

MASS VIEW

气体质量流量计的完美替代-----带有显示功能的可变截面积流量计

> 产品简介

Bronkhorst High-Tech B.V.,小流量测量和控制的专家,设计了一系列创新的质量流量计、阀门和控制器并可以集成显示。MASS-VIEW®系列产品提供现代、新颖、经济型的可变截面积流量计(VA Meter),也被称为转子流量计或浮子流量计。与常规的VA流量计不同,这些新型的流量计测量质量流量,而不是体积流量。作为VA流量计的更新换代MASS-VIEW®的机械结构和接口都能与现有市场上的产品相匹配。

> MASS-VIEW®系列热式质量流量计

Bronkhorst High-Tech设计的MASS-VIEW®系列产品是基于直接热式质量流量测量原理(无旁路)。使用这种类型的传感器的优点是仪器测量直接质量流量,无需温度和压力校正。此外,相比传统的VA仪表其精度更高,量程比范围更大(高达1:100)。通过去除在流体路径中的玻璃组件达到无视差偏差和更加安全的构造。MASS-VIEW®流量计的满量程范围是0.05至200l_v/min(以空气为基准),压力等级10 bar(g)或150 psi(g)。其自带一个明亮的广角OLED显示屏,能够清晰地显示实际流量(数值和一个柱形图)、总流量和气体类型。该显示功能,使用4向导航按钮,非常容易操作。预配置的气体对于不同的气体无需重新校准,因此降低了使用成本。附加的特性和功能包括各种报警和计数器功能,模拟输出信号,数字接口和2个继电器触点。流量控制可通过一个可选的针型阀实现。这些高质量的针型阀提供平稳和精准的微调。最新一代的MASS-VIEW®产品线的最大革新是加入了一个集成的自动补偿控制器。所需的流量是由针形阀的通常工作方式进行设置,而且任何上游压力变化会得到自动补偿,以确保稳定的恒流。

> MASS-VIEW® 特点

- ◆ 显示明确
 - 实际流量(柱形图和数值)
 - 所需的流量单位
 - 气体类型
 - 累计流量
- ◆ 明亮的广角OLED显示屏
- ◆ 无视觉偏差
- ◆ 不受环境温度和压力的影响。
- ◆ 低压降
- ◆ 流量范围大
- ◆ 快速响应
- ◆ 高精度
- ◆ 信号输出,模拟量(0...5 Vdc)和数字接口

> 数字特性

- ◆ RS232接口和MODBUS ASCII和RTU通讯
- ◆ 可配置的密码保护
- ◆ 报警和计数器功能
- ◆ 多种气体/多种量程范围
- ◆ 预配置的气体
- ◆ 数字校准
- ◆ 免费的软件工具



Bronkhorst®

> 技术规格

参数

精确度	: ± 2% RD for flow > 50% of max. capacity; ± (1% RD + 0.5% FS) on lower flows
重复性	: < 0.2% FS typical
预配置气体	: Air, Ar, N ₂ , O ₂ , CO ₂ , CH ₄ , C ₃ H ₈ , N ₂ O, CO and C ₄ H ₁₀ Air, N ₂ , O ₂ , CO (models MV-101, MV-301 and MV-401) (special models available for H ₂ and Helium)
控制器	: Use a clean and dry gas, filter recommended
标准标定气体	: Air, other gases are converted using our Fluidat® conversion model which will introduce extra inaccuracy
量程比	: up to 1:100
操作压力	: 0 ... 10 bar(g) / 0 ... 150 psi(g)
压力系数	: ± 0.2% RD/bar typical at Air
操作温度	: 0 ... 50°C (32 ... 122°F)
温度系数	: Zero: <0.1% FS/°C, Span: <0.2% RD/°C
安装位置	: < 0.1% FS
响应时间 (t _{63%})	: 2 s

控制器

最小压差	: 1 bar(d) (for models MV-4x5 2 bar(d))
最大压差	: 7 bar(d)
控制精度	: Less than 0,5-1% RD/bar

