DTI-E82
Electromagnetic flow meter

2025

Dalian Teren Instruments Co.,Ltd

Model: DTI-E82(Integrated Type), DTI-E82S(Split Type)

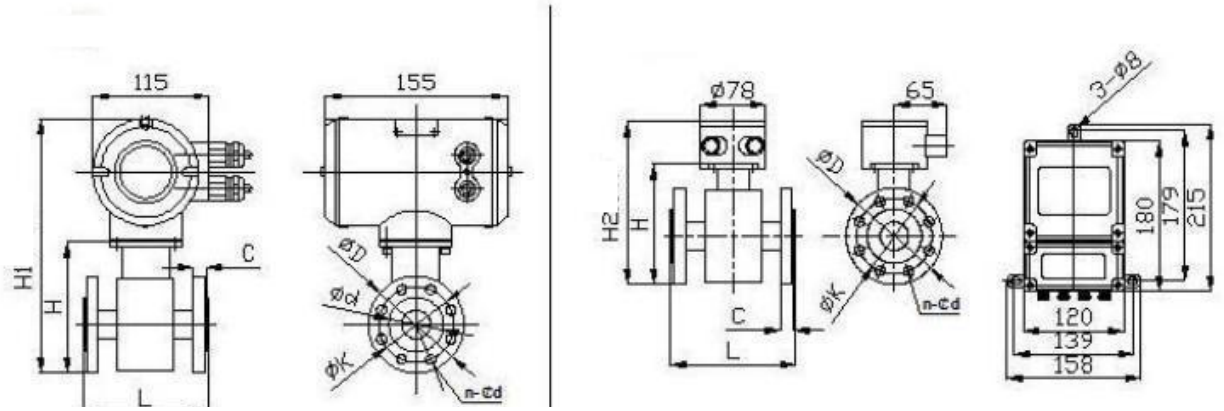
Features

- ➢No Moving Parts, Virtually No Pressure Loss;
- ➢Corrosion protection, abrasion resistant;
- ➢High accuracy, Stable performance;
- ➢High level of anti-vibration and anti-jamming, wide measuring dimensions.
- ➢Multi-Output Interface：4~20mA, Pulse, HART or RS-485

Technical parameters

Nominal meter size	6-2000mm
Accuracy	±0.5% in the range of 0.1m/s to 10m/s
Conductivity	＞5μs/cm（Liquid or solid-liquid two-phase fluid）
Measuring range	0.05m/s～12m/s, velocity resolution: 0.5mm/s
Fluid temperature	0~70℃, up to 180℃ upon request (Note: limited by the temperature characteristics of the lining material)
Ambient temperature	Sensor:-25℃～+60℃ Converter: -10℃～+60℃
Ambient humidity	5%<85% r.h (non-condensing)
Shell material	Carbon steel, customizable (e.g. stainless steel SS304, SS316L)
Lining material	CR,FEP,PTFE,PFA
Electrode material	SS316L(Standard), others can be customized as required (e.g. Hc, Hb, Ti, Ta, Pt)
Communications(opt.)	RS-232 without galvanic isolation RS-485 with galvanic isolation MODBUS HART
Power supply	85 to 250VAC(45 to 63Hz) 20-36VDC
Power	＜10W(after connecting the sensor)
Protection grade	IP65 for Integrated Type, IP67 or IP68 (opt.) for Split Type
Process connection	Flange, thread, clamp(opt.)

