Kirchgaesser
Industrieelektronik GmbH

MINING ► FLOW MEASUREMENT

MID-EX-C

DESCRIPTION

The MID-EX-C is a robust and safe magnetic flow transducer for general mining applications.

In combination with the Kirchgaesser multi channel signal converter and display unit COMBA-EX the device is used to measure the flow of electrically conductive liquids such as water, emulsions, sludges, pulps and pastes.

The mounting position is arbitrary and with its compact dimensions, the device can be mounted on the most difficult installation locations and put into operation.

The device MID-EX-C is a compact device with serial output.

- The identical flow meter MID-EX-E is available with further signal outputs (maximum two current 4-20 mA, frequency 5 - 15 Hz or voltage 1 - 10 V), additional electrical connections, an additional optional pressure measurement and the suitability for use in safety systems with requirements for functional safety according to EN 13849-1 (Performance Level (PL) d) and EN 61508 (Safety Integrity Level (SIL) 2) (see ka052000en for further information).
- The flow meter is also available with a CANopen output and an additional optional temperature measurement (see ka052200en for further information).

The flow transducer is completely filled with casting compound except for connection area inside.

Occasional cleaning may be required in the case of media that tend to form heavy buildup depending on the level of buildup, therefore are special brushes available separately.

A complete description of all device features can be found in the associated Operating Instructions ba052100a1.

- Flow measurement ranges:
  - minimum 0 - 10 l/min
  - maximum 0 - 600 l/min
- Nominal pressure:
  PN100 ... PN500
- Measuring uncertainty:
  - max. ± 2% of end value
  - typ. ± 1% of end value
- Process connection:
  - Female screw thread G¾“, G1“ or G1¼“
  - Plug coupler DN10, DN12, DN19, DN25 or DN31
  - Socket nipple DN32 or DN50, type SSKV (heavy version)
- Protection (acc. to EN 60529):
  IP67
- Power supply will be provided by the Kirchgaesser multi channel signal converter and display unit COMBA-EX
- Signal output:
  Serial interface to connect with the Kirchgaesser multi channel signal converter and display unit COMBA-EX
- Electrical connection:
  Hirschmann connector type G4
- Approved according to ATEX and IECEx

MID-EX-C

ORDER CODE

10	Device version
C	Transducer to connect with the COMBA-EX

20	Additional measuring
S	Without

30	Nominal width
010	DN10
019	DN19
025	DN25
999	Special version, to be specified

40	Nominal pressure
L	PN100
M	PN160
N	PN250
O	PN320
A	PN420
P	PN500
Y	Special version, to be specified

50	Flow measuring range
Y	Special measuring range, to be specified

60	Pressure measuring range
000	Without

70	Process connection
A	Female screw thread G¾"
B	Female screw thread G1“
C	Female screw thread G1¼“
D	Plug couplers DN10
E	Plug couplers DN12
F	Plug couplers DN19
G	Plug couplers DN25
H	Plug couplers DN31
J	Socket nipple DN32 type SSKV (heavy version)
K	Socket nipple DN50 type SSKV (heavy version)
Y	Special version, to be specified

80	Inside coating
1	Polyacetal (POM)
9	Special version, to be specified

90	Electrical connection
N	1x Hirschmann connector type G4
Y	Special version, to be specified

100	Output function
7	Serial output
9	Special version, to be specified

110	Output signal
8	Internal protocol
9	Special version, to be specified

120	Special equipment
A	Without
Y	Special version, to be specified

Completed order code	10	20	30	40	50	60	70	80	90	100	110	120		Flow measurement range
MID-EX-	**C**	**S**			**Y**	**000**		**1**	**N**	**7**	**8**	**A**	**–**	three digits, acc. to table available measuring ranges

Order code connection cable VCG

10	Length of cable
___	Length of connection cable [m], max. 30 m

Completed order code	10
VCG-	

MID-EX-C

NOTES ON THE ORDER CODE

Available measuring ranges

Nominal width	Measuring range *1,2						Nominal pressure
	minimum		standard		maximum		
DN10	010	0 - 10 l/min	030	0 - 30 l/min	050	0 - 50 l/min	100 bar 160 bar 250 bar 320 bar 420 bar 500 bar
DN19	050	0 - 50 l/min	100	0 - 100 l/min	200	0 - 200 l/min	
DN25	100	0 - 100 l/min	200	0 - 200 l/min	600	0 - 600 l/min	

