

MIDEX



- ▶ Robust and safe flow meter for general mining applications
- ▶ Wear-free and maintenance-free since there are no moving parts
- ▶ Measuring principle: electromagnetic
- ▶ No fittings in the channel so no additional pressure loss
- ▶ Orientation freely selectable according to the installation notes
- ▶ Digital local display with status indicated for the potential-free optocoupler outputs
- ▶ Highly accurate supply and return temperature measurement. The refrigeration/heating capacity can be determined by two optional quartz temperature sensors.
- ▶ Totalizing counter: Medium throughput can be displayed like on a water meter and evaluated.
- ▶ The potential-free optocoupler outputs (4 in the standard version, 8 in the extended version) can be assigned the following output functions:
 - Frequency (5 .. 15 Hz) for flow, temperature and cooling capacity
 - Pulse
 - Limit
 - Flow direction
 - Medium detection
- ▶ Control input for turn down (weekend input)
- ▶ Nominal diameter available: DN40 to DN300
- ▶ Pressure ratings available: PN10 to PN500
- ▶ MTF temperature sensor (MIDEX-*T**):
 - Measuring range: - 20°C ... + 60°C (can be programmed as required)
 - Standard length of the temperature sensors: 100 mm (other lengths available on request)
 - Cable length: max. 30 m
- ▶ Marking according to 94/9/EC:
I M2 EEx ia I (DMT 02 ATEX E 115)

10	Electrical connection							
	H	Connector Hydrostar type SKK 24 M						
	K	Terminals						
	M	Connector Machaczek type ME2A10						
	P1	Connector 1x PROMOS type BN4160, not potential-free						
	P2	Connector 2x PROMOS type BN4160, potential-free						
20	Outputs							
	S	Standard, 4 potential-free outputs						
	E	Extended version, 8 potential-free outputs						
	T	With temperature sensors, 8 potential-free outputs						
30	Totalizing counter							
	S	Without totalizing counter						
	T	With totalizing counter						
40	Process connection							
	F	Flange						
	H	High pressure coupling						
	S	Special version, to be specified						
50	Lining							
	H	Vulcanite						
	M	For building material, suitable for scraper						
	P	Plastic						
	S	Special version, to be specified						
60	Nominal width							
	—	Nominal width (mm)						
70	Nominal pressure							
	—	Nominal pressure (bar)						
80	Special version *1							
	S	Special version, to be specified						

MIDEX -							*1
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*1 Only necessary with deviations from order code pos. 10 to 70!