Dimensions



DN	L (mm)	H	H1	H2	D	K	n-Ød	C	Pressure
10	160(F46)	130	247	180	95	65	4-Ø 14	14	PN4.0
15		135	252	185	95	65	4-Ø 14	14	
20		143	260	193	105	75	4-Ø 14	16	
25	160 (PTFE) 165 (F46)	123	240	173	115	85	4-Ø 14	16	
32		150	267	200	140	100	4-Ø 18	18	
40	195 (PTFE) 200 (F46)	160	277	210	150	110	4-Ø 18	18	
50		173	290	223	165	125	4-Ø 18	20	
65	195 (PTFE) 200 (Rubber)	183	300	233	185	145	4-Ø 18	20	PN1.6
80		206	323	256	200	160	8-Ø 18	20	
100	245 （PTFE） 250 (Rubber)	225	342	275	235	180	8-Ø 18	22	
125		255	372	305	250	210	8-Ø 18	22	
150	295 / 300	287	405	337	285	240	8-Ø 22	24	
200	345 / 350	344	461	395	340	295	12-Ø 22	26	
250	395 / 400	396	512	446	395	350	12-Ø 22	26	PN1.0
300	495 / 500	450	565	500	445	400	12-Ø 22	28	
350		510	625	560	500	460	16-Ø 22	30	
400	595 / 600	560	675	610	565	515	16-Ø 26	32	
450		610	725	660	615	565	20-Ø 26	35	
500		660	775	710	670	620	20-Ø 26	38	
600		770	885	820	780	725	20-Ø 30	42	
700	700	910	1025	960	895	840	24-Ø 30	30	
800	800	1020	1135	1070	1010	950	24-Ø 34	32	
900	900	1120	1235	1170	1110	1050	28-Ø 34	34	
1000	1000	1220	1335	1270	1220	1160	28-Ø 36	34	
1200	1200	1410	1525	1460	1400	1340	32-Ø 33	60	PN0.6
1400	1400	1620	1735	1670	1620	1560	36-Ø 36	68	
1600	1600	1850	1965	1900	1880	1760	40-Ø 36	76	
1800	1800	2040	2155	2100	2045	1970	44-Ø 39	84	
2000	2000	2250	2365	2300	2265	2180	48-Ø 42	92	

Flow Ranges and Meter Sizes

Sizes mm (in.)	Flow Range	
	Minimum	Maximum*
	m 3/h	m 3/h
10(0.4)	0.014	3.39
15 (0.6)	0.03	3.39
20 (0.8)	0.06	13.56
25 (1)	0.09	21.19
40 (1.6)	0.23	54.25
50 (2)	0.35	84.78
65 (2.5)	0.6	143
80 (3)	0.90	217
100 (4)	1.41	339
125（4.9）	2.21	529
150(6)	3.18	763
200 (8)	5.65	1356
250 (10)	8.83	2119
300 (12)	12.7	3052
350 (14)	17.3	4154
400 (16)	22.6	5425
450 (18)	28.6	6867
500 (20)	35.3	8478
600 (24)	51	12208
700 (28)	69	16616)
800 (31)	90	21703
900 (35)	114	27468
1000 (39)	141	33912
1200 (47)	203	48833
1400 (55)	277	66467
1600 (63)	361	86814
1800 (71)	457	109874

Lining material selection

Lining Material	Model	Performance	temperature	Applicable liquid	Applicable pipe size
Rubber	CR	Moderate wear resistance, resistant to corrosion by low concentrations of acids, alkalis and salts	<60℃	Tap water, industrial water, sea water	DN50 ~ 2000
	PU	Excellent wear resistance, poor acid and alkali resistance	<60℃	Pulp, mineral pulp and other slurries	DN25 ~ 500
Fluoroplastic	F4 (PTFE)	The chemical properties are very stable, resistant to corrosion from boiling hydrochloric acid, sulfuric acid, aqua regia, and concentrated alkali	<160℃	Strongly corrosive acid, alkali and salt liquids	DN25 ~ 1600
	F46 (FEP)	Chemical properties are equivalent to F4 compression, tensile strength is better than F4	<120℃	Corrosive acid, alkali and salt liquids	DN10 ~ 200
	PFA	Chemical properties are equivalent to F46 compression, tensile strength is better than F46	<180℃	Corrosive acid, alkali and salt liquids	DN10 ~ 300

Determination of materials for electrodes and grounding rings

Materials	Corrosion properties
316L	Applicable: 1. Domestic water, industrial water, raw water, well water, urban sewage 2. Weakly corrosive acid, alkali, salt solution
HB	Applicable: 1. Non-oxidizing acids such as hydrochloric acid (concentration less than 10%) 2. Sodium hydroxide (concentration less than 50%), all concentrations of sodium hydroxide alkaline solution 3. Phosphoric acid, organic acids Not applicable: Nitric acid
HC	Applicable: 1. Mixed acid and mixed solution of chromic acid and sulfuric acid 2. Oxidizing salts such as Fe+++, Cu++, sea water 3. Phosphoric acid, organic acid Not applicable: Hydrochloric acid
Ti	Applicable: 1 Salt, such as: (1)Nitride (chloride/magnesium/aluminum/calcium/ammonium/iron, etc.) (2) Sodium salt, potassium salt, ammonium salt, hypoaluminate, seawater Potassium hydroxide, ammonium hydroxide, barium hydroxide alkaline solution

