MID-EX-GC

Figure: MID-EX-GC150040*

- Robust and safe flow transducer for general mining applications
- In combination with a Kirchgaesser multi channel signal converter and display unit COMBA-EX or signal converter CON-EX respectively the device is used to measure the flow of electrically conductive liquids such as water, emulsions, sludges, pulps and pastes in closed pipe systems
- Process connections: Flange DN50 to DN300 (bolt circle according to EN1092-1) and special high pressure couplings (available on request)
- Measuring principle: electromagnetic
- The flow transducer is fully sealed
- Pressure ratings available:
  10 bar to 160 bar (with high pressure couplings up to 500 bar)
- Measuring ranges:
  0 to 10 m^3/h / 0 to 100 l/min (DN50) up to 0 .. 2000 m^3/h (DN300) / 0 .. 1000 l/min (DN150)
- Electrical connection: Hirschmann connector type G4
- There are pre-fabricated connection cables type VCG (1 to 30 m) available to connect the flow transducer with the Kirchgaesser signal converter
- The power supply is provided by the Kirchgaesser signal converter
- Marking according to 2014/34/EU:
  I M1 Ex ia I Ma (BVS 09 ATEX E 020)

MA
J2013331

Ordering information **MID-EX-G**

10	**Device version:**	
	C	Flow transducer to connect with a Kirchgaesser signal converter

20		**Nominal width:**	
		050	DN50
		065	DN65
		080	DN80
		100	DN100
		125	DN125
		150	DN150
		200	DN200
		250	DN250
		300	DN300
		_ _ _	Nominal width upon consultation

30			**Nominal pressure:**	
			010	PN10
			016	PN16
			025	PN25
			040	PN40
			063	PN63
			100	PN100
			160	PN160
			_ _ _	Nominal pressure upon consultation

40				**Unit measuring range:**	
				A	m^3/h
				B	l/min
				Y	Special version, to be specified

50					**Flow measuring range: *1**	
					_ _ _ _	Upper range value, 4-digit

60						**Process connection:**	
						A	Flange (bolt circle according to EN1092-1)
						Y	Special version, to be specified

70							**Inside coating:**	
							2	Hard rubber
							9	Special version, to be specified

80								**Electrical connection:**	
								N	Hirschmann connector type G4
								Y	Special version, to be specified

90									**Special equipment:**	
									1	Standard
									9	Special version, to be specified

*1 Selectable measuring ranges according to the table from page 3 depending on the nominal diameter
Example: 0 – 200 m^3/h → 0200

Complete order code of the transducer:

MID - EX - G C | | | | | | | | |

Ordering informationen connection cable **VC*-***

10		**Type of the connection:**
	G	Hirschmann cable socket type G4

20		**Cable length:**
		__ Length of the connection cable in [m], max. 30 m

Complete order code of the connection cable:

VC G **-** | |

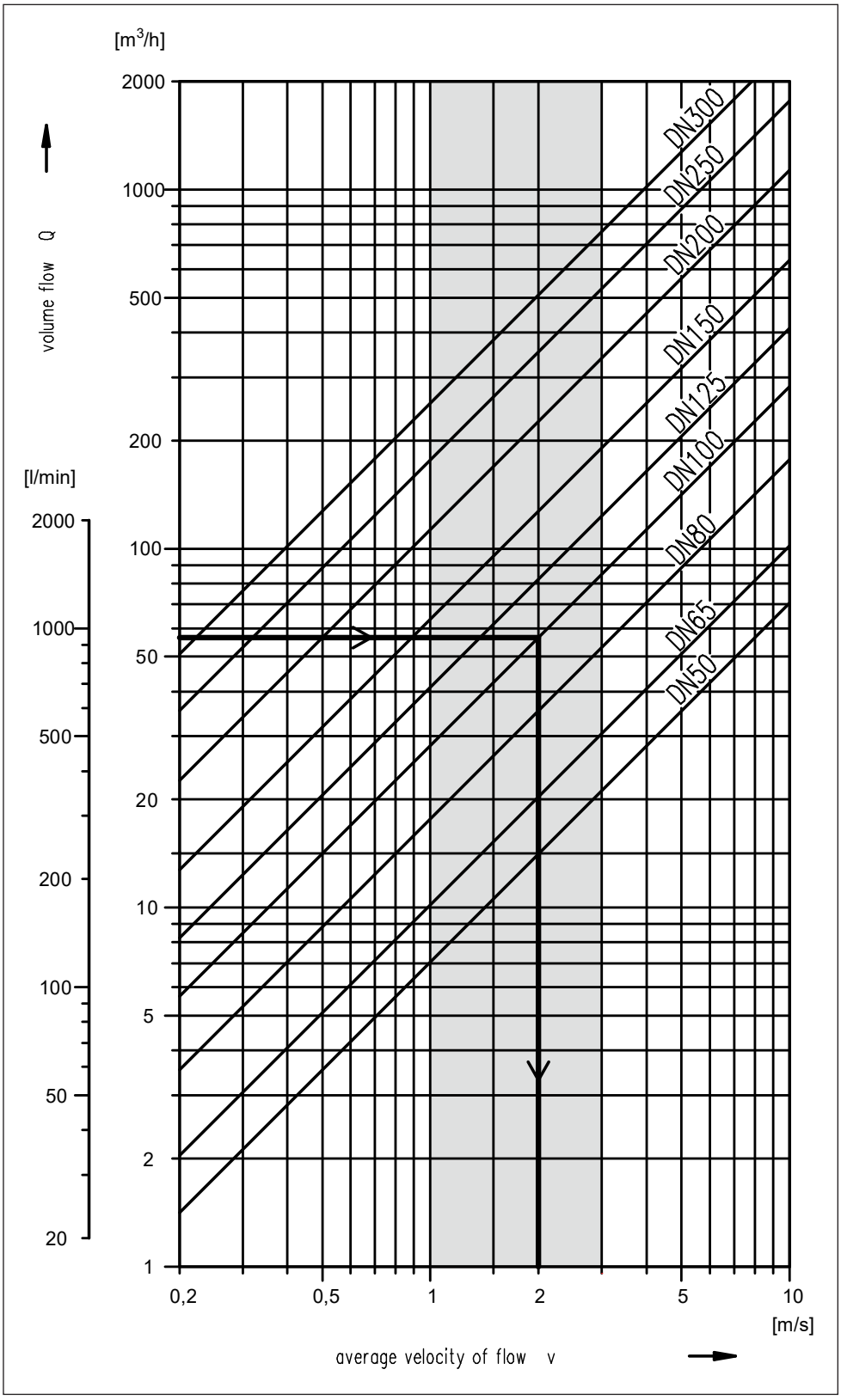
Measuring ranges:

Code	Q_M [m³/h]	Available nominal width	Code	Q_M [m³/h]	Available nominal width
0010	0 – 10 m³/h	50, 65	**0200**	0 – 200 m³/h	100, 125, 150, 200, 250
0020	0 – 20 m³/h	50, 65, 80	**0300**	0 – 300 m³/h	125, 150, 200, 250, 300
0030	0 – 30 m³/h	50, 65, 80	**0400**	0 – 400 m³/h	150, 200, 250, 300
0040	0 – 40 m³/h	50, 65, 80	**0500**	0 – 500 m³/h	150, 200, 250, 300
0050	0 – 50 m³/h	50, 65, 80, 100	**0600**	0 – 600 m³/h	200, 250, 300
0060	0 – 60 m³/h	65, 80, 100, 125	**0800**	0 – 800 m³/h	200, 250, 300
0070	0 – 70 m³/h	65, 80, 100, 125, 150	**1000**	0 – 1000 m³/h	200, 250, 300
0080	0 – 80 m³/h	65, 80, 100, 125, 150	**1200**	0 – 1200 m³/h	250, 300
0100	0 – 100 m³/h	80, 100, 125, 150	**1500**	0 – 1500 m³/h	250, 300
0150	0 – 150 m³/h	100, 125, 150, 200	**2000**	0 – 2000 m³/h	300

Code	Q_M [l/min]	Available nominal width	Code	Q_M [l/min]	Available nominal width
0100	0 – 100 l/min	50	**0400**	0 – 400 l/min	65, 80, 100
0150	0 – 150 l/min	50	**0500**	0 – 500 l/min	65, 80, 100
0200	0 – 200 l/min	50, 65	**0600**	0 – 600 l/min	80, 100, 125
0250	0 – 250 l/min	50, 65, 80	**0800**	0 – 800 l/min	80, 100, 125
0300	0 – 300 l/min	50, 65, 80	**1000**	0 – 1000 l/min	80, 100, 125, 150
0360	0 – 360 l/min	50, 65, 80			

Note!
The selectable measuring ranges for devices using high pressure couplings *cannot* be taken from this table and have to be decided in accordance.

