膜的燃点和闷烧温度（注意应用标准和法规）。 **如果可能**，请在绝尘房间内安装电除尘设备。如果不可能实现，尽量避免粉尘进入探头外壳。
	**危险** **样气在 Zone20，21 或 22 间区域转换的风险** 如果粉尘的颗粒物尺寸小于被使用的滤芯的孔径，可能产生工艺环境到探头内部 存在防爆区域转换 采用滤芯的孔径一定要足够小于工艺管道气体中粉尘颗粒的平均尺寸。

采用过滤精度大于 2 μm 的过滤器(见附后的参数表)。

取样探头的气体出口(处于过滤器后)，样气内不能含有粉尘颗粒大于使用的滤芯过滤精度。

天气保护罩必需在运作过程中保持关闭。

7.1 安全操作守则

- 禁止在取样探头的使用额定参数范围外使用该设备
- 设备修理必须由比勒公司专业人员进行
- 只能进行在安装及使用手册中说明的修改，维护和安装
- 只能使用原装配件
- 对不同设备进行维护时，必须遵循相关的安全守则和操作指令

危险

电压
电击危险
请断开所有电源连接，并确定在此过程中电源不会重新连接。
设备只允许由专业人员开启。注意正确的电源电压。

危险

有毒和强腐蚀性气体
样气具有危害性。
请在排放样气时选择不会对人身健康带来危害的区域。
在设备维护过程中防止受到有毒或者强腐蚀性气体的危害，必要时请戴手套，防毒面具和防护面具等保护设备。

小心

取样探头的热表面
灼伤危险
根据使用参数和探头型号，在取样探头的操作过程中温度会升高至 100°C / 212° F 。
请在设备冷却后再进行维修。

	**小心** **压力状态下的取样探头** 在打开探头前**请释放系统压力并关闭电源。**
	**危险** **静电或火星有可能造成爆炸危险** 设备只能在当对设备进行日常操作时不会频繁造成明火或静电的区域使用。 **只能使用湿毛巾清**洁塑料外壳部件和标牌。 **避免**设备受到外部撞击产生静电。
	**危险** **粉尘燃爆危险** **如果探**头被使用在高粉尘环境中，请定期清理附着在部件上的粉尘。 **除了注意探**头最高表面温度外更应该注意探头表面粉尘或粉尘膜的燃点和闷烧温度（注意应用标准和法规）。 **如果可能**，请在绝尘房间内安装电除尘设备。如果不可能实现，尽量避免粉尘进入探头外壳。
	**危险** **外壳或部件损坏造成的危险** **不可以超出**驱动系统的最大操作压力和温度范围
	**注意** **驱动系统在压力状态下** **不可以在**驱动系统带压状态下松开或移除密封盖或附件。
	**注意** **„single-acting“状态下不要打开驱动系统!** **只可以在原始工厂打开**驱动系统
	**注意** **不要将任何额外工具留在驱动螺丝上！** **留在**驱动螺丝上的操作杆或其他工具**当气体**喷出或辅助电压返回时有可能造成人员伤害或设备损坏！

7.2 开机前的检查

在开动机器前，请确认下列步骤都已全部检查过，并确定无任何开机故障:

- 检查所有管道和电子装置，保证没有破损并且安装正确。
- 确保取样探头的所有部件都已经安装固定好（例如，外壳是否松动）.
- 检查天气保护装置和监视装置是否可用(例如，火焰栅）.
- 检查取样探头的输入和输出管道是否打开
- 检查环境条件是否符合使用要求
- 确保安装位置周围没有能造成探头腐蚀的介质
- 确认铭片上的功能描述
- 检查电压和自动调节加热器的频率是否与主电源一致
- 检查所有接电都牢接；确保检测设备正确连接和设置。
- 检查设备的保护措施及设备是否接地！
- 检查接线盒盖是否关上；检查电缆线入口点是否密封。
- 检查可燃粉尘或粉尘层的点燃温度或闷烧温度是否明显高于探头的表面最大温度（参考适用标准和国家法规）
- 检查使用的滤芯的孔径是否小于粉尘颗粒尺寸
- 检查所有配件可以适用于应用场合（参考铭牌上的标示）
- 检查是否遵守了防爆应用标准

7.3 GAS 222.20 ATEX

更换顺流过滤器:

取样探头带有一个粉尘过滤器，必须根据采样过程中的粉尘量定期更换。在更换滤芯前，打开天气保护罩，保护罩带自锁功能，保证外壳固定在打开的位置。

注意

陶瓷滤芯易碎，所以在更换过程中小心，防止跌落。

烧结不锈钢制成的滤芯可以通过超声波清洗后反复使用，只要密封圈未有破损。

危险

样气在 Zone20，21 或 22 间区域转换的风险

如果粉尘的颗粒物尺寸小于被使用的滤芯的孔径，可能产生工艺环境到探头内部

存在防爆区域转换

采用滤芯的孔径一定要足够小于工艺管道气体中粉尘颗粒的平均尺寸。

- ➢ 参见 7.1 中注明的安全操作提示。
- ➢ 释放系统压力，截断电源。
- ➢ 轻推探头背面的手柄，旋转 90°，然后以与地面水平方向往外拉，这样滤芯将与手柄同时取出探头。

- 取出耗尽的滤芯，检查表面密封状况。
- 在更换新的滤芯前首先更换手柄上的 0 型垫圈(包括在发货范围内)，安装新的滤芯，将手柄送回探头内部。
- 在探头底部旋转 90° (手柄与地面垂直)。
- 然后轻拉手柄检测是否套牢。

取出滤芯后采用工厂气体清洁探管内部。

提示

天气保护罩只能在过滤器手柄处于垂直状态时才能关闭。将保护罩拉倒最高位置然后再调整所需高度，确定外壳被锁定。

确定设备运行中天气保护罩保持关闭。

7.4 GAS 222.35 ATEX, 31 ATEX 和 21 ATEX

取样探头 222.35 ATEX 和 222.31 ATEX 都配备有直插式过滤器(处于采样过程中)。

过滤器可以通过反吹进行清洁(反吹气体必须是惰性气体)，也就是说加压的气体(惰性气体)从内往外清洁滤芯。探头 222.21 ATEX 可以配备直插过滤器或顺流过滤器(同 222.20 ATEX, 见 7.3)。易燃气体的反吹只能使用氮气(惰性气体)，易爆气体不能进行反吹。直插过滤器的反吹清洁效果取决于灌入滤芯地气体量。我们推荐在探头附近安装压力气罐(可选)，以保证足够及衡定的气流量。

通常来说，在反吹有效的情况下，这些探头都是免维护的。但是由于取样环境地恶劣，在一段时间后，处于采样过程中的过滤器将被阻塞。在这种情况下，必须更换滤芯:

GAS 222.31 ATEX 和 21 ATEX 的滤芯更换: 如第 6 节所描述的步骤，探头必须完全从采样过程取出，拆卸设备，更换滤芯，然后重装探头，最终送回取样过程。如果探头 21 ATEX 配备有顺流过滤器,见 7.3 节滤芯更换步骤(探头 222.20 ATEX)

GAS 222.35 ATEX 的滤芯更换: 首先截断电源和气流，向上打开天气保护罩。轻推探头背面的手柄，旋转 90° ，然后以与地面水平方向往外拉，这样滤芯将与手柄同时取出探头。取出耗尽的滤芯，检查表面密封状况。在更换新的滤芯前首先更换手柄上的 0 型垫圈(包括在发货范围内)，安装新的滤芯，将手柄送回探头内部。在探头底部旋转 90° (手柄与地面垂直)。然后轻拉手柄检测是否套牢。

建议: 由烧结不锈钢制的滤芯可在超声波清洁后反复使用，前提条件是密封无破损。

提示

由**烧结不锈钢制的滤芯**可在超声波清洁后反复使用，前提条件是密封无破损。

天气保护罩只能在过滤器手柄处于垂直状态时才能关闭。将保护罩拉倒最高位置然后再调整所需高度，确定外壳被锁定。

确定设备运行中天气保护罩保持关闭。

取决于环境条件和应用的不同，在压力气罐内可能形成冷凝水。所以我们推荐至少进行一年一次的排水工作，或者利用定期维修进行排水，排水时使用 Allen 钥匙打开气罐底部的气体出口。

7.5 直插式过滤器的反吹（直接处于工艺管道中）

危险

隔热压缩引起的爆炸危险

高温样气在反吹时可通过隔热压缩实行采样。

但易爆样气不可进行反吹。

易燃气体只能采用**氮气或者其他惰性气体**反吹。

惰性气体必须干燥，不含粉尘颗粒。由于绝热压缩，高温样气的反吹可行。

易爆样气不能进行反吹。易燃样气的反吹只能采用氮气。

请按照 PNEUROP / ISO class 4 标准灌注反吹气体！

Class	粉尘/ m^3 粉尘颗粒大小：(1 up to 5) µm	露点压力 [° C] / [° F]	含油量 [mg/m^3]
4	到 1000 (粉尘颗粒不能 ≥ 15µm)	≤ 3 / 37	≤ 5

7.5.1 手动反吹

截止阀在压力气罐入口处需保持打开的状态，气罐上的可选气压计显示工作气压。
在反吹时，首先应该关闭探头上的截止阀（开关在天气保护罩的底部),然后迅速打开处于气罐和探头间的球阀，这样做是为了达到最好的清洁效果。在打开球阀 10 秒钟后关闭球阀，并再次打开截止阀。

7.5.2 自动反吹

自动反吹时，探头内的截止阀需与一个气动制动器(可选项)共同工作。
主系统的控制电路提供电子触点保证下列步骤的执行:
1. 关闭探头内的截止阀
2. 打开气罐和探头间的电磁阀约 10 秒
3. 再次打开截止阀

根据操作过程中粉尘的程度，反吹可以进行周期性(按分钟/小时/日)的运作。

7.5.3 维护项目

组成部件	运作时间 (小时)	程序	操作人
整个探头	每 8000 个小时	检查气路连接及保护和控制设备，保证无故障运行。 检查油污是否过多。如果设备有损坏，必须由比勒工作人员更换或维修。	操作者
整个探头	根据粉尘量 (厚度必须 < 3mm)	打开天气保护罩，除去粉尘 探头 20 ATEX：取下绝缘层(6.2).然后除尘	操作者
热源	每 8000 个小时	检查热源的阻力(见 6.4) 和保险	操作者
球阀	每 8000 个小时	检查球阀的密封性和功能	操作者
过滤器	每 8000 个小时	检查过滤器的清洁程度	操作者
接头	每 8000 个小时	1. 更换 O 型垫圈 2. 每次更换滤芯后更换 O 型垫圈	操作者
气罐	每 8000 个小时	排空冷凝水	操作者
驱动系统	每年一次	更换密封垫，润滑脂。	生产商
整个探头 (包括球阀，气动制动器及电磁阀)	20.000 小时后 或者 3 年后	由比勒进行全面检查	比勒工作人员
限位开关	**5 年之后**	更换轴和外壳上的脆性密封垫	操作者

在通常环境条件下进行维护。

8 故障及其清除

警告

不完整的设备将引发下列危险
对人身造成伤害，对设备造成破损
在出现故障时请立即关闭设备，并且只有在故障被清除后才允许再次打开设备。

故障	可能引起的原因	解决方法
气流减小或者无气流	滤芯被堵住	清洗或者更换滤芯
	气路阻赛	清洁探管
	球阀关闭	打开球阀
	反吹无效	检查加压气罐 检查电磁阀 检查气动制动器
无加热	没有电源连接或错误的电源连接	检查电源连接
冷凝物质出现	热源损坏	送探头去检修
	出现冷桥	通过加长隔热保温层排出冷桥

零件更换参见 7。

9 设备维修及报废处置

如果设备在使用过程中出现问题，请参见第 8 章中的故障清除。
如果您需要更多的信息或帮助，请直接联系我们

Tel.： +49-(0)2102-498955
或者请我们的北京办事处联系

德国比勒分析及测量有限责任公司
北京办事处
中国北京市海淀区牡丹园
北里甲 1 号西 1302
邮编 100083
联系电话 013801062442

如果因检修原因需寄还机器设备，请寄至:

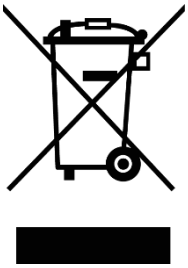
Bühler Technologies GmbH
- Reparatur/Service -
Harkortstraße 29
40880 Ratingen
Deutschland

另外，请随包装附带填写好的净化状态声明。否则您要求返修的合同将不被执行！您可以通过邮件 service@buehler-technologies.com 获得净化状态**声明表格**。

