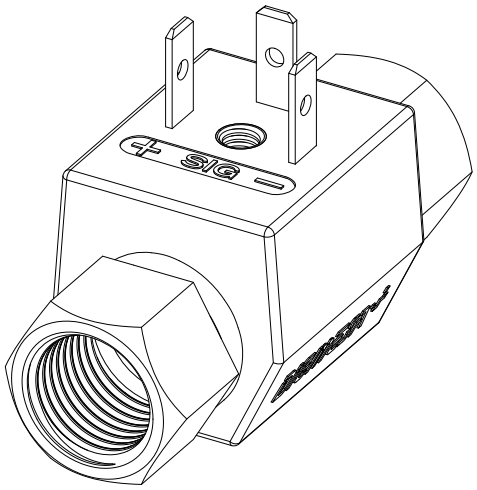
DATA SHEET



DIGMESA
SWITZERLAND

nano brass

Part number: 9NB-01xx/01x

Digmesa AG, Keltenstrasse 31, CH–2563 Ipsach / Switzerland
Phone +41 (32) 332 77 77, Fax +41 (32) 332 77 88
www.digmesa.com

General Description

The Flow Sensor nano brass is a general-purpose device. It is employed for measuring, regulating or metering and guarantees most precise measurement of fluid quantities. In addition, a pulse generator integrated into the flowmeter guarantees a practically unlimited useful life.

Specific applications: Straight flow path, compact design.

Approvals / Standards

EN55014-1:00+A1:01+A2:02, EN61000-6-3:01+A11:04 , IEC61000-6-3:06(ed.2.0), EN61000-3-2:06, IEC61000-3-2:05(ed.3.0), EN61000-3-3:95+A1:01+A2:05, IEC61000-3-3:94+A1:01+A2:05(Cons.ed 1.2), EN55014-2:97+A1:01, EN61000-6-1:01, IEC61000-6-1:05(ed.2), LFGB (EU 1935 /2004, EU10/2011)

Materials (wetted)

Housing:	Lead free brass (CW510L)
Bearing :	PEEK
Nozzle:	PEEK
Turbine:	PVDF
Magnete:	Ceramic Sr Fe O (in contact with medium)

Technical data:

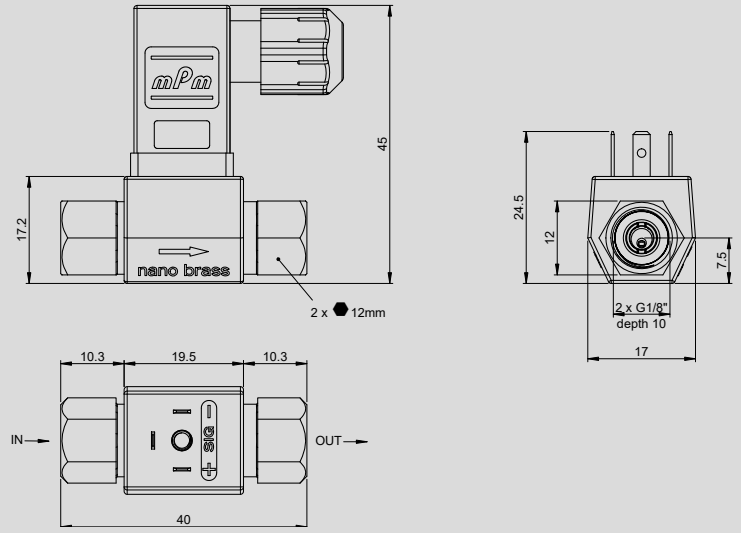
Linear range:	from 0.035 - 0.70 l/min depending on the nozzle size
Durability:	min. 100'000 liters at max. flow (page 5-7)
Measuring accuracy:	+/- 2.0% *
Temperature range:	+0°C to +100°C 32°F to 212°F
Pressure range:	20 bar at 20°C 290 psi /68°F
Mounting position:	freely selectable
Nozzle size:	Ø 1.0mm, 1.2mm, 1.4mm

* Accuracy in the linear range for individually calibrated equipment

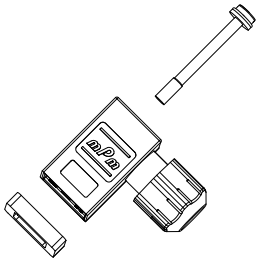
Electrical connection ratings:

Power supply:	+2.8 to +24 VDC
Consumption:	<8 mA
Signal connection:	Open collector, NPN
Signal voltage:	0 VDC GND (saturation <0.7 V)
Signal load:	max. 20 mA
Leakage current:	max. 10 µA
Connections:	3-pin 2.8 x 0.5 mm
Signal:	Square-wave output
Duty Cycle:	~50%

Dimensions in mm:



Options: 3-pin valve connector
Item number: 941-0010/3



RESISTANCE

Special regulations which must be complied with by the flow sensor manufacturer apply to each country, e.g. CE, NSF, FDA and SK. The various media flowing through the flow sensor differ from application to application. You are advised to enquire with the medium manufacturer as to whether the entire installation and the flow sensor are resistant to the medium itself (see Material)!

ELECTRONIC

DIGMESA electronic circuitry is always designed for operation with DIGMESA flow sensors. Please note the following if connecting to other electronic circuitry:

- The flow sensor does not supply an output voltage but switches the signal terminal to 0 V ground (actuated) or leaves it open (non-actuated)
- There must be a pull-up resistor between power supply + and signal depending on electronic circuitry!

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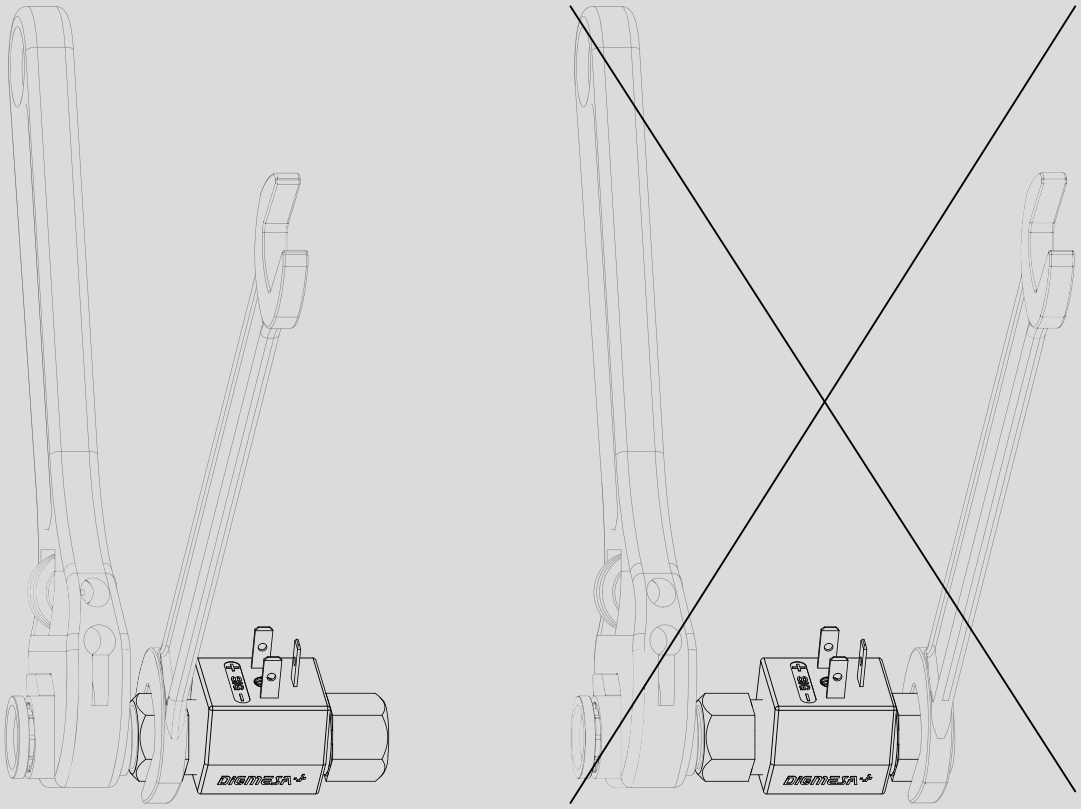
Installation instruction



Important:
Fittings should be mounted torsion-free, max. 10 Nm torque!

Drying and/or operating with compressed air destroys the flow sensor!

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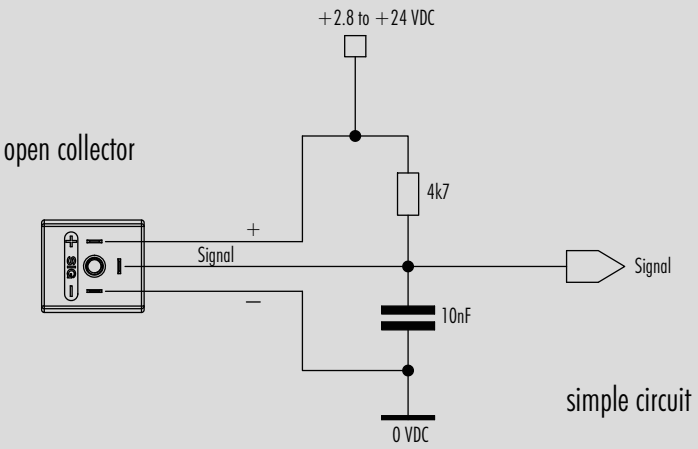
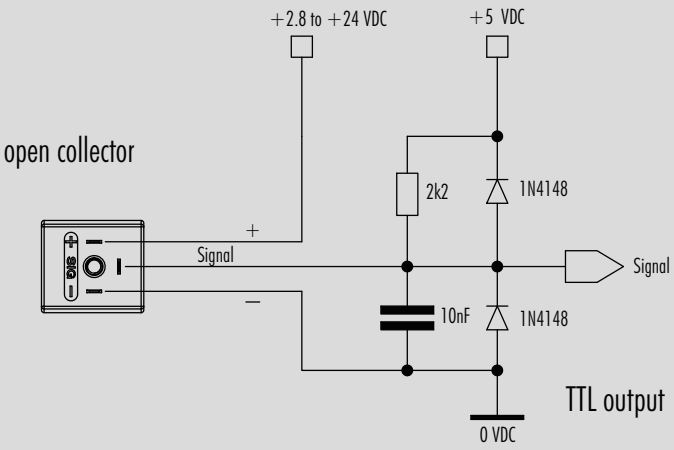
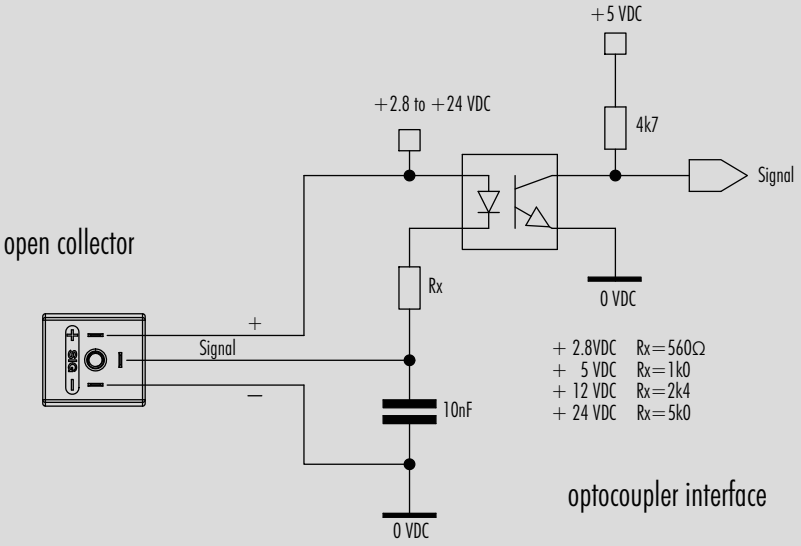
Interface Connection: Examples Open collector







