

FMG310 Series Dual Rotameter Flowmeter

MAIN FEATURES

- The helical rotor rotates at the same speed in the metering cavity, with stable operation at constant flow and constant speed, extremely low noise, large flow, and low pressure loss
- The helical rotor rotates at a constant speed, the fluid pulsation is small, the signal pulse is stable and accurate, and a variety of counters, speed regulators and external fine regulators can be configured.



OVERVIEW

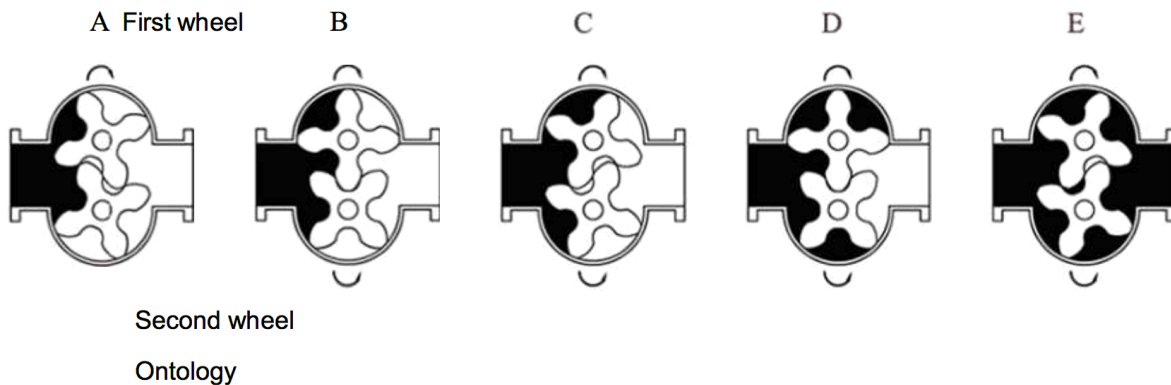
FMG310 The dual-rotor flowmeter is the latest generation of positive displacement flowmeter produced by our company. Because it adopts a pair of special toothed helical rotors, it has the advantages of no pulsation, extremely low noise, high precision, high reliability, large flow, and environmental adaptability. strong sexual characteristics. It is widely used in petrochemical, metallurgy, electronics, dock and other industries. It is especially suitable for trade measurement of industrial liquids such as crude oil, refined oil and heavy oil.

TECHNICAL PARAMETER

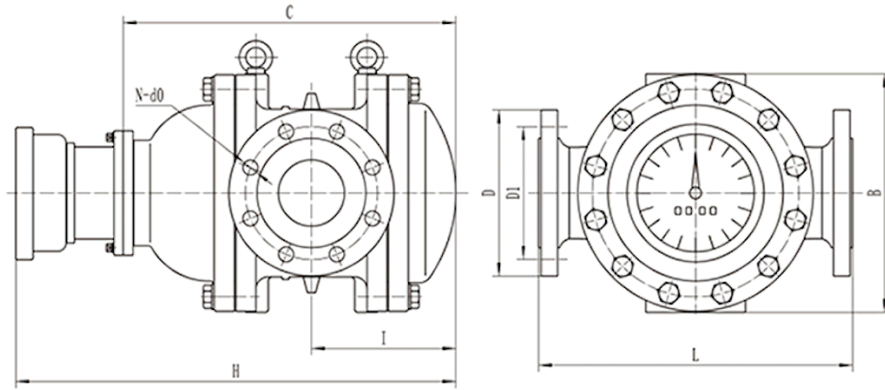
Diameter	25、40、50、80、100、150、200、250、300.
Allowed deviation (%)	±0.2、±0.5.
Repeatability deviation (%)	0.2 grade is 0.07、0.5 grade is 0.17.
Allowed operating pressure (Mpa)	1.6、2.5、4.0、6.4
Medium temperature of tested (°C)	-40~+60、-40~+120、+100~+300
Medium viscosity of tested (mpa·s)	0.6~200
Anti-explosion rate	dllBT4、IallCT4, (Statement: we have two kinds of output signal: Ordinary and anti-explosion)
Power supply	Pipe flange standard: HG20592-90、JB/T79.1-94
Material	Stainless steel, cast steel, 316L(0Cr17 Ni12 Mo2 gasoline medium with stainless steel bearing, high temperature medium with high temperature bearing.)