Correlation between volume / nominal width / velocity of flow:



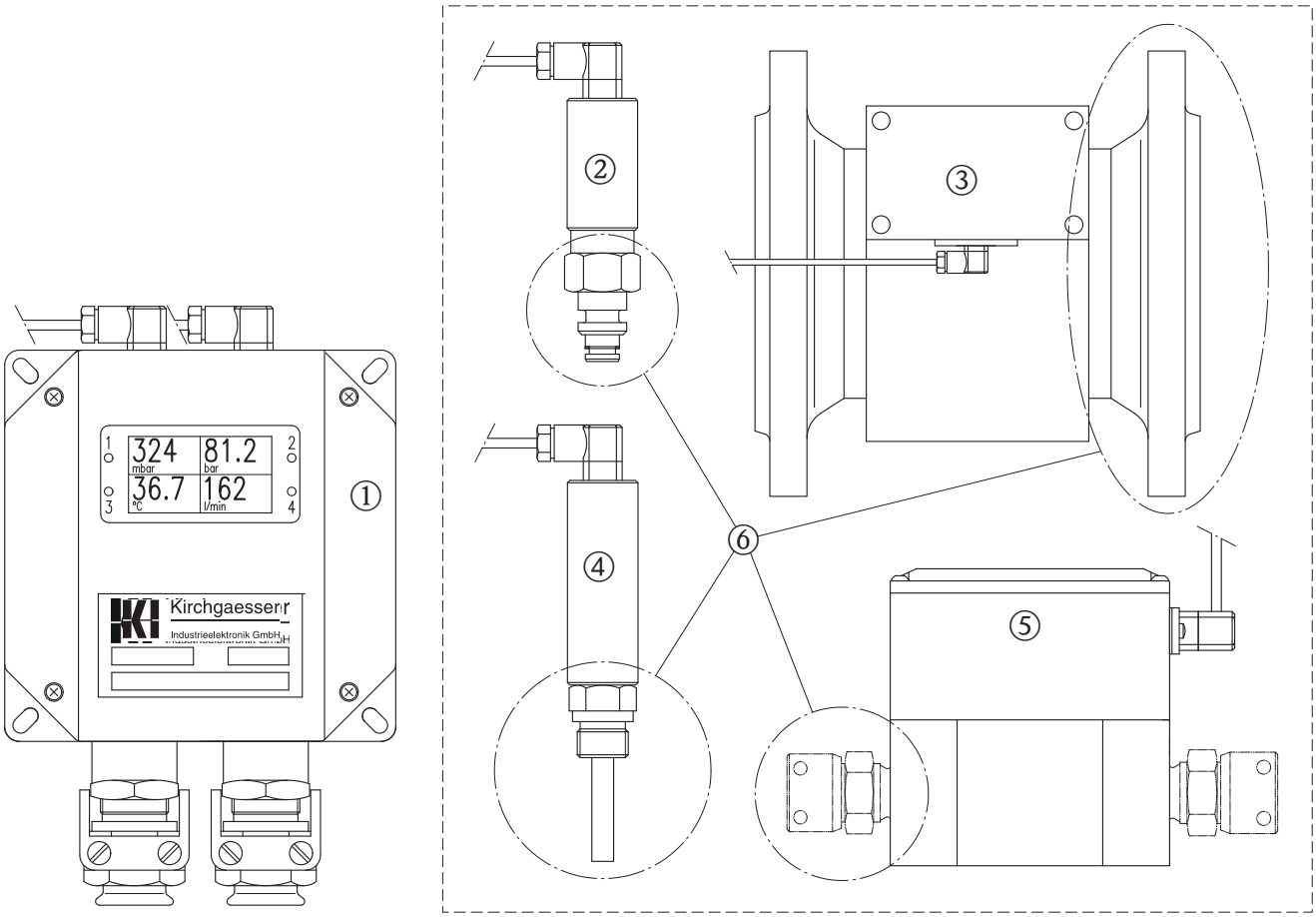
Example:
A volume flow of approx. 56 m³/h results from a nominal width of DN100 and a velocity of flow of 2 m/s.