	with a concentration less than 50% Not applicable: Reducing acids such as hydrochloric acid, sulfuric acid, phosphoric acid, hydrofluoric acid, etc.
Ta	Applicable: 1. Hydrochloric acid (concentration less than 40%), dilute sulfuric acid and concentrated sulfuric acid (excluding fuming sulfuric acid) 2. Chlorine dioxide, ferric chloride, hypochlorous acid, sodium cyanide, acetic acid, etc. 3. Nitric acid (including fuming nitric acid) and other oxidizing acids, aqua regia with a temperature below 80°C Not applicable: alkali, hydrofluoric acid
Pt	Applicable: Almost all acids, alkalis, and salt solutions (including fuming sulfuric acid and fuming nitric acid) Not applicable: Aqua regia, ammonium salts
Tungsten Carbide	Applicable: pulp, sewage, resistant to interference from solid particles Not applicable: inorganic acid, organic acid, chloride

Insertion electromagnetic flowmeter

Insertion electromagnetic flowmeter is a new type of flow meter developed on the basis of pipeline electromagnetic flowmeter. It retains the advantages of pipeline electromagnetic flowmeter, and aims at the defects of pipeline electromagnetic flowmeter such as difficulty in installation on pipeline and high cost. According to the NIKURADS principle, it uses electromagnetic method to measure the average flow velocity of fluid to obtain the volume flow of fluid. In particular, after adopting the pressure opening and pressure installation technology, the insertion electromagnetic flowmeter can be installed without stopping water, and can also be installed on cast iron pipes and cement pipes. The successful development of the insertion electromagnetic flowmeter provides a new means for the detection of fluid flow.

Parameters

Pipe size	300~3000mm
Flow range	0.1~10m/s
Accuracy	0.5~10m/s;±1.5%FS;0.1~0.5m/s;±2.0%FS 0.1~10m/s;±2.5%FS(FS:40%~100% full scale flow)
Conductivity	>5μs/cm
Straight pipe section	5D front, 3D rear
Medium temperature	-20℃~/+130℃
Ambient temperature	-20℃~/+60℃
Pressure	1.6MPa
Protection	IP65(Integration)IP68(Remote)
Electrode	316L
Output	4-20mA;RS485;HART;MODBUS
Sensor Material	Stainless steel
Power supply	220VAC or 24VDC
Power	6.5W
Pressure resistance level	≤1.6MPa

Measuring Range

M3/s \ M/s mm	0.5	1	2	3	4	5	6	7	8	9	10
300	127	254	509	763	1017	1272	1526	1780	2035	2289	2545
350	173	346	692	1039	1385	1731	2077	2423	2769	3116	3464
400	226	452	904	1356	1809	2261	2713	3165	3617	4069	4523
450	286	572	1145	1717	2289	2861	3434	4006	4578	5150	5725
500	353	707	1413	2120	2826	3533	4239	4946	5652	6359	7069
600	509	1017	2035	3052	4069	5087	6104	7122	8139	9156	10180
700	692	1385	2769	4154	5539	6924	8308	9693	11078	12463	13847
800	904	1809	3617	5426	7235	9043	10852	12660	14469	16278	18086
900	1145	2289	4578	6867	9156	11445	13734	16023	18312	20602	22891
1000	1413	2826	5652	8478	11304	14130	16956	19782	22608	25434	28260
1200	2035	4069	8139	12208	16278	20347	24417	28486	32556	36625	40694
1400	2769	5539	11078	16617	22156	27695	33234	38773	44312	49851	55390
1600	3617	7235	14469	21704	28938	36173	43407	50624	57876	65111	72346
1800	4578	9156	18312	27469	36625	45781	54937	64094	73250	82406	91562
2000	5652	11304	22608	33912	45216	56520	67824	79128	90432	101736	113040
2200	6839	13678	27356	41034	54711	68389	82067	95745	109423	123101	136778
2400	8139	16278	32556	48833	65111	81389	97667	113944	130222	146500	162778
2600	9552	19104	38208	57311	76415	95519	114623	133726	152830	171934	191038
2800	11078	22156	44312	66468	88623	110779	132935	155091	177247	199403	221558
3000	12717	25434	50868	76302	101736	127170	152604	178038	203472	228906	254340