9.1 设备报废

在废弃处理产品时，必须遵守适用的国家法律法规。请以对健康和环境不产生危害为原则进行废弃处理。

对于 Bühler Technologies GmbH 的产品，被划掉的带轮垃圾桶的符号指向欧盟 （EU） 内电气和电子产品的特殊废弃处理说明。



被划掉的垃圾桶的符号表示标有它的电器电子产品必须与生活垃圾分开处理。必须作为废弃的电气和电子设备妥善处理它们。

Bühler Technologies GmbH 很乐意废弃处理带有此标签的设备。为此， 请将设备寄送到以下地址。

我们在法律上有义务保护我们的员工免受受污染设备造成的危险。因此，我们恳请您理解，只有在设备不含任何刺激性，腐蚀性或其他对健康或环境有害的物料的情况下，我们才能废弃处理您的旧设备。 **对于每个废弃的电气和电子设备，必须填写“RMA——去污表格和声明”表格，它可在我们的网站上找到。填妥的表格必须贴于包装外部的明显位置。**

如需退回废弃电气和电子设备，请使用以下地址：

WEEE
Harkortstr. 29
40880 Ratingen
Germany

另请注意数据保护规则，您自己有责任确保您退回的旧设备上没有个人数据。因此，请确保在归还之前从旧设备中删除您的个人数据。

10 化学抵抗力表

化学式	物质	浓度	Teflon® PTFE	FFKM	Viton® FPM	V4A
CH_3COCH_3	丙酮		1	1	4	1
C_6H_6	苯		1	1	3	1
Cl_2	氯	10% 湿	1	1	3	4
Cl_2	氯	97%	1	1	1	1
C_2H_6	乙烷		1	1	1	2
C_2H_5OH	乙醇	50%	1	1	2	1
C_2H_4	乙烯		1	1	1	1
C_2H_2	乙炔		1	1	2	1
$C_6H_5C_2H_5$	乙苯		1	1	2	1
HF	氢氟酸		1	2	4	3
CO_2	二氧化碳		1	1	1	1
CO	一氧化碳		1	1	1	1
CH_4	甲烷	技术高纯	1	1	1	1
CH_3OH	甲醇		1	1	3	1
CH_3Cl_2	二氯甲烷		1	1	3	1
H_3PO_4	磷酸	1-5%	1	1	1	1
H_3PO_4	磷酸	30%	1	1	1	1
C_3H_8	丙烷	气态	1	1	1	1
C_3H_6O	Propenoxide		1	2	4	1
HNO_3	硝酸	1-10%	1	1	1	1
HNO_3	硝酸	50%	1	1	1	1
HCl	氯酸	1-5%	1	1	1	2
HCl	氯酸	35%	1	1	1	2
O_2	氧气		1	1	1	1
SF_6	六氟化硫		1	1	2	0
H_2SO_4	硫酸	1-6%	1	1	1	1
H_2S	硫化氢		1	1	4	1
N_2	氮气		1	1	1	1
$C_6H_5C_2H_3$	苯乙烯		1	1	3	1
$C_6H_5CH_3$	甲苯		1	1	3	1
H_2O	水		1	1	1	1
H_2	氢气		1	1	1	1

1 = 有抵抗力
2 = 有实际抵抗力,
3 = 有部分抵抗力,
4 = 无抵抗力,
0 = 无数据可查.

每种物质都有两个给出值, 左边的数值= 数值在+ 20°C, 右边的数值= 数值在+ 50°C

重要提示
题为"塑料的化学抵抗力"和"塑料材质的特性"的图表汇编了原材料生产商提供的信息。数值是原材料在实验室被测试的结果。但由这些原材料制成的塑料体会还受到其他因素的影响 (如温度，压力，化学物质，设计特征等)，因此在图表中给出的数值仅供参考。如有质疑，我们建议您自行测试。对此数值我们不要求法律主张也不承担任何责任。一个产品的化学及机械的抵抗力并不是产品可用性的充分条件，尤其是例如通过易燃液体时必须要提供相应的防护措施。

根据需求提供对其他物质的化学抵抗力说明。

11 维护日志（自备复印件）

维护施行日期	探头号	操作时间	备注	签名

12 附后文件

- 端子盒脚针排列 46/095-Z01-03-3
- 符合性声明: KX460013
- **污染声明状态**
- EC 证书: BVS 07 ATEX E 050 X
- EC 证书: Sira 99 Atex 3173
- EC 证书: BAS 98 ATEX 2337 X Typ QTVR...
- 附件参数表: DC461099
- 取样探头参数表: DC46xxxx

EG-Konformitätserklärung
EC-declaration of conformity

Hiermit erklären wir, dass die nachfolgenden Produkte den wesentlichen Anforderungen der folgenden EG-Richtlinie in ihrer aktuellen Fassung entsprechen:
Herewith we declare that the following products correspond to the essential requirements of the following EC directive in its actual version:

94/9/EG (ATEX)

Folgende weitere Richtlinien wurden berücksichtigt */ the following directives were regarded*

2006/95/EG (Niederspannungsrichtlinie / *low voltage directive*)
2004/108/EG (EMV / *EMC*)

Produkt / ***product*** Gasentnahmesonde / Sample gas probe

Typ / ***type*** GAS 222.xx ATEX

Die Erklärung gilt für alle Exemplare, die nach den beim Hersteller hinterlegten Fertigungsunterlagen – die Bestandteil dieser Erklärung sind - hergestellt wurden.
Gasentnahmesonden sind zum Einbau in Gasanalysesystemen in industriellen Anwendungen bestimmt. Die Sonden sind geeignet für den **Einsatz in Zone 1 im Gas-Ex-Bereich sowie Zone 21 im Staub-EX-Bereich** (Abweichungen sind je nach verwendetem Zubehör möglich; Typenschild und Bedienungsanleitung beachten). Durch die Sonden können nicht brennbare und brennbare gasförmige Medien geleitet werden. Die **Medienentnahme** darf je nach gewähltem Zubehör **aus Zone 0, 1, 2, 20, 21, 22 erfolgen** (Typenschild und Bedienungsanleitung beachten)**.** Das Rückspülen explosiver Gase ist nicht gestattet. Die Sonden dürfen nur durch Fachpersonal installiert werden; die einschlägigen Sicherheitsvorschriften sind zwingend zu beachten.

This declaration is valid for all devices manufactured according to the design and manufacturing specifications of the manufacturer. These specifications are part of this declaration.
*Sample gas probes are intended for installation in gas-analysis systems (industrial applications). The probes can be used in **zone 1 in gas-ex areas as well as in zone 21 in dust-ex area** (depending on accessory variations are possible; take notice of the type plate and the manual).*
Inflammable gases and flammable gases can lead through the sample gas probes. Depending on the used accessory withdrawal of process medium from zone 0, 1, 2, 20, 21, 22 is allowed (take notice of the type plate and the manual). Blow back to explosive gas is not allowed. Sample gas probes have to be installed by trained personnel. All safety regulations have to be fulfilled.

Zur Beurteilung der Konformität wurden folgende harmonisierte Normen in aktueller Fassung herangezogen:
The following harmonized standards in actual revision have been used:

EN 1127-1:2011	EN 60079-0:2009	EN 61000-6-2:2006
EN 13463-1:2009	EN 60079-26:2007	EN 61000-6-3:2011
EN ISO 12100:2011		EN 60204-1:2007

Eingeschaltete Benannte Stelle: DEKRA EXAM GmbH
Engaged Notified Body 0158
Nr. der Konformitätsbescheinigung: BVS 07 ATEX E 050 X
No. of Certificate

Dokumentationsverantwortlicher für diese Konformitätserklärung ist der Unterzeichnende mit Anschrift am Firmensitz.
The person authorised to compile the technical file is the one that has signed and is located at the company's address

Ratingen, den 04.02.2013

Stefan Eschweiler
Geschäftsführer – *Managing Director*

Frank Pospiech
Geschäftsführer – *Managing Director*

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen,
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Internet: www.buehler-technologies.com

(1) # EG-Baumusterprüfbescheinigung

(2) **- Richtlinie 94/9/EG -**
Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen

(3) ## BVS 07 ATEX E 050 X

(4) **Gerät:** **Gasentnahmesonden Typ GAS 222.** ATEX**

(5) **Hersteller:** **Bühler Technologies GmbH**

(6) **Anschrift:** **40880 Ratingen**

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

(8) Die Zertifizierungsstelle der DEKRA EXAM GmbH, benannte Stelle Nr. 0158 gemäß Artikel 9 der Richtlinie 94/9/EG des Europäischen Parlaments und des Rates vom 23. März 1994, bescheinigt, dass das Gerät die grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie erfüllt.
Die Ergebnisse der Prüfung sind in dem Prüfprotokoll BVS PP 07.2043 EG niedergelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 60079-26:2004	Gruppe II Kategorie 1G
IEC 61241-0:2004	Allgemeine Anforderungen
DIN EN 13463-1:2002	Nichtelektrische Geräte – Grundlagen und Anforderungen + Berichtigung 1
DIN EN 1127-1:2005	Explosionsschutz – Grundlagen und Methodik

(10) Falls das Zeichen „X" hinter der Bescheinigungsnummer steht, wird in der Anlage zu dieser Bescheinigung auf besondere Bedingungen für die sichere Anwendung des Gerätes hingewiesen.

(11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf die Konzeption und die Baumusterprüfung des beschriebenen Gerätes in Übereinstimmung mit der Richtlinie 94/9/EG.
Für Herstellung und in Verkehr bringen des Gerätes sind weitere Anforderungen der Richtlinie zu erfüllen, die nicht durch diese Bescheinigung abgedeckt sind.

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

II 1/2 G T4 T 130 °C
II 1 G / 2 D T4 T 130 °C
II 1 D / 2 G T4 T 130 °C
II 1/2 D T4 T 130 °C
(Kategorieangaben der Grundausführung. Einschränkungen je nach verwendetem Zubehör siehe Beschreibung, Abschnitt 15.2)

DEKRA EXAM GmbH
Bochum, den 02. Mai 2007

Zertifizierungsstelle | Fachbereich

DEKRA EXAM GmbH Dinnendahlstraße 9 44809 Bochum Telefon 0234/3696-105 Telefax 0234/3696-110 E-mail zs-exam@dekra.com

(13) Anlage zur

(14) # EG-Baumusterprüfbescheinigung

BVS 07 ATEX E 050 X

(15) 15.1 Gegenstand und Typ

Gasentnahmesonden Typ GAS 222.** ATEX

Zur Kennzeichnung der verschiedenen Ausführungen werden in der vollständigen Typbezeichnung die Sternchen durch folgende Zeichen ersetzt:

20 ausschließlich Austrittsfilter

21 Austrittsfilter und wahlweise zusätzlicher Eintrittsfilter

31 ausschließlich Eintrittsfilter

35 ausschließlich rückziehbarer Eintrittsfilter

15.2 Beschreibung

Bei den Gasentnahmesonden handelt es sich um Betriebsmittel zur Gasentnahme aus Prozessen mit brennbaren und nichtbrennbaren Stäuben oder Gasen.
Dazu werden die Gasentnahmesonden gasdicht an den Prozess geflanscht. Mittels externer Pumpen (diese sind nicht Gegenstand dieser Bescheinigung) wird das Gas aus dem Prozess über Filterelemente zum Gasausgang transportiert.

Die Gasentnahmesonden sind durch Heizeinrichtungen Typ 20 QTVR 1-C T (120 V) bzw. Typ 20 QTVR 2-C T (240 V) beheizt. Diese selbstregelnden Heizsysteme sind in der EG-Baumusterprüfbescheinigung BASEEFA 98 ATEX 2337 X mit zugehörigen Nachträgen zertifiziert und tragen das Kennzeichen
II 2GD EEx e II T4.

Der Anschluss der Heizeinrichtung erfolgt in Anschlusskästen Typ BPG 8. Diese Kästen sind in der EG-Baumusterprüfbescheinigung SIRA 99 ATEX 3173 mit zugehörigen Nachträgen zertifiziert und tragen für den für die Gasentnahmesonden gewählten Umgebungstemperaturbereich das Kennzeichen
II 2GD EEx e II T6.

Die Kategorieangaben auf Seite 1 beziehen sich auf die Grundausführung der Gasentnahmesonden. Je nach verwendetem Zubehör werden die Kategorien gemäß folgender Tabelle eingeschränkt:

Typ GAS 222.** ATEX	Zubehör	resultierende Kategoriekennzeichnung
21, 31 und 35	Druckvorratsbehälter PAV 01 (Art.-Nr. 46222PAV mit zugehörigem Zubehör)	1 D / 2 G 1 / 2 D

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Typ GAS 222.** ATEX	Zubehör	resultierende Kategoriekennzeichnung
21 und 31	Keramik Eintrittsfilter (Art.-Nr. 46222307 und 46222307F)	1 D / 2 G 1 / 2 D 3 / 2 G 3 G / 2 D
20 und 21	Keramik Austrittsfilter (Art.-Nr. 46222026 und 46222026P)	1 D / 2 G 1 / 2 D 3 / 2 G 3 G / 2 D
20 und 21	Entnahmerohr (Art.-Nr. 46222001, 462220011, 46222006, 46222004 und 46222016)	1 / 2 G 1 G / 2 D
20 und 21	Entnahmerohr Keramik (Art.-Nr. 4622200205, 4622200210 und 4622200215)	3 / 2 G 3 G / 2 D
21 und 31	Pneumatikzylinder mit Endlagenschalter (Art.-Nr. 46222019)	1 / 2 G 1 G / 3 D 1 D / 2 G 1 / 3 D

15.3 Kenngrößen

15.1 Kenngrößen der Heizeinrichtung

Gemäß BASEEFA 98 ATEX 2337 X und der zugehörigen Betriebsanleitung

15.2 Kenngrößen des Prozesses

Max. Eintrittstemperatur des Prozessmediums	135 °C
Max. Prozessdruck	6 bar
Max. Durchfluss durch die Gasentnahmesonde	1000 l / h

15.3 Umgebungstemperaturbereich der Sonden -20 bis 50 °C

(16) Prüfprotokoll
BVS PP 07.2043 EG, Stand 02.05.2007

(17) Besondere Bedingungen für die sichere Anwendung

Die Gasentnahmesonden sind für den Betrieb in einem Umgebungstemperaturbereich von -20 °C bis 50 °C ausgelegt.