Measuring system:

The measuring system consists of a maximum of one flow transducer type MID-EX-GC and a Kirchgaesser multi channel signal converter and diplay unit COMBA-EX or signal converter CON-EX respectively.

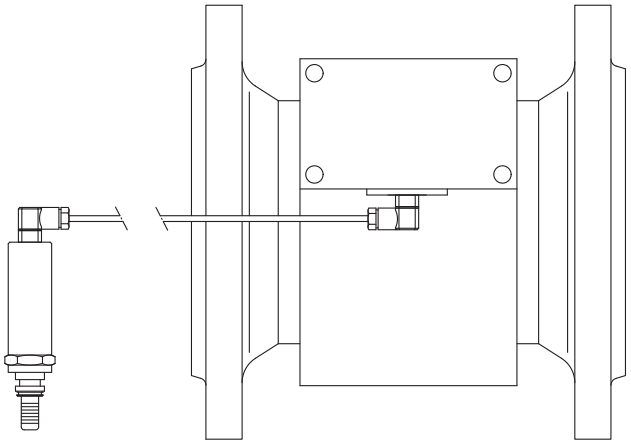
The transducer MID-EX-GC is available with different process connections, please refer to the ordering information and the chapter special versions for further details.

MID-EX-GC with the multi channel signal converter and display unit COMBA-EX



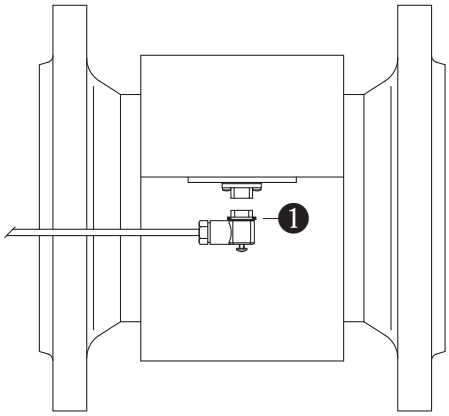
- Any combination of one MID-EX-GC ③ and/or transducers type TEM-EX-C ④ (temperature), type PEM-EX-C ② (pressure) and/or type MID-EX-C ⑤ (small flow) can be connected with COMBA-EX ①.
- The individual transducers are available with different process connections ⑥.
- The connection cable type VCG with a maximum length of 30 m is not a part of the package and has to be ordered separately.

MID-EX-GC with the signal converter CON-EX



- The connection cable type VCG with a maximum length of 30 m is not a part of the package and has to be ordered separately.

Installation:



Warning!

Please take notice of the sealing ❶ of the connector!

Installation notes:

Figure 1: Location partially filled pipe

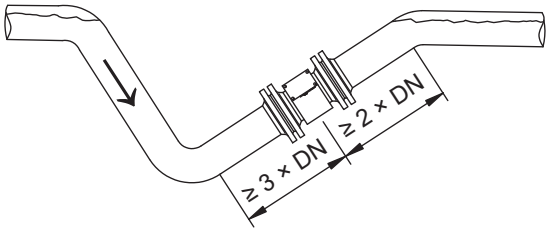


Figure 2: Alternative location

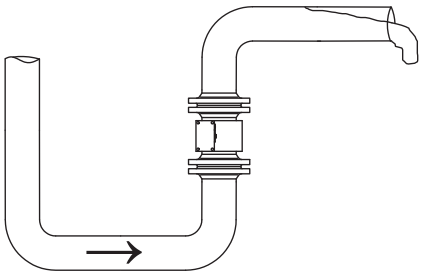


Figure 3: Locations to be avoided

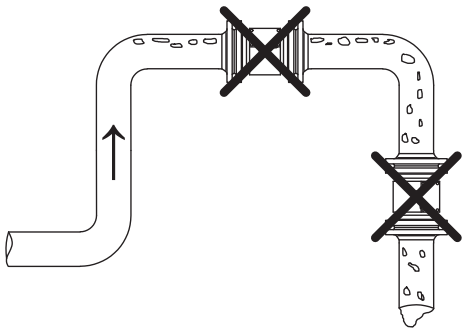
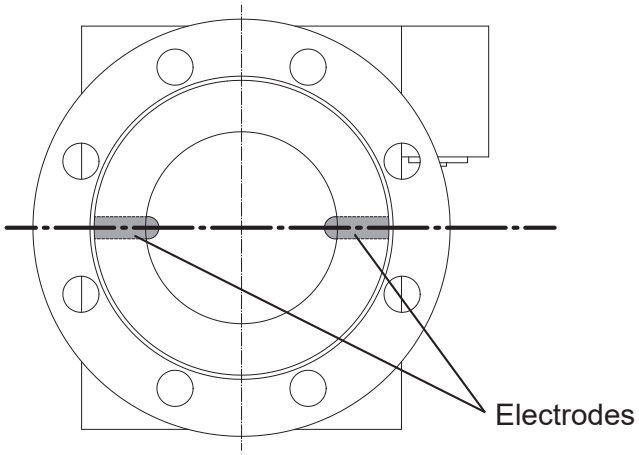
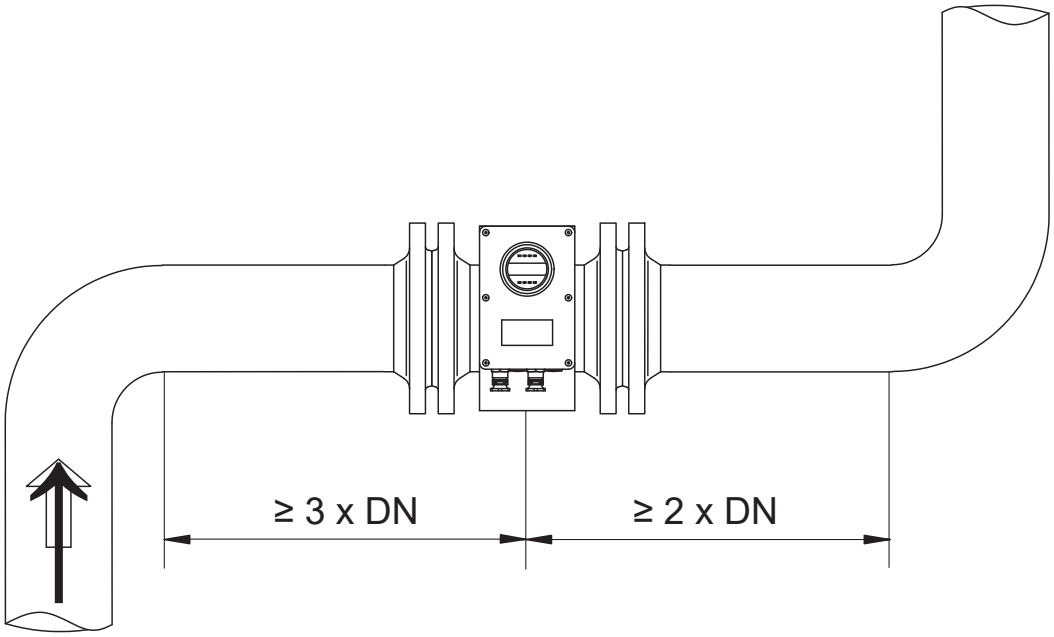


Figure 4: Horizontal orientation



Installation condition:



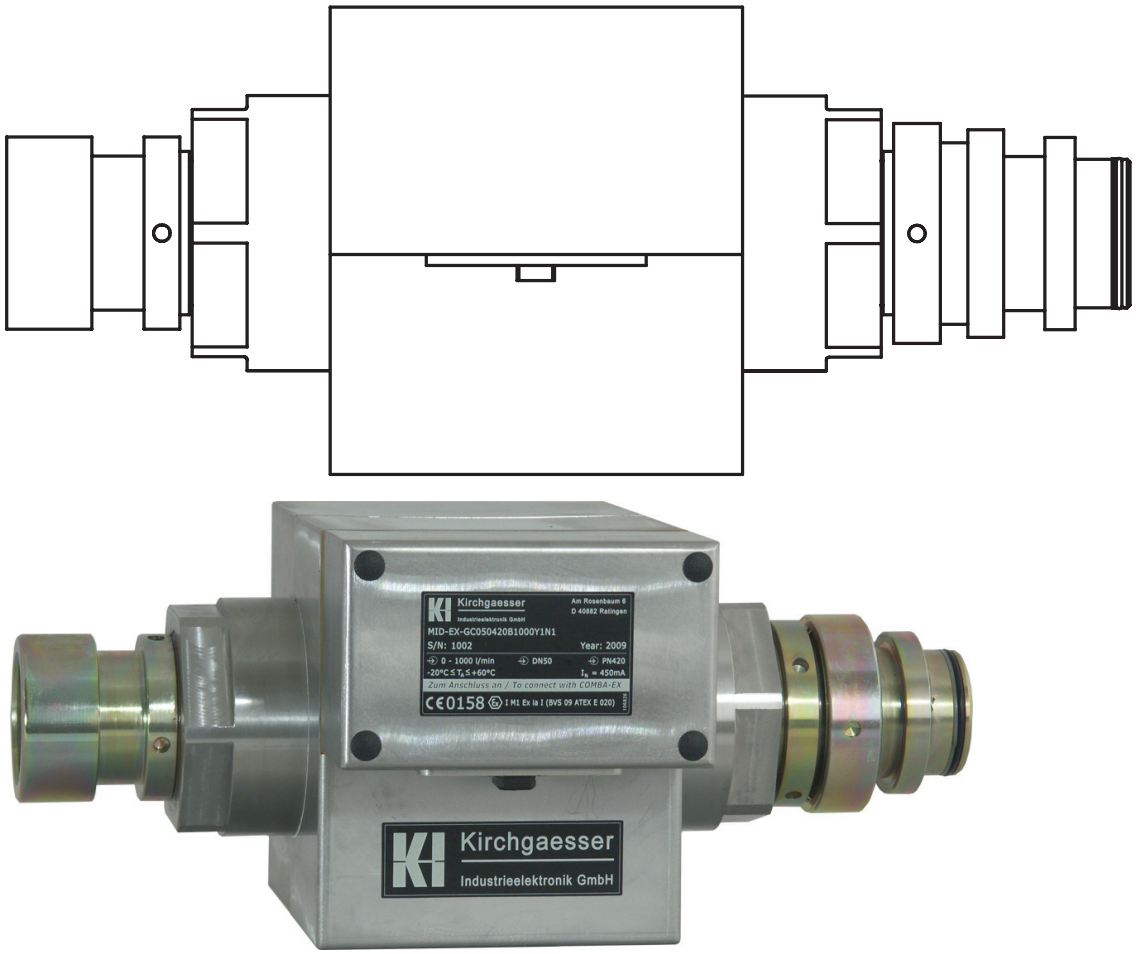
Warning!

Please take notice of the required inlet and outlet lengths.

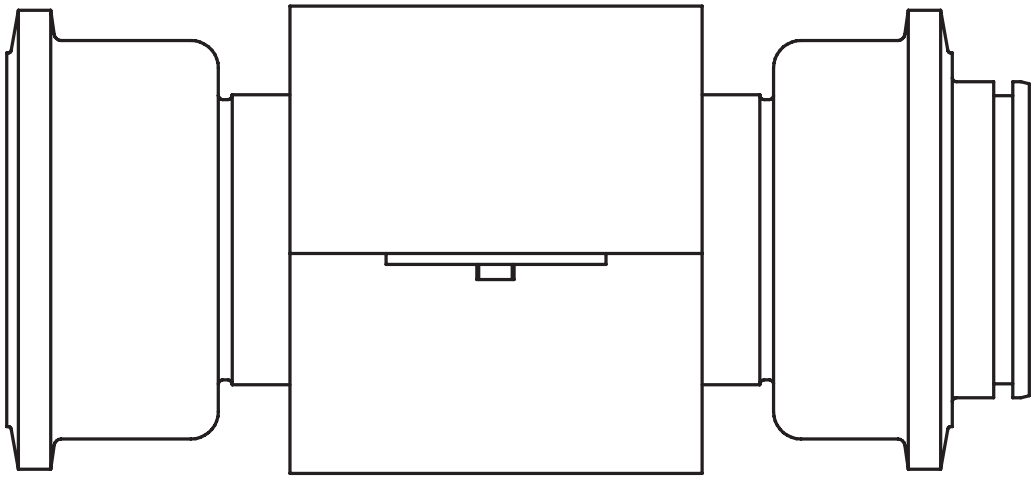
Special version with high pressure couplings:

Upon customer request, we can supply our flow transducer with a variety of high pressure couplings, examples of which you'll find below.