10	Sensor length
	Length of the sensor (mm), min. 30 mm, standard 100 mm, other lengths available on request

MTF -

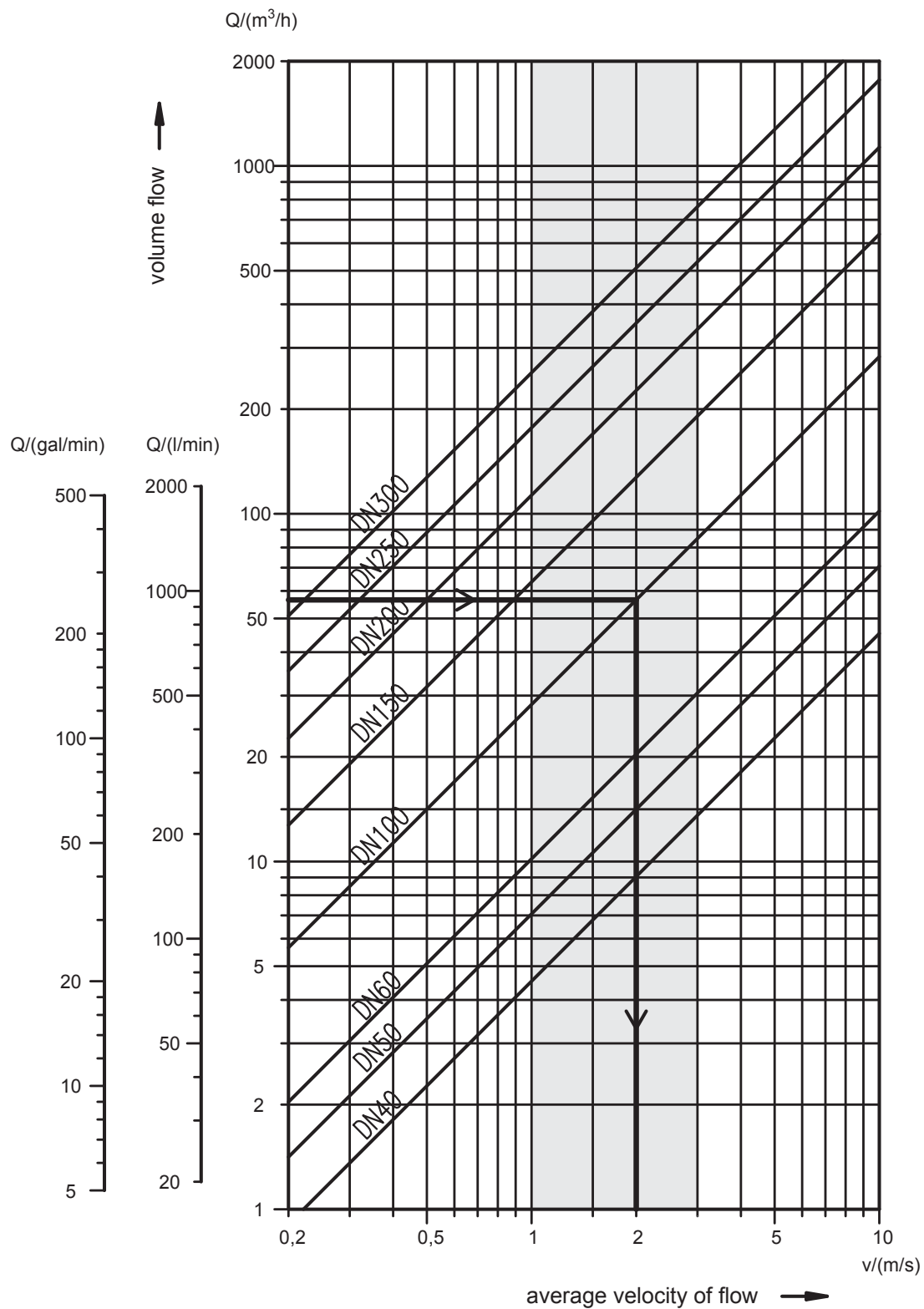
Measuring ranges:

	Measuring range (flow) Q/(m³/h)		
	minimum	standard	maximum
DN50	0 - 10	0 - 30	0 - 50
DN65	0 - 10	0 - 30	0 - 80
DN80	0 - 20	0 - 50	0 - 100
DN100	0 - 50	0 - 100	0 - 200
DN125	0 - 60	0 - 150	0 - 300
DN150	0 - 70	0 - 200	0 - 500
DN200	0 - 150	0 - 400	0 - 1000
DN250	0 - 200	0 - 600	0 - 1500
DN300	0 - 300	0 - 800	0 - 2000

	Measuring range (flow) Q/(l/min)		
	minimum	standard	maximum
DN40 / PN500	0 - 100	0 - 250	0 - 500
DN60 / PN500	0 - 200	0 - 500	0 - 1000

	Measuring range (refrigeration/heating capacity) W/(kW)		
	minimum	standard	maximum
DN40	50	300	500
DN50	50	300	500
DN60	50	300	500
DN65	50	500	1000
DN80	100	800	1500
DN100	200	1000	2500
DN125	300	2000	3500
DN150	400	3000	5000
DN200	600	5000	10000
DN250	800	8000	15000
DN300	1000	10000	20000

Volume - nominal widths - velocity of flow:



Example:

A volume flow of 56 m^3/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

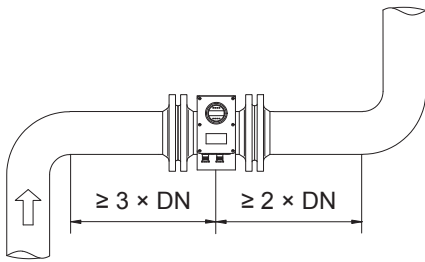


Figure 2: Location partially filled pipe

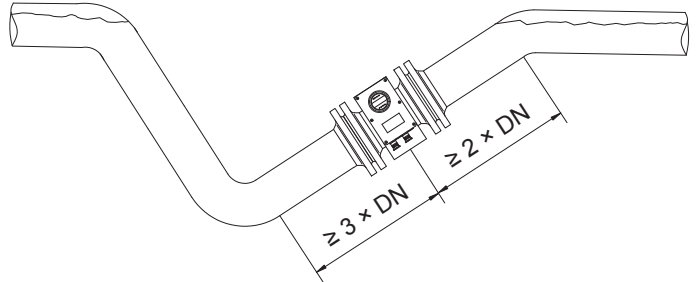


Figure 3: Alternative location

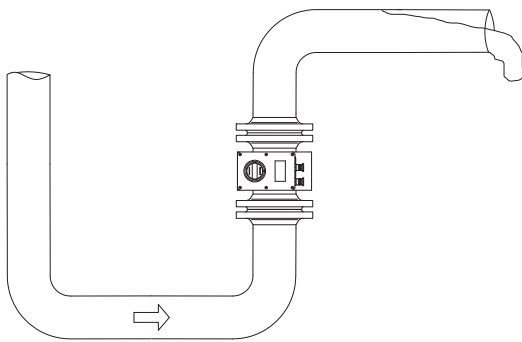


Figure 4: Locations to be avoided

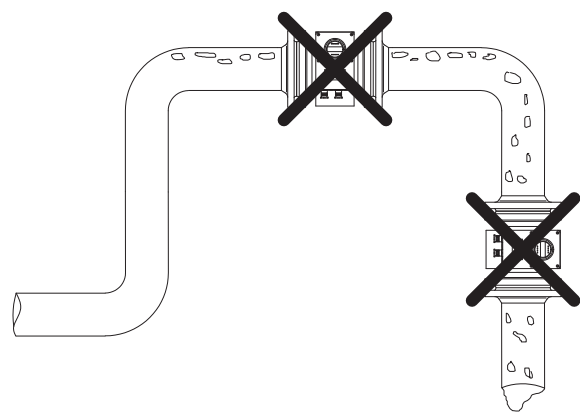
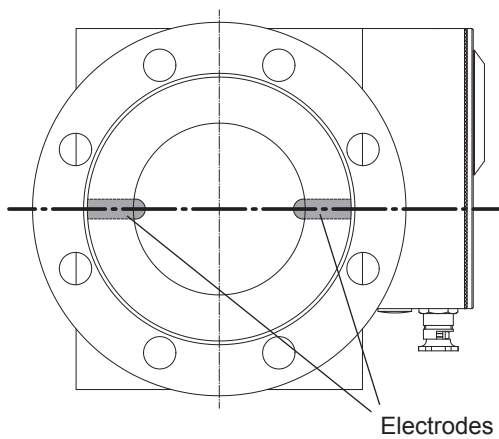