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1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 99ATEX3173** Issue: **8**

4 Equipment: **BPG Range of Junction Boxes**

5 Applicant: **ABTECH Limited**

6 Address: Sanderson Street
Lower Don Valley
Sheffield S9 2UA
UK

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

IEC 60079-0:2011 EN 60079-7:2007 EN 60079-11:2012 EN 60079-31:2009

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 2 G D
Ex e IIC T6 Gb (Ta = -65°C to +40°C, +55°C, +60°C or +65°C)
Ex e IIC T4 Gb (Ta = -65°C to +90°C)
Ex ib IIC T6 Gb (Ta = -65°C to +40°C, +55°C, +60°C or +65°C)
Ex ib IIC T4 Gb (Ta = -65°C to +90°C)
Ex tb IIIC T85°C Db (Ta = -65°C to +40°C, +55°C, +60°C or +65°C)
Ex tb IIIC T100°C Db (Ta = -65°C to +90°C)
(Temperature class, marking for dust and Ta maximum depends upon the maximum power dissipation, refer to Annexe)

Project Number 25164

C Ellaby
Deputy Certification Manager

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13 **DESCRIPTION OF EQUIPMENT**

The BPG range of junction boxes utilises a BPG enclosure covered by certificate number Sira 99ATEX3172U and are fitted with an arrangement of suitably certified terminals.

BPG ref.	1	2	3	4	5	6	7	8	9	10	11	12	13	13.5	14	15
Length	80	110	160	190	230	122	220	160	260	360	560	255	400	400	600	400
Width	75	75	75	75	75	120	120	160	160	160	160	250	250	250	250	405
Height	55	55	55	55	55	90	90	90	90	90	90	120	120	160	120	120

(All dimensions are in mm)

Before the Junction Box is installed, its total dissipated power for the particular application will be calculated in accordance with EN 60079-7:2003, Annex E, E.2 and will not exceed the values given in the table below:

BPG ref.	Maximum Power Dissipation (W)				
	T6/T85°C Ta +40°C (max)	T6/T85°C Ta +55°C (max)	T6/T85°C Ta +60°C (max)	T6/T85°C Ta +65°C (max)	T4/T100°C Ta +90°C (max)
1	8.390	2.23	1.73	1.45	8.390
2	8.551	2.00	1.70	1.45	8.551
3	8.833	2.00	1.70	1.45	8.833
4	9.012	2.07	1.80	1.29	9.012
5	9.260	2.00	1.70	1.10	9.260
6	9.378	2.00	1.70	1.45	9.378
7	10.500	2.30	1.70	1.10	10.500
8	10.348	2.00	1.70	1.10	10.348
9	11.933	2.30	1.70	1.10	11.933
10	13.793	4.50	3.29	2.10	13.793
11	18.338	6.68	5.20	4.00	18.338
12	15.474	2.30	1.70	1.10	15.474
13	20.867	5.20	4.00	3.00	20.867
13.5	20.867	5.20	4.00	3.00	20.867
14	30.384	7.97	6.59	4.79	30.384
15	31.350	8.26	6.00	4.40	31.350

Junction boxes of size not specified in the table may be manufactured subject to the maximum dissipated power being based on a smaller enclosure.

Variation 1 - This variation introduced the following changes:

i. The BPG range of junction boxes were permitted to have alternative power dissipation ratings that enable them to be used in an upper ambient temperature of either +40°C or +55°C or +60°C or +65°C, the associated ratings and markings were recognised.

Variation 2 - This variation introduced the following changes:

i. The recognition of a minor revision of the information marked on the label.

Variation 3 - This variation introduced the following changes:

i. When certified, intrinsically safe terminals are used, alternative marking, 'ia' and 'ib', was recognised.

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Variation 4 - This variation introduced the following changes:

i. The BPG 13.5 junction box covered by certificate number Sira 99ATEX3172U was added to the range.

Variation 5 - This variation introduced the following changes:

i. The option to fit slotted trunking inside the Junction Boxes, this trunking may be sited as required. The instructions were modified to recognise additional restrictions associated with this change and a new Condition of Manufacture was introduced.
ii. The recognition of minor drawing modifications including the introduction of a new company logo; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.

Variation 6 - This variation introduced the following changes:

i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents previously listed in section 9, EN 50 014:1997 (amendments A1 to A2), EN 50 019:1994, EN 50020:2002 and EN 50281-1-1:1998, were replaced by those currently listed. As part of this change, the markings in section 12 were updated accordingly and the 'ia' marking previously included as Variation 1 (dated 30 March 2005) was removed.
ii. The Condition of Certification that defined the ambient temperature range of specific types of gackets was removed because only silicone rubber gaskets are now used in the construction of these Junction Boxes.
iii. It was recognised that a new procedure for selecting terminals has been adopted by the manufacturer; this allows the terminals to be chosen from an Approved Component Document, Sira 12AC087, that is issued and controlled by Sira. The relevant Condition of Certification was amended to recognise this change.
iv. The recognition of drawing modifications required for use with other certification associated with these products.
v. The Condition of Certification dealing with power dissipation was modified.
vi. A Condition of Certification that requires the manufacturer to monitor the status of previously certified devices was added.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report/File no.	Comment
0	19 January 2000	R51X6055E	The release of the prime certificate.
1	25 May 2001	R51A6746A	The introduction of Variation 1.
2	28 September 2001	53V7936	The introduction of Variation 2.
3	23 July 2002	R53A9009A	The prime certificate was re-issued to permit the following: • The incorporation of previous variations 1 and 2. • The lower ambient temperature range was confirmed as –65°C. • The introduction of the changes included in Sira report number R53A9009A.

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 99ATEX3173**
Issue 8

Issue	Date	Report/File no.	Comment
4	30 March 2005	R53V10438A	The introduction of Variation 3.
5	10 March 2008	R51A17881A	This Issue covers the following changes: • All previously issued certification was rationalised into a single certificate, Issue 5, Issues 0 to 4 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format. • The change of the Applicant's name, first recognised 31 January 2007, was re-confirmed. • The introduction of Variation 4.
6	03 April 2012	R26585A/00	The introduction of Variation 5.
7	11 June 2012	R26585A/01	Report R26585A/01 replaced report R26585A/00.
8	24 October 2012	R25164A/00	This Issue covers the following changes: • The introduction of Variation 6. • Because this certificate was re-issued, some Variations 1 and 2 were duplicated, this has been clarified and reflected in the certificate history; no technical changes were involved.

15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

None

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF CERTIFICATION**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 When the manufacturer has equipped the junction boxes with terminals, a routine electric strength test shall be carried out only if the components are wired. This test shall be carried out according to the following standards:

- industrial control equipment: EN 60947 - measurement, control and laboratory use: EN 61010

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17.3 The terminals used in these Junction Boxes will be ATEX approved devices chosen from the Approved Component Document number Sira 12AC087 that is issued by Sira. All terminals will be installed in accordance with their certificate conditions and the relevant codes of practice/wiring regulations paying particular attention to the following:

- The maximum service temperature range.
- The minimum creepage and clearance distances shall be maintained.
- The rated voltages and currents may vary if cross-connection facilities are used.
- The reduction in rating of adjacent terminals shall be observed, where applicable.

The terminals fitted into the junction boxes shall also conform to the following requirements:

Temperature class/ Dust marking	Requirement
T6/T85°C	The terminals shall have an insulation limiting temperature of 100°C minimum
T4/T100°C	The terminals shall be ceramic

17.5 Suitably certified Ex e equipment such as breathing devices and blanks may be fitted to the enclosure providing the enclosure maintains compliance with BS EN 60529 code IP64 or better.

17.6 The manufacturer will take all reasonable steps to ensure that the power dissipated by the Junction Box does not exceed the maximum value stipulated in the table detailed in the Description of Equipment, in addition, the manufacturer will supply all the relevant information that will enable the user/installer to calculate the dissipated power in Watts for each Junction Box in accordance with EN 60079-7 Annex E, E2.

17.8 When the junction boxes are used for intrinsically safe applications, a 3 mm separation distance between the enclosure is required, there shall also be a minimum of 6 mm between different intrinsically safe circuits.

17.9 When trunking is fitted, it may be sited as required and the minimum creepage and clearance distances shall still be met.

17.10 The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer will inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.

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Certificate Annexe

Certificate Number: **Sira 99ATEX3173**

Equipment: **BPG Range of Junction Boxes**

Applicant: **ABTECH Limited**

Issue 0 to 2: The drawings associated with these Issues were rationalised by those listed in Issue 3.

Issue 3

Number	Sheet	Rev.	Date	Description
ABT 10260	1 of 1	C	25 Jun 02	External Label (BPG)
ABT 10304	1 of 1	A	16 Nov 99	BPG Manufacturing Specification

Issue 4

Number	Sheet	Rev.	Date	Description
ABT 14842	1 of 1	-	01 Feb 05	BPG Range EEx ia Label
ABT 14845	1 of 1	-	01 Feb 05	BPG Range EEx ib Label

Issue 5: No new drawings were introduced.

Issue 6

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
ABT 10260	1 of 1	D	30 Mar 12	BPG External label – Junction Boxes
ABT 10304	1 of 1	B	30 Mar 12	BPG Manufacturing specification
ABT 14842	1 of 1	B	30 Mar 12	BPG Range EEx ia Label
ABT 14845	1 of 1	B	30 Mar 12	BPG Range EEx ib Label

Issue 7 (No new drawings were introduced.)

Issue 8

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
ABT 10260	1 of 1	E	30 Sep 12	BPG Nameplate – Junction Box
ABT 10304	1 of 1	C	30 Sep 12	BPG Manufacturing specification
ABT 10305	1 of 1	C	30 Sep 12	BPG Range of Enclosures

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INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS FOR ABTECH 'BPG' Range Enclosures – SIRA99ATEX3173

Marking

The marking shown is for an apparatus certified terminal box.
The maximum power dissipation permitted in this terminal box is marked on the label and identified by RATING_____WATTS.

The ambient temperature range for which this product is suitable is marked on the label and identified by Tamb_____.

The Ex e marking may be replaced by Ex ia or Ex ib. Enclosures marked Ex ia or Ex ib may only be used for terminating intrinsically safe circuits.

When the box is black it is anti-static and the 'STATIC HAZARD' warning will be missing.

Alternative markings for temperature ratings as follows.

T6 with Ta range of $-60^{o}C \leq Ta \leq +55^{o}C$ and $T85^{o}C$ for dust
Warning – Cable temperature can reach $85^{o}C$

T6 with Ta range of $-60^{o}C \leq Ta \leq +60^{o}C$ and $T85^{o}C$ for dust
Warning – Cable temperature can reach $85^{o}C$

T6 with Ta range of $-60^{o}C \leq Ta \leq +65^{o}C$ and $T85^{o}C$ for dust
Warning – Cable temperature can reach $85^{o}C$

T4 with Ta range of $-60^{o}C \leq Ta \leq +105^{o}C$ and $T100^{o}C$ for dust
Warning – Cable temperature can reach $100^{o}C$

Note

The ambient temperature range identified on the certification label refers to the enclosure and the terminals fitted within. It does not necessarily refer to the permitted temperature range of any cable entry devices that may be fitted. The user must check that the cable entry devices fitted are suitable for the lowest ambient temperature marked on the certification label and for the maximum permitted operating temperature (T6 shown, may be T4).

The IP rating identified on the certification label refers only to the enclosure. The user must ensure that the cable entry devices fitted provide an equivalent degree of protection when installed with their manufacturer's instructions.

Installation

These instructions assume that the required cable entries have been pre-drilled. Cable entries may be threaded.

1) Using the mounting dimensions data provided, either in the product catalogue data sheets or on the drawings supplied, (as part of the project documentation), mark out the positions for the mounting holes on the surface where installation is required.
2) Drill the mounting holes for M4 fixing studs (for size BPG1 to BPG5) or for M6 fixing studs (for size BPG6 to BPG15) as applicable.
3) Tap thread into mounting holes if required.
4) Place a mounting screw through one mounting hole in the box so that the thread of the screw protrudes from the back of the box. Lift the box into place, using such assistance as may be necessary to avoid personal injury and:-
   a) If clearance mounting holes are used, insert the protruding thread through the appropriate clearance hole and secure with a nut on the other side of the mounting surface.
      Or
   b) If threaded holes are used, locate the end of the mounting screw over the threaded hole and, using an appropriate screwdriver tighten the screw.