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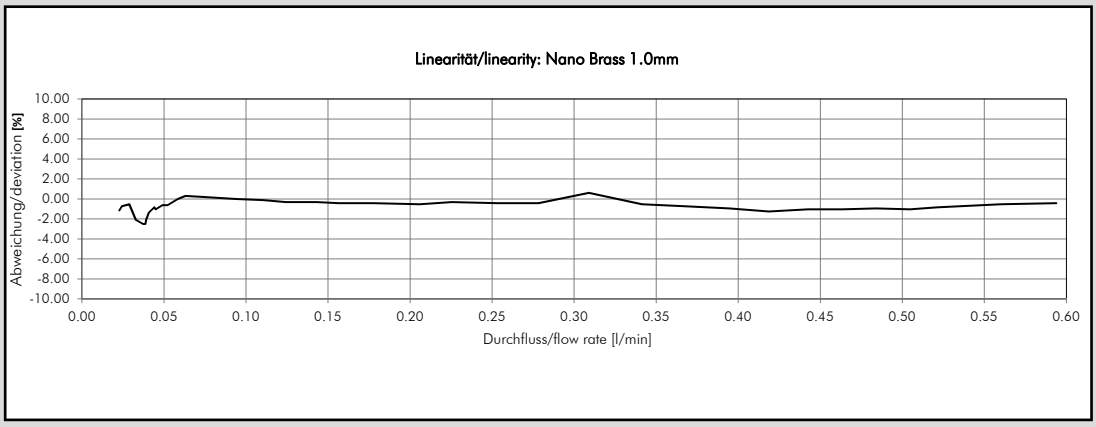
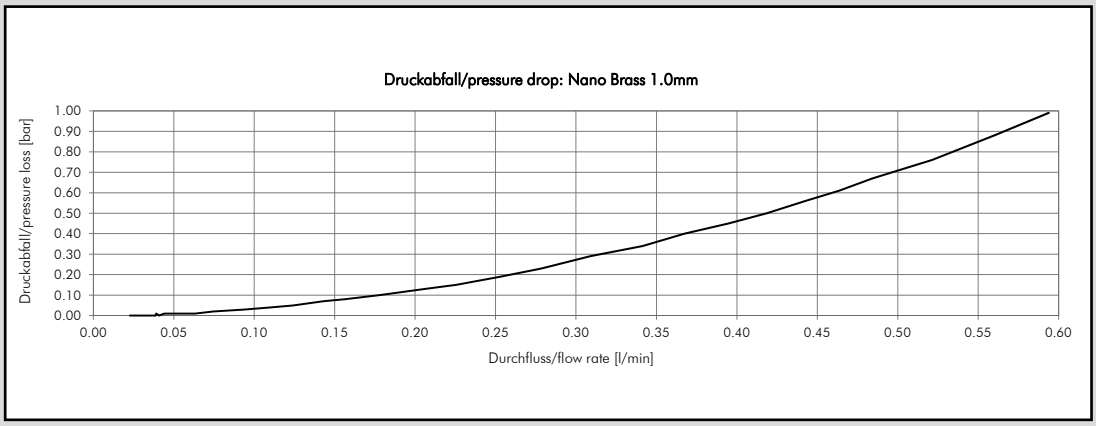
Measurement Curve nano brass Ø1.0mm





Medium: Water / Pressure: 3.5 bar

#9NB-0100/01 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	2'494	0.40	0.035	0.40	~1.4 / 17

#9NB-0100/01A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	39'900	0.025	0.035	0.40	~23 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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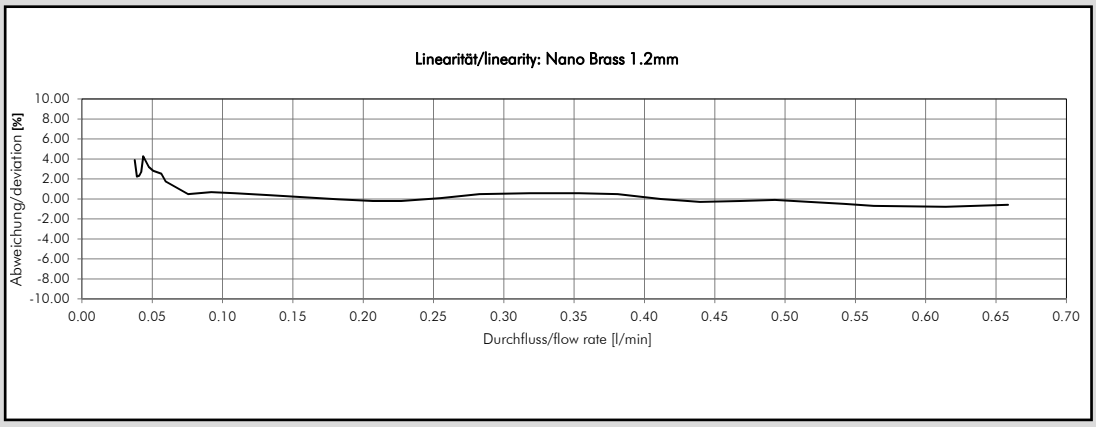
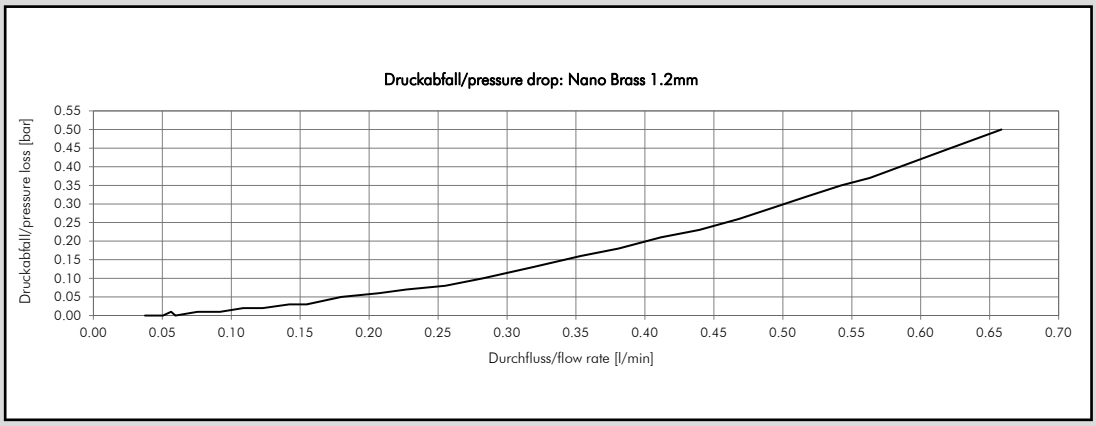
Measurement Curve nano brass Ø1.2mm





Medium: Water / Pressure: 3.5 bar

#9NB-0120/01 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	1'944	0.51	0.05	0.50	~1.6 / 17

#9NB-0120/01A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	31'100	0.032	0.05	0.50	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
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- Do not load electrical contacts mechanically
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- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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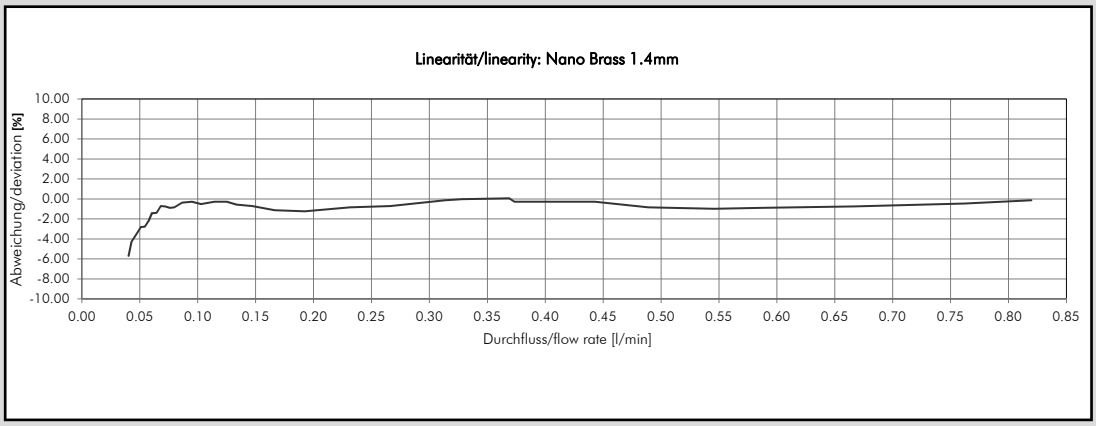
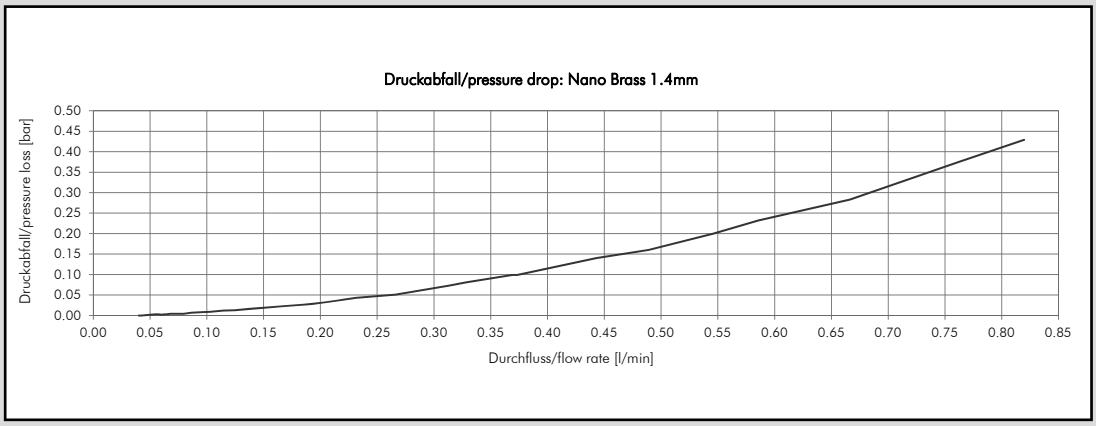
Measurement Curve nano brass Ø1.4mm





Medium: Water / Pressure: 3.5 bar

#9NB-0140/01 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	1'440	0.69	0.06	0.70	~1.6 / 17

#9NB-0140/01A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	23'040	0.043	0.06	0.70	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
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- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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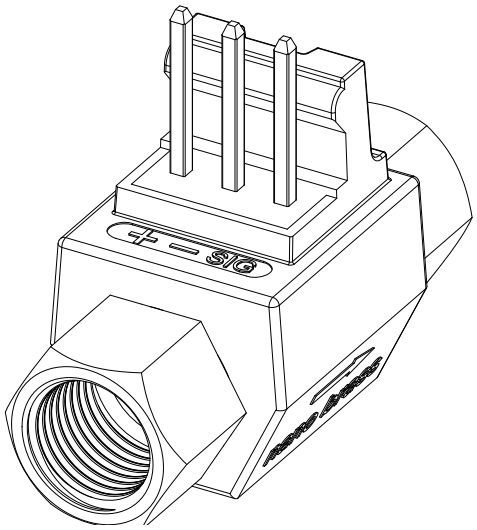
DATA SHEET



DIGMESA
SWITZERLAND

nano brass

Part number: 9NB-01xx/03x

Digmesa AG, Keltenstrasse 31, CH–2563 Ipsach / Switzerland
Phone +41 (32) 332 77 77, Fax +41 (32) 332 77 88
www.digmesa.com

General Description

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Specific applications: Straight flow path, compact design.

Approvals / Standards

EN55014-1:00+A1:01+A2:02, EN61000-6-3:01+A11:04 , IEC61000-6-3:06(ed.2.0), EN61000-3-2:06, IEC61000-3-2:05(ed.3.0), EN61000-3-3:95+A1:01+A2:05, IEC61000-3-3:94+A1:01+A2:05(Cons.ed 1.2), EN55014-2:97+A1:01, EN61000-6-1:01, IEC61000-6-1:05(ed.2), LFGB (EU 1935 /2004, EU10/2011)

Materials (wetted)

Housing:	Lead free brass (CW510L)
Bearing :	PEEK
Nozzle:	PEEK
Turbine:	PVDF
Magnete:	Ceramic Sr Fe O (in contact with medium)

Technical data:

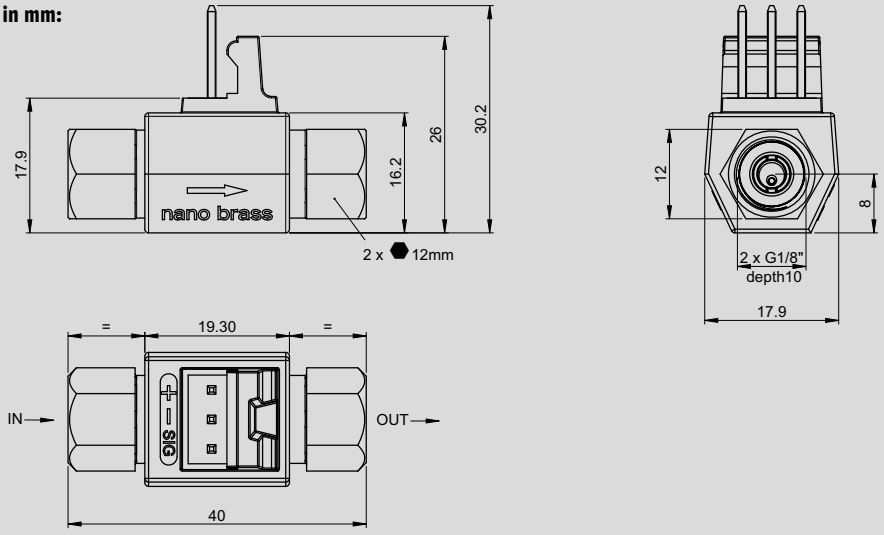
Linear range:	from 0.035 - 0.70 l/min depending on the nozzle size
Durability:	min. 100'000 liters at max. flow (page 5-7)
Measuring accuracy:	+/- 2.0% *
Temperature range:	+0°C to +100°C 32°F to 212°F
Pressure range:	20 bar at 20°C 290 psi /68°F
Mounting position:	freely selectable
Nozzle size:	Ø 1.0mm, 1.2mm, 1.4mm