WORKING PRINCIPLE

FMG310 flow meter belongs to volumetric flow meter, measuring chamber is sealed cavity (refers to the dash area) made up of empty slot of screw rotor (measurement element) and in wall of measurement chamber ,rotor can export 8 times cavity volume per cycle, so, flow of liquid has a direct ration with screw rotor rotating speed, totally value of rotation translated into measurement of liquid flow.



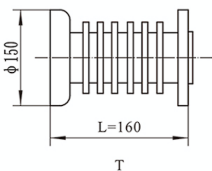
DIMENSION



Model	DN	L		H	B	C	1	D	D1	N	DO	MPa	kg/PC
		Standard											
FMG310-25	25	300		420	175	238	97	115	85	4	14	The flanges in the table are 4.0MPa as an example	29
FMG310-25k	40	300		420	175	238	97	150	110	4	18		33
FMG310-40		300		450	205	271	112	150	110	4	18		40
FMG310-40k	50	300		450	205	271	112	165	125	4	18		42
FMG310-50		360		525	240	333	150	165	125	4	18		62
FMG310-50k	80	360		525	240	333	150	200	160	8	18		64
FMG310-80		380		580	285	388	175	200	160	8	18		94
FMG310-80k	100	380		580	285	388	175	235	190	8	22		98
FMG310-100		440		660	339	468	250	235	190	8	22		146
FMG310-100k	150	440		660	339	468	250	300	250	8	26		152
FMG310-150		540		740	410	548	270	300	250	8	26		238
FMG310-150k	200	540		740	410	548	270	360	310	12	26		245
FMG310-200		700		820	465	590	279	360	310	12	26		337
FMG310-200k	250	700		820	465	590	279	425	370	12	30		350
FMG310-250		700		910	554	690	326	425	370	12	30	570	
FMG310-250k	300	700		910	554	690	326	485	430	16	30	600	
FMG310-300		800		1010	760	852	410	485	430	16	30	855	
FMG310-300k	350	800		1010	760	852	410	555	490	16	33	890	

Note:

- (1) "H" dimension is the dimension with G-type governor and A5/A6;
- (2) For the flowmeter with thermal insulation jacket, the inlet and outlet of the heat source are connected by DN20 flanges;
- (3) If a high temperature radiator is configured, please add the size of the radiator to the H dimension in the table, which is the total height of the high temperature flowmeter;
- (4) M12 lifting ring below 100 caliber; M16 lifting ring above 150 caliber;



Note:

In the model, T is a high temperature flowmeter, which is used for 60C~100°C, without a transmitter or an electronic counter, and a radiator is not required, and a radiator is required for TC~200°C.

FLOW RANGE (accuracy class 0.5) m³/h

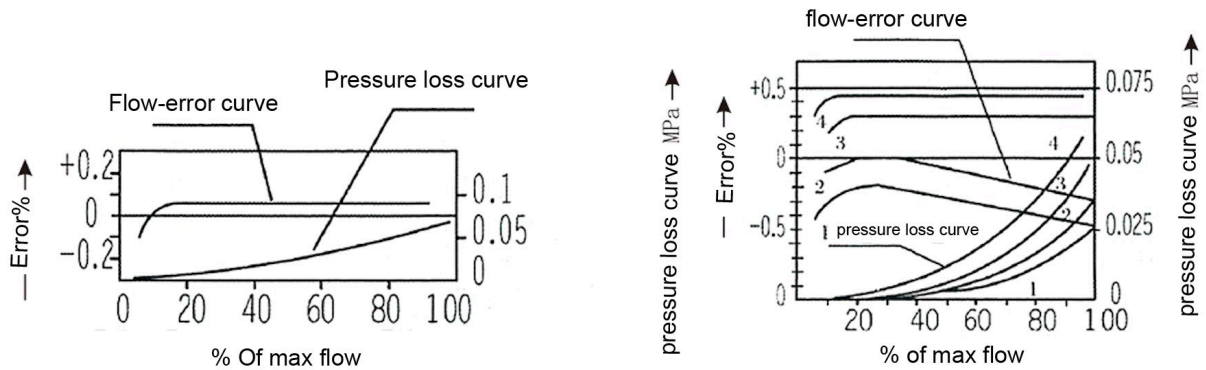
Model	DN	Viscosity mPa. s						
		0.3 ~2		2~5	5~15	15 ~50	50~400	400~2000
		gasoline	kerosene	diesel fuel	heavy oil I	heavy oil II	heavy oil III	high viscosity liquid
FMG310-25	25	2.5~9	1.5 ~10	1~10	1~10	0.8-10	0.5 ~10	0.5 ~6
FMG310-25k	40							
FMG310-40	40	4~22	3.5 ~22	3~25	2.5 ~25	2~25	2~25	1.5 ~14
FMG310-40k	50							
FMG310-50	50	8~42	7~42	6~45	5~45	4~45	4~45	3~23
FMG310-50k	80							
FMG310-80	80	20~100	15~100	10~100	8~100	6~100	5 ~100	5~40
FMG310-80k	100							
FMG310-100	100	25~140	20~140	18~180	16~180	8.5-180	7~180	7~65
FMG310-100k	150							
FMG310-150	150	50~250	30~270	25~270	20~270	15~270	10~270	8.5-100
FMG310-150k	200							
FMG310-200	200	70~360	50~400	40~400	30~400	25~400	15~400	13~160
FMG310-200k	250							
FMG310-250	250	100~550	65~550	55~600	45~600	40~600	35~600	25~240
FMG310-250k	300							
FMG310-300	300	180~800	100~900	95~950	80~950	60~950	50~900	45~400
FMG310-300k	350							