*1 The measuring range can be reduced by half using a switch.
*2 Higher measuring ranges are available on request

Available versions

- Nominal width + process connection:
  - The nominal width DN10 is available with plug coupler DN10 and DN12, the nominal width DN19 is available with plug coupler DN19 and the nominal width DN25 is available with plug coupler DN25 and DN31.
  - The nominal width DN25 is also available with socket nipple DN32 and DN50 (type SSKV heavy version).
- Nominal pressure + process connection:
  - Please take notice of the maximum pressure of the plug couplers (according to DIN 20043)!
    - DN10: Pmax = 530 bar
    - DN12: Pmax = 500 bar
    - DN19: Pmax = 450 bar
    - DN25: Pmax = 400 bar
    - DN31: Pmax = 300 bar
  - The maximum nominal pressure of the socket nipples DN32 and DN50 (type SSKV heavy version) is 420 bar.
- Flow measuring range:
  You need to select the option Y, because you can choose any flow measuring range (three digits for the order code) for the nominal width according to the table available measuring ranges.
- The following prefabricated connection cables are available as standard:
  - VCG-01 (length 1 m), order no. 2640001
  - VCG-05 (length 5 m), order no. 2640005
  - VCG-10 (length 10 m), order no. 2640010
  - VCG-20 (length 20 m), order no. 2640020
  - VCG-30 (length 30 m), order no. 2640030

Ordering example

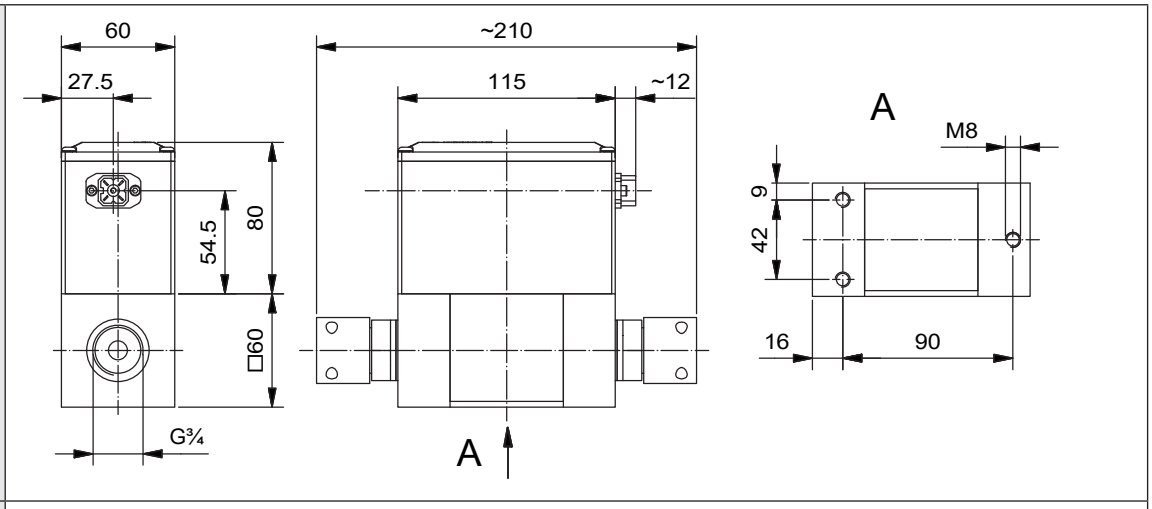
Magnetic flow transducer MID-EX-C for connection to the Kirchgaesser multi channel signal converter and display unit COMBA-EX or signal converter CON-EX, measuring range: 0 - 30 l/min (halfed with switch), nominal width: DN10, nominal pressure: PN100, process connection: plug couplers DN12, inside coating: polyacetal (POM), electrical connection: 1x Hirschmann connector type G4, certificated acc. to ATEX (marking: I M2 Ex ia I), separate power supply not necessary (provided by the multi channel signal converter and display unit COMBA-EX)