* Accuracy in the linear range for individually calibrated equipment

Electrical connection ratings:

Power supply:	+2.8 to +24 VDC
Consumption:	<8 mA
Signal connection:	Open collector, NPN
Signal voltage:	0 VDC GND (saturation <0.7 V)
Signal load:	max. 20 mA
Leakage current:	max. 10 µA
Connections:	PANCON MAS-CON 156 MLSS
Signal:	Square-wave output
Duty Cycle:	~50%

Dimensions in mm:



RESISTANCE

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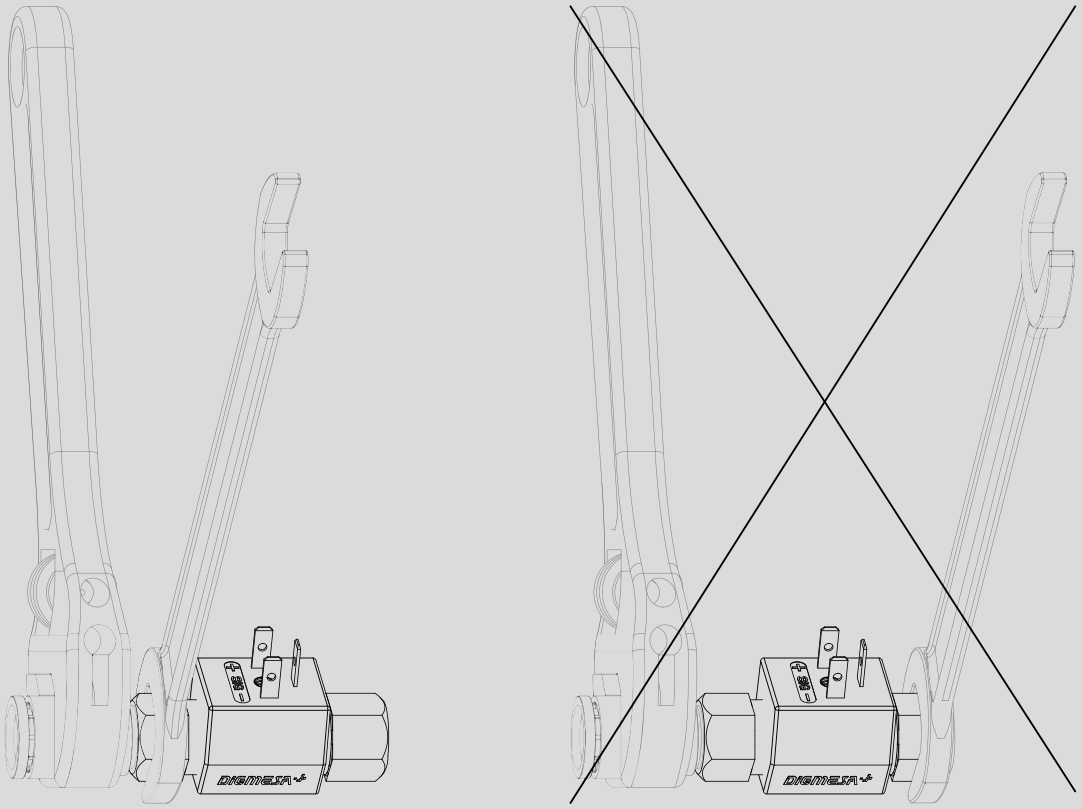
Installation instruction



Important:
Fittings should be mounted torsion-free, max. 10 Nm torque!

Drying and/or operating with compressed air destroys the flow sensor!

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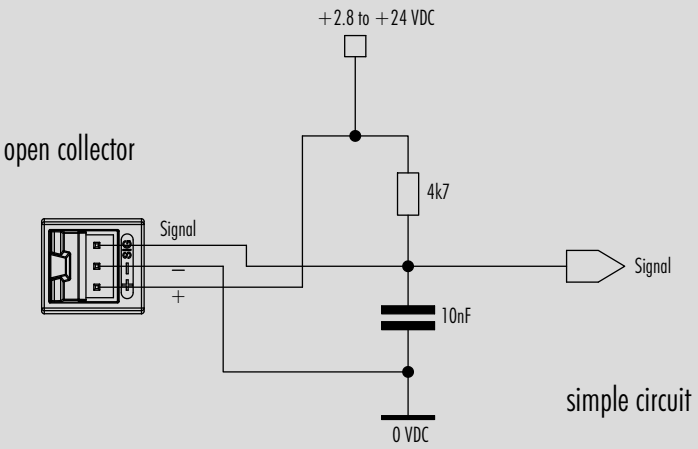
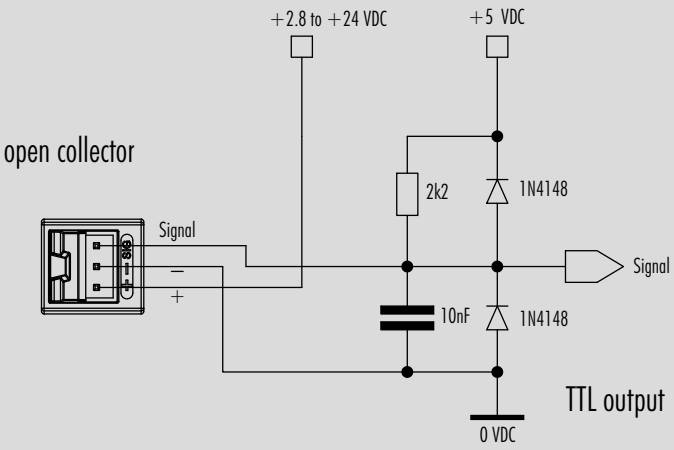
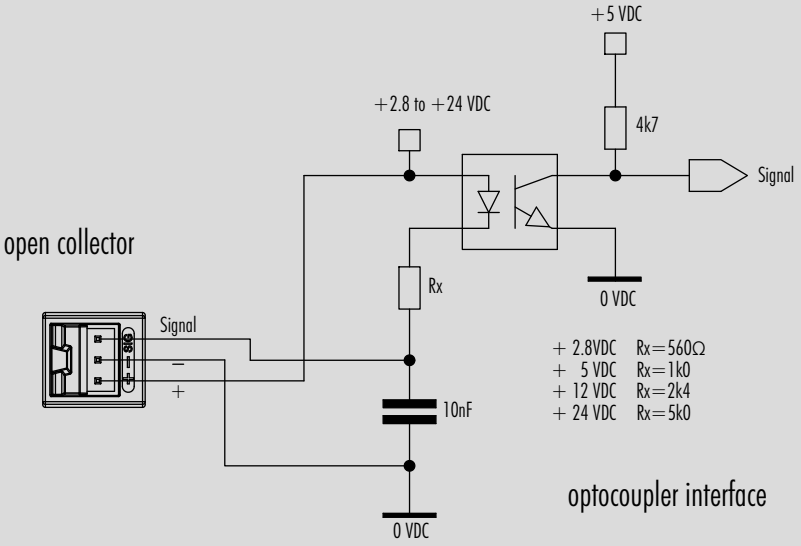
Interface Connection: Examples Open collector







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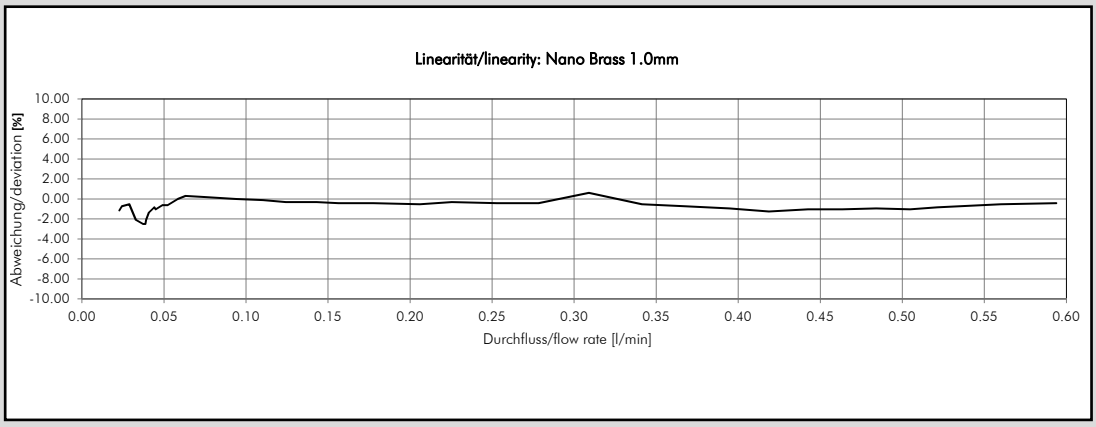
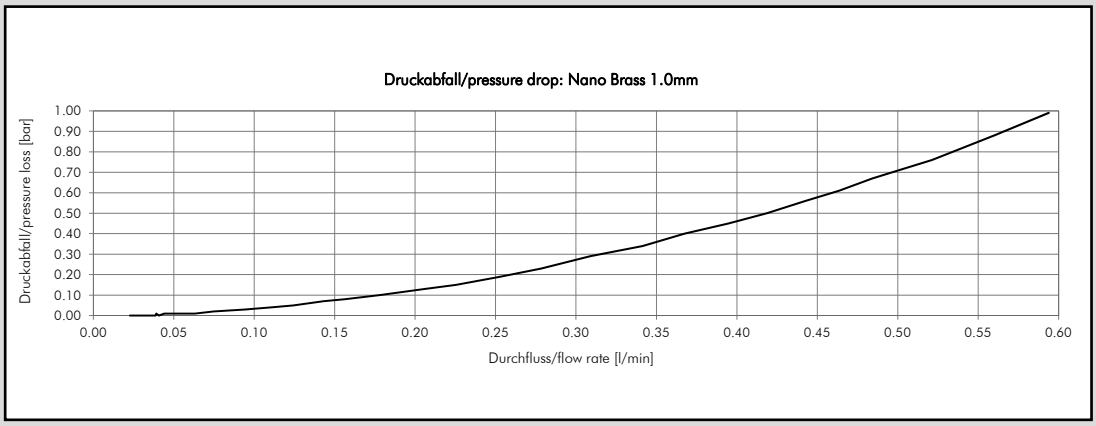
Measurement Curve nano brass Ø1.0mm





Medium: Water / Pressure: 3.5 bar

#9NB-0100/03 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	2'494	0.40	0.035	0.40	~1.4 / 17

#9NB-0100/03A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	39'900	0.025	0.035	0.40	~23 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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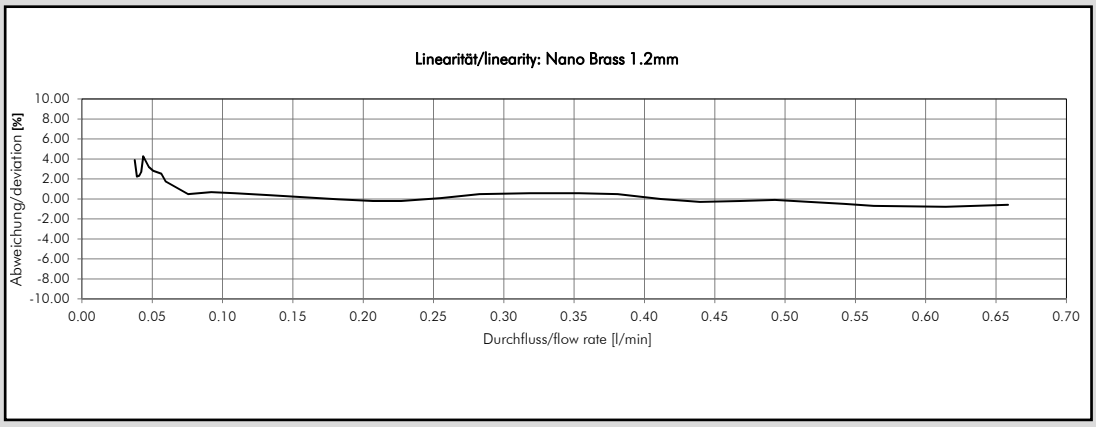
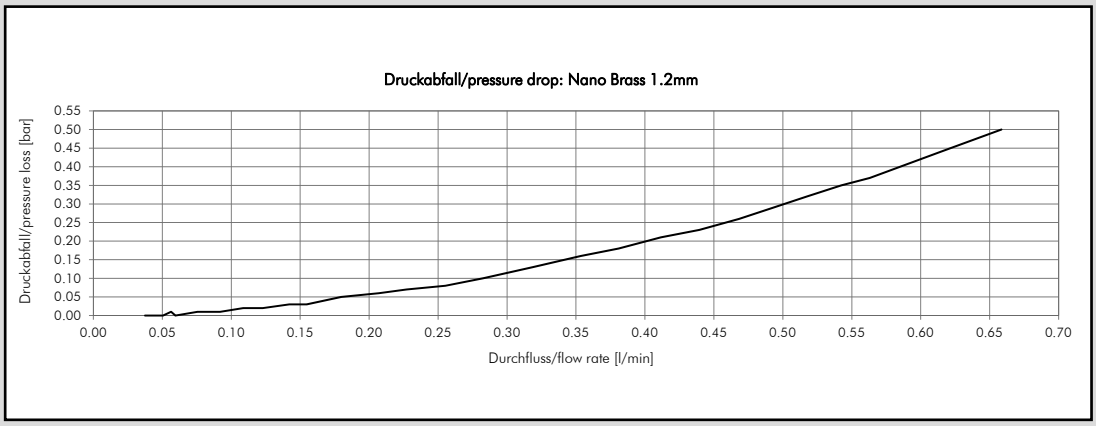
Measurement Curve nano brass Ø1.2mm