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5) Rotate the box to line up the remaining mountings and repeat (4) above until all mounting screws have been fitted.
6) Install and secure the cable entry devices, cable glands and blanking plugs in accordance with the manufacturer's instructions. Ensure that the torque applied during the installation of these devices does not exceed 20 Nm.
7) Pull the cables into the box, leaving trailing leads of a length specified by site practice or the site engineer and secure any cable armour in accordance with site practice.
8) Where slotted trunking has been supplied (solid trunking is not permitted) ensure that it is suitable for the proposed T classification of the final certified product. Where the T6 is the proposed rating and no windows are fitted any polymeric or metallic slotted trunking may be used. For other T classifications and where a window is fitted metallic slotted trunking must be used. Trunking may be mounted in any orientation in the box, vertically, horizontally or diagonally.
9) When laying cables into trunking; No more than 50% of the trunking internal area shall be occupied by conductors, when instrumentation currents of 1A or less are carried. All cabling used must be capable of carrying a minimum of 3A.
10) For cables carrying more than 1A - No more than 25% of the trunking internal area shall be occupied by conductors, these shall be de-rated to a maximum of 4A /sq mm. All cabling used must be capable of carrying a minimum of 10% higher current than the rating required.
11) No more than 50% of the trunking internal area shall be occupied by conductors, when instrumentation currents of 1A or less are carried. All cabling used must be capable of carrying a minimum of 3A.
12) For cables carrying more than 1A - No more than 25% of the trunking internal area shall be occupied by conductors, these shall be de-rated to a maximum of 4A /sq mm. All cabling used must be capable of carrying a minimum of 10% higher current than the rating required.
13) Terminate the cables in the terminals provided in accordance with the requirements of BS EN 60079-14. Consideration must be given to any use limitations or special conditions detailed on the certificates for the terminals fitted.
14) Secure the lid by closing the lid and tightening the lid fixing screws.

NOTE: If the terminals provided with the enclosure are changed either in type or in quantity the terminal box certification may become invalid. Advice from ABTECH is recommended before any changes are made.

Earthing/Grounding

The enclosure may be provided with an external earth/ground connection. If such a connection is provided it must be connected to the appropriate earth bonding circuit before electrical power is connected to the contents of the enclosure.
When the box is provided with an internal earth continuity plate any metal cable glands must be secured using a vibration resistant washer and a locknut.

Operation

1. The lid must be secured using all of the lid screws provided in order to maintain the IP rating.
2. No attempt must be made to remove the enclosure lid whilst electrical power is connected to the contents of the enclosure.
3. If the enclosure if fitted with an external earth/ground facility it must be connected to the earth bonding circuit at all times when power is connected to the enclosure contents.

Maintenance

Routine maintenance is likely to be a requirement of local Health and Safety legislation. The laws of the applicable country must be considered and maintenance checks carried out accordingly
Additional periodic checks that are advisable to ensure the efficiency of ABTECH range enclosures are:-

Activity		Frequency
1	Check that the lid seal is in place and not damaged	Each time the enclosure is opened
2	Check that all lid fixing screws are in place and secured	Each time the enclosure is closed
3	Check that the mounting bolts are tight and free of corrosion	Every 3 years
4	Check the security of all cable glands and entry devices	Every 3 years
5	Check that all screw clamp terminals are secure	As manufacturers recommendations
6	Check enclosure for damage	Every 3 years

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Chemical attack

The ABTECH BPG range of enclosures are manufactured using the following materials:-glass reinforced polyester resin, (with or without carbon loading),
neoprene or silicone rubber,
316 stainless steel
Brass
Consideration should be given to the environment in which these enclosures are to be used to determine the suitability of these materials to withstand any corrosive agents that may be present.

Static hazard

Glass reinforced polyester resin has a surface resistance greater than 10E9 Ohms. They can present a hazard from static electricity and may not be cleaned except with a damp cloth.
Carbon loaded glass reinforced, identified by the suffix ‘C’, (e.g. BPGC9), have a surface resistance between 10E6 and 10E9 Ohms. They do not present a hazard from static electricity.

Vibration

BPG range terminal boxes are designed for use in areas subject to normal industrial levels of vibration. They are not designed for use in areas subject to intentional or extreme conditions of vibration.

Protection From Foreseeable Faults

Circuits connected in the enclosure must be externally protected using suitable circuit interruption devices to prevent overloading. Provided the enclosure is correctly installed, there should be no foreseeable faults.

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1 # EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3 EC - Type Examination Certificate Number: **Baseefa06ATEX0185X**

4 Equipment or Protective System: **QTVR RANGE OF TRACE HEATING UNITS**

5 Manufacturer: **TYCO THERMAL CONTROLS LLC**

6 Address: **2415 Bay Road, Redwood City, California 94063, USA**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR06.0064/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2004, EN 60079-7: 2003, EN 62086-1: 2005, IEC61241-0: 2004 and EN 61241-1: 2004

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

⟨Ex⟩ II 2 GD Ex e II T4 Ex tD A21 IP66 T130°C

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0865**

Project File No. **06/0191**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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Registered in England No. 4305578 at the above address

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Re-issued 6th March 2012 to add Dust Temperature

13 # Schedule

14 ## Certificate Number Baseefa06ATEX0185X

15 Description of Equipment or Protective System

The QTVR Range of Trace Heating Units is of the parallel circuit self-regulating type, rated at up to 277V, with power output up to 66W/m (20W/ft). The units have a maximum self-limiting temperature of 130°C.

Each trace heating unit comprises:

- the active heating cable.

- an end seal for terminating the remote end of the unit.

- a cable gland for connecting the powered end of the unit to a suitable terminal enclosure, or alternative integrated power connection systems.

The active heating cable comprises two stranded copper conductors around which is extruded a semi-conductive core material. This core material increases in resistance with increasing temperature and gives the cable its self-limiting property. The core is covered with an extruded layer of fluoropolymer insulation before being overbraided with tinned copper. A further protective, anti-corrosion layer of fluoropolymer is extruded over the braid.

The declared maximum withstand temperature for the range is 135°C and the minimum installation temperature is -60°C.

CABLE ACCESSORIES

END SEALS

The end seals for terminating the remote end of the unit may be the following types:

Types E-100-L or E-100, which are mechanical end seals incorporating an end cap which is filled with silicone grease sealant, covered by certificate PTB 98 ATEX 1101U.

Type E-06, which comprises heat shrink sleeves lined with hot melt adhesive.

Type E-150 mechanical end seals, covered by certificate PTB 98 ATEX 1121U.

SPLICES AND JOINTS

The following splicing and jointing arrangements are provided:

A Raychem Type S-21 heat shrink splice kit for connecting lengths of active heating cable.

A Raychem T-100 tee connection system, certificate PTB 98 ATEX 1020U, for connecting up to three heater cables.

Type S-150 mechanical splice kit, covered by certificate PTB 98 ATEX 1121U.

POWER CONNECTIONS

Power connection may be achieved by the following means:

Types C25-21 and C16-19, incorporating Type GHG 960 923 P... plastic cable glands covered by certificate PTB 99 ATEX 3128X. The kits may use a moulded silicone rubber core seal to insulate the bus wires with silicone grease in a moulded cavity to seal the end of the heating cable. In this arrangement the kits are Types C25-100 and C16-100, to PTB 98 ATEX 1015U.

Type C3/4-100-Metal or C25-100-Metal, which incorporate a Type E8XF metallic cable gland covered by certificate SIRA 01ATEX1270X.

C-150 power connector, covered by certificate PTB 98 ATEX 1121U.

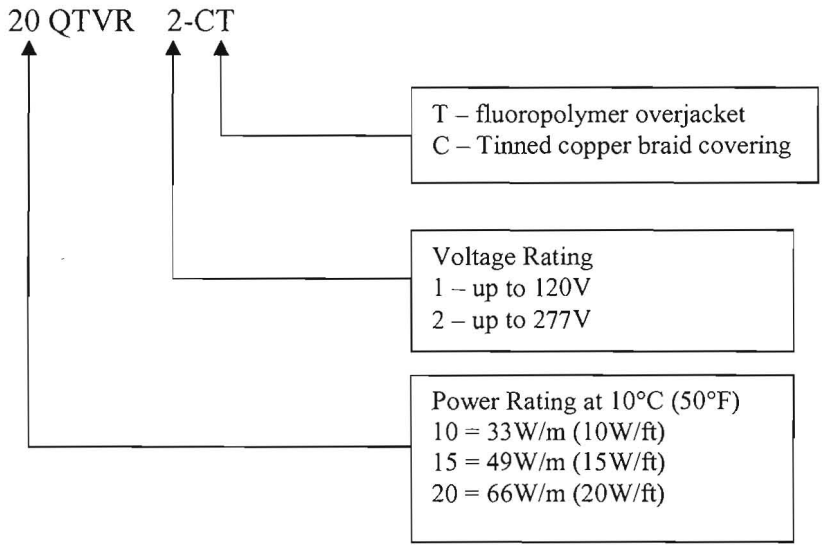
Type JBS-100 power connection system for a single heater cable, covered by certificate PTB 97 ATEX 1058U.

Type JBM-100 power connection system for multiple heater cables, covered by certificate PTB 98 ATEX 1021U.

Type JBU-100 power connection system, covered by certificate PTB 99 ATEX 1108U.

Type CCON connection kit, covered by certificate SEV 05 ATEX 0147U.

A number of power levels and voltages, up to the maximum specified, are included in the range. They are identified in the following manner:



16 Report Number

GB/BAS/ExTR06.0064/00

17 Special Conditions for Safe Use

1. The following limiting temperatures for the end seals, splices and power connections shall not be exceeded:

   135°C for the S-21 and E-06

   110°C for the GHG 960 923 P... cable gland and CCON

2. The end seals, splices and power connections have the following associated minimum ambient temperatures:

   -55°C for the E-06, S-21 and CCON

   -50°C for the E-100, E-100-L, E-150, S-150, C-150, JBS-100, JBU-100 and JBM-100

   -40°C for the JBS-100-L, T-100, JBM-100-L and JBU-100-L

   -55°C for the GHG 960 923 P... cable gland with silicon rubber seals.

   -60°C for the Type E8XF cable gland

3. The assembly of glands, splices and end terminations shall be carried out in accordance with the manufacturer's instructions.

4. The heating element supply circuit must include an electrical protection device in conformity with Clause 4.4 of IEC 62086-1.

5. The minimum bending radius is 35mm for the Type QTVR units.

6. The supply to the heating unit must be terminated in a suitably certified terminal enclosure.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

	Number	Sheet	Rev	Date	Description
*	950017-A	-	G	10/07/05	QTVR-CT (Narrow/Lo-Watt) Cables
*	950018-A	-	E	10/07/05	QTVR-CT (Wide/Hi-Watt) Cables
*	906578-A	-	F	05/30/06	QTVR Heater Units
*	906564-A	-	B	10/02/03	E-06 End Seal
*	906567-A	-	H	07/10/06	Connection Kits
*	906568-A	-	A	11/27/95	S-19 & S21 Splice Joint Kits
*	907195-A	-	C	04/04/06	S-150
*	907196-A	-	B	07/26/06	E-150
*	906701-A	-	E	05/05/05	T-100
*	906794-A	-	J	11/03/06	Generic Print Drawing

* Common to IECEx BAS 06.0045X and Baseefa 06ATEX0185X, held with IECEx BAS 06.0045X

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**Baseefa06ATEX0185X/1**
4	Equipment or Protective System:	**QTVR RANGE OF TRACE HEATING UNITS**
5	Manufacturer:	**TYCO THERMAL CONTROLS LLC**
6	Address:	**2415 Bay Road, Redwood City, California 94063, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0185X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. **0865**

Project File No. **07/0893**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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On behalf of
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13 # Schedule

14 ## Certificate Number Baseefa06ATEX0185X/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To confirm that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-30-1: 2007 in respect of the differences from EN 62086-1: 2001, and that none of these differences in the Standard affects this equipment.

16 Report Number

GB/BAS/ExTR08.0031/00

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

None

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0185X/2**

4 Equipment or Protective System: **QTVR RANGE OF TRACE HEATING UNITS**

5 Manufacturer: **TYCO THERMAL CONTROLS LLC**

6 Address: **2415 Bay Road, Redwood City, California 94063, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa06ATEX0185X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. **0865**

Project File No. **08/0622**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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M Powney

pp R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

13 **Schedule**

14 **Certificate Number Baseefa06ATEX0185X/2**

15 **Description of the variation to the Equipment or Protective System**

Variation 2.1

Minor changes to marking layout.

16 **Report Number**

None.