→ **MID-EX-CS010LB000E1N78A-030**

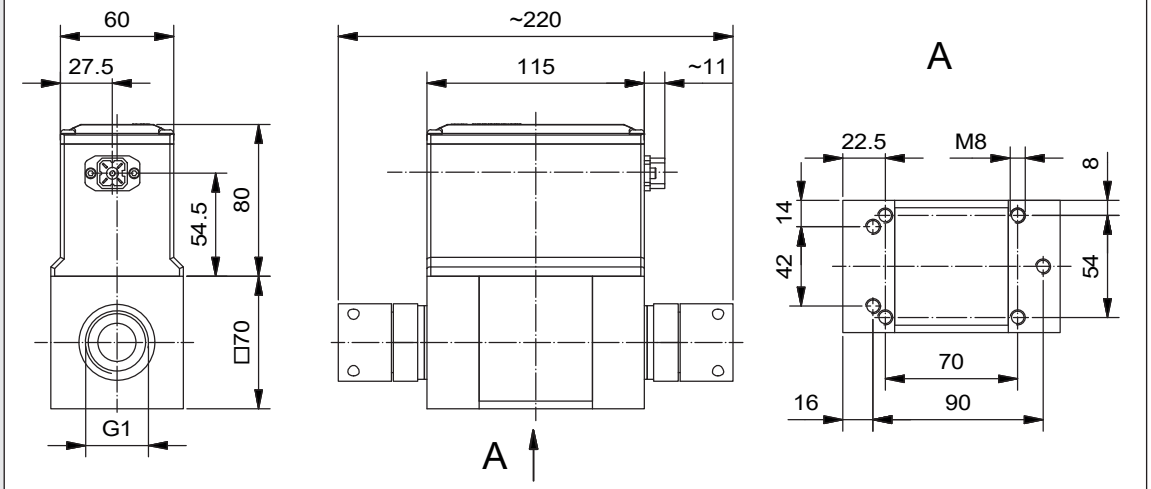
MID-EX-C

DIMENSIONS

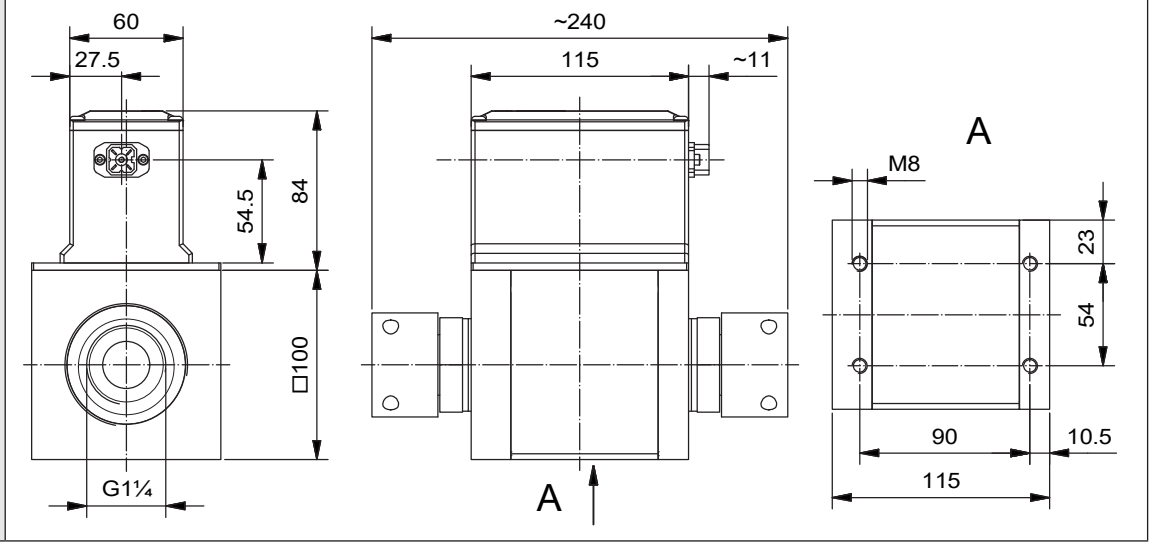
DN10



DN19



DN25



Kirchgaesser Industrieelektronik GmbH, Am Rosenbaum 6, 40882 Ratingen, Germany
Phone: +49 (0)2102-9556, Fax: +49 (0)2102-955720, www.kirchgaesser.com