MID-EX-GL

Figure: MID-EX-GL150040A0300A2B1A1B1

- Robust and safe flow transducer for general mining applications
- The flow transducer MID-EX-GL is used to measure the flow of electrically conductive liquids such as water, emulsions, sludges, pulps and pastes in closed pipe systems
- Process connection: Flange DN50 to DN300 (bolt circle according to EN1092-1) and special high pressure couplings (available on request)
- Measuring principle: electromagnetic
- The transducer is with the exception of the terminal housing fully sealed
- Pressure ranges: 10 bar to 160 bar (with high pressure couplings up to 500 bar)
- Measuring ranges:
  0 .. 10 m^3/h or 0 .. 100 l/min (DN50) up to 0 .. 2000 m^3/h (DN300) or 0 .. 1000 l/min (DN150)
- Electrical connections:
  • Cable glands (1 or 2)
  • PROMOS connector type BN4160
  • Machaczek connector type ME2A10
  • Souriau connector type 845 (size 1 or 2)
  • Hydrostar connector type SKK24 or SKK45
  • Hirschmann connector type G4
  • all connectors are available with one additional cable gland
- Output signal:
  • Frequency (5 - 15 Hz)
  • Current (4 - 20 mA)
- Marking according to 2014/34/EU:
  I M1 Ex ia I Ma (BVS 09 ATEX E 020)

Ordering information **MID-EX-G**

10	**Device version:**	
	L	Compact version

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

*1 Selectable measuring ranges → see table "Measuring ranges"
Example: 0 – 200 m^3/h → 0200

80	Electrical connection:
A	1x Cable gland
B	2x Cable gland
C	PROMOS connector type BN4160
D	PROMOS connector type BN4160 + 1x cable gland
E	Machaczek connector type ME2A10
F	Machaczek connector type ME2A10 + 1x cable gland
G	Souriau connector type 845, size 1
H	Souriau connector type 845, size 1 + 1x cable gland
J	Souriau connector type 845, size 2
K	Souriau connector type 845, size 2 + 1x cable gland
L	Hydrostar connector type SKK24
M	Hydrostar connector type SKK24 + 1x cable gland
N	Hirschmann connector type G4
O	Hirschmann connector type G4 + 1x cable gland
P	Circular connector M12x1 (Binder series 763)
R	Circular connector M12x1 (Binder series 763) + 1x cable gland
S	Hydrostar connector type SKK45
T	Hydrostar connector type SKK45 + 1x cable gland
Y	Special version, to be specified

90	Power supply:
1	9.0 - 13.5 VDC
9	Special version, to be specified

100	Output function:
A	Optocoupler output
B	Current output
Y	Special version, to be specified

110	Output signal:
1	5 - 15 Hz
2	4 - 20 mA
9	Special version, to be specified

120	Potential-separation:
A	Output not potential-separated
B	Output potential-separated
Y	Special version, to be specified

130	Special equipment:
1	Standard
9	Special version, to be specified

Completed order code:

MID - EX - G	L											

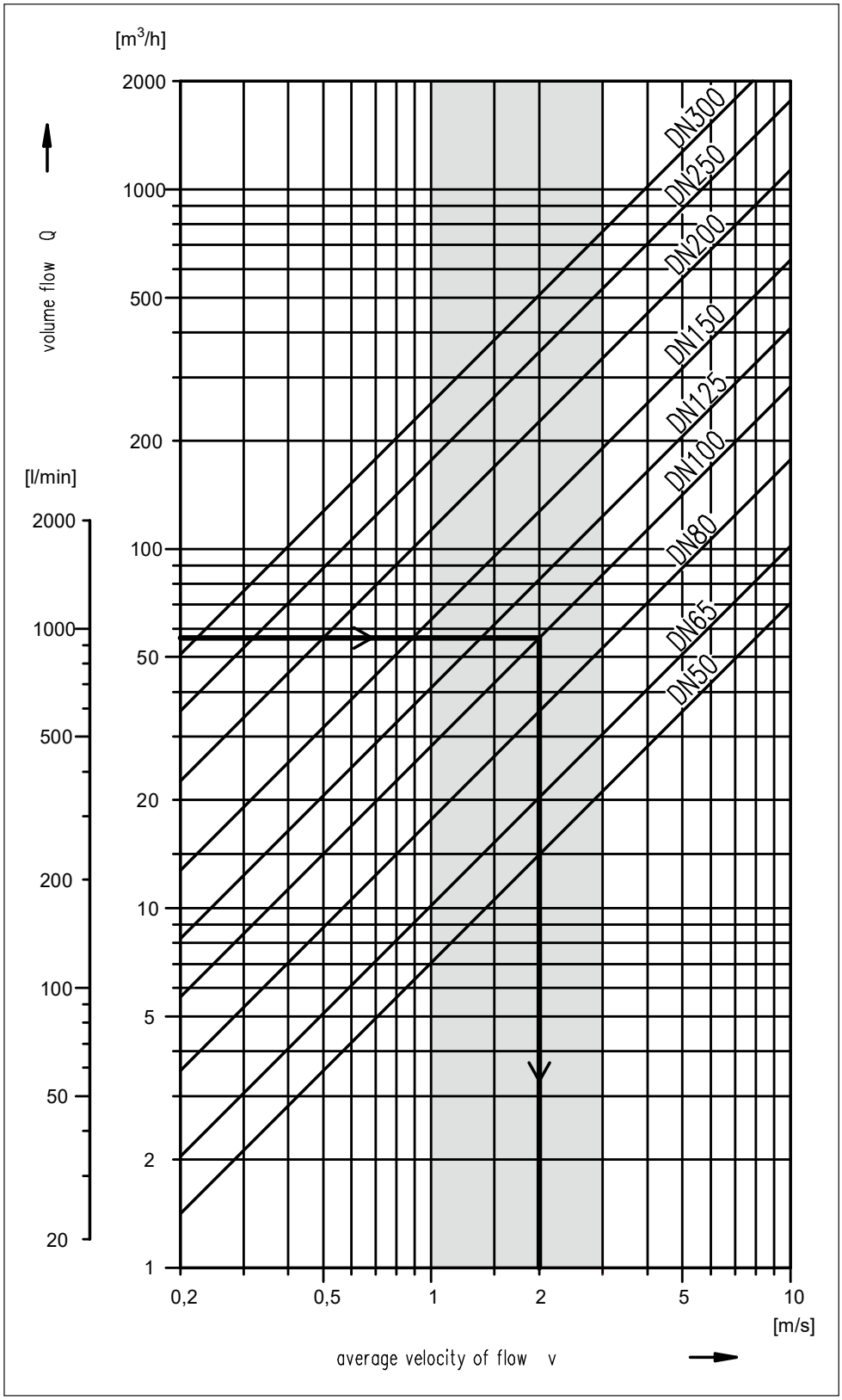
Measuring ranges:

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.

Installation notes:

Figure 1: Inlet and outlet runs

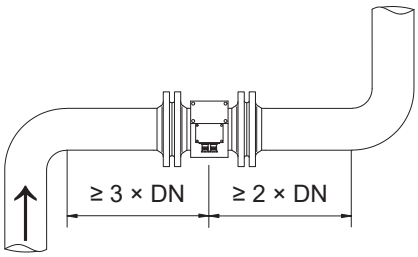


Figure 2: Location partially filled pipe

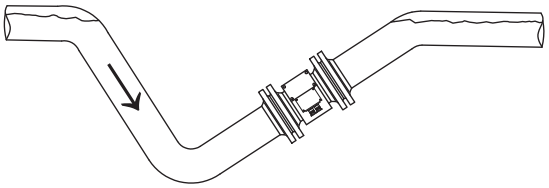


Figure 3: Alternative location

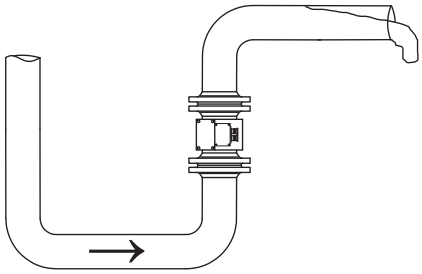


Figure 4: Locations to be avoided

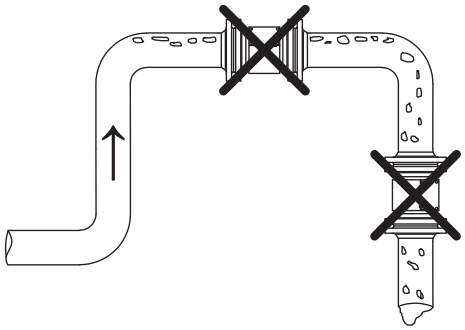
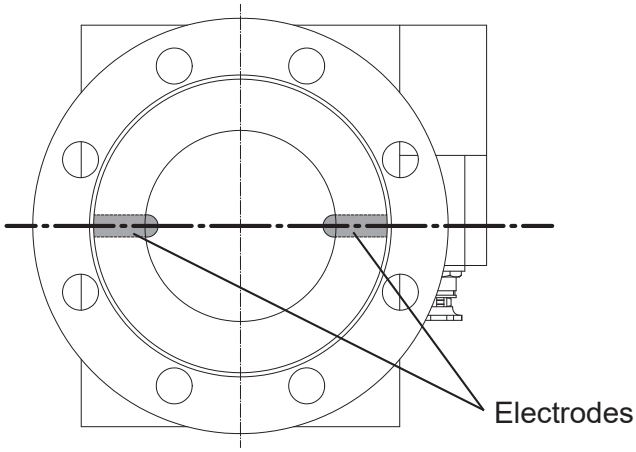


