



EXPLOSION PROTECTION

CERTIFICATE OF CONFORMITY

Cert NO.GYJ18.1098X

This is to certify that the product

Variable Area flow meters

manufactured by **Chengde Rehe-Krohne Meters Co., Ltd.**

(Address: High-tech Development Zone, Chengde, Hebei Province)

which model is **H250 / M40 Series**

Ex marking **Ex d IIC T1~T6 Gb**
Ex tD A21 IP6X T70°C~ T300°C

product standard /

drawing number **APPR GD 821037-01**

has been inspected and certified by NEPSI, and that it conforms
to **GB 3836.1-2010, GB 3836.2-2010, GB 12476.1-2013, GB 12476.5-2013**

This Approval shall remain in force until **2023.03.15**

Remarks

1. Conditions for safe use are specified in the attachment to this certificate.
2. Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment to this certificate.
3. Model designation is specified in the attachment to this certificate.
4. Safe parameters specified in the attachment to this certificate.
5. This certificate also covers the Variable Area flow meters with the same type manufactured by KROHNE Messtechnik GmbH (Address: Ludwig-Krohne Strasse 5, D-47058 Duisburg, Germany).

Director



**National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation**

Issued Date **2018.03.16**

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ18.1098X)

(Attachment I)

Attachment I (Translation)

Variable Area flow meter, type H250 / M40 series, manufactured by Chengde Rehe-Krohne Meters Co., Ltd. or Krohne Messtechnik GmbH, have been approved in accordance with the following standards by National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI):

- | | |
|----------------|--|
| GB3836.1-2010 | Explosive atmospheres – Part 1: Equipment – General requirements |
| GB3836.2-2010 | Explosive atmospheres – Part 2: Equipment protection by flameproof enclosure “d” |
| GB12476.1-2013 | Electrical apparatus for use in the presence of combustible dust
– Part 1: Equipment – General requirements |
| GB12476.5-2013 | Electrical apparatus for use in the presence of combustible dust
– Part 5: Protection by enclosures “tD” |

Ex marking: Ex d IIC T1~T6 Gb

Ex tD A21 IP6X T70°C~ T300°C

The certificate number is GYJ18.1098X, degrees of protection provided by enclosure is IP66 or IP67.

Approved type details to this certification are shown as below:

H250 **a** / **b** / **c** / M40 **d** / **e** / **f** / **g** -Ex-**h**

a code for installation type, blank, H or U;

b code for material unit material, RR, C, HC, Ti or F;

c code for heating jacket, B or w/o;

d code for indicator unit, blank, S, R or T;

e code for high temperature version, w/o or HT;

f code for signal output, w/o or ESK;

g code for limit switch, w/o, K1, K2, R1 or R2;


h code for SIL version, SE or SK.

Ambient temperature range: -40~+65 (°C)

The relations between the structure types and temperature class, ambient temperature (T_{amb}), the maximum process temperature (T_m) to this certificate are as below:

Maximum process temperature Tm (°C)										
(Continuous operating minimum temperature of connection cable and cable gland: 90°C)										
Heating jacket		HT version	Temperature class (Gas)							
			Maximum surface temperature (Dust)							
			T6 T70°C	T5 T100°C	T4 T135°C	T3 T200°C		T2~T1 T300°C		
without			with		Tamb. (°C)					
					≤60	≤65	≤65	≤60	≤65	≤60
DN15	DN15	No	85	100	135	200	175	200	175	
DN25	DN25		Yes	85	100	135	200	200	300	300
DN50										
DN80	DN50	No	85	100	135	185	165	185	165	
DN100	DN80		Yes	85	100	135	200	200	300	300

Maximum process temperature Tm (°C)												
(Continuous operating minimum temperature of connection cable and cable gland: 70°C)												
Heating jacket		HT version	Temperature class (Gas)									
			Maximum surface temperature (Dust)									
			T6 T70°C	T5 T100°C	T4 T135°C	T3 T200°C	T2~T1 T300°C					
without	with		Tamb. (°C)									
			≤60	≤60	≤65	≤60	≤65	≤60	≤65	≤60	≤65	
DN15	DN15	No	85	100	75	105	75	105	75	105	75	
DN25	DN25											
DN50		Yes	85	100	95	135	95	175	95	175	95	
DN80	DN50	No	85	90	75	90	75	90	75	90	75	
DN100	DN80											
		Yes	85	100	90	135	90	155	90	155	90	

Permitted maximum temperature at reference poin T Ref °C (reference point: PA connection, temperature range: -40~+84 (°C))				
 Heating jacket		Temperature class (Gas)		
		Maximum surface temperture (Dust)		
without	with	T1~T6 T70°C~T300°C	T6 T74°C	T1~T5 T100°C~T300°C
		Continuous operating minimum temperature of connection cable and cable gland		
		70°C	90°C	
		64	74	84
DN15 DN25 DN50 DN80 DN100	DN15 DN25 DN50 DN80			

I . SPECIAL CONDITIONS FOR SAFE USE

For the details on the dimensions of the flameproof joints, the manufacturer shall be contacted.

II . SPECIAL REQUIREMENTS

2.1. Electrical parameters:

Circuit type	Terminal code	Normal electrical parameters
ESK4 signal output / converter	11-12	$U_N = 14\sim 32V$ $I_N = 4\sim 20mA$, HART
ESK4 binary output (OC)	1-3, 4-6	$U_N = 8\sim 32V$ $I_N \leq 100mA$
ESK4 binary output (NAMUR)	1-3, 4-6	$U_N = 8V$ $I_N \leq 1mA / \geq 3mA$
ESK4 status input (NAMUR)	7-8	$U_N = 8\sim 32V$ $I_N \leq 2mA$
ESK4-FF signal output ESK4-PA signal output	D-D \perp	$U_N = 9\sim 32V$ $I_N = 16mA$
Limit switches K1/K2 2-wire (NAMUR)	1-2, 4-5	$U_N = 5\sim 25V$ $I_N \leq 100mA$
Limit switches K1/K2 3-wire (OC)	1-2-3, 4-5-6	$U_N = 10\sim 30V$ $I_N = 16mA$
Reed contacts R1/R2	1-2-3, 4-5-6	$U_N = 0\sim 32V$ $I_N \leq 100mA$

- 2.2 Do not open the cover when the type H250 / M40 is located in Explosive atmospheres
- 2.3 The enclosure shall be kept from the dust, but the dust shall not be blown by compressed air.
- 2.4 Users are forbidden to change the configuration to ensure the explosion protection performance of the equipment. Any faults shall be settled with experts from the manufacturer.
- 2.5 During installation, operation and maintenance, users shall comply with the relevant requirements of the product instruction manual, GB3836.13-2013 "Explosive atmospheres-Part 13: Equipment repair, overhaul and reclamation", GB3836.15-2000 "Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous areas (other than mines)", GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres Part 16: Inspection and maintenance of electrical installation (other than mines)", GB15577-2007 "Safety regulations for dust explosion prevention and protection", GB12476.2-2010 "Electrical apparatus for use in the presence of combustible dust Part 2: Selection and installation" and GB50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

III. MANUFACTURER'S RESPONSIBILITY

- 3.1 The instruction manual shall include all the clauses mentioned above.
- 3.2 The manufacturer shall exactly conform to the documents approved by NEPSI.
- 3.3 The nameplate shall add the following:
- 3.3.1 Identification of NEPSI.
- 3.3.2 Certificate No.

**National Supervision and Inspection Centre
For Explosion Protection and Safety of Instrumentation**
March 16, 2018