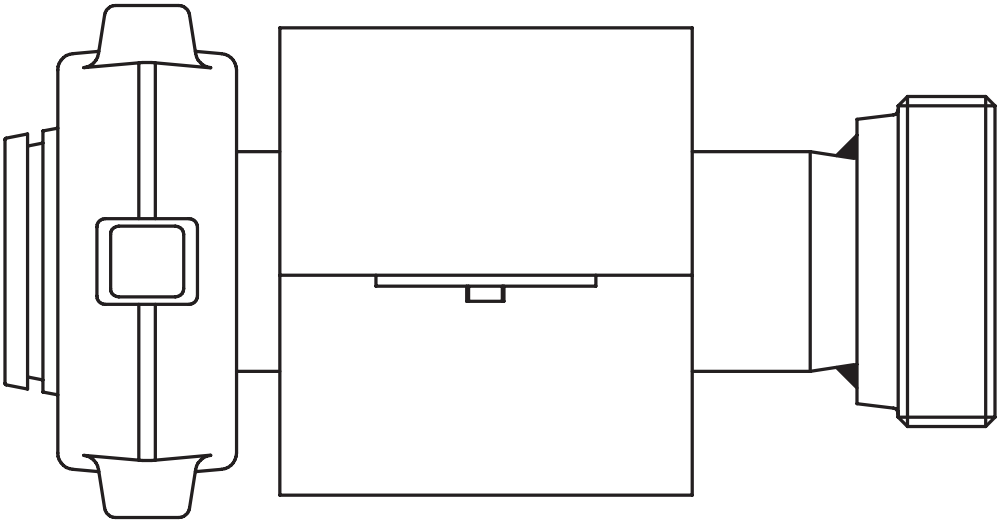
a) DN50 PN420 "SSKV coupling (heavy version)":



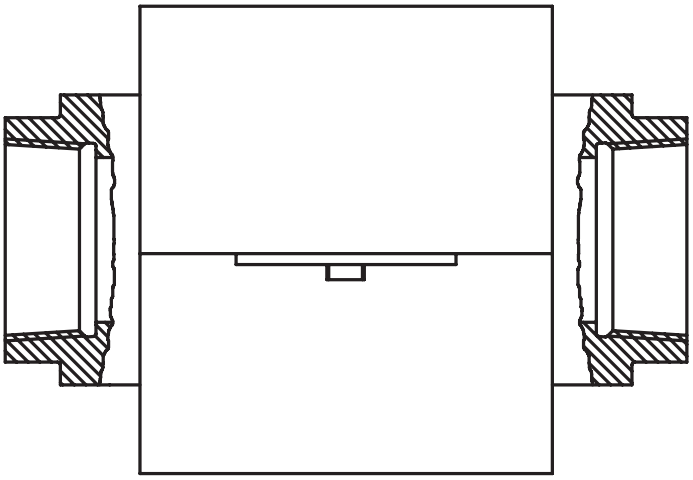
b) DN80 PN400 "Weinhold coupling":



c) DN60 PN400 "Hamacher coupling":



d) DN65 PN100 2.5" NPTF female thread:



Technical data (general):

- Measuring principle:
  Electromagnetic
- Measuring uncertainty:
  - Max. ± 1% of end value
  - Typ. ± 0.5% of end value
- Material of the housing:
  Steel or stainless steel
- Weight:
  Depending on version (MID-EX-GC100040**A2N1 approx. 22 kg)
- Protection according to EN 60529:
  IP65
- Type of protection according to EN 60079-0:
  Ex ia I
- Electrode material:
  1.4571 (316Ti)
- Ambient temperature:
  -20°C ≤ Ta ≤ +60°C
- Process temperature:
  -20°C ≤ Tp ≤ +60°C
- Bolt circle of flanges according to EN 1092-1