Medium: Water / Pressure: 3.5 bar

#9NB-0120/03 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	1'944	0.51	0.05	0.50	~1.6 / 17

#9NB-0120/03A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	31'100	0.032	0.05	0.50	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
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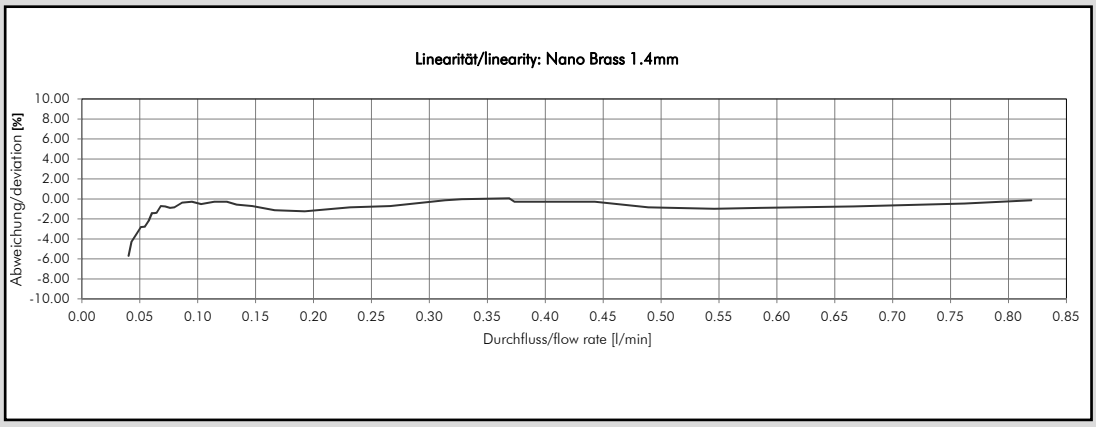
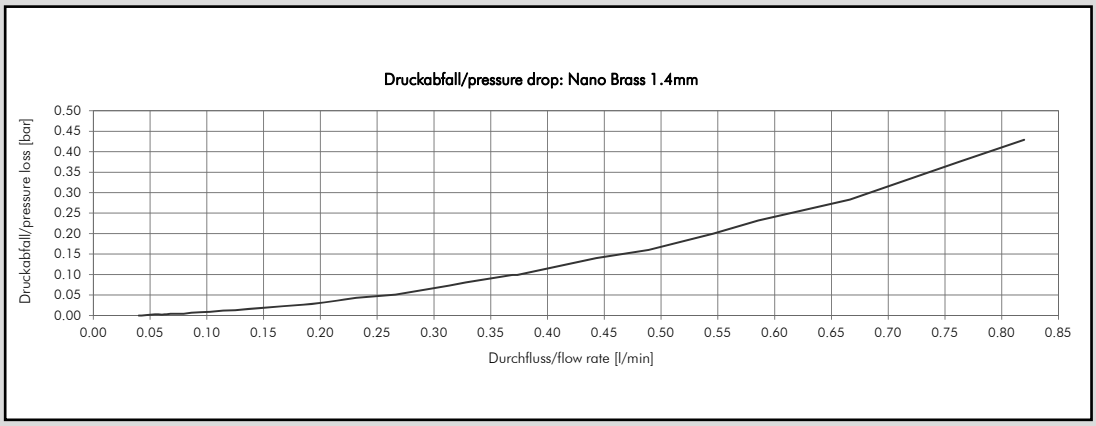
Measurement Curve nano brass Ø1.4mm





Medium: Water / Pressure: 3.5 bar

#9NB-0140/03 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	1'440	0.69	0.06	0.70	~1.6 / 17

#9NB-0140/03A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	23'040	0.043	0.06	0.70	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
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- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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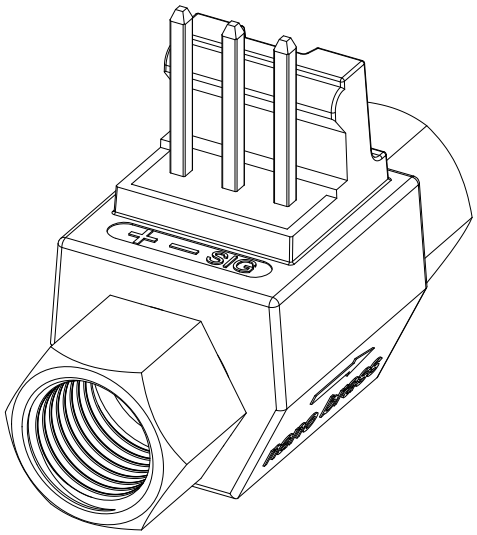
DATA SHEET



DIGMESA
SWITZERLAND

nano brass

Part number: 9NB-11xx/03x

Digmesa AG, Keltenstrasse 31, CH–2563 Ipsach / Switzerland
Phone +41 (32) 332 77 77, Fax +41 (32) 332 77 88
www.digmesa.com

General Description

The Flow Sensor nano brass is a general-purpose device. It is employed for measuring, regulating or metering and guarantees most precise measurement of fluid quantities. In addition, a pulse generator integrated into the flowmeter guarantees a practically unlimited useful life.

Specific applications: Straight flow path, compact design.

Approvals / Standards

EN55014-1:00+A1:01+A2:02, EN61000-6-3:01+A11:04 , IEC61000-6-3:06(ed.2.0), EN61000-3-2:06, IEC61000-3-2:05(ed.3.0), EN61000-3-3:95+A1:01+A2:05, IEC61000-3-3:94+A1:01+A2:05(Cons.ed 1.2), EN55014-2:97+A1:01, EN61000-6-1:01, IEC61000-6-1:05(ed.2), LFGB (EU 1935 /2004, EU10/2011)

Materials (wetted)

Housing:	Lead free brass (CW510L)
Bearing :	PEEK
Nozzle:	PEEK
Turbine:	PVDF
Magnete:	Ceramic Sr Fe O (in contact with medium)

Technical data:

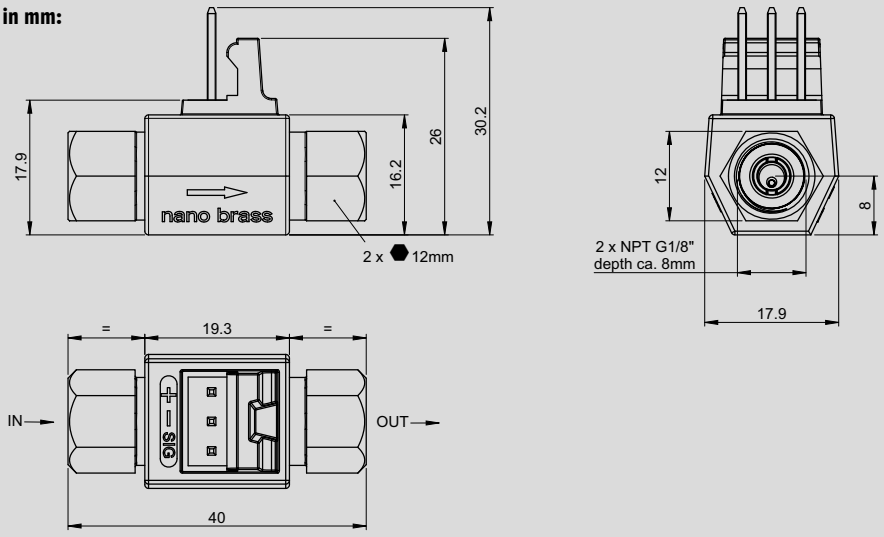
Linear range:	from 0.035 - 0.70 l/min depending on the nozzle size
Durability:	min. 100'000 liters at max. flow (page 5-7)
Measuring accuracy:	+/- 2.0% *
Temperature range:	+0°C to +100°C 32°F to 212°F
Pressure range:	20 bar at 20°C 290 psi /68°F
Mounting position:	freely selectable
Nozzle size:	Ø 1.0mm, 1.2mm, 1.4mm

* Accuracy in the linear range for individually calibrated equipment

Electrical connection ratings:

Power supply:	+2.8 to +24 VDC
Consumption:	<8 mA
Signal connection:	Open collector, NPN
Signal voltage:	0 VDC GND (saturation <0.7 V)
Signal load:	max. 20 mA
Leakage current:	max. 10 µA
Connections:	PANCON MAS-CON 156 MLSS
Signal:	Square-wave output
Duty Cycle:	~50%

Dimensions in mm:



RESISTANCE

Special regulations which must be complied with by the flow sensor manufacturer apply to each country, e.g. CE, NSF, FDA and SK. The various media flowing through the flow sensor differ from application to application. You are advised to enquire with the medium manufacturer as to whether the entire installation and the flow sensor are resistant to the medium itself (see Material)!

ELECTRONIC

DIGMESA electronic circuitry is always designed for operation with DIGMESA flow sensors. Please note the following if connecting to other electronic circuitry:

- The flow sensor does not supply an output voltage but switches the signal terminal to 0 V ground (actuated) or leaves it open (non-actuated)
- There must be a pull-up resistor between power supply + and signal depending on electronic circuitry!

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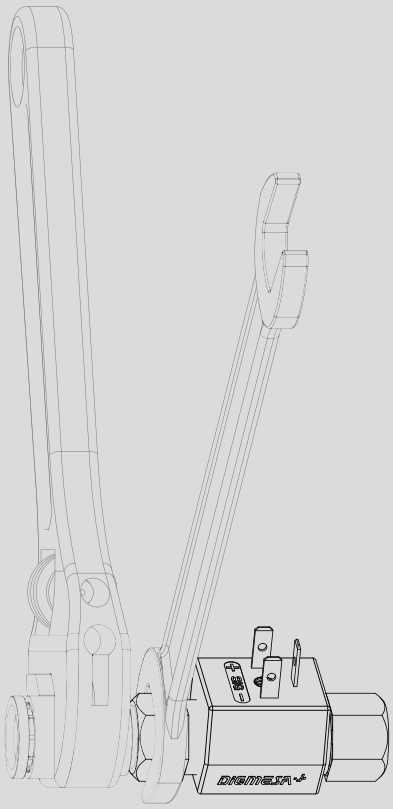
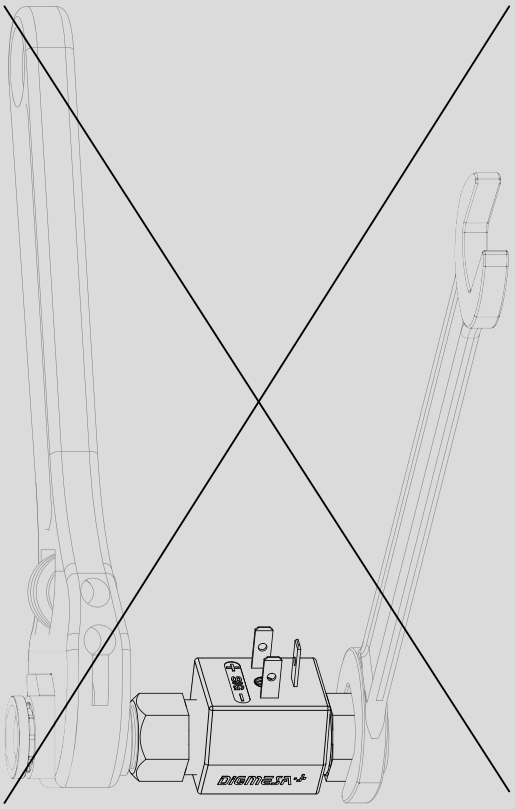
Installation instruction





Important:
Fittings should be mounted torsion-free, max. 10 Nm torque!

Drying and/or operating with compressed air destroys the flow sensor!