FLOW RANGE (accuracy class 0.2) m³/h

Model	DN	Viscosity mPa. s						
		0.3 ~2		2~5	5~15	15 ~50	50~400	400~2000
		gasoline	kerosene	diesel fuel	heavy oil I	heavy oil II	heavy oil III	high viscosity liquid
FMG310-25	25	3.5 ~9	3~10	2~10	2~10	1.5 ~10	1~10	0.8 ~6
FMG310-25k	40							
FMG310-40	40	7~22	6~22	4~25	4~25	3~25	2.5 ~25	2~14
FMG310-40k	50							
FMG310-50	50	15 ~42	12 ~42	10 ~45	8~45	7~45	6~45	4~23
FMG310-50k	80							
FMG310-80	80	30~100	20~100	15~100	12~100	10~100	8~100	6~40
FMG310-80k	100							

FMG310-100	100	40~140	30~140	25~180	20~180	15~180	10~180	8~65
FMG310-100k	150							
FMG310-150	150	80~250	55~270	45~270	35~270	25~270	20~270	15~100
FMG310-150k	200							
FMG310-200	200	100~360	75~400	60~400	45~400	35~400	25~400	20~160
FMG310-200k	250							
FMG310-250	250	150~550	110~550	80~600	60~600	50~600	40~600	35~240
FMG310-250k	300							
FMG310-300	300	250~800	200~900	160~950	120~950	90~950	70~950	60~340
FMG310-300k	350							

PERFORMANCE (Error and Pressure Loss Curves)



Pulse sender and dual rotor flowmeter cooperate with sender parameter table

Model	pulse equivalent L/P		Model	pulse equivalent L/P	
	A5+A25T+QF			A5+G+QF	
FMG310-25	0.1		FMG310-150	1	
FMG310-25k	0.1		FMG310-150k	1	
FMG310-40	0.1		FMG310-200	1	
FMG310-40k	0.1		FMG310-200k	1	
FMG310-50	0.1		FMG310-250	1	
FMG310-50k	0.1		FMG310-250k	1	
FMG310-80	1		FMG310-300	1	
FMG310-100	1		FMG310-300k	1	
FMG310-100k	1		FMG310-150	1	

ORDER CODE

Model	Types	Case	Rotor	DN	Flange	Pressure	Counter	Governor	Sender	Accuracy	Explanation
FMG310											Dual Rotameter
	S										double body
	U										With insulation jacket
	T										With radiator (1 long, 2 short)
	P										nuclear power products
	PI										Nuclear power seismic products
		E									Cast steel material
		B(C)									stainless steel
			A								Rotor material is cast iron
			B(C)								Rotor material is stainless steel
				25							Nominal diameter 25mm
			
				300							Nominal diameter 300mm
					K						Flange: flared type
						.2/					1. 6MPa
						.3/					2. 5MPa
						.4/					4.0MPa
						.6/					6. 3MPa
							A5				mechanical counter
							A6				Return to zero counter
							ELZ				Electronic digital display counter
								GF3			External finer
									QF-I		12V/24V three-wire photoelectric transmitter
									QF-II		12V/24V three-wire photoelectric transmitter
									MF		4-20mA analog output transmitter
										J	High precision 0.2 class

Note:

1. The common materials of the shell and rotor can be omitted
2. Add B before the ELZ/transmitter code, indicating that it is an anti-burst transmitter
3. If the high temperature flowmeter needs to be equipped with a radiator, the T mark can be directly marked
4. For the technical specifications of the transmitter, see the chapter "Accessories of the flowmeter"