17 **Special Conditions for Safe Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
906794-A	1	M	09.15.08	Generic Print Drawing

This drawing is common to Baseefa06ATEX0183X, Baseefa06ATEX0184X, Baseefa06ATEX0186X, Baseefa06ATEX0187X, Baseefa06ATEX0188X, IECEx BAS 06.0043X, IECEx BAS 06.0044X, IECEx BAS 06.0045X, IECEx BAS 06.0046X, IECEx BAS 06.0047X, IECEx BAS 06.0048X, and is held on IECEx BAS 06.0043X.

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**Baseefa06ATEX0185X/3**
4	Equipment or Protective System:	**QTVR RANGE OF TRACE HEATING UNITS**
5	Manufacturer:	**TYCO THERMAL CONTROLS LLC**
6	Address:	**307 Constitution Drive, Menlo Park, CA94025, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa06ATEX0185X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. **0865**

Project File No. **09/0588**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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13 **Schedule**

14 **Certificate Number Baseefa00ATEX0185X/3**

15 **Description of the variation to the Equipment or Protective System**

Variation 3.1

Minor changes to marking layout.

Variation 3.2

To note correct revision of drawing 906578-A.

16 **Report Number**

None.

17 **Special Conditions for Safe Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
*906794-A	1	N	06.11.09	Generic Print Drawing
**906578-A	-	H	08.07.06	QTVR Heater Units

*This drawing is common to Baseefa06ATEX0183X, Baseefa06ATEX0184X, Baseefa06ATEX0186X, IECEx BAS 06.0043X, IECEx BAS 06.0044X, IECEx BAS 06.0045X, IECEx BAS 06.0046X, and is held with IECEx BAS 06.0043X.

** This drawing is common to IECEx BAS 06.0045X and is held on that file.

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**Baseefa06ATEX0185X/4**
4	Equipment or Protective System:	**QTVR RANGE OF TRACE HEATING UNITS**
5	Manufacturer:	**TYCO THERMAL CONTROLS LLC**
6	Address:	**307 Constitution Drive, Menlo Park, CA94025, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa06ATEX0185X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. **0865**

Project File No. **10/0110**

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13 **Schedule**

14 **Certificate Number Baseefa06ATEX0185X/4**

15 Description of the variation to the Equipment or Protective System

Variation 4.1

To note later component certificates for the connection units and minor corrections to print marking.

Variation 4.2

To note deletion of T-100 connection kit drawing 906701A as a certification drawing.

16 Report Number

GB/BAS/ExTR10.0024/00

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
906578-A	1	J	04.09.10	QTVR Heater Units
*906567-A	1	J	04.09.10	Connection Kits
**906794-A	1	P	03.11.10	Generic Print Drawing

*This drawing is common to Baseefa06ATEX0183X, Baseefa06ATEX0184X, Baseefa06ATEX0186X, Baseefa06ATEX0188X, IECEx BAS 06.0043X, IECEx BAS 06.0044X, IECEx BAS 06.0045X, IECEx BAS 06.0046X , and IECEx BAS 06.0048X and is held with IECEx BAS 06.0043X.

**This drawing is common to Baseefa06ATEX0183X, Baseefa06ATEX0184X, Baseefa06ATEX0186X, IECEx BAS 06.0043X, IECEx BAS 06.0044X, IECEx BAS 06.0045X and IECEx BAS 06.0046X , and is held with IECEx BAS 06.0043X.

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	Supplementary EC - Type Examination Certificate Number:	**Baseefa06ATEX0185X/5**
4	Equipment or Protective System:	**QTVR RANGE OF TRACE HEATING UNITS**
5	Manufacturer:	**TYCO THERMAL CONTROLS LLC**
6	Address:	**307 Constitution Drive, Menlo Park, CA94025, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa06ATEX0185X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. **0865**

Project File No. **10/1008**

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

Baseefa
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e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

13 # Schedule

14 ## Certificate Number Baseefa06ATEX0185X/5

15 Description of the variation to the Equipment or Protective System

Variation 5.1

To note later component certificates for the connection units as indicated below and minor corrections to print marking.

Connection Type	EC Type Examination Certificate
T-100	PTB 09ATEX1043U
JBM-100	PTB 09ATEX1056U
JBS-100	PTB 09ATEX1059U
E-100	PTB 09ATEX1060U
JBU-100	PTB 09ATEX1061U
C..-100	PTB 09ATEX1063U
C-150 S-150 E-150	PTB 09ATEX1068U
C25-100 Metal C3/4-100 Metal	SIRA 01ATEX1270X

When the type JBM-100, JBS-100, JBU-100 and E-100 connection units are used with the pilot light option the trace heating units are marked:

Ex e mb II T4

Ex tD mbD A21 IP66 T130°C

16 Report Number

GB/BAS/ExTR11.0270/00

17 Special Conditions for Safe Use

The end seals, splices and power connections have the following associated ambient temperatures.

-50°C to +40°C for the C..-100
-50 °C to +150 °C for the C-150, S-150 and E-150
-50 °C to +56 °C for the T-100, JBM-100, JBS-100, JBU-100 and E-100
-40 °C to +40 °C for the JBM-100-L, JBS-100-L, JBU-100-L and E-100-L

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
*9242869	1 & 2	J	12/08/11	Label JBM-100-L-E
*9532687	1 & 2	K	12/08/11	Label JBM-100-L-EP
*9621473	1 & 2	J	12/08/11	Label JBS-100-L-E

Number	Sheet	Issue	Date	Description
*9777523	1 & 2	K	12/08/11	Label JBS-100-L-EP
*9319676	1 & 2	J	12/08/11	Label JBU-100-L-E
*9735898	1 & 2	J	12/08/11	Label JBU-100-L-EP
**906794-A	1	U	12.13.11	Generic Print Drawing

*These drawing are common to Baseefa06ATEX0183X, Baseefa06ATEX0184X, Baseefa06ATEX0186X, , Baseefa06ATEX0188X, IECEx BAS 06.0043X, IECEx BAS 06.0044X, IECEx BAS 06.0045X, IECEx BAS 06.0046X , and IECEx BAS 06.0048X and is held with IECEx BAS 06.0043X.

**This drawing is common to Baseefa06ATEX0183X, Baseefa06ATEX0184X, Baseefa06ATEX0186X, Baseefa06ATEX0187X, Baseefa06ATEX0188X, IECEx BAS 06.0043X, IECEx BAS 06.0044X, IECEx BAS 06.0045X and IECEx BAS 06.0046X , and is held with IECEx BAS 06.0043X.

1 # SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0185X/6**

4 Equipment or Protective System: **QTVR Range Of Trace Heating Units**

5 Manufacturer: **Tyco Thermal Controls LLC**

6 Address: **307 Constitution Drive, Menlo Park, CA94025, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa06ATEX0186X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 Item 9 of the original Certificate is replaced by "Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN60079-0: 2009 EN60079-7: 2007 EN60079-30-1: 2007 EN60079-18: 2004
EN61241-0: 2004 EN61241-1: 2004 EN62086-1: 2005

except in respect of those requirements listed at item 18 of the Schedule."

9 The marking of the equipment has changed from the original Certificate and shall include the following:

⟨Ex⟩ II 2 GD Ex e IIC T4 Gb Ex td A21 IP66 T130°C or
⟨Ex⟩ II 2 GD Ex e mb IIC T4 Gb Ex td mbD A21 IP66 T130°C (See previous variation of this certificate)

This certificate shall be held with the original certificate and may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0865**

Project File No. **12/0909**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

Baseefa
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e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

13 **Schedule**

14 **Certificate Number Baseefa06ATEX0185X/6**

15 Description of the variation to the Equipment or Protective System

Variation 6.1

To confirm that the equipment covered by this certificate has been reviewed against the requirements of EN60079-0: 2009 and EN60079-7: 2007 in respect of the differences from the standards to which this certificate is currently issued; none of these differences affect this equipment, other than the code marking requirements which have been addressed.

16 Report Number

GB/BAS/ExTR12.0289/00.

17 Specific Conditions of Use

None additional to those listed previously.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
906794-A	1	V	12.11.12	Generic Print BTV, QTVR, XTV, KTV

This drawing is common to Baseefa06ATEX0183X, Baseefa06ATEX0184X, Baseefa06ATEX0186X, IECEx BAS 06.0043X, IECEx BAS 06.0044X, IECEx BAS 06.0045X and IECEx BAS 06.0046X, and is held with IECEx BAS 06.0043X.

EC Declaration of Conformity
EG Konformitätserklärung
CE Déclaration de Conformité

We / Wir / Nous,

PENTAIR THERMAL MANAGEMENT BELGIUM N.V.
Romeinse Straat 14, 3001 Leuven, Belgium / Belgique / Belgien

Hereby declare in our sole responsibility, that the products…
Erklären in alleiniger Verantwortung, dass die Produkte…
Déclarons de notre seule responsabilité, que les produits…

Heat Tracing system: Type QTVR and its components used for connection, splicing and termination
Begleitheizung system: Type QTVR und die componenten fur anschluss, verbindung und absluss
Système du traçage électrique type: QTVR et toutes les composants pour connection, jointage et terminaison.

…which is the subject of this declaration, is in conformity with the following standard(s) or normative documents
…auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt
…auquel cette déclaration se rapporte, est conforme aux norme(s) ou aux documents normatifs suivants

Terms of the Directive(s) and Approval Data: Bestimmungen der Richtlinie und Zulassungsdaten Prescription de la directive et données de référence d'approbation	Title and/or No. and date of issue of the standard / Titel und/oder Nr. sowie Ausgabedatum der Norm / titre et/ou No. ainsi que date d'émission des normes	
94/9/EC: Equipment for use in potentially explosive atmospheres - ATEX 94/9/EG: Geräte zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - ATEX 94/9/CE: Appareils destinés à être utilisés en atmosphères explosibles - ATEX	**EN 60079-0:2009** **EN 60079-7-2007** **EN 60079-30-1:2007** **EN 61241-1:2004**	**+)** **+)** **+)** **+)**
2006/95/EC: The Low Voltage Directive 2006/95/EG: Die Niederspannungsrichtlinie 2006/95/CE: Directive basse tension	**EN 62395-1:2007-05**	**+)**
Other standards used	**EN 62086-1: 2005** **IEC 61241-0:2004**	
CE marking demands, CE-Kennzeichnungsvorgaben, objectif d'identification CE	CE 1180	
EC-Type Examination Certificate: EG-Baumusterprüfbescheinigung: Attestation d'examen CE de type:	**Baseefa06ATEX0185X** Issued December 18th 2012 / Décembre 18, 2012	
Notified body / überwachende Stelle / organe de surveillance Identification no. / Identifikations Nr. / No. d'identification	**Baseefa, Buxton / Derbyshire SK17 9RZ UK** **1180**	

+) Harmonized Standards

The technical documentation required to demonstrate that the products meet the requirements
of the above EC directives has been compiled and is available for inspection by relevant enforcement authorities.

Die technische Dokumentation, die zur Gewährleistung der Einhaltung der EG Richtlinien benötigt wird,
wurde erstellt und liegt zur Überprüfung durch eine Authorisierte Stelle bereit.

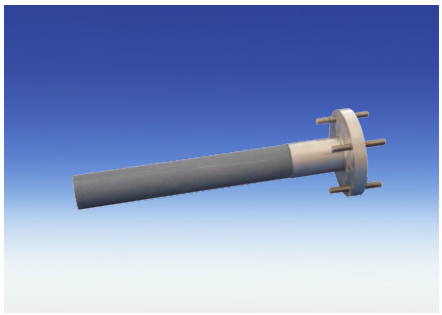
La documentation technique exigée pour démontrer que les produits répondent aux exigences des directives ci-dessus de CE a été compilée et est disponible pour l'inspection par des autorités chargées de l'application appropriées.

