

OVTW Series

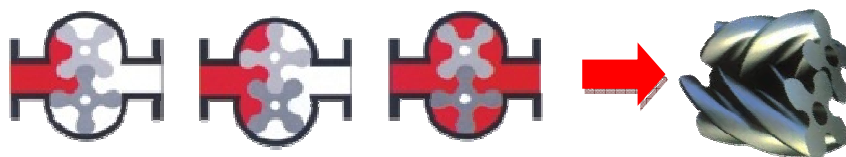
Spiral Rotor Flow Meter



The Bont helical rotor flow meter is the latest generation of volumetric flow meter manufactured by our company, as it adopts a pair of helical rotors with special tooth profile, it has prominent characteristics of no pulse, extremely low noise, high precision, high reliability, big flow and high environment adaptability. It is widely used in the commercial trade metering and engineering management and control of petrochemical, metallurgy, electronic and wharfs departments.

***Principle**

The measuring chamber of the rotator flow meter consists of interior casing, a pair of helix rotators and top & bottom cover plates. These formed a cavity with known volume which can be used as the measuring unit for the flow meter. The rotator of the flow meter rotates under the tiny pressure difference between the inlet and outlet and continually sends the liquid at inlet to the outlet after cavity measurement. The rotator transmits the rotating numbers to the counter by means of sealed coupling and driving system so that the total volume of the liquid passing the flow meter can be directly displayed.



Technical Parameters

- Accuracy class: 0.5%, 0.2%
- Repeatability: not exceed 1/3 of the absolute value of the basic error limit of the flowmeter
- Output signal: 4~20mA, pulse
- Environment temperature: -40deg cC~50deg C
- Temperature: general -20 deg C-100deg C , if adding cooling tube max. 280deg C
- Viscosity: 0.3~3000mPa.s
- Enclosure rating: NEMA4(IP65)
- Material and Nominal Pressure of Main Components

Parts Material

Model	Shell	Rotor	Shaft	Shaft Steeve	Pressure
OVT-E	Cast Steel	Cast Iron	Stainless Steel	Graphite/Ball Bearing /Ceramic Bearing	<DN100 , 4.0MPa
OVT-B,C	Stainless Steel	Stainless Steel	Stainless Steel		>DN150 , 2.5MPa 1.6 , 2.0 , 2.5MPa
OVT-S	Double-body flow meter The nominal pressure is 6.4MPa for specifications DN80 ,DN100&DN150 ;and the nominal pressure is 4.0MPa for DN200				
Note	OVT-B material is SS304 , and OVT-C material is SS316				

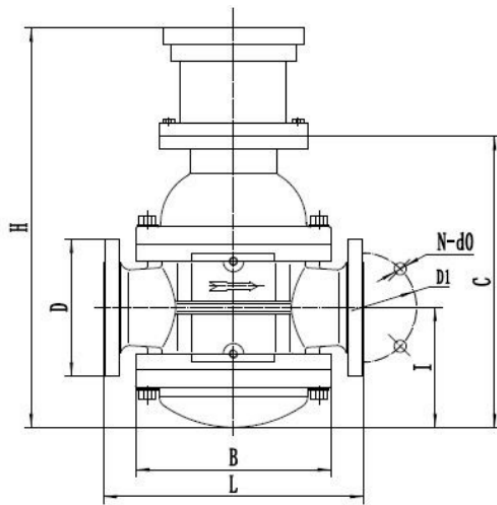
Flow Range(unit: m3/h) (Accuracy 0.5%)

Model	Diameter	Viscosity (mPa.s)						
		0.3~0.8	0.8~2	2~15	15~400	400~1000	1000~2000	2000~3000
		Gasoline	Kerosene	Diesel	Heavy Oil	Liquid High Viscosity		
OGTW025	25	3~9	3~10	2~10	2~10	2~8	2~8	2~6
OGTW040	40	7~20	5.5~22	4.5~22	4.5~22	4~18	4~18	3~12
OGTW050	50	9~36	9~36	7~36	7~36	6~25	6~25	4.5~18
OGTW080	80	20~80	20~80	15~80	15~80	14~56	14~56	10~40
OGTW100	100	25~100	25~100	20~120	20~120	18~72	18~72	14~55
OGTW150	50	55~225	57~225	44~220	44~220	38~150	38~150	25~100
OGTW200	200	90~360	90~360	72~360	72~360	50~210	50~210	40~160
OGTW250	250	130~540	135~540	100~540	100~540	90~360	90~360	60~240