Figure 5: Horizontal orientation



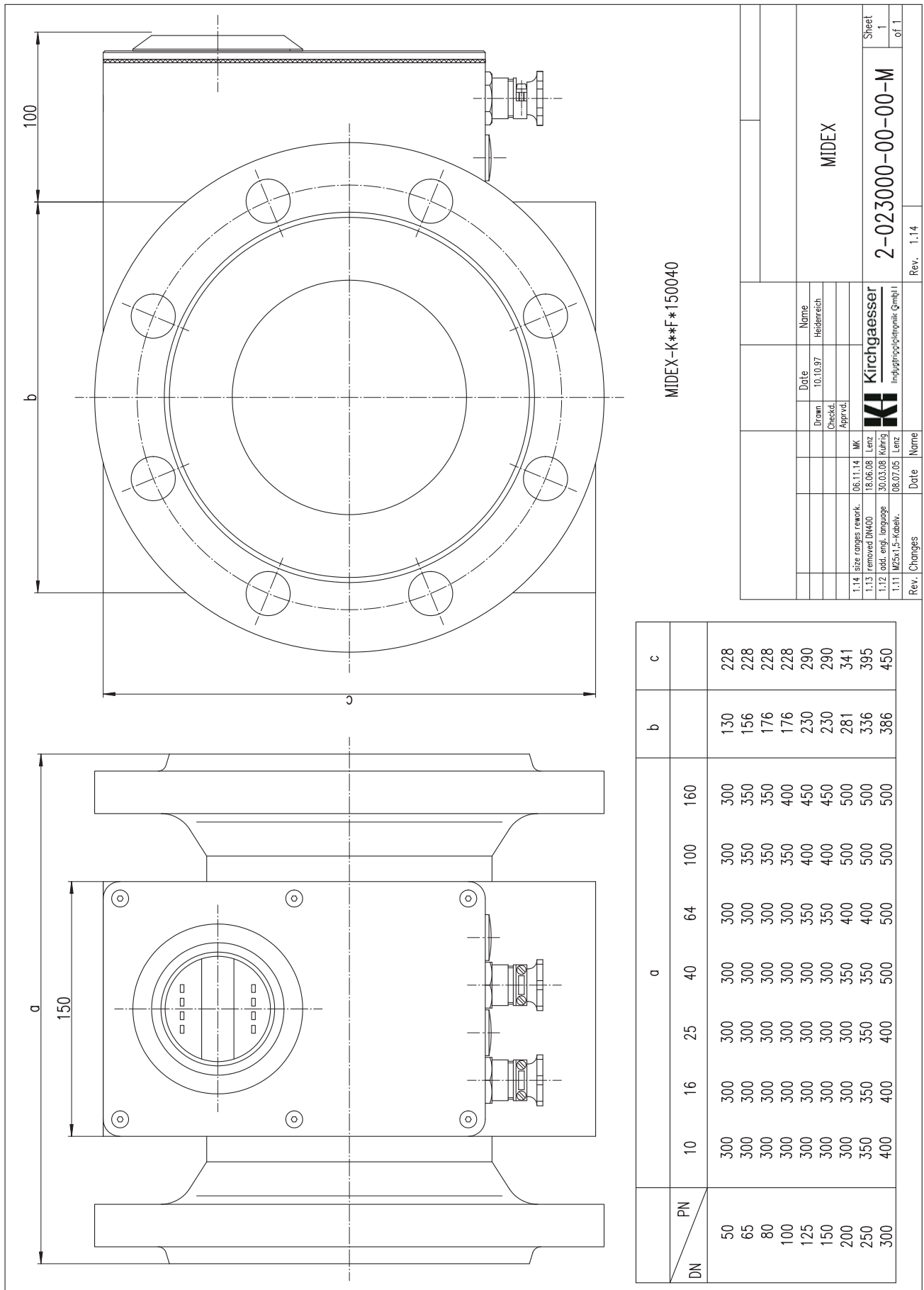
Technical data (general):

- Flow meter with local display for general mining applications
- Protection according to EN 60529:
IP 65
- Housing:
Stainless steel
- Weight:
Depending on version (MIDEX-***F*100/40: 28 kg)
- Type of protection according to EN 50014:
EEx ia I (complies with Ex ia I according to EN 60079-0)
- Cable gland:
 - M25x1.5 (MTF: M20x1.5)
 - Clamping range 8.5 - 15 mm (MTF: 8,0 - 11,5 mm)
 - Tightening torque 2 Nm
- Ambient temperature:
 $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
- Medium temperature:
Max. $+60^{\circ}\text{C}$
- Measuring uncertainty (flow):
Max. $\pm 1\%$ of end value, typ. $\pm 0.5\%$ of end value
- Measuring uncertainty (temperature):
Max. $\pm 0.2\text{ K}$