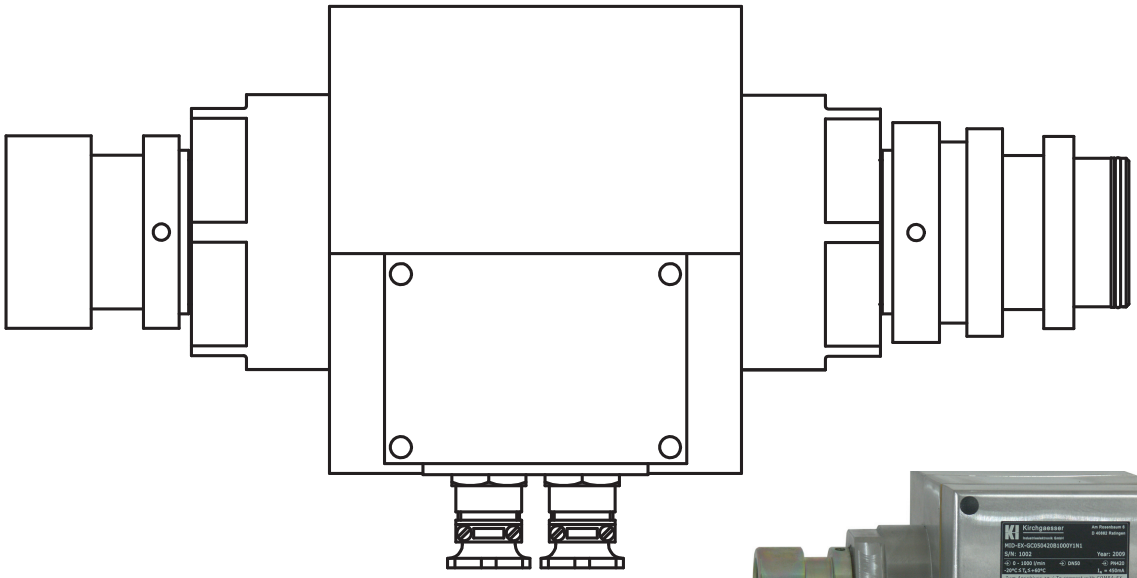
Figure 5: Horizontal orientation



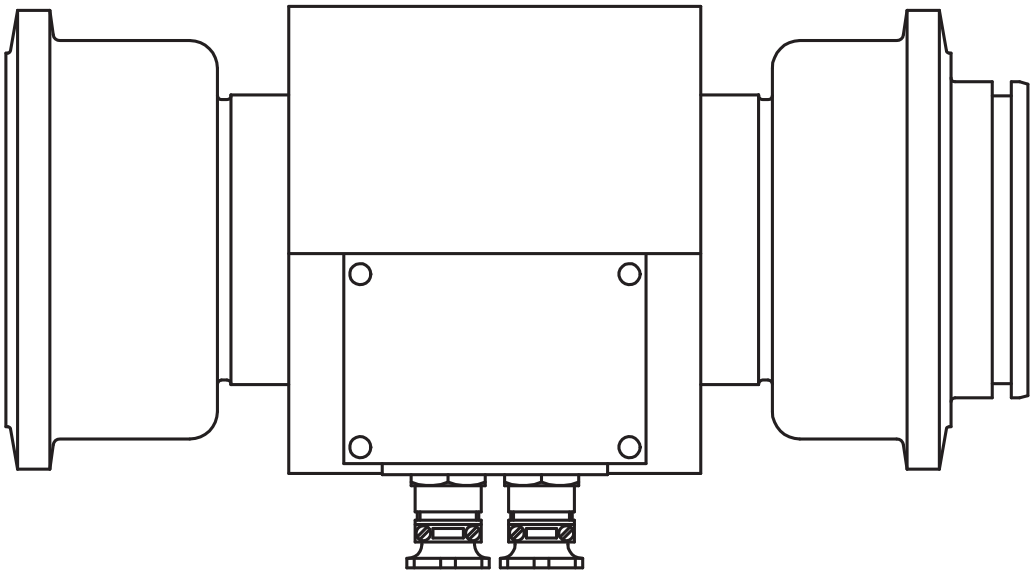
Special version with high pressure couplings:

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

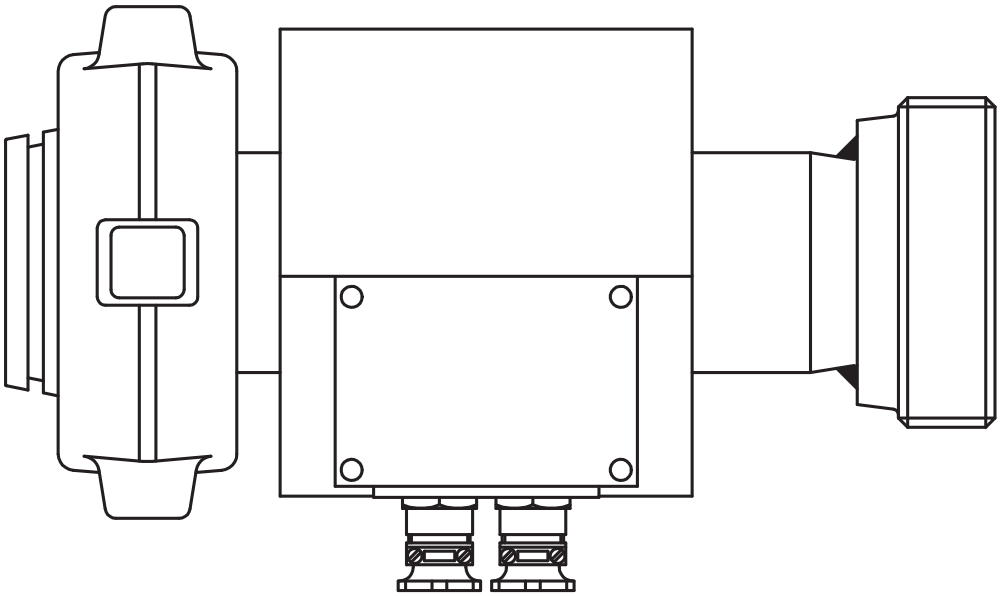
a) DN50 PN420 „SSKV coupling (heavy version)“:



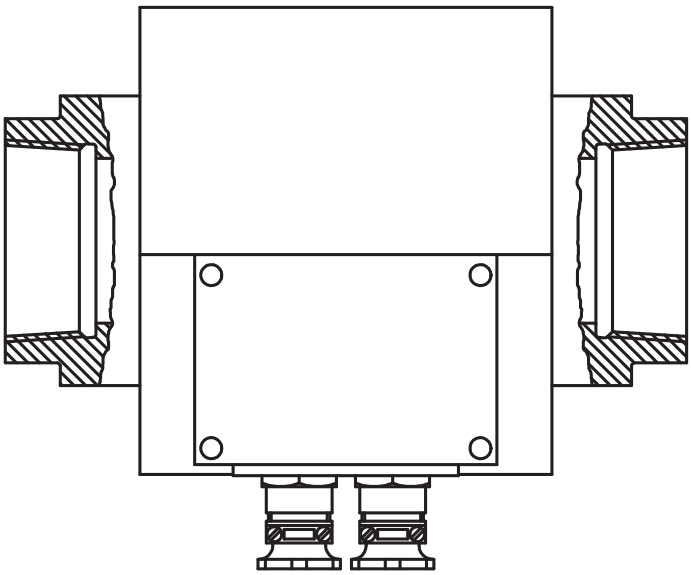
b) DN80 PN400 „Weinhold coupling“:



c) DN60 PN400 „Hamacher coupling“:



d) DN65 PN100 2.5“ NPTF female thread:



Technical data (general):