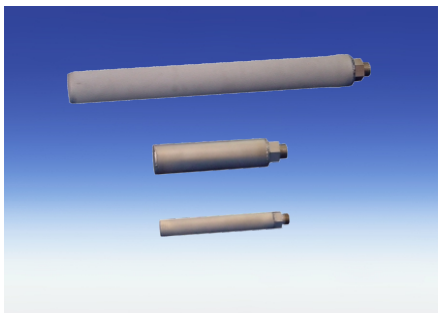
Pentair Thermal Management
Romeinsestraat 14
B-3001 Leuven
Belgium

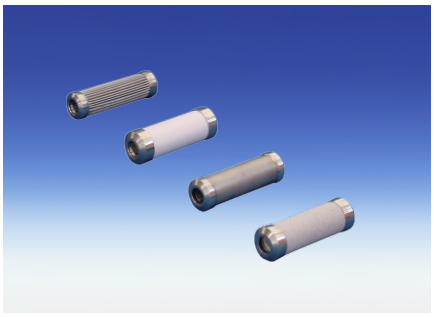
Leuven, January 22, 2013 / Janvier 22, 2013

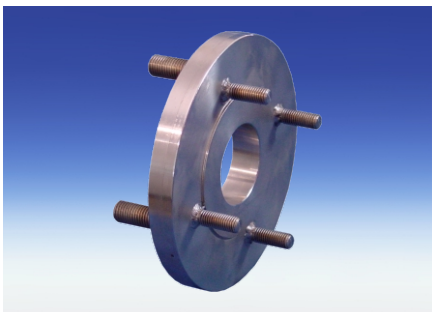
Gerry De Blick
Certification and Compliance Manager
www.pentairthermal.com

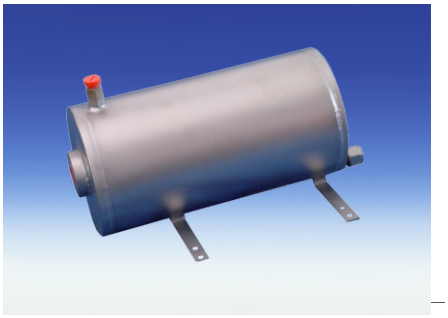
附件

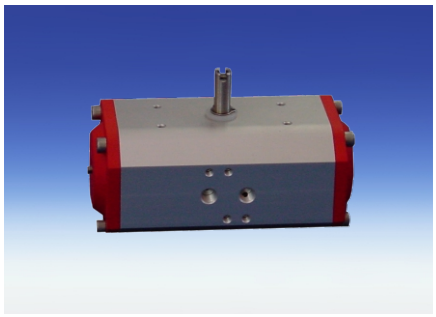












- 取样管
- 直插过滤器
- 延长扩展件

第 **2 - 4** 页

- 顺流过滤器
- 校正气口连接
- 适配法兰

第 8 页

- 气罐
- 气动制动器
- **3/2-**路电磁阀
- 反吹控制器

第 **5 - 7** 页

总说明请参见取样探头 GAS 222 参数表DC 461000.

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取样管，过滤器和扩展件

- 各种不同材质
- 各种不同尺寸
- 加热 / 不加热的延长扩展件

取样管					222.10	222.11	222.30	222.35-U	222.15	222.17	222.20	222.21	222.31	222.35	222.20 DH	222.20 Atex	222.21 Atex	222.31 Atex	222.35 Atex	222.20 Atex2	222.21 Atex2	222.31 Atex2	222.35 Atex2	222.10 ANSI	222.11 ANSI/ CSA	222.30 ANSI/ CSA	222.35-U ANSI/ CSA	222.15 ANSI/ CSA	222.17 ANSI/ CSA	222.20 ANSI/ CSA	222.21 ANSI/ CSA	222.31 ANSI/ CSA	222.35 ANSI/ CSA	222.20 DH ANSI/ CSA	222.20 AMEX	222.21 AMEX	222.31 AMEX	222.35 AMEX	气体类型
	材料	T max.	长度	部件号																																			
01	1.4571	600°C	300 mm	462220010300	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
01	1.4571	600°C	500 mm	462220010500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
01	1.4571	600°C	1000 mm	462220011000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
01	1.4571	600°C	1500 mm	462220011500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
01	1.4571	600°C	2000 mm	462220012000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
02	陶瓷 / 不锈钢1.4571	1600°C	0,5 m	4622200205	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
02	陶瓷 / 不锈钢1.4571	1600°C	1,0 m	4622200210	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
02	陶瓷 / 不锈钢1.4571	1600°C	1,5 m	4622200215	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
06	哈斯合金Hastelloy / 1.4571	400°C	500 mm	462220060500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
06	哈斯合金Hastelloy / 1.4571	400°C	1000 mm	462220061000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
06	哈斯合金Hastelloy / 1.4571	400°C	1500 mm	462220061500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
06	哈斯合金Hastelloy / 1.4571	400°C	2000 mm	462220062000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
08	铬镍铁合金Inconel / 1.4571	1050°C	500 mm	462220040500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
08	铬镍铁合金Inconel / 1.4571	1050°C	1000 mm	462220041000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
08	铬镍铁合金Inconel / 1.4571	1050°C	1500 mm	462220041500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
08	铬镍铁合金Inconel / 1.4571	1050°C	2000 mm	462220042000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
08	铬镍铁合金Inconel / 1.4571	1050°C	2500 mm	462220042500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
12	1.4571	600°C	500 mm	462220160500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
12	1.4571	600°C	1000 mm	462220161000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
12	1.4571	600°C	1500 mm	462220161500	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
12	1.4571	600°C	2000 mm	462220162000	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X		
13	康泰尔合金Kanthal / 不锈钢1.4571	1400°C	至 1 m	46222017	X	X			X	X	X	X			X					X	X			X	X			X	X	X	X			X	X	X		
	PVDF/ETFE取样管带除雾器	120°C	800 mm	46222040	X	X			X	X	X	X			X									X	X			X	X	X	X			X				
	ETFE除雾器 / 備件	120°C		462220402	X	X			X	X	X	X			X									X	X			X	X	X	X			X				
	不锈钢1.4571取样管带除雾器	400°C	300 mm	4622204203	X	X			X	X	X	X			X									X	X			X	X	X	X			X				
	不锈钢1.4571取样管带除雾器	400°C	500 mm	4622204205	X	X			X	X	X	X			X									X	X			X	X	X	X			X				
	不锈钢1.4571取样管带除雾器	400°C	1000 mm	4622204210	X	X			X	X	X	X			X									X	X			X	X	X	X			X				
	不锈钢1.4571除雾器 / 備件	400°C		4611004	X	X			X	X	X	X			X									X	X			X	X	X	X			X				

取样管，过滤器和扩展件

- 各种不同材质
- 各种不同尺寸
- 加热 / 不加热的延长扩展件

直插式过滤器						222.10	222.11	222.30	222.35-U	222.15	222.17	222.20	222.21	222.31	222.35	222.20 DH	222.20 Atex	222.21 Atex	222.31 Atex	222.35 Atex	222.20 Atex2	222.21 Atex2	222.31 Atex2	222.35 Atex2	222.10 ANSI	222.11 ANSI/ CSA	222.30 ANSI/ CSA	222.35-U ANSI/ CSA	222.15 ANSI/ CSA	222.17 ANSI/ CSA	222.20 ANSI/ CSA	222.21 ANSI/ CSA	222.31 ANSI/ CSA	222.35 ANSI/ CSA	222.20 DH ANSI/ CSA	222.20 AMEX	222.21 AMEX	222.31 AMEX	222.35 AMEX	气体类型
	材料	最高耐温	长度	滤芯	部件号																																		
03	不锈钢	600°C	237 mm	5 µm	46222303		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
03F	不锈钢	600°C	237 mm	0,5 µm	46222303F*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
03H	哈斯合金Hastelloy	600°C	237 mm	5 µm	46222303H*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
03HF	哈斯合金Hastelloy	600°C	237 mm	0,5 µm	46222303HF*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
031	不锈钢, 带减少死体积功能	600°C	237 mm	5 µm	462223031		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
031F	不锈钢, 带减少死体积功能	600°C	237 mm	0,5 µm	462223031F*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
031H	Hastelloy, 带减少死体积功能	600°C	237 mm	5 µm	462223031H*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
031HF	Hastelloy, 带减少死体积功能	600°C	237 mm	0,5µm	462223031HF*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
04	不锈钢	600°C	538 mm	5 µm	46222304		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
04F	不锈钢	600°C	538 mm	0,5 µm	46222304F*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
04H	哈斯合金Hastelloy	600°C	538 mm	5 µm	46222304H*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
04HF	哈斯合金Hastelloy	600°C	538 mm	0,5 µm	46222304HF*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
041	不锈钢, 带减少死体积功能	600°C	538 mm	5 µm	462223041		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
041F	不锈钢, 带减少死体积功能	600°C	538 mm	0,5 µm	462223041F*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
041H	Hastelloy, 带减少死体积功能	600°C	538 mm	5 µm	462223041H*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
041HF	Hastelloy, 带减少死体积功能	600°C	538 mm	0,5 µm	462223041HF*		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
07	陶瓷 / 1.4571	1000°C [1)]	478 mm	2 µm	46222307		X	X					X	X				X	X			X	X																
07F	陶瓷 / 1.4571	1000°C [1)]	478 mm	0,3 µm	46222307F*		X	X					X	X				X	X																				
07 ANSI	陶瓷 / 1.4571	1000°C [1)]	478 mm	2 µm	46222307C																					X	X					X	X				X	X	
35	不锈钢	600°C	229 mm	5 µm	46222359				X						X					X				X				X							X					X
35F	不锈钢	600°C	229 mm	0,5 µm	46222359F*				X						X					X				X				X							X					X

1) 高温过滤, 氧化环境 最高温度 750 °C
高温过滤, 还原环境 最高温度 600 °C

* 具体价格和货期请提前咨询我们

取样管，过滤器和扩展件

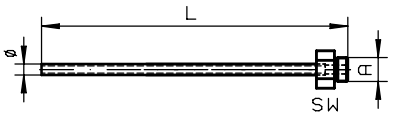
- 各种不同材质
- 各种不同尺寸
- 加热 / 不加热型延长扩展件

		222.10	222.11	222.30	222.35-U	222.15	222.17	222.20	222.21	222.31	222.35	222.20 DH	222.20 Atex	222.21 Atex	222.31 Atex	222.35 Atex	222.20 Atex2	222.21 Atex2	222.31 Atex2	222.35 Atex2	222.10 ANSI	222.11 ANSI/ CSA	222.30 ANSI/ CSA	222.35-U ANSI/ CSA	222.15 ANSI/ CSA	222.17 ANSI/ CSA	222.20 ANSI/ CSA	222.21 ANSI/ CSA	222.31 ANSI/ CSA	222.35 ANSI/ CSA	222.20 DH ANSI/ CSA	222.20 AMEX	222.21 AMEX	222.31 AMEX	222.35 AMEX	气体类型
保护罩	部件号																																		
用于直插过滤器 03	462223034		X	X					X	X				X	X			X	X			X	X					X	X			X	X	
用于直插过滤器 04	462223044		X	X					X	X				X	X			X	X			X	X					X	X			X	X	
扩展件																																			
型号 材质 总电源 长度																																			
G3/4 非加热 1.4571 0,2 m	4622230320200	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G3/4 非加热 1.4571 0,4 m	4622230320400	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G3/4 非加热 1.4571 0,5 m	4622230320500	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G3/4 非加热 1.4571 0,7 m	4622230320700	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G3/4 非加热 1.4571 1 m	4622230321000	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G3/4 非加热 1.4571 1,2 m	4622230321200	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G3/4 非加热 1.4571 1,5 m	4622230321500	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G3/4 非加热 1.4571 2 m	4622230322000	X	X	X		X	X	X	X	X		X	X	X	X		X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	
G1/2 非加热 1.4571 0,25 m	4622235910250				X						X					X				X				X						X					X
G1/2 非加热 1.4571 0,5 m	4622235910500				X						X					X				X				X						X					X
G1/2 非加热 1.4571 0,7 m	4622235910700				X						X					X				X				X						X					X
G1/2 非加热 1.4571 1,5 m	4622235911500				X						X					X				X				X						X					X
GF 加热* 1.4571 230V 0,5 m	462223036							X	X	X																									
GF 加热* 1.4571 230V 1 m	462223033							X	X	X																									
GF ANSI / CSA, 加热* 1.4571 115V 0,5 m	462223036C1																										X	X	X						
GF ANSI/ CSA, 加热* 1.4571 115V 1 m	462223033C1																										X	X	X						
可加热延长扩展件的控制器内置于探头控制器内	46222292							X	X	X																	X	X	X						

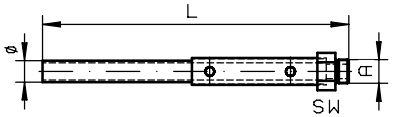
* 该加热延长杆的安装只适用于不带G3/4螺纹的对接法兰，订货时如选用加热延长杆扩展件请在订货号末位加上字母G，如：4622220G。
发货后再改装一个加热延长杆扩展件是不可能的

Entnahmerohre / tubes
取样探杆

Typ	L	ø	A	SW
01	var.	12	G3/4	36
06	var.	12	G3/4	36
08	var.	21,3	G3/4	36
12	var.	20	G3/4	36
13	var.	15	G3/4	36
14	var.	18	G3/4	36



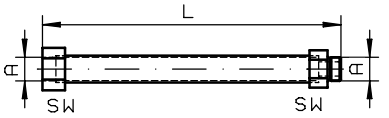
Typ	L	ø	A	SW
02-0,5	500	24	G3/4	36
02-1,0	1000	24	G3/4	36
02-1,5	1500	24	G3/4	36

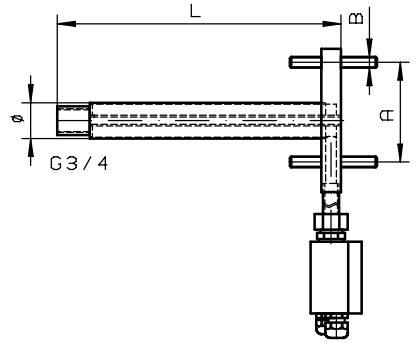


Verlängerungen / extensions
延长杆扩展件

Unbeheizt / unheated

Typ	L	A	SW
G3/4	0,2-2 m	G3/4	36
G1/2	0,25-1,5m	G1/2	27



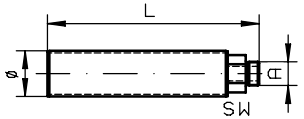


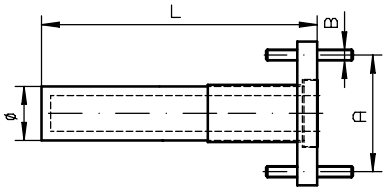
Beheizt / heated 加热型

Typ	L	ø	A	B
GF	500	40	DN65 PN6	M12
GF	1000	40	DN65 PN6	M12
GF ANSI/CSA	500	40	DN3"-150	M16
GF ANSI/CSA	1000	40	DN3"-150	M16