机械规格

接液 (接液部分)	: Meter: aluminium, Viton® Needle valve: SS316, Viton®, PTFE; (for models MV-3x2 and MV-4xx: Fluorosint®, Brass, Buna N) Controller: membrane Fiber-reinforced nitrile
气体连接(in/out)	: G 1/4" BSPP female thread (compression fittings optional)
重量	: meter/regulator 0.7 kg controller: 1.4 kg

电气规格

电气连接	: 8-pin RJ-45 modular jack
输出	: analog: 0 ... 5 Vdc digital: RS232 / RS485 (Modbus ASCII/RTU)
电源电压	: 15 ... 24 Vdc (+/-10%)
功耗	: approx. 135 mA
最小和最大继电器触点	: switching current 0.5 A, 24 Vdc, one side grounded (0 Vdc power)

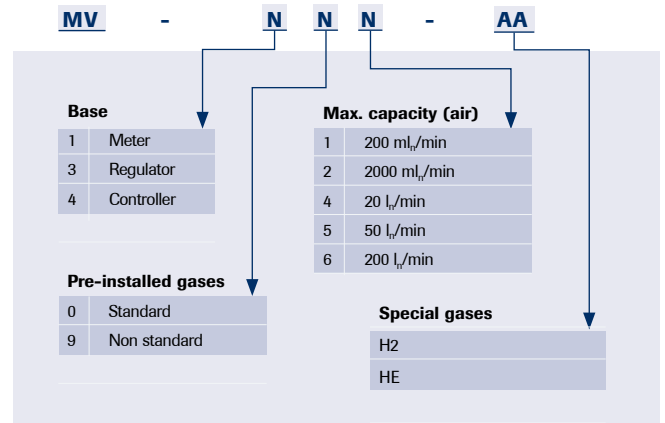
安全性

压力测试	: 21 bar(a) / 300 psi(a)
防护等级	: IP-50
电磁兼容性	: EU declaration

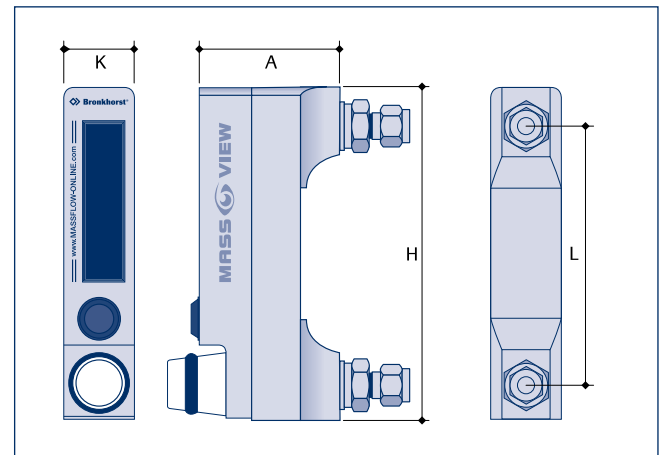
质保期

所有仪表及配件均为从出厂日起3年。
技术规格如有变更，恕不另行通知。

> 选型

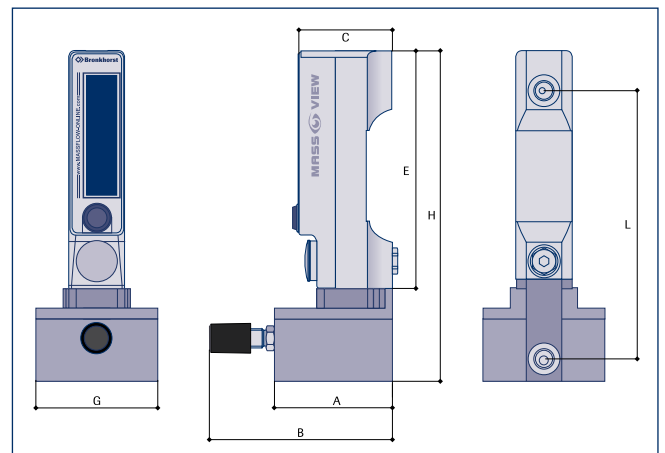


> 尺寸



型号	A	H	K	L
MV-101/102/104/106/191/192/194/196	63	159	38	114
MV-108	75	159	38	114
MV-301/302/304/306/391/392/394/396	63	159	38	114
MV-308	75	159	38	114

Dimensions in mm.