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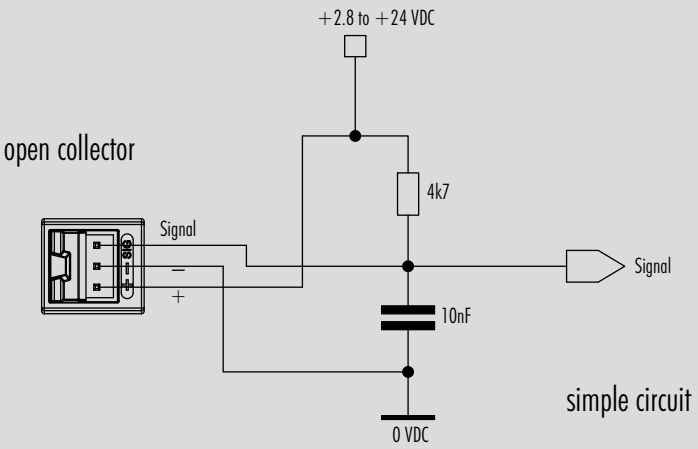
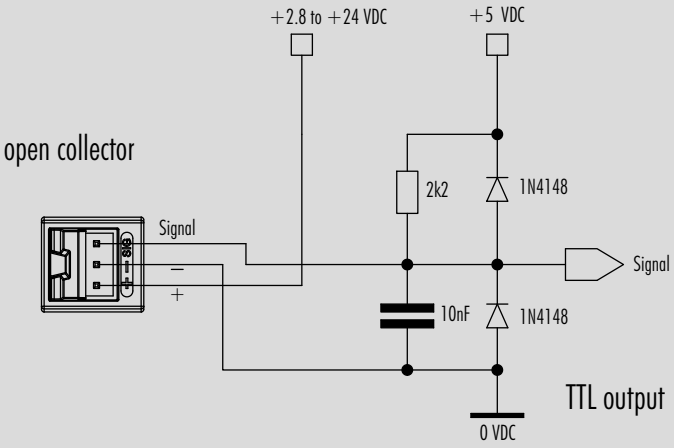
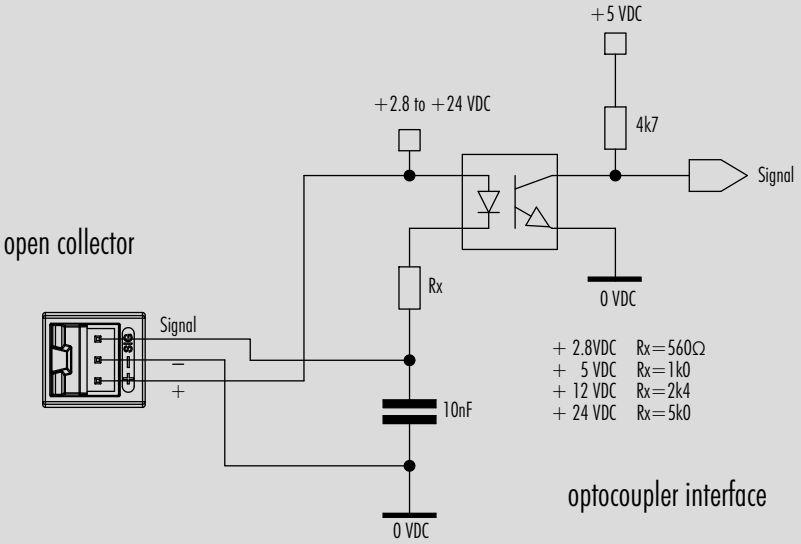
Interface Connection: Examples Open collector







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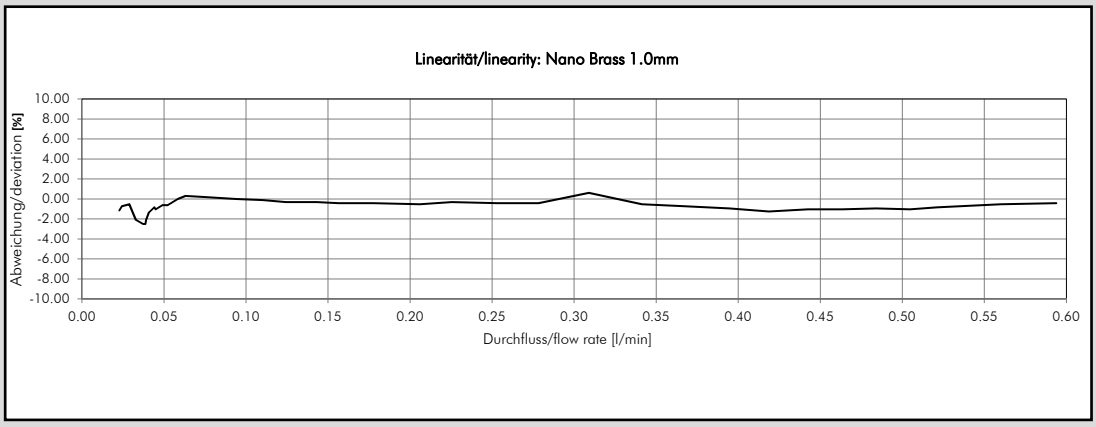
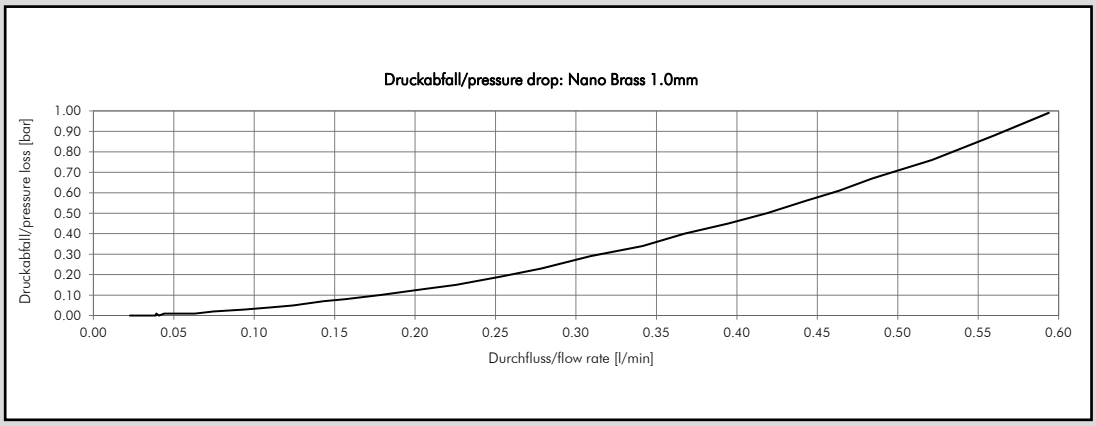
Measurement Curve nano brass Ø1.0mm





Medium: Water / Pressure: 3.5 bar

#9NB-1100/03 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	2'494	0.40	0.035	0.40	~1.4 / 17

#9NB-1100/03A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	39'900	0.025	0.035	0.40	~23 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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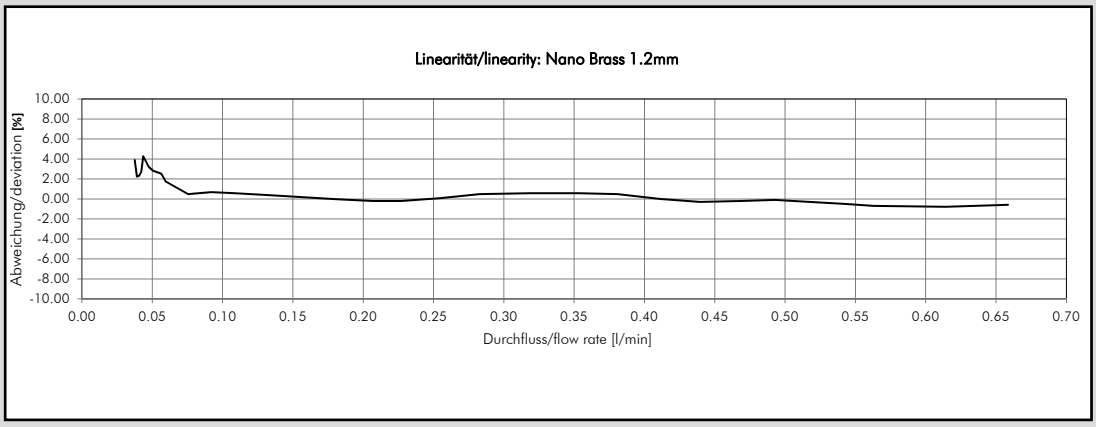
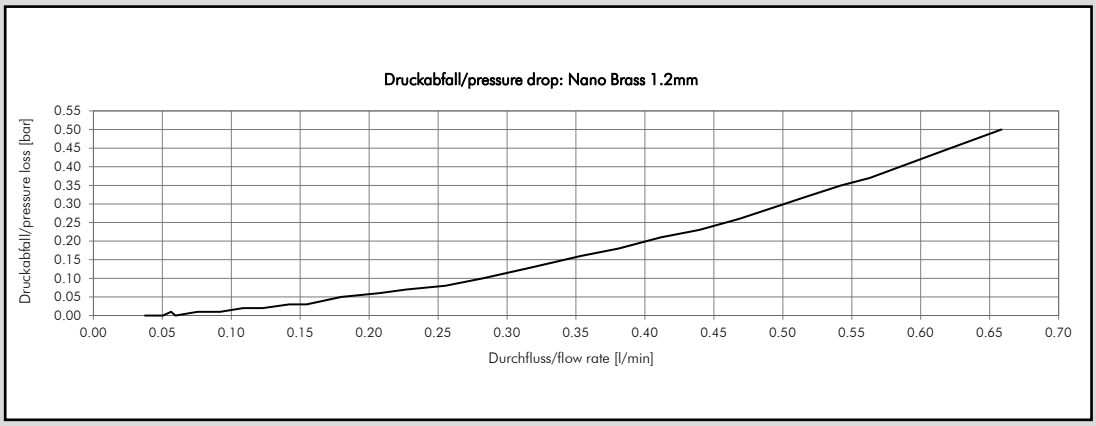
Measurement Curve nano brass Ø1.2mm





Medium: Water / Pressure: 3.5 bar

#9NB-1120/03 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	1'944	0.51	0.05	0.50	~1.6 / 17

#9NB-1120/03A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	31'100	0.032	0.05	0.50	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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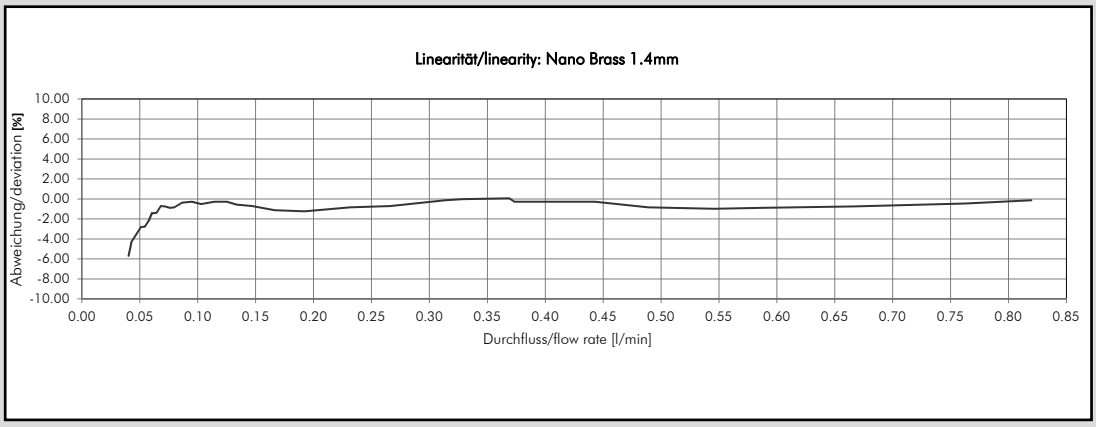
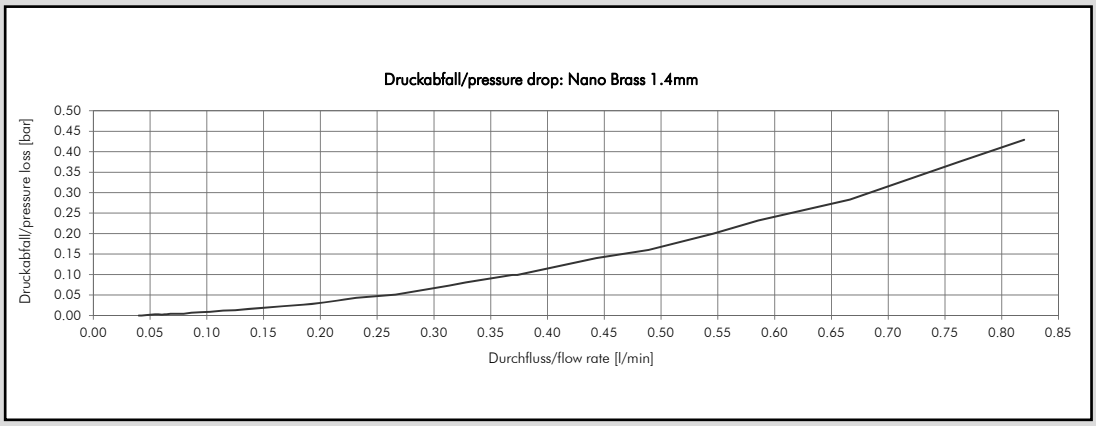
Measurement Curve nano brass Ø1.4mm





Medium: Water / Pressure: 3.5 bar

#9NB-1140/03 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	1'440	0.69	0.06	0.70	~1.6 / 17

#9NB-1140/03A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	23'040	0.043	0.06	0.70	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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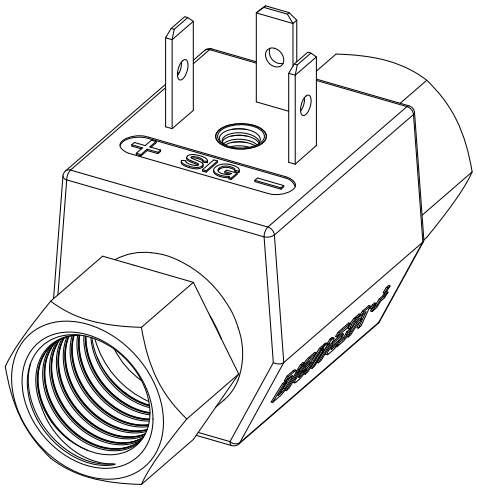
DATA SHEET



DIGMESA
SWITZERLAND

Nano Inox

Part number: 9NI-01xx/01x

Digmesa AG, Keltenstrasse 31, CH–2563 Ipsach / Switzerland
Phone +41 (32) 332 77 77, Fax +41 (32) 332 77 88
www.digmesa.com

General Description

The Flow Sensor nano is a general-purpose device. It is employed for measuring, regulating or metering and guarantees most precise measurement of fluid quantities. In addition, a pulse generator integrated into the flowmeter guarantees a practically unlimited useful life.