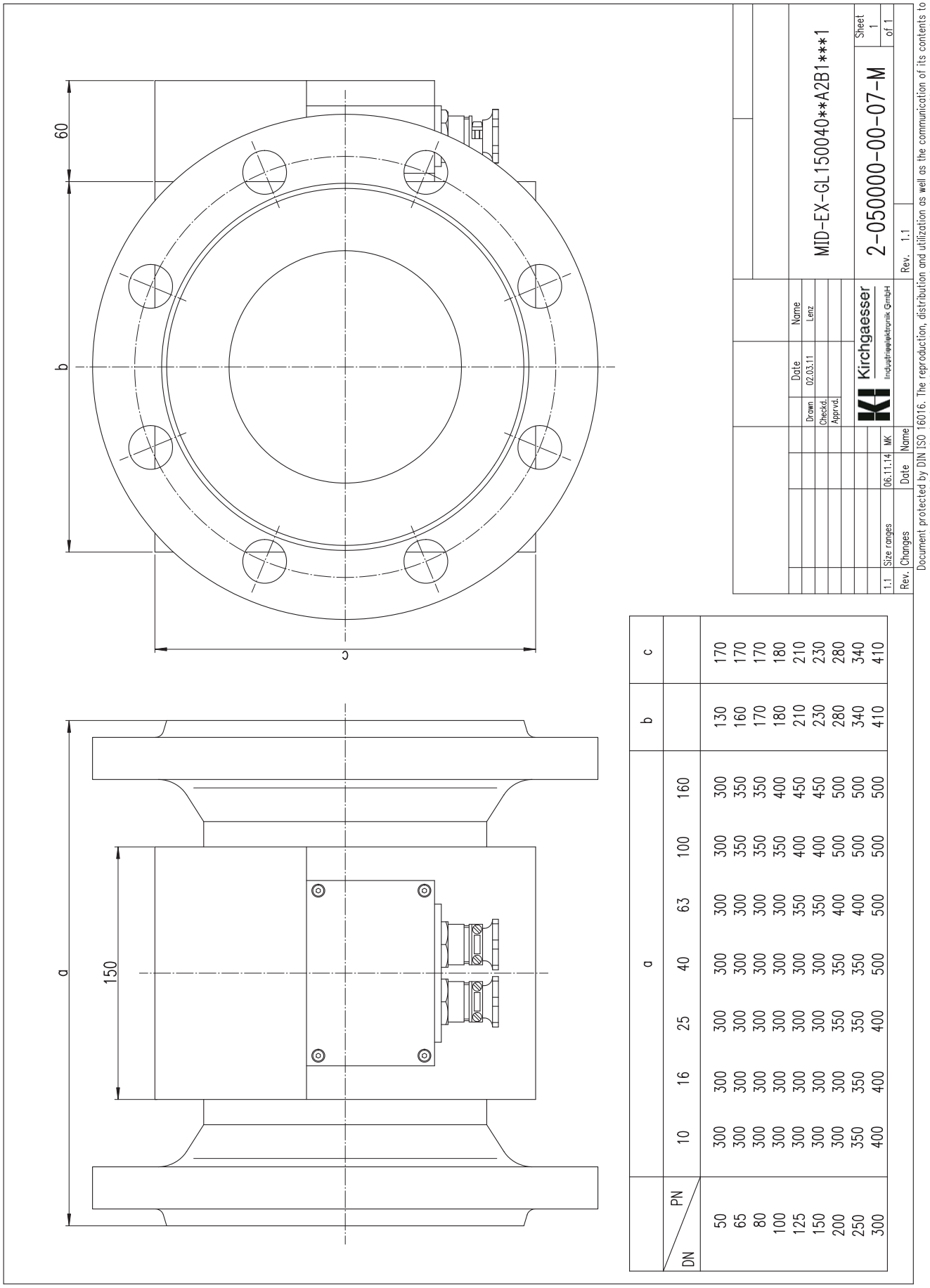
- Measuring principle:
  Electromagnetic
- Measuring uncertainty:
  - Max. ± 1% of end value
  - Typ. ± 0.5% of end value
- Materials:
  - Housing: Steel or stainless steel
  - Terminal box: Glassfibre reinforced duroplastic Polyester, graphite added
- Weight:
  Depending on version (MID-EX-GL100040**A2A1***1 approx. 23 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:
  9.0 - 13.5 VDC
- Current consumption (depending on the signal output):
  - Current output, potential-separated: 450 mA
  - Current output, not potential-separated: 470 mA
  - Frequency output: 480 mA
- Output signal:
  - Frequency (5 - 15 Hz)
  - Current (4 - 20 mA)
- Internal inductances:
  Negligible
- Internal capacitances :
  Max. 36 nF (power supply), otherwise negligible

Note!
The flow transducer MID-EX-GL is a compact device with integrated signal output without local display. For connection to the Kirchgaesser multi channel signal converter and display unit COMBA-EX or signal converter CON-EX respectively, please take a look at our device MID-EX-GC (see ka050000).

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