型号	A	B	C	E	G	H	L
MV-401/402/404/405	79	123	63	159	81.5	221	179

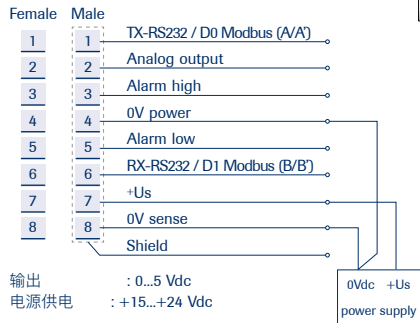
Dimensions in mm.

> 可选适配器 (进口和出口)

公制尺寸	英制尺寸
3 mm OD compression type	1/8" OD compression type
6 mm OD compression type	1/4" OD compression type
12 mm OD compression type	1/2" OD compression type

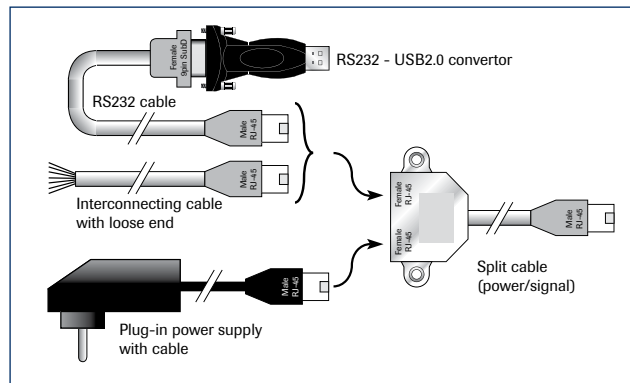
> 电气连接

连接图



> 电缆的选择

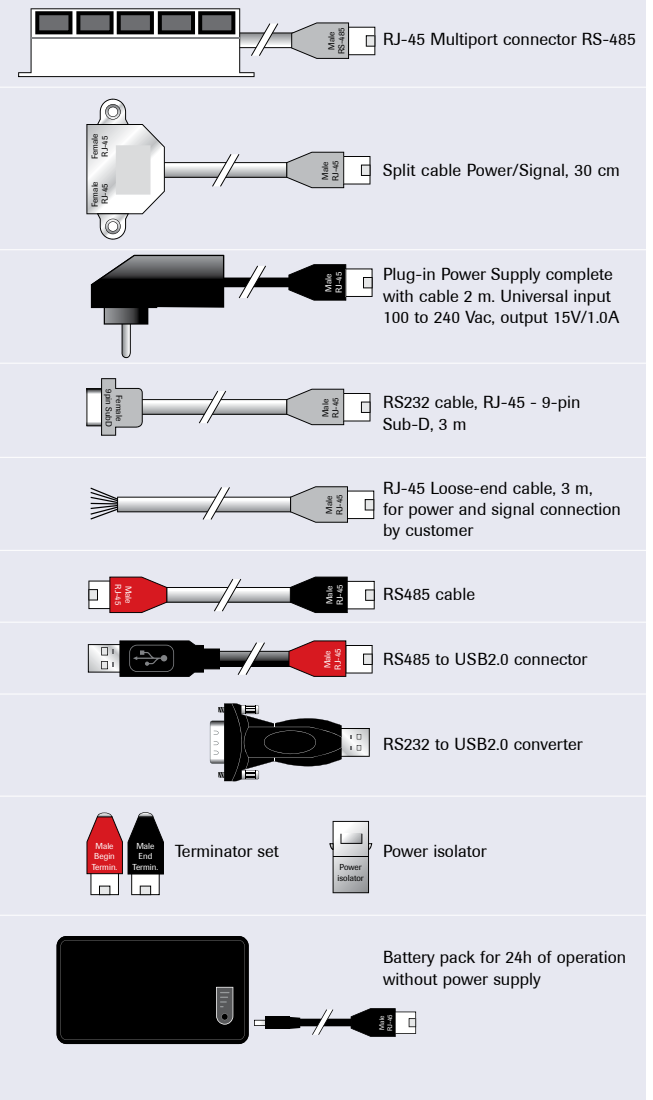
Combinations for separate connection of power and I/O signals.