Specific applications: Straight flow path, compact design.

Approvals / Standards

EN55014-1:00+A1:01+A2:02, EN61000-6-3:01+A11:04 , IEC61000-6-3:06(ed.2.0), EN61000-3-2:06, IEC61000-3-2:05(ed.3.0), EN61000-3-3:95+A1:01+A2:05, IEC61000-3-3:94+A1:01+A2:05(Cons.ed 1.2), EN55014-2:97+A1:01, EN61000-6-1:01, IEC61000-6-1:05(ed.2)

Materials (wetted)

Housing:	Steel 1.4401 / AISI 316
Bearing :	PEEK
Nozzle:	PEEK
Turbine:	PVDF
Magnete:	Ceramic Sr Fe O (in contact with medium)

Technical data:

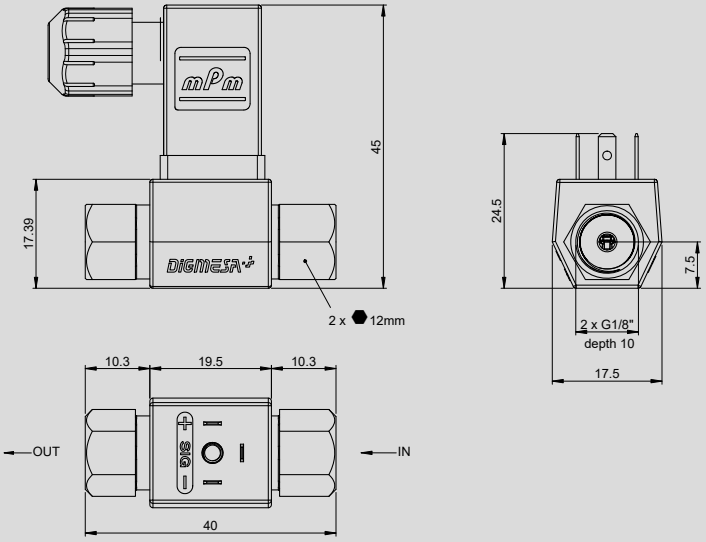
Linear range:	from 0.035 - 0.70 l/min depending on the nozzle size
Durability:	min. 100'000 liters at max. flow (page 5-7)
Measuring accuracy:	+/- 2.0% *
Temperature range:	+0°C to +100°C 32°F to 212°F
Pressure range:	20 bar at 20°C 290 psi /68°F
Mounting position:	freely selectable
Nozzle size:	Ø 1.0mm, 1.2mm, 1.4mm

* Accuracy in the linear range for individually calibrated equipment

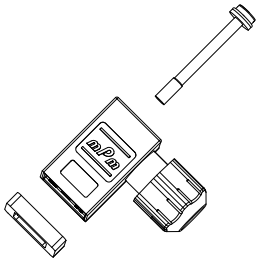
Electrical connection ratings:

Power supply:	+2.8 to +24 VDC
Consumption:	<8 mA
Signal connection:	Open collector, NPN
Signal voltage:	0 VDC GND (saturation <0.7 V)
Signal load:	max. 20 mA
Leakage current:	max. 10 µA
Connections:	3-pin 2.8 x 0.5 mm
Signal:	Square-wave output
Duty Cycle:	~50%

Dimensions in mm:



Options: 3-pin valve connector
Item number: 941-0010/3



RESISTANCE

Special regulations which must be complied with by the flow sensor manufacturer apply to each country, e.g. CE, NSF, FDA and SK. The various media flowing through the flow sensor differ from application to application. You are advised to enquire with the medium manufacturer as to whether the entire installation and the flow sensor are resistant to the medium itself (see Material)!

ELECTRONIC

DIGMESA electronic circuitry is always designed for operation with DIGMESA flow sensors. Please note the following if connecting to other electronic circuitry:

- The flow sensor does not supply an output voltage but switches the signal terminal to 0 V ground (actuated) or leaves it open (non-actuated)
- There must be a pull-up resistor between power supply + and signal depending on electronic circuitry!

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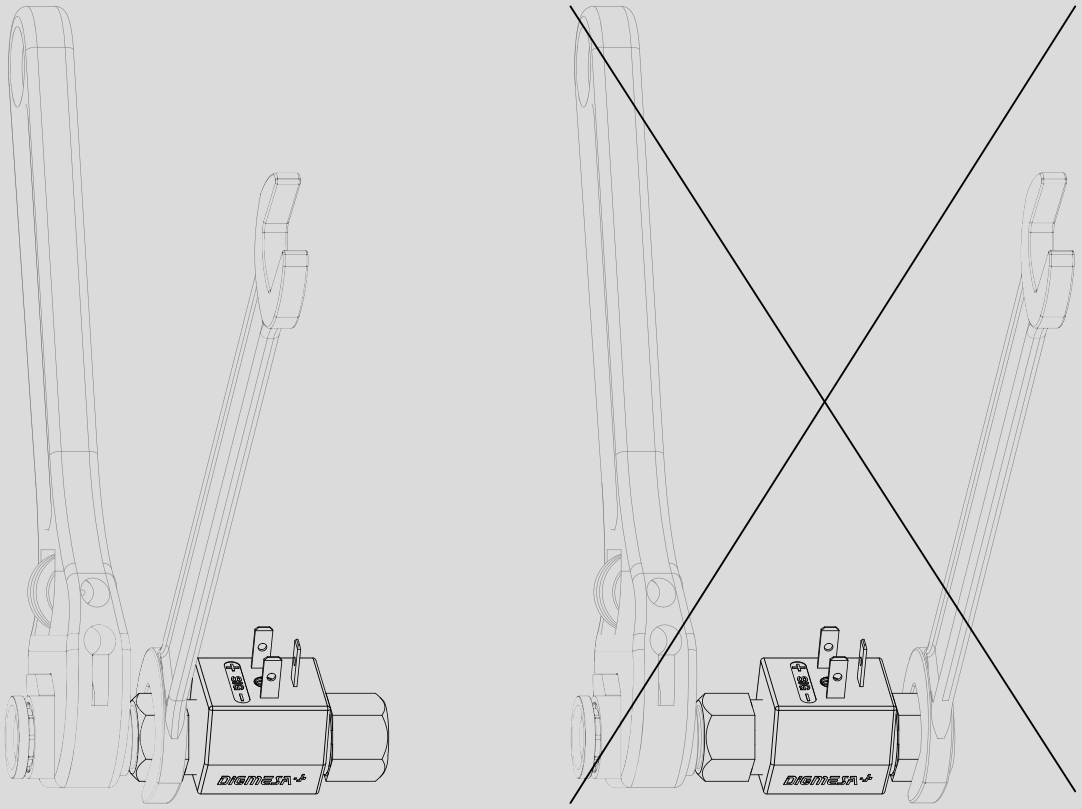
Installation instruction



Important:
Fittings should be mounted torsion-free, max. 10 Nm torque!

Drying and/or operating with compressed air destroys the flow sensor!

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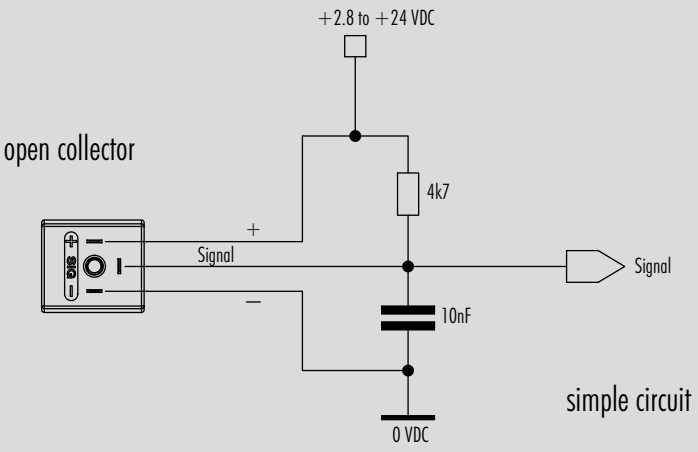
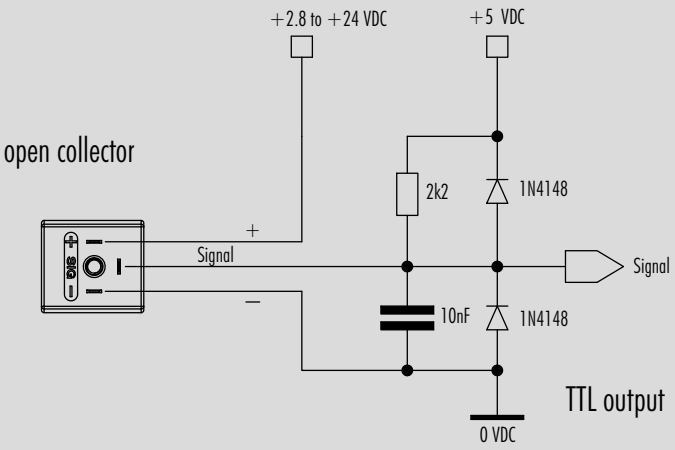
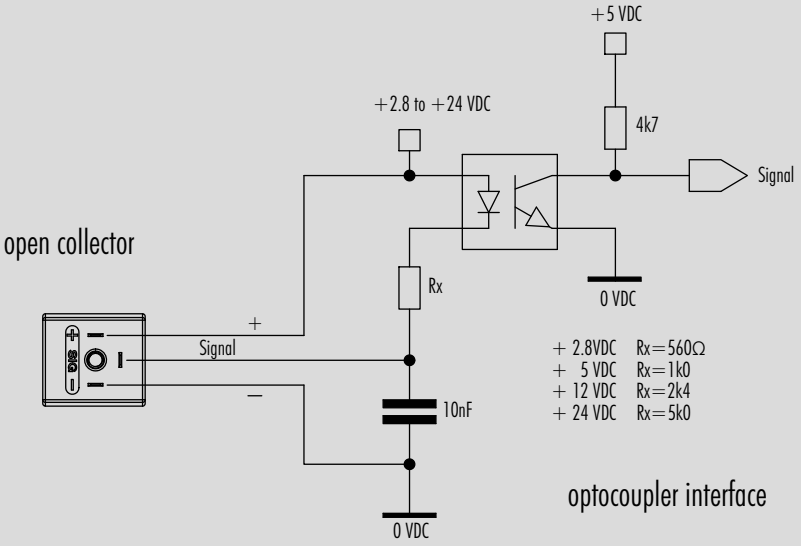
Interface Connection: Examples Open collector