Eintritssfilter / in-situ filter
直插过滤器

Typ	L	ø	A	SW
03	237	51	G3/4	36
031	237	51	G3/4	36
04	538	60	G3/4	36
041	538	60	G3/4	36
35	229	29	G1/2	27



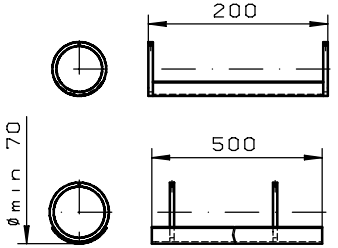


Typ	L	ø	A	B
07	500	60	DN65 PN6	M12
07 ANSI	500	60	DN3"-150	M16

Abweisblech / protection shield
直插过滤器保护罩

Eintrittsfilter / in-situ filter 03

Eintrittsfilter / in-situ filter 04



alle Kanten gratfrei

Oberflächenbearbeitungszeichen

$\sqrt{} = \sqrt{}^{Rch}$

$\sqrt{^{X}} = \sqrt{}^{R_z\ 63}$

$\sqrt{^{Y}} = \sqrt{}^{R_z\ 16}$

$\sqrt{^{Z}} = \sqrt{}^{R_z\ 4}$

Maße ohne Toleranzangabe nach ISO 2768-mK

	Datum	Name
Bearb	21 01 2004	Brinkmann
Gepr		

Zust	Änd	Datum	Name
a	neu	29 09 06	Br

Ers. für

BÜHLER

Maßstab 1 5 (Gewicht)

Werkstoff

Benennung
Rohre/Filter/Verlängerungen
tubes/filter/extensions
GAS 222

Zeichng -Nr 46/107-Z01-01-3A

Art -Nr

ARBEITSANWEISUNG

反吹
- 带球阀或者带电磁阀
- 加热或者非加热型
- 手动控制或者自动控制

气罐	环境温度	部件号.:	222.10	222.11	222.30	222.35-U	222.15	222.17	222.20	222.21	222.31	222.35	222.20 DH	222.20 Atex	222.21 Atex	222.31 Atex	222.35 Atex	222.20 Atex2	222.21 Atex2	222.31 Atex2	222.35 Atex2	222.10 ANSI	222.11 ANSI/ CSA	222.30 ANSI/ CSA	222.35-U ANSI/ CSA	222.15 ANSI/ CSA	222.17 ANSI/ CSA	222.20 ANSI/ CSA	222.21 ANSI/ CSA	222.31 ANSI/ CSA	222.35 ANSI/ CSA	222.20 DH ANSI/ CSA	222.20 AMEX	222.21 AMEX	222.31 AMEX	222.35 AMEX	气体类型
PAV 01		46222PAV		X	X	X				X	X	X			X	X	X		X	X	X		X	X	X				X	X	X			X	X	X
气罐附件																																					
球阀		46222PAVKH		X	X	X				X	X	X			X	X	X		X	X	X		X	X	X				X	X	X			X	X	X
2/2-路-MV 24VDC*	-10 ... +55°C	46222PAVMV1		X	X	X				X	X	X																								
2/2-路-MV 110V 50Hz	-10 ... +55°C	46222PAVMV2		X	X	X				X	X	X																								
2/2-路-MV 220-230V 50/60Hz	-10 ... +55°C	46222PAVMV3		X	X	X				X	X	X																								
2/2-路-MV 24VUC Atex II 2G/D EEx m II T4 IP65	-10 ... +60°C	46222PAVMV4		X	X	X									X	X	X		X	X	X															
2/2-路-MV 110VUC Atex II 2G/D EEx m II T4 IP65	-10 ... +60°C	46222PAVMV5		X	X	X									X	X	X		X	X	X															
2/2-路-MV 230VUC Atex II 2G/D EEx m II T4 IP65	-10 ... +60°C	46222PAVMV6		X	X	X									X	X	X		X	X	X															
2/2-路-AMEX 24 V/ 60 Hz Cl.I Div 2	-10 ... +55°C	46222PAVMV14																					X	X	X				X	X	X			X	X	X
2/2-路-AMEX 120 V/ 60 Hz Cl.I Div 2	-10 ... +55°C	46222PAVMV8																					X	X	X				X	X	X			X	X	X
2/2-路-AMEX 240 V/ 60 Hz Cl.I Div 2	-10 ... +55°C	46222PAVMV9																					X	X	X				X	X	X			X	X	X
自动调节加热系统 115/230V 50/60Hz		46222PAVHZ1		X	X	X				X	X	X											X	X	X				X	X	X					
自动调节加热系统 115-230V 50/60Hz Atex 2 II 3G Ex nA IIC T3 Gc X		46222PAVHZ2																	X	X	X															
自动调节加热系统 115-230V 50/60Hz Atex 2 II 3G Ex nA IIC T4 Gc X		46222PAVHZ3																	X	X	X															
自动调节加热系统 AMEX,115-230V,50/60 Hz, Cl.I Div2 B,C,D,T3		46222PAVHZ4																																X	X	X
自动调节加热系统 AMEX,115-230V,50/60 Hz, Cl.I Div2 B,C,D,T4		46222PAVHZ6																																X	X	X
气罐支撑架		462223502				X																			X											
波登管压力表 0-10 bar		46222PAVMA		X	X	X				X	X	X			X	X	X		X	X	X		X	X	X				X	X	X			X	X	X
气动制动器																																				
弹力自复，开，不加压时常开		46222008		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
弹力自复，关，不加压时常闭		46222030		X	X					X	X				X	X			X	X			X	X					X	X				X	X	
往复式动作		46222009		X	X					X	X																									
限位开关		9008928		X	X					X	X																									
限位开关 Atex II 2G/3D IIC T6 IP65		9008930													X	X			X	X																
限位开关 Atex II 2G/2D IIC T6 IP65		9027002													X	X			X	X																
3/2-路-MV 用于气动制动器的控制																																				
24VDC	-10 ... +55°C	46222075		X	X					X	X																									
110V 50Hz	-10 ... +55°C	46222076		X	X					X	X																									
230V 50Hz	-10 ... +55°C	46222077		X	X					X	X																									
ATEX 24 V UC II 2G/D EEx m II T4	-10 ... +60°C	46222078		X	X										X	X			X	X																
ATEX 110 V UC II 2G/D EEx m II T4	-10 ... +60°C	46222079		X	X										X	X			X	X																
ATEX 230 V UC II 2G/D EEx m II T4	-10 ... +60°C	46222080		X	X										X	X			X	X																
AMEX 24 V 60 Hz, NPT1/4″,Cl.I Div 2	-10 ... +55°C	46222116																					X	X					X	X				X	X	
AMEX 120 V 60 Hz, NPT1/4″,Cl.I Div 2	-10 ... +55°C	46222050																					X	X					X	X				X	X	
AMEX 240 V 60 Hz, NPT1/4″,Cl.I Div 2	-10 ... +55°C	46222056																					X	X					X	X				X	X	
5/2-路-MV 用与气动制动器的控制	-10 ... +70°C	9148000117		X	X					X	X																									
反吹																																				
RSS 24VDC, IP65		46222199		X	X	X				X	X	X																								
RSS 115/230 VAC, IP65		46222299		X	X	X				X	X	X																								
RSS-MC内置在探头控制器机壳内		46222392								X	X	X																		X	X	X					

*最高压力 6 bar

细节

A)反吹

气罐订购注意事项:

将气罐安装到 GAS 222.11 / 30 / 35-U需要订购一个支撑架。

气动制动器定购事项:

如果已订购了反吹控制器，只能选择部件号为46222030的气动制动器。

我们建议安装一个位置指示开关来监督气动制动器的运行。

内置在探头控制器中的反吹控制器注意事项:

除了选择单独安装的反吹控制器RRS以外,用户也可选购一个集成于探头控制器中的反吹控制器。

通过控制器的按键与菜单可以设置反吹周期和实际反吹时间。反吹和手动操作会显示在显示屏上。反吹控制器可以通过控制器的按键来操控，既可以设置为手动操作也可以设置为自动工作。控制器除了提供状态输出外还提供一个电信号来监视反吹状态。反吹动作通常由来主控制信号触发。

如果安装了位置指示开关，控制器会将此开关信号用于逻辑控制。

B) 潜在易爆环境

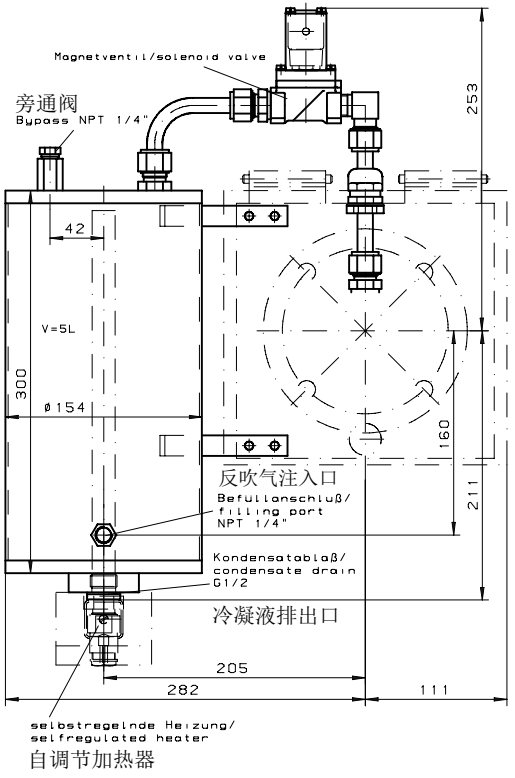
注意!安装的附件可能影响整个探头的防爆等级。

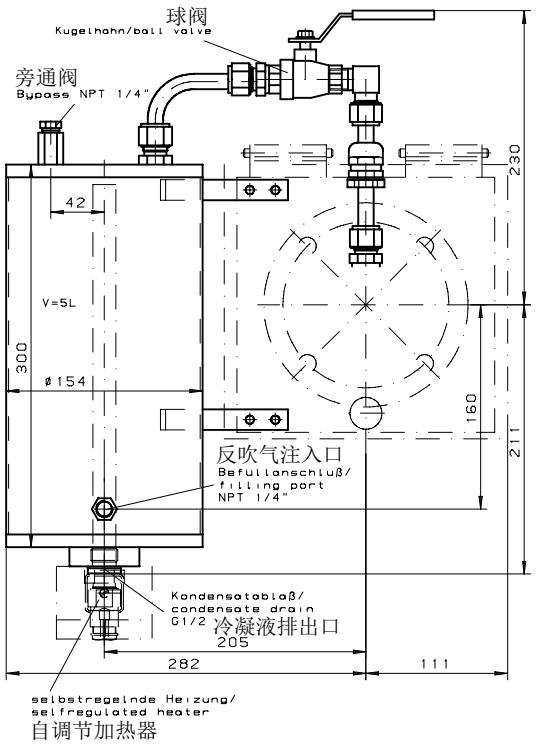
注意参看操作及使用说明手册，并注意设备铭牌上的提示标识。

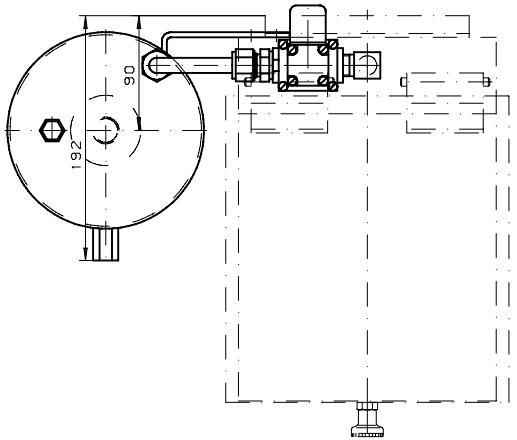
取样探头 GAS 222.xx Atex		
型号	附件	使用范围
21 Atex, 31 Atex, 35 Atex	压力气罐 PAV 01 (订货号. 46222PAV 带附件)	II 1D / 2GD
21 Atex, 31 Atex,	直插过滤器*, 陶瓷 (订货号.:46222307 + 46222307F)	II 1D 3G / 2GD
20 Atex , 21 Atex,	顺流过滤器*, 陶瓷 (订货号. 46222026 + 46222026P)	II 1D 3G / 2GD
20 Atex, 21 Atex,	探管 (订货号. 46222001, 462220011, 46222006, 46222004, 46222016)	II 1G / 2GD
20 Atex, 21 Atex,	探管**, 陶瓷 (订货号. 4622200205, 4622200210, 4622200215)	II 3G / 2GD
21 Atex, 31 Atex,	气缸带 Atex 开关 (订货号. 46222019)	II 1GD / 2G3D

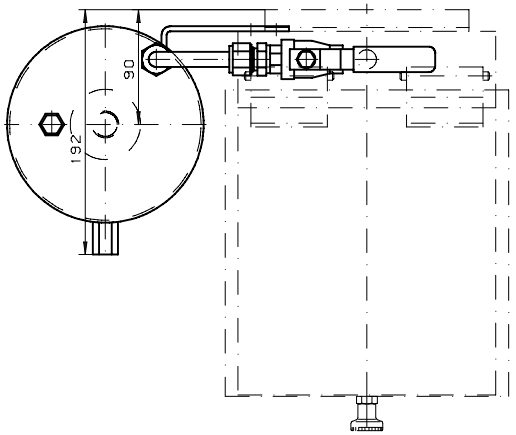
* 附件不适用于粉尘燃烧度 < 3mJ.