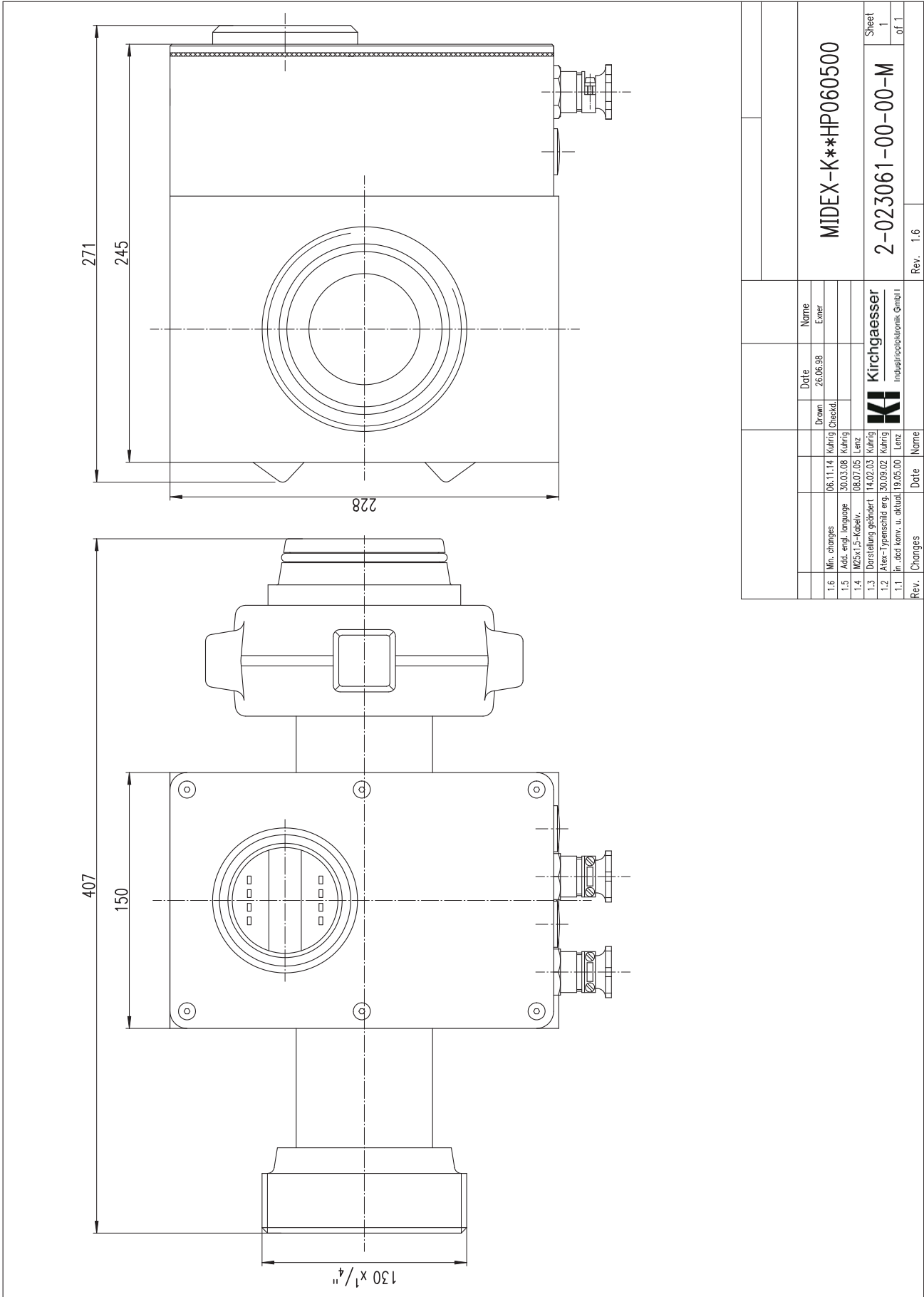
Technical data (electrical):

- Power supply:
 $9.5\text{ VDC} \leq U_i \leq 13.0\text{ VDC}$
- Current consumption:
0.5 A
- Frequency output MIDEX-H*, -K* and -M*
 - Supply voltage: max. 30 VDC
 - Power consumption: max. 50 mW
- Frequency output MIDEX-P*
 - Supply voltage: max. 13.5 VDC
- Internal inductances:
Negligible
- Internal capacitances:
Negligible