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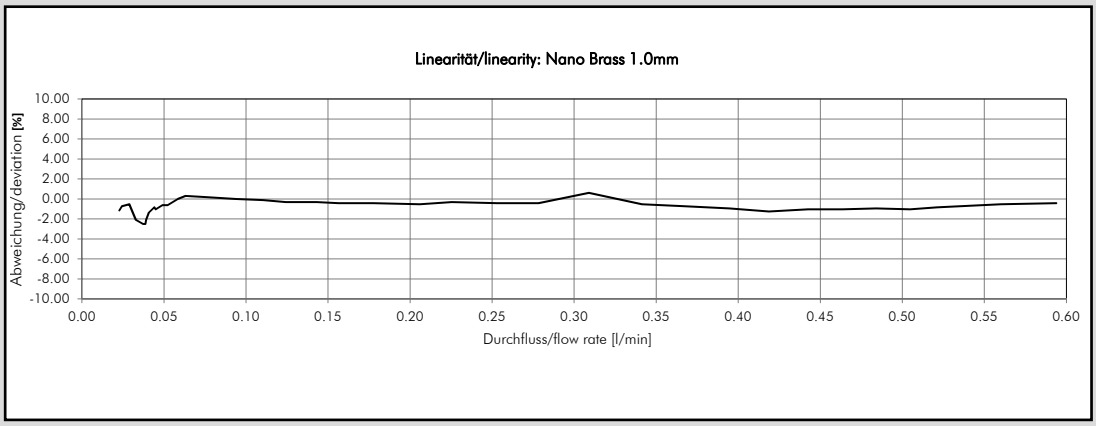
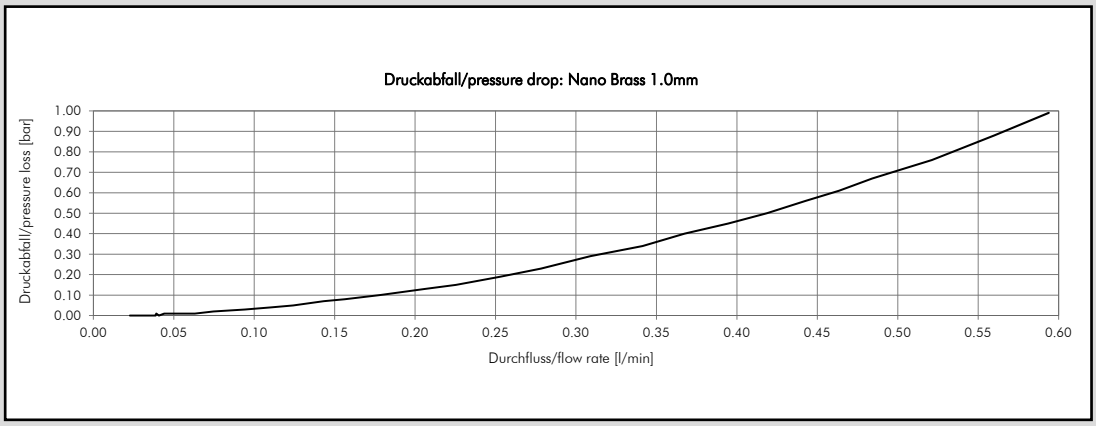
Measurement Curve nano Inox Ø1.0mm





Medium: Water / Pressure: 3.5 bar

#9NI-0100/01 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	2'494	0.40	0.035	0.40	~1.4 / 17

#9NI-0100/01A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.0 mm	39'900	0.025	0.035	0.40	~23 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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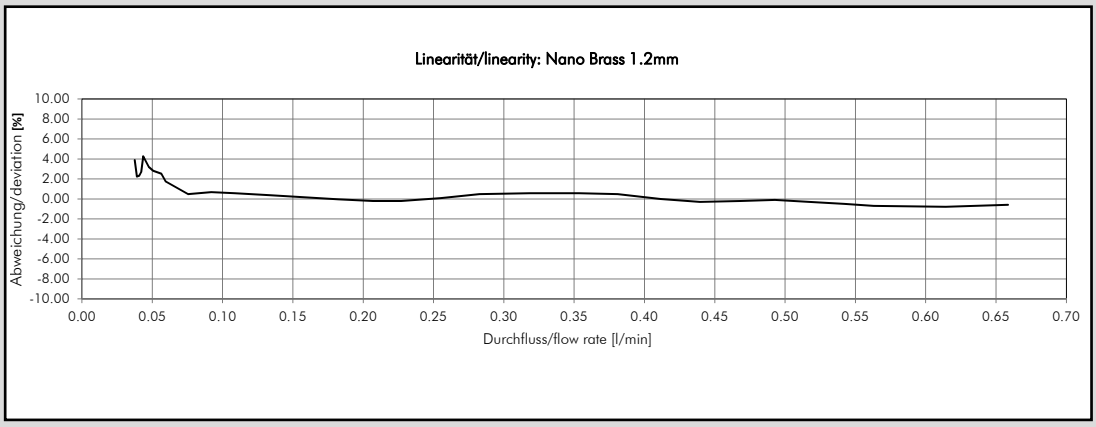
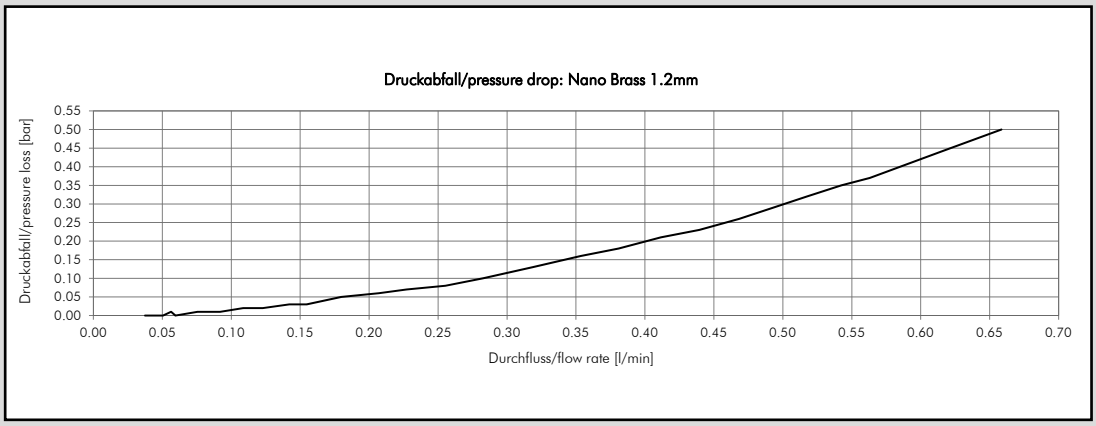
Measurement Curve nano Inox Ø1.2mm





Medium: Water / Pressure: 3.5 bar

#9NI-0120/01 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	1'944	0.51	0.05	0.50	~1.6 / 17

#9NI-0120/01A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.2 mm	31'100	0.032	0.05	0.50	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
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- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

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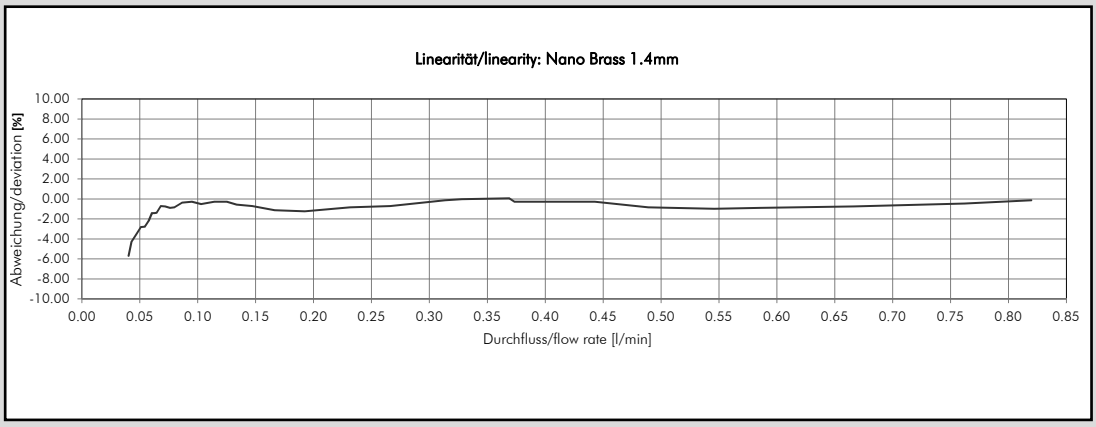
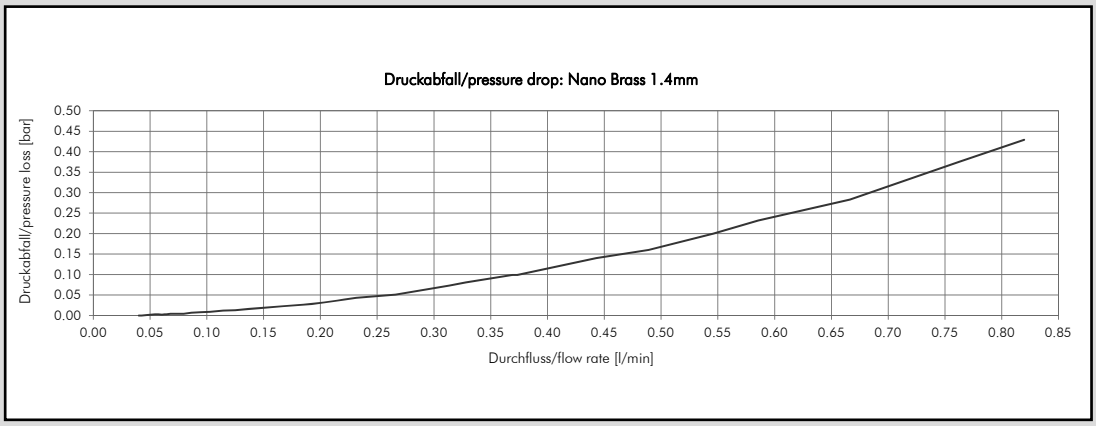
Measurement Curve nano Inox Ø1.4mm





Medium: Water / Pressure: 3.5 bar

#9NI-0140/01 with pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	1'440	0.69	0.06	0.70	~1.6 / 17

#9NI-0140/01A without pulse divider

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.4 mm	23'040	0.043	0.06	0.70	~26 / 270

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

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MEASUREMENT TIPS

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- Do not load electrical contacts mechanically
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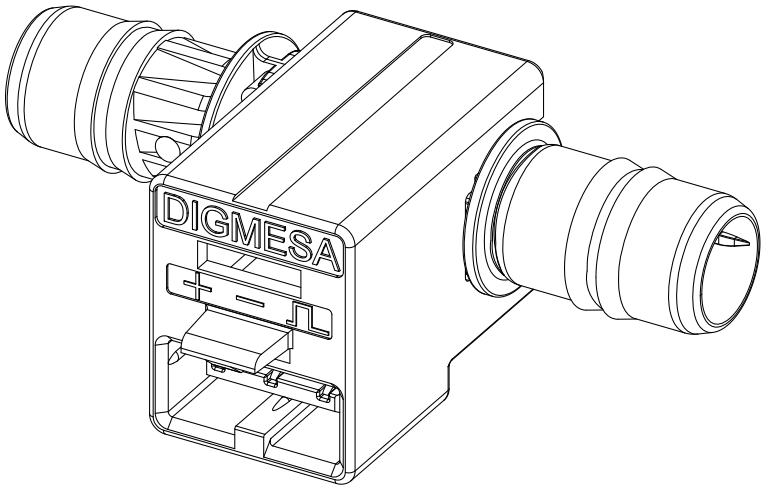
DATA SHEET



DIGMESA
SWITZERLAND

nano DM60

Part number: 93N-6211/1100x

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General Description

The nano[DMAG] Flow Sensor is a general-purpose device that has been specially designed for coffee machines that use vibratory pumps. The device is installed between the water tank and the vibration pump (on the suction side). This way measuring errors that arise during pulsating water flow caused by vibration pumps are minimized.

Specific applications: Doubled isolation (liquid/electronics) according to the standard IEC/EN 60335-1: 2001/2002 + A1: 04+A2: 06+A11: 04+A12: 06.

Approvals / Standards

EN55014-1:00+A1:01+A2:02, EN61000-6-3:01+A11:04 , IEC61000-6-3:06(ed.2.0), EN61000-3-2:06, IEC61000-3-2:05(ed.3.0), EN61000-3-3:95+A1:01+A2:05, IEC61000-3-3:94+A1:01+A2:05(Cons.ed 1.2), EN55014-2:97+A1:01, EN61000-6-1:01, IEC61000-6-1:05(ed.2), LFGB (EU 1935 /2004, EU10/2011)

Materials (wetted)

Housing:	PP (filled)
Bearing pin:	PP
Nozzle:	PP Ø 1.1 mm
Turbine:	PVDF
Magnete:	Ceramic Sr Fe O

Technical data:

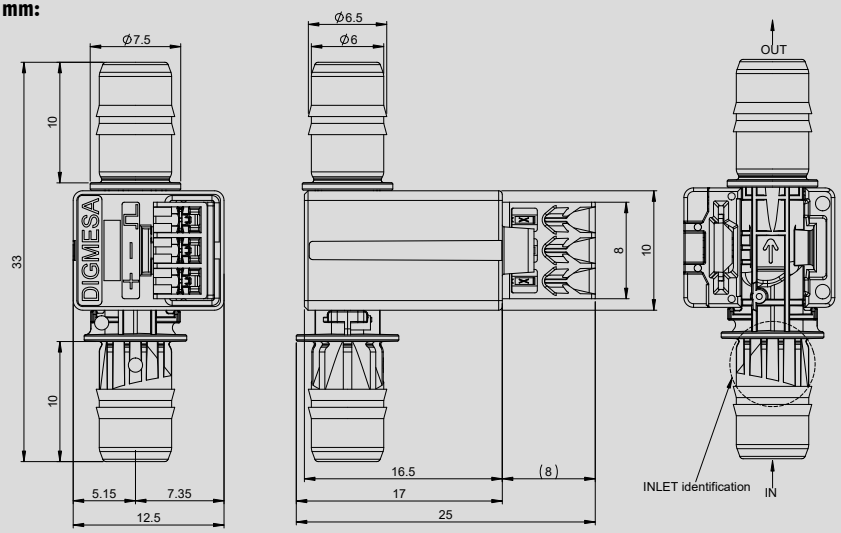
Linear range:	from 0.08 - 0.40 l/min
Durability:	min. 3000 liters at 0.4 l/min
Resolution:	48'000 pulses/liter
Pressure loss:	0.31 bar (4.49 psi) sucking at 0.40 l/min
Measuring accuracy:	+/- 2.0% *
Temperature range:	+0°C to +65°C 32°F to 149°F
Pressure range:	-1 bar to 0.30 bar at 20°C -14.5 psi to 4.35 psi /68°F
Mounting position:	freely selectable
Nozzle size:	Ø 1.1 mm

* Accuracy in the linear range for individually calibrated equipment

Electrical connection ratings:

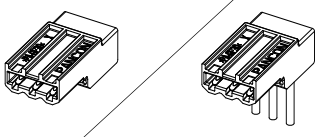
Power supply:	+3.0 to +20 VDC
Consumption:	<8 mA
Signal connection:	Open collector NPN
Signal voltage:	0 VDC GND (saturation <0.7 V)
Signal load:	max. 20 mA
Leakage current:	max. 10 µA
Connections:	Pancon Hallcon plug (contact cycles max. 5x)
Signal:	Square-wave output
Duty Cycle:	~50%

Dimensions in mm:



Option:

Flow Sensor with Pancon Hallcon plug without cable
item number: 93N-6211/11001



Flow Sensor with Pancon Hallcon plug with cable, length 250mm
item number: 93N-6211/11002

RESISTANCE

Special regulations which must be complied with by the flow sensor manufacturer apply to each country, e.g. CE, NSF, FDA and SK. The various media flowing through the flow sensor differ from application to application. You are advised to enquire with the medium manufacturer as to whether the entire installation and the flow sensor are resistant to the medium itself (see material)!