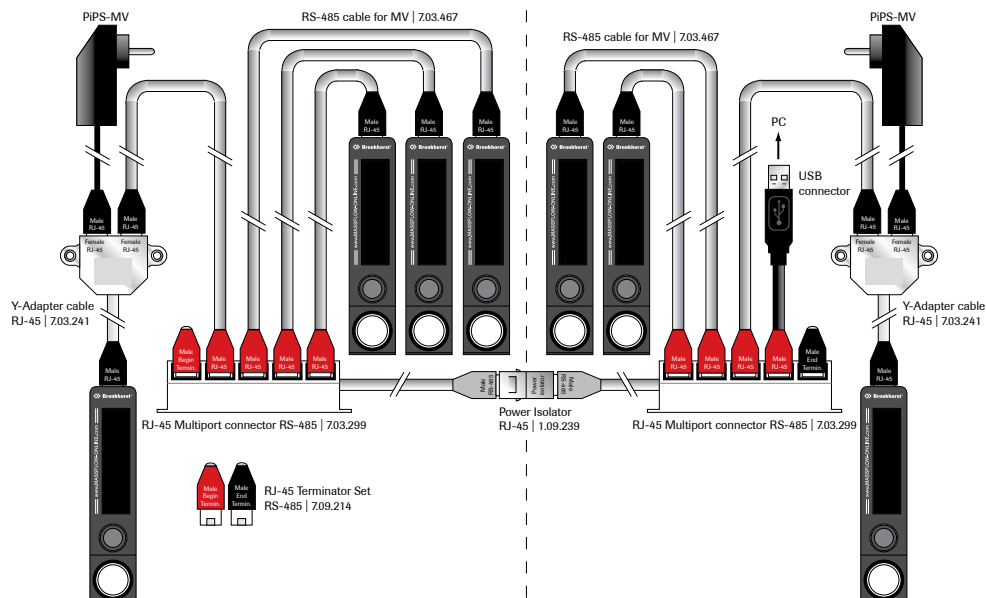
> 配件

以下配件提供了MASS-VIEW®工具选项。

Power supply and electrical connection



Example of 7 MASS-VIEW meters/regulators with RS485 - USB signal connection. Two separated power networks are required due to the maximum power supply of 15 Watt for one PiPS-MV.