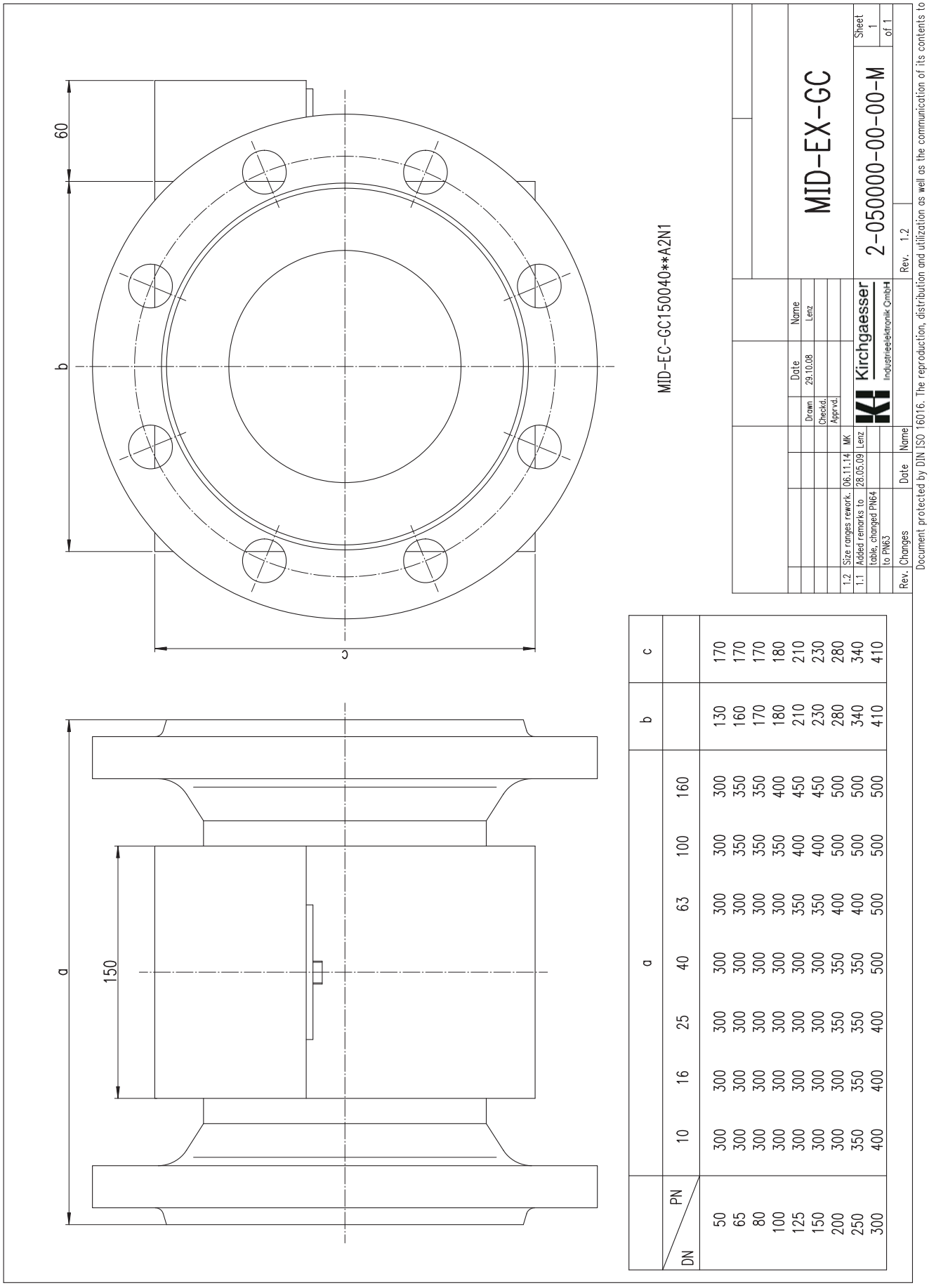
Technical data (electrical):

- Power supply:
  Provided by the Kirchgaesser signal converter
- Current consumption:
  450 mA
- Internal inductances:
  Negligible
- Internal capacitances:
  Max. 36 nF

Note!

- The flow transducer is approved according to standards GB3836.1 and GB3836.4 for use in China underground too, the numbers of the certificates are **J2013331** and **J2013327** (COMBA-EX).
- The flow transducer MID-EX-GC is designed for connection with the Kirchgaesser multi channel signal converter and display unit COMBA-EX (see ka053000) or signal converter CON-EX (see ka058000) respectively. If you need a single device with independent output signal, please take a look at our device MID-EX-GL (see ka050100).

Dimension sheet:



DN \ PN	10	16	25	40	63	100	160	b	c
50	300	300	300	300	300	300	300	130	170
65	300	300	300	300	300	350	350	160	170
80	300	300	300	300	300	350	350	170	170
100	300	300	300	300	300	350	400	180	180
125	300	300	300	300	350	400	450	210	210
150	300	300	300	300	350	400	450	230	230
200	300	300	350	350	400	500	500	280	280
250	350	350	350	350	400	500	500	340	340
300	400	400	400	500	500	500	500	410	410