** 如果从 Zone 2 取样, 只能使用陶瓷取样管，并在应用或过程相关无静电的前提下。









最大工作压力为 10Bar
最大工作温度为 50℃

max Betriebsdruck/operating pressure	10bar
max Betriebstemperatur/operating temperature	50°C

"Änderungen nur nach Rücksprache
mit dem Atexbeauftragten zulässig"

alle Kanten gratfrei	ALLE RECHTE VORBEHALTEN	Maße ohne Toleranzangabe nach ISO 2768-mK			Maßstab 1 2,5	(Gewicht)
Oberflächenbearbeitungszeichen					Werkstoff	
			Datum	Name	Benennung	
		Bearb	05 07 2004	Brinkmann	Druckluftbehälter/ capacitive vessel PAV 01	
		Gepr				
			BÜHLER		Zeichng -Nr	46/106-Z01-01-2
					Art -Nr	
Zust Änd Datum Name					Ers für	ARBEITSANWEISUNG

顺流过滤器及其他可选项

顺流过滤器			部件号:	222.10	222.11	222.30	222.35-U	222.15	222.17	222.20	222.21	222.31	222.35	222.20 DH	222.20 Atex	222.21 Atex	222.31 Atex	222.35 Atex	222.20 Atex2	222.21 Atex2	222.31 Atex2	222.35 Atex2	222.10 ANSI	222.11 ANSI/ CSA	222.30 ANSI/ CSA	222.35-U ANSI/ CSA	222.15 ANSI/ CSA	222.17 ANSI/ CSA	222.20 ANSI/ CSA	222.21 ANSI/ CSA	222.31 ANSI/ CSA	222.35 ANSI/ CSA	222.20 DH ANSI/ CSA	222.20 AMEX	222.21 AMEX	222.31 AMEX	222.35 AMEX	探头型号
材料	制 O型垫圈	精度																																		
陶瓷	Viton氟化橡胶	3 µm	46222026	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
陶瓷	过氟化橡胶	3 µm	46222026P	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
烧结不锈钢	Viton氟化橡胶	5 µm	46222010	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
烧结不锈钢	过氟化橡胶	5 µm	46222010P	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
烧结不锈钢	Viton氟化橡胶	0.5 µm	46222010F*	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
烧结不锈钢	过氟化橡胶	0.5 µm	46222010FP*	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
褶状不锈钢	Viton氟化橡胶	10 µm	46222011	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
褶状不锈钢	过氟化橡胶	10 µm	46222011P	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
用于固定微玻璃纤维滤芯的手柄			46222067	X	X			X	X	X	X			X									X	X			X	X	X	X			X	X	X	
玻璃纤维带硅酸盐粘合物	Viton氟化橡胶		462220671	X	X			X	X	X	X			X									X	X			X	X	X	X			X	X	X	
玻璃纤维带硅酸盐粘合物	过氟化橡胶		462220671P	X	X			X	X	X	X			X									X	X			X	X	X	X			X	X	X	
关闭手柄带过滤管和过滤棉	Viton氟化橡胶		46222163	X	X			X	X	X	X			X									X	X			X	X	X	X			X	X	X	
关闭手柄带过滤管和过滤棉	过氟化橡胶		46222163P	X	X			X	X	X	X			X									X	X			X	X	X	X			X	X	X	
过滤棉			46222167	X	X			X	X	X	X			X									X	X			X	X	X	X			X	X	X	
氟化橡胶制的O型垫圈组，含安装润滑油			46222012	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
过氟化橡胶制的O型垫圈组，含安装润滑油			46222024	X	X			X	X	X	X			X	X	X			X	X			X	X			X	X	X	X			X	X	X	
其他可选项																																				
适配法兰 ANSI 3“-150lbs			46222014	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X														
校正气接口 ø6mm			46222309	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
带止回阀的校正气接口 ø6mm			46222311	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
校正气接口 ø1/4″			46222336	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
带止回阀的校正气接口 ø1/4″			46222337	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
样气管接口装置ø6mm			9008173	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
样气管接口装置ø8mm			9008174	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
样气管接口装置ø12mm			9008369		X	X	X				X	X	X			X	X	X		X	X	X		X	X	X			X	X	X			X	X	X
样气管接口装置ø1/4″			9008584	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
样气管接口装置ø3/8″			9008583	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
样气管接口装置ø1/2″			9028033		X	X	X				X	X	X			X	X	X		X	X	X		X	X	X			X	X	X			X	X	X
用于反吹接口的G3/8紧锁螺丝			9008084			X	X				X	X	X			X	X	X		X	X	X			X	X			X	X	X			X	X	X
利用紧锁螺丝带密封圈来密封反吹接口			9009258			X	X				X	X	X			X	X	X		X	X	X			X	X			X	X	X			X	X	X
DN65 PN6用的带卡圈的支架			462220102					X																			X									
ANSI 3”-150 lbs用的带卡圈的支架			462220102C																																	

* 价格和货期请提前咨询我们

RMA-Formular und Erklärung über Dekontaminierung
RMA-去污表格和声明

RMA-Nr./ 商品退货 授权号码

Die RMA-Nr. bekommen Sie von Ihrem Ansprechpartner im Vertrieb oder Service. Bei Rücksendung eines Altgeräts zur Entsorgung tragen Sie bitte in das Feld der RMA-Nr. "WEEE" ein./ 从销售或服务处的联系人那里可获得商品退货授权（RMA）号码。 当寄还旧设备以废弃处理时，请于RMA号码栏中输入"WEEE"。

Zu diesem Rücksendeschein gehört eine Dekontaminierungserklärung. Die gesetzlichen Vorschriften schreiben vor, dass Sie uns diese Dekontaminierungserklärung ausgefüllt und unterschrieben zurücksenden müssen. Bitte füllen Sie auch diese im Sinne der Gesundheit unserer Mitarbeiter vollständig aus./ 请将退货单，去污声明和货运单一同装在透明套中，粘在包装外。否则您的维修委托将不予处理。

Firma/ 公司

Firma/ 公司

Straße/ 街道

PLZ, Ort/ 邮政编码，地点

Land/ 国家

Ansprechpartner/ 联系人

Name/ 姓名

Abt./ 部门

Tel./ 电话

E-Mail

Gerät/ 设备

Anzahl/ 数量

Auftragsnr./ 订单号码

Serien-Nr./ 序列号

Artikel-Nr./ 商品编号

Grund der Rücksendung/ 寄回原因

- ☐ Kalibrierung/ 校准
- ☐ Modifikation/ 修改
- ☐ Reklamation/投诉
- ☐ Reparatur/ 修复
- ☐ Elektroaltgerät/ 废旧电子设备 (WEEE)
- ☐ andere/ 其他的

bitte spezifizieren/ 请注明

Ist das Gerät möglicherweise kontaminiert?/ 设备是否具有污染性？

- ☐ Nein, da das Gerät nicht mit gesundheitsgefährdenden Stoffen betrieben wurde./ 否，因为该设备已被正确清洁和消毒。
- ☐ Nein, da das Gerät ordnungsgemäß gereinigt und dekontaminiert wurde./ 否，因为未以有损健康的物质运行该设备。
- ☐ Ja, kontaminiert mit:/ 是，污染物为:

☐ explosiv/ 易爆的	☐ entzündlich/ 易燃的	☐ brandfördernd/ 助燃的	☐ komprimierte Gase/ 压缩气体	☐ ätzend/ 腐蚀性的	☐ giftig, Lebensgefahr/ 有毒的, 致命危险	☐ gesundheitsgefährdend/ 危害健康的	☐ gesundheitsschädlich/ 对人体有害的	☐ umweltgefährdend/ 对环境有害的

Bitte Sicherheitsdatenblatt beilegen!/ 请附上《安全数据表》！

Das Gerät wurde gespült mit:/ 该设备已被冲洗:

Diese Erklärung wurde korrekt und vollständig ausgefüllt und von einer dazu befugten Person unterschrieben. Der Versand der (dekontaminierten) Geräte und Komponenten erfolgt gemäß den gesetzlichen Bestimmungen.

按法律规定寄回（已去污的）设备和组件

Falls die Ware nicht gereinigt, also kontaminiert bei uns eintrifft, muss die Firma Bühler sich vorbehalten, diese durch einen externen Dienstleister reinigen zu lassen und Ihnen dies in Rechnung zu stellen.

如果产品没有被清洁，即我们收到时受了污染，比勒公司保留委托一外部的服务提供者清理的权利并向您收取费用。

Firmenstempel/ 公司印章

Datum/ 日期

rechtsverbindliche Unterschrift/ 具法律约束力的签名

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen
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E-Mail: service@buehler-technologies.com
Internet: www.buehler-technologies.com

Vermeiden von Veränderung und Beschädigung der einzusendenden Baugruppe

Die Analyse defekter Baugruppen ist ein wesentlicher Bestandteil der Qualitätssicherung der Firma Bühler Technologies GmbH. Um eine aussagekräftige Analyse zu gewährleisten muss die Ware möglichst unverändert untersucht werden. Es dürfen keine Veränderungen oder weitere Beschädigungen auftreten, die Ursachen verdecken oder eine Analyse unmöglich machen.

Umgang mit elektrostatisch sensiblen Baugruppen

Bei elektronischen Baugruppen kann es sich um elektrostatisch sensible Baugruppen handeln. Es ist darauf zu achten, diese Baugruppen ESD-gerecht zu behandeln. Nach Möglichkeit sollten die Baugruppen an einem ESD-gerechten Arbeitsplatz getauscht werden. Ist dies nicht möglich sollten ESD-gerechte Maßnahmen beim Austausch getroffen werden. Der Transport darf nur in ESD-gerechten Behältnissen durchgeführt werden. Die Verpackung der Baugruppen muss ESD-konform sein. Verwenden Sie nach Möglichkeit die Verpackung des Ersatzteils oder wählen Sie selber eine ESD-gerechte Verpackung.

Einbau von Ersatzteilen

Beachten Sie beim Einbau des Ersatzteils die gleichen Vorgaben wie oben beschrieben. Achten Sie auf die ordnungsgemäße Montage des Bauteils und aller Komponenten. Versetzen Sie vor der Inbetriebnahme die Verkabelung wieder in den ursprünglichen Zustand. Fragen Sie im Zweifel beim Hersteller nach weiteren Informationen.

Einsenden von Elektroaltgeräten zur Entsorgung

Wollen Sie ein von Bühler Technologies GmbH stammendes Elektroprodukt zur fachgerechten Entsorgung einsenden, dann tragen Sie bitte in das Feld der RMA-Nr. „WEEE“ ein. Legen Sie dem Altgerät die vollständig ausgefüllte Dekontaminierungserklärung für den Transport von außen sichtbar bei. Weitere Informationen zur Entsorgung von Elektroaltgeräten finden Sie auf der Webseite unseres Unternehmens.

避免修改和损坏要寄送的组件

对有缺陷的组件的分析是比勒科技有限公司的质量保证的一个重要组成部分。 为了确保分析有说服力，必须尽可能地保持原样来检查产品。不能发生任何改变或进一步的损害，这样可能会掩盖原因或阻碍分析。

处理静电敏感组件

若有电子组件，则可能是静电敏感组件。必须注意以符合ESD标准的方式处理这些组件。如果可能，应在符合ESD标准的工作场所更换组件。如果不可能，在更换过程中应采取符合ESD标准的措施。只能在符合ESD标准的容器中运输。组件的封装必须符合ESD标准。如果可能，请使用备件的包装或自选一符合ESD标准的包装。

安装替换件

在安装备件时，请遵守上述说明。确保配件和所有组件的正确组装。调试前将电缆移回原来状态。如有疑问，请询问制造商了解更多信息。

将废旧电子设备寄送废弃处理

如果您想寄送来自Bühler Technologies GmbH的电子产品以进行妥善废弃处理，请于RMA号码栏中输入"WEEE"。将完整填写的去污声明附于废旧设备上，以便运输时从外部即可见。有关废弃电气和电子设备废弃处理的更多信息，请访问我司的网站。

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