> 量程范围

Selectable ranges in I_p /min (SLM)	Air	N ₂	O ₂	CO	Ar	CO ₂	CH ₄	C ₃ H ₈	N ₂ O	C ₂ H ₁₀
MV-101, MV-301										
Range 1 (max.)	0.01 ... 0.2	0.01 ... 0.2	0.01 ... 0.2	0.01 ... 0.2	-	-	-	-	-	-
Range 2	0.01 ... 0.1	0.01 ... 0.1	0.01 ... 0.1	0.01 ... 0.1	-	-	-	-	-	-
Range 3 (min.)	0.01 ... 0.05	0.01 ... 0.05	0.01 ... 0.05	0.01 ... 0.05	-	-	-	-	-	-
MV-102, MV-302										
Range 1 (max.)	0.02 ... 2	0.02 ... 2	0.02 ... 2	0.02 ... 2	0.04 ... 4	0.02 ... 2	0.01 ... 1	0.01 ... 1	0.02 ... 2	0.01 ... 1
Range 2	0.02 ... 1	0.02 ... 1	0.02 ... 1	0.02 ... 1	0.04 ... 2	0.02 ... 1	0.01 ... 0.5	0.01 ... 0.5	0.02 ... 1	0.01 ... 0.5
Range 3	0.02 ... 0.5	0.02 ... 0.5	0.02 ... 0.5	0.02 ... 0.5	0.04 ... 1	0.02 ... 0.5	0.01 ... 0.2	0.01 ... 0.2	0.02 ... 0.5	0.01 ... 0.2
Range 4 (min.)	0.02 ... 0.2	0.02 ... 0.2	0.02 ... 0.2	0.02 ... 0.2	0.04 ... 0.5	0.02 ... 0.2	0.01 ... 0.1	0.01 ... 0.1	0.02 ... 0.2	0.01 ... 0.1
MV-104, MV-304										
Range 1 (max.)	0.2 ... 20	0.2 ... 20	0.2 ... 20	0.2 ... 20	0.4 ... 40	0.2 ... 20	0.1 ... 10	0.1 ... 10	0.2 ... 20	0.1 ... 10
Range 2	0.1 ... 10	0.1 ... 10	0.1 ... 10	0.1 ... 10	0.2 ... 20	0.1 ... 10	0.01 ... 0.5	0.05 ... 5	0.1 ... 10	0.05 ... 5
Range 3	0.05 ... 5	0.05 ... 5	0.05 ... 5	0.05 ... 5	0.1 ... 10	0.05 ... 5	0.01 ... 0.2	0.02 ... 2	0.05 ... 5	0.02 ... 2
Range 4 (min.)	0.04 ... 2	0.04 ... 2	0.04 ... 2	0.04 ... 2	0.08 ... 5	0.04 ... 2	0.01 ... 0.1	0.02 ... 1	0.04 ... 2	0.02 ... 1
MV-106, MV-306										
Range 1 (max.)	2 ... 200	2 ... 200	2 ... 200	2 ... 200	4 ... 400	2 ... 200	1 ... 100	1 ... 100	2 ... 200	1 ... 100
Range 2	1 ... 100	1 ... 100	1 ... 100	1 ... 100	2 ... 200	1 ... 100	0.5 ... 50	0.5 ... 50	1 ... 100	0.5 ... 50
Range 3	0.5 ... 50	0.5 ... 50	0.5 ... 50	0.5 ... 50	1 ... 100	0.5 ... 50	0.2 ... 20	0.2 ... 20	0.5 ... 50	0.2 ... 20
Range 4 (min.)	0.4 ... 20	0.4 ... 20	0.4 ... 20	0.4 ... 20	0.8 ... 50	0.4 ... 20	0.2 ... 10	0.2 ... 10	0.4 ... 20	0.2 ... 10
MV-108, MV-308										
Range 1 (max.)	5 ... 500	5 ... 500	5 ... 500	5 ... 500	10 ... 1000	5 ... 500	2.5 ... 250	2.5 ... 250	5 ... 500	2.5 ... 250