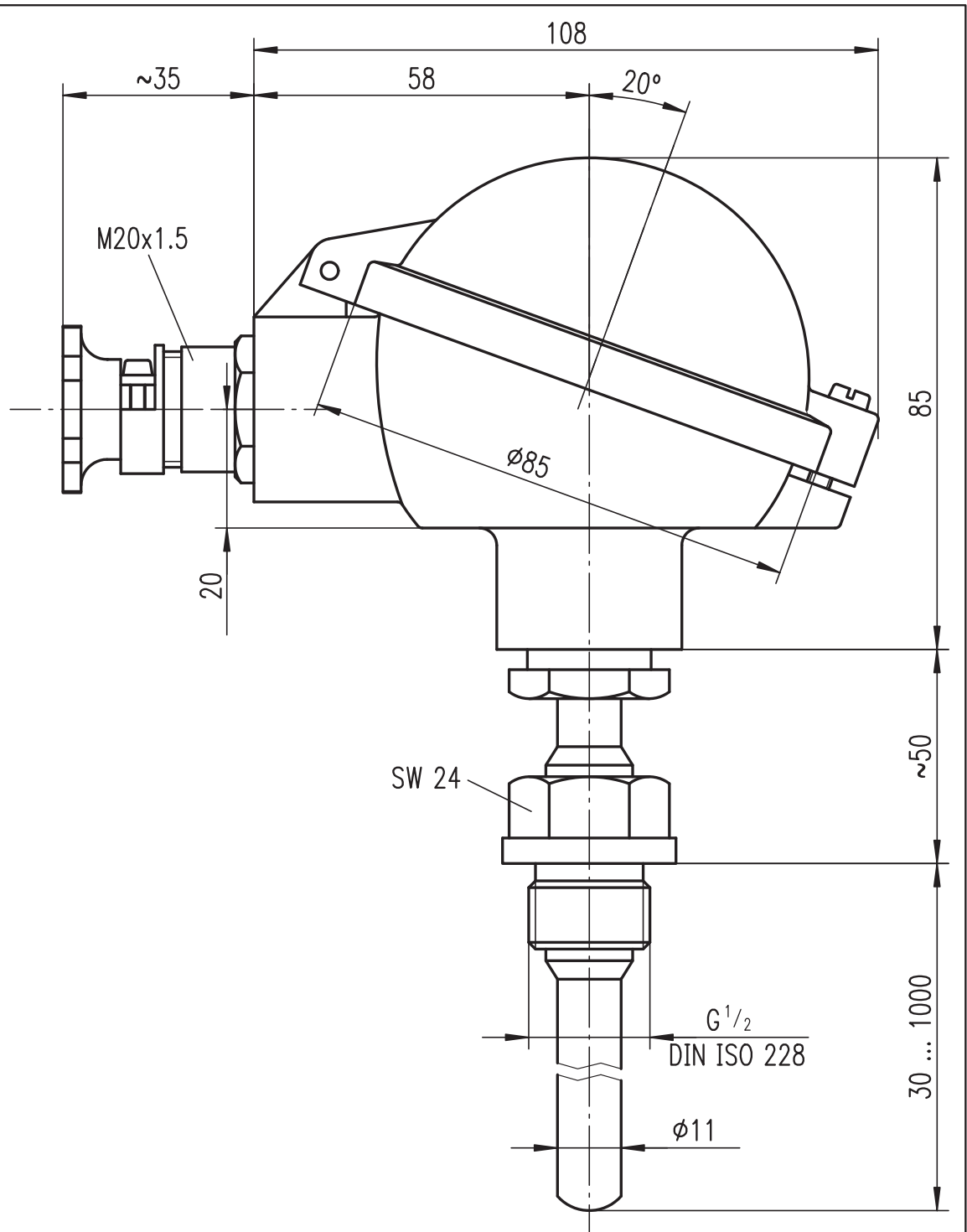
Dimension sheet MDEX-***F***:



Dimension sheet MIDEX-***H*** (with HAMACHER coupling):



Dimension sheet MTF for MDEX-*T****:



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					Date	Name		MTF			
				Drawn	29.06.98	Heidenreich					
				Checkd.							
1.5	One dimension fixed	06.11.14	Kuhrig	Apprvd.							
1.4	Add. engl. language	30.03.08	Kuhrig								
1.3	Darst. Kabelv. aktual.	08.07.05	Lenz	 Kirchgaesser Industrieelektronik GmbH		2-023000-09-00-M				Sheet 1	
1.2	Verschr. aktual.	30.09.02	Kuhrig							of 1	
1.1	in .dcd konvertiert	21.05.00	Lenz								
Rev.	Changes	Date	Name			Rev. 1.5					

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