ELECTRONIC

DIGMESA electronic circuitry is always designed for operation with DIGMESA flow sensors. Please note the following if connecting to other electronic circuitry:

- The flow sensor does not supply an output voltage but switches the signal terminal to 0 V ground (actuated) or leaves it open (non-actuated)
- There must be a pull-up resistor between power supply + and signal depending on electronic circuitry!

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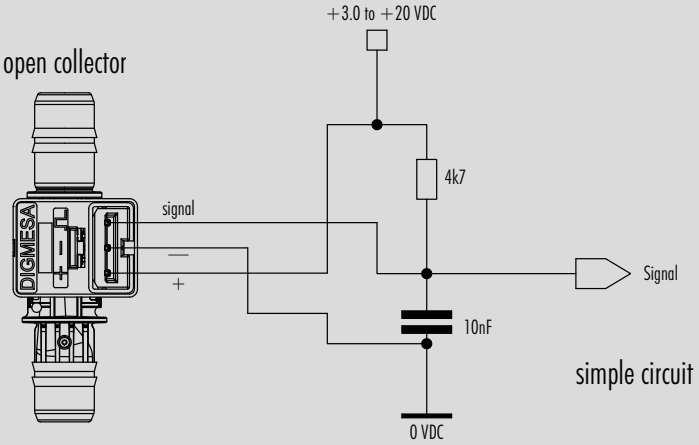
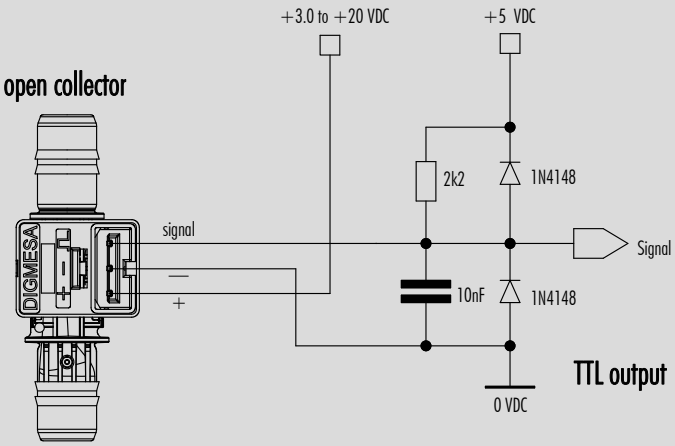
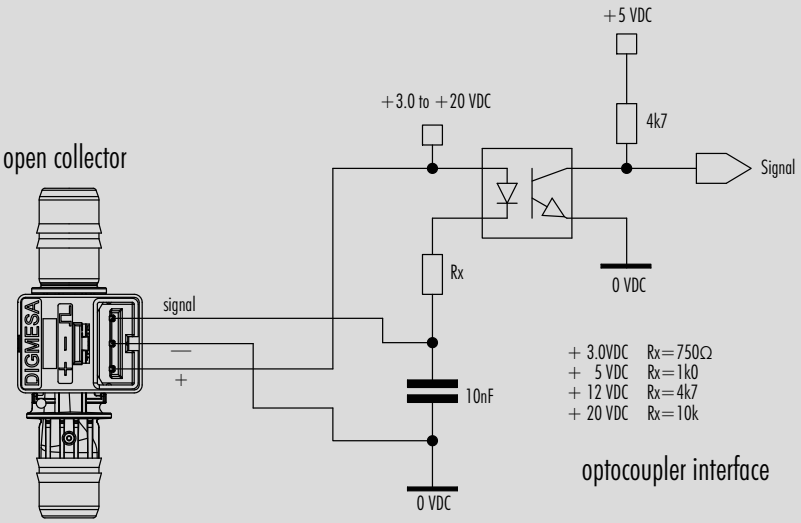
Interface Connection: Examples Open Collector







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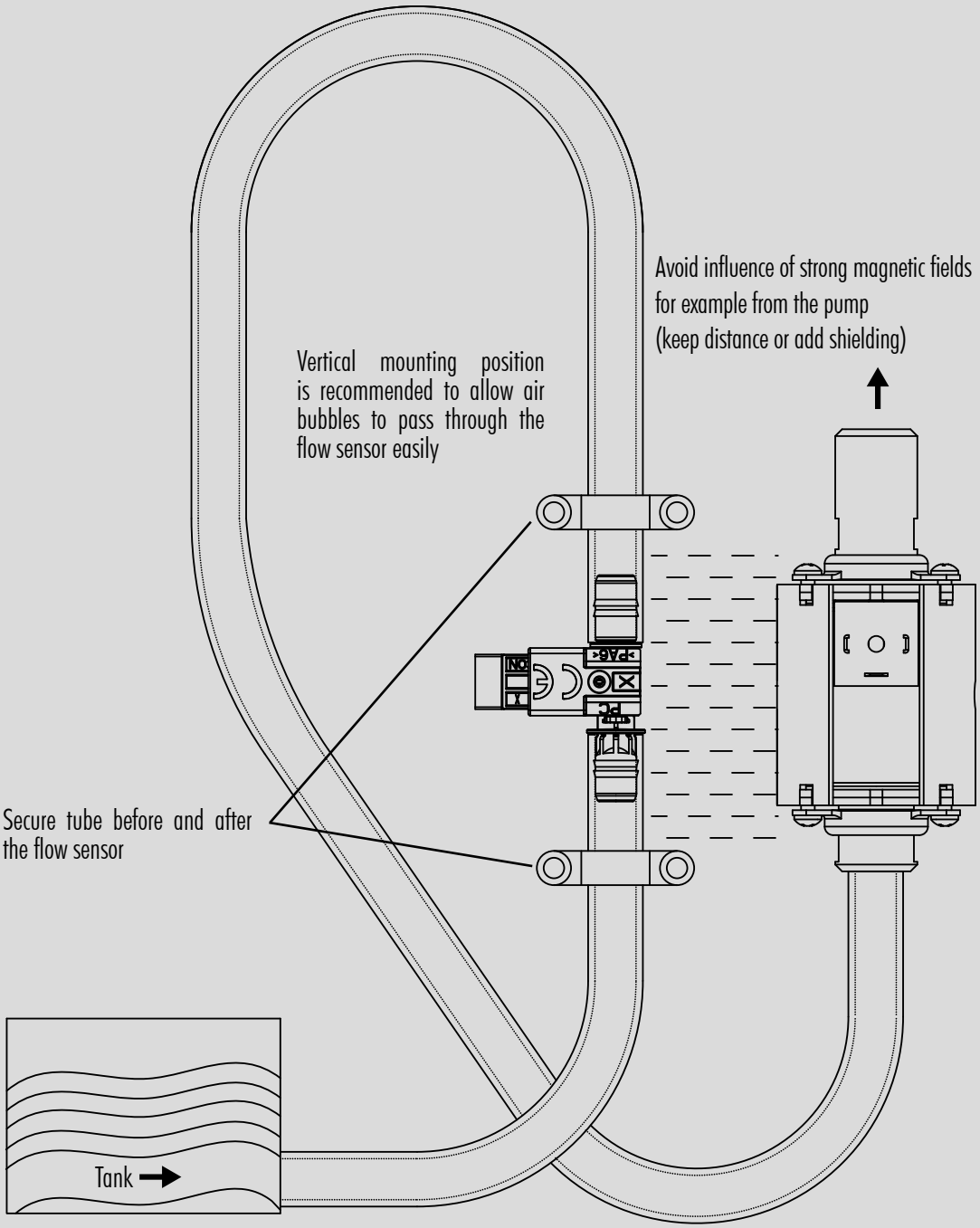
Application example for household coffee machines

Recommended tubing	
Material	Silicon
Dimensions	Ø5.5mm x 2.0mm
Hardness	50 Shore A
Tube length between flow sensor and pump	>14 cm



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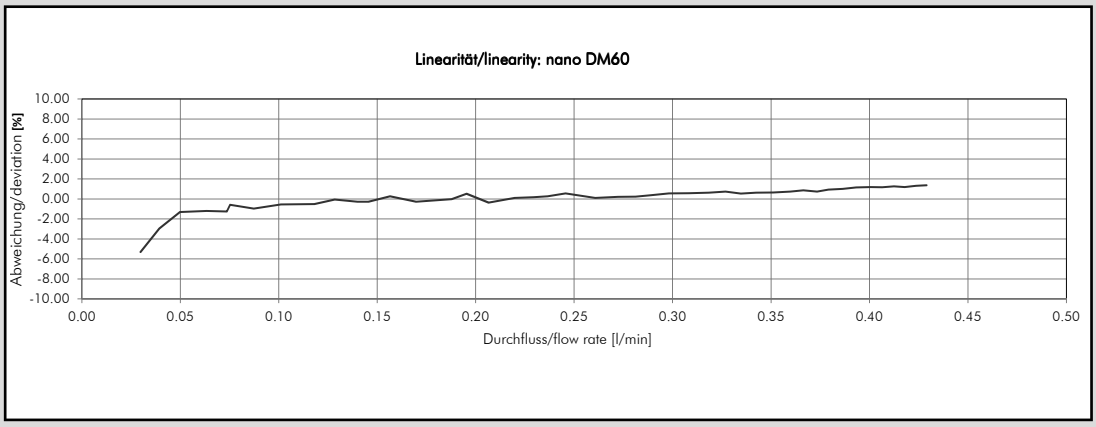
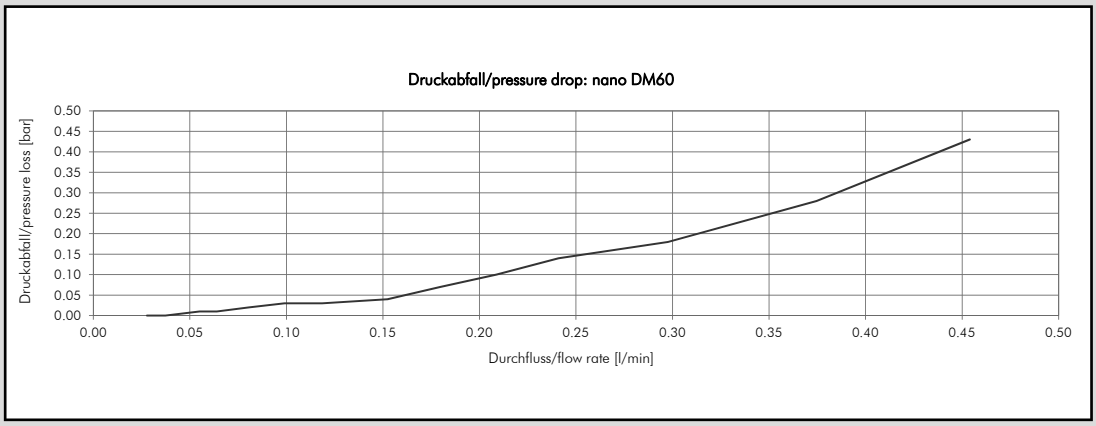
Measurement Curve nano^{DM60}





Medium: Water / Pressure: 1.0 bar

Nozzle size	Pulses/ Litres	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]	Pulse frequency [Hz] min/max
Ø 1.1 mm	48'000	0.020	0.08	0.40	64 / 320

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