Range 2	2 ... 200	2 ... 200	2 ... 200	2 ... 200	5 ... 500	2 ... 200	1.25 ... 125	1.25 ... 125	2 ... 200	1.25 ... 125
Range 3	1 ... 100	1 ... 100	1 ... 100	1 ... 100	2 ... 200	1 ... 100	0.625 ... 62.5	0.625 ... 62.5	1 ... 100	0.625 ... 62.5
Range 4 (min.)	1 ... 50	1 ... 50	1 ... 50	1 ... 50	2 ... 100	1 ... 50	0.5 ... 25	0.5 ... 25	1 ... 50	0.5 ... 25
MV-401										
Range 1 (max.)	0.02 ... 0.2	0.02 ... 0.2	0.02 ... 0.2	0.02 ... 0.2	-	-	-	-	-	-
Range 2	0.02 ... 0.1	0.02 ... 0.1	0.02 ... 0.1	0.02 ... 0.1	-	-	-	-	-	-
Range 3 (min.)	0.02 ... 0.05	0.02 ... 0.05	0.02 ... 0.05	0.02 ... 0.05	-	-	-	-	-	-
MV-402										
Range 1 (max.)	0.02 ... 2	0.02 ... 2	0.02 ... 2	0.02 ... 2	0.04 ... 4	0.02 ... 2	0.01 ... 1	0.01 ... 1	0.02 ... 2	0.01 ... 1
Range 2	0.02 ... 1	0.02 ... 1	0.02 ... 1	0.02 ... 1	0.04 ... 2	0.02 ... 1	0.01 ... 0.5	0.01 ... 0.5	0.02 ... 1	0.01 ... 0.5
Range 3	0.02 ... 0.5	0.02 ... 0.5	0.02 ... 0.5	0.02 ... 0.5	0.04 ... 1	0.02 ... 0.5	0.01 ... 0.2	0.01 ... 0.2	0.02 ... 0.5	0.01 ... 0.2
Range 4 (min.)	0.02 ... 0.2	0.02 ... 0.2	0.02 ... 0.2	0.02 ... 0.2	0.04 ... 0.5	0.02 ... 0.2	0.01 ... 0.1	0.01 ... 0.1	0.02 ... 0.2	0.01 ... 0.1
MV-404										
Range 1 (max.)	0.2 ... 20	0.2 ... 20	0.2 ... 20	0.2 ... 20	0.4 ... 20	0.2 ... 20	0.1 ... 10	0.1 ... 10	0.2 ... 20	0.1 ... 10
Range 2	0.1 ... 10	0.1 ... 10	0.1 ... 10	0.1 ... 10	0.2 ... 20	0.1 ... 10	0.01 ... 0.5	0.05 ... 5	0.1 ... 10	0.05 ... 5
Range 3	0.05 ... 5	0.05 ... 5	0.05 ... 5	0.05 ... 5	0.1 ... 10	0.05 ... 5	0.01 ... 0.2	0.02 ... 2	0.05 ... 5	0.02 ... 2
Range 4 (min.)	0.04 ... 2	0.04 ... 2	0.04 ... 2	0.04 ... 2	0.08 ... 5	0.04 ... 2	0.01 ... 0.1	0.02 ... 1	0.04 ... 2	0.02 ... 1
MV-405										
Range 1 (max.)	0.5 ... 50	0.5 ... 50	0.5 ... 50	0.5 ... 50	-	-	-	-	-	-
Range 2	0.2 ... 20	0.2 ... 20	0.2 ... 20	0.2 ... 20	-	-	-	-	-	-
Range 3	0.1 ... 10	0.1 ... 10	0.1 ... 10	0.1 ... 10	-	-	-	-	-	-
Range 4 (min.)	0.05 ... 5	0.05 ... 5	0.05 ... 5	0.05 ... 5	-	-	-	-	-	-

> H₂ and He 的量程范围

Selectable ranges in I_p /min (SLM)	H ₂
MV-191-H2, MV-391-H2	
Range 1 (max.)	0.02 ... 0.2
Range 2	0.02 ... 0.1
Range 3	0.02 ... 0.05
MV-192-H2, MV-392-H2	
Range 1 (max.)	0.05 ... 1
Range 2	0.05 ... 0.5
Range 3	0.05 ... 0.2
Range 4 (min.)	0.05 ... 0.1
MV-194-H2, MV-394-H2	
Range 1 (max.)	0.1 ... 10
Range 2	0.1 ... 5
Range 3	0.1 ... 2
Range 4 (min.)	0.1 ... 1
MV-196-H2, MV-396-H2	
Range 1 (max.)	1 ... 100
Range 2	0.5 ... 50
Range 3	0.2 ... 20
Range 4 (min.)	0.2 ... 10

Selectable ranges in I_p /min (SLM)	He
MV-191-HE, MV-391-HE	
Range 1 (max.)	0.02 ... 0.2
Range 2	0.02 ... 0.1
Range 3	0.02 ... 0.05
MV-192-HE, MV-392-HE	
Range 1 (max.)	0.05 ... 2
Range 2	0.05 ... 1
Range 3	0.05 ... 0.5
Range 4 (min.)	0.05 ... 0.2
MV-194-HE, MV-394-HE	
Range 1 (max.)	0.2 ... 20
Range 2	0.1 ... 10
Range 3	0.1 ... 5
Range 4 (min.)	0.1 ... 2
MV-196-HE, MV-396-HE	
Range 1 (max.)	1 ... 100
Range 2	0.5 ... 50
Range 3	0.2 ... 20
Range 4 (min.)	0.2 ... 10

> 应用

MASS-VIEW® 在不同领域的应用

- ◆ 燃烧器控制 (炉结构)
- ◆ 焊接 (焊接气体监测)
- ◆ 泄漏测量 (质量, 环境)
- ◆ 涂料 (设备施工)
- ◆ 气体环境调控 (生物技术)
- ◆ 气体消耗量测量 (医院)
- ◆ 测试设备 (生产维护)
- ◆ 气体混合物的现场制备
- ◆ 流量监测 (实验室)
- ◆ 切割 (钢板)
- ◆ 成本中心计费
- ◆ 分析仪器
- ◆ 曝气 (食品, 冰淇淋/食用油)
- ◆ 气体覆盖 (食物)
- ◆ 发酵 (食品, 生物技术, 制药公司)

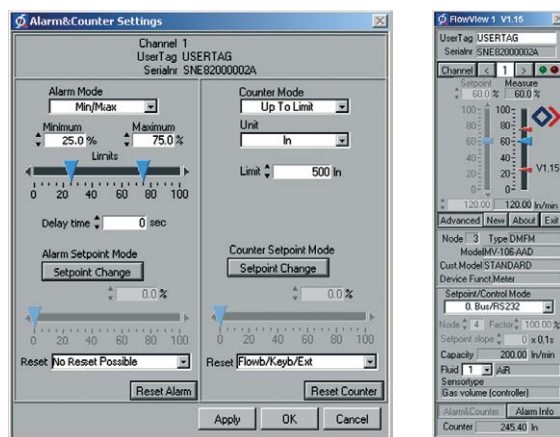


> Bronkhorst FlowWare, 免费软件工具

Bronkhorst High-Tech 提供以下软件来帮助客户在电脑中安装和操作。

FlowDDE : 数字仪表和Windows软件之间的接口界面

FlowPlot : 监测和优化数字式仪表的软件工具



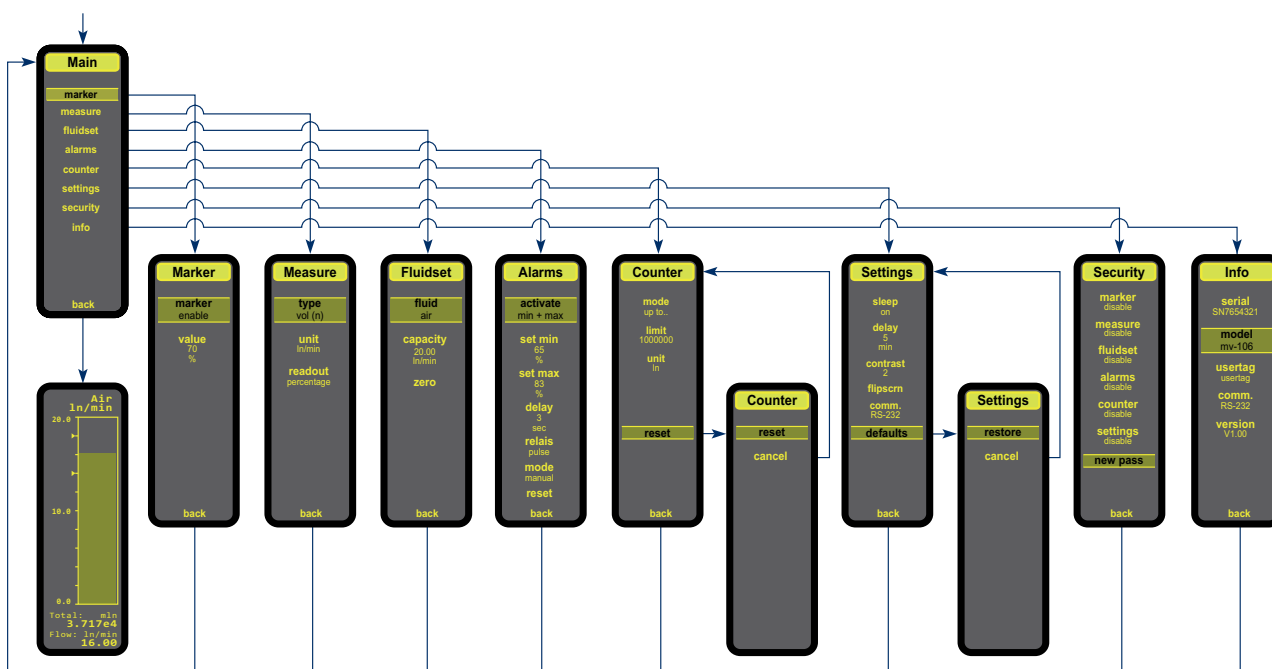
FlowView : 用于Bronkhorst数字仪表操作的软件工具

> 显示菜单按钮

4路导航按钮提供了一个友好的用户界面, 例如调零功能, 选择预安装气体在安装列表里, 单位工程设置、报警功能(最小/最大/计数器和计数器功能限制)。提供密码保护以防止未经授权的更改。下面的MASS-VIEW®菜单功能概要说明本产品线的多功能性。



这些软件工具是我们的MASS-VIEW®系列和其他Bronkhorst产品免费提供和下载的。



Mass Flow ONLINE

Flow Meters / Regulators / Controllers

MASS VIEW

Thermal Mass Flow Meters, Regulators & Controllers for gases



- > Bright, wide-angle OLED display
- > Flow ranges:
 - from 10 ... 200 ml_n/min (sccm)
 - up to 2 ... 200 l_n/min (SLM) (air equivalent)
- > Output: RS232, Modbus/RS485 or analog
- > Multi Gas / Multi Range (10 pre-installed gases)

FLOW ADJUST

Standard and high resolution manual control valves for extremely precise control in low flow

Standard Resolution

- > Compact needle valve in aluminium housing
- > 7-turn standard resolution flow adjustment
- > Valve knob included for easy adjustment
- > Two M4 female threads for solid fixation
- > Suitable for gases and liquids
- > Leak-free valve

High Resolution (additional to SR)

- > Non-rotating stainless steel valve pin
- > Valve pin o-ring guarantees positive shut-off without stem damage
- > Self-lubricating orifice liner assures long life
- > smooth, non-reversing flow characteristics and 15-turn high resolution



与MASS-VIEW相关的文档



布琅轲德特 (上海) 微信公众平台



布琅轲德特 (上海) 官方旗舰店

MAG VIEW

Electromagnetic flowmeters for liquids



- > Insensitive to contaminated liquids
- > No mechanical wear
- > Fast response
- > Flow ranges from 0.1 ... 2 l/min up to 5 ... 250 l/min

SONIC VIEW

Ultrasonic flow sensor for measuring water and aqueous solutions



- > No mechanical wear
- > Just one chemically resistant wetted part (stainless steel)
- > Flow ranges from 1,5 ... 30 l/h up to 5 ... 110 l/min

FUEL VIEW

Fuel consumption and operating time meter with electronic counter



- > Built-in fuel filter
- > Suitable for Diesel, heating fuel, engine oil and other comparable liquids
- > Flow ranges from 1 ... 50 l/h up to 10 ... 500 l/h

LIQUI VIEW Base

Vortex meter for monitoring low viscosity, water-like liquids



- > No moving parts
- > Smart and lightweight
- > Low pressure drop
- > Wide flow ranges
- > Fast response
- > Suitable for dirty water
- > Sustainable product design



Bronkhorst®



Bronkhorst®
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