Flow Range (unit: m3/h) (Accuracy 0.2%)

Model	Diameter	Viscosity (mPa.s)						
		0.3~0.8	0.8~2	2~15	15~400	400~1000	1000~2000	2000~3000
		Gasoline	Kerosene	Diesel	Heavy Oil	Liquid High Viscosity		
OGTW025	25	3.5~8	3~10	2~10	2~10	2~8	2~8	2~6
OGTW040	40	8~20	5.5~22	4.5~22	4.5~22	4~18	4~18	3~12
OGTW050	50	15~36	9~36	7~36	7~36	6~25	6~25	4.5~18
OGTW080	80	30~80	20~80	15~80	15~80	14~56	14~56	10~40
OGTW100	100	40~100	25~100	20~120	20~120	18~72	18~72	14~55
OGTW150	50	88~220	57~225	44~220	44~220	38~150	38~150	25~100
OGTW200	200	150~360	90~360	72~360	72~360	50~210	50~210	40~160
OGTW250	250	180~540	135~540	100~540	100~540	90~360	90~360	60~240

Dimension Draft



Dimension (Unit:mm)

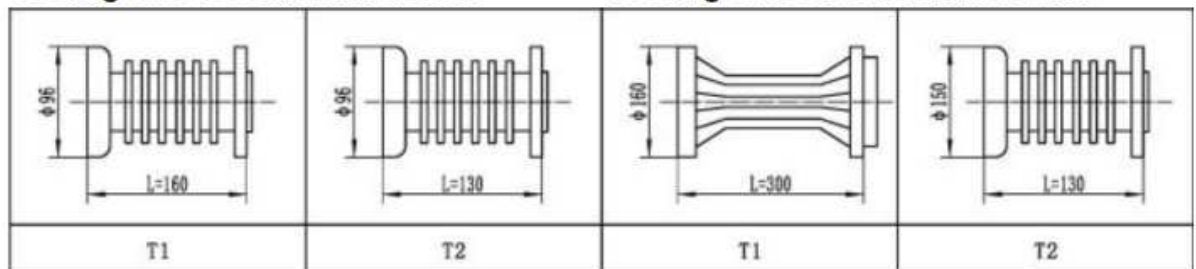
Model	DN	L	H	B	C	I	D	D1	N	Φ
OGTW025	25	300	420	175	228	90	115	85	4	14
OGTW040	40	300	450	200	258	112	150	110	4	18
OGTW050	50	340	525	240	333	150	165	125	4	18
OGTW080	80	380	580	285	388	175	200	160	8	18
OGTW100	100	440	660	339	468	250	235	190	8	22
OGTW150	50	500	740	410	548	270	300	250	8	26
OGTW200	200	550	820	455	628	285	360	310	12	26
OGTW250	250	700	910	550	718	350	425	370	12	30

Note:

- 1) Cooling tube is used for high temperature flow meter .Then please plus the length size into “H”
- 2) Cooling tube of T1 is used when temperature is 120°C~200°C
- 3) Cooling tube of T2 is suitable for 60°C ~120°C,when flowmeter is with signal transmitter

Cooling tube for DN25mm-40mm

Cooling tube for DN50mm-250mm



OVTW –U Type Flow Meter

OVTW type flow meter is designed for fluid needed to measure which is easy to turn to solid or to condense or crystallize in pipeline. These sorts of medium in pipeline should be heated to be melted and keep warm so that the flow of fluid can be measured by flow meter. However, it is not allowed to put into steam where flow meter is installed. In this case , the special designed LC-U flow meter which is added to warm keeper outside of flow meter body is useful. Supplying hot water, hot oil or steam below 200 deg c through warm keeper to melt the solid fluid and keep warm to ensure the flow meter operating smoothly.

Filter installed before flow meter can be also designed to warm keeper type.

The flange diameter of warm keeper is generally 15mm, designed as requirements available.

The nominal pressure of warm keeper is 0.5Mpa, designed as requirements available

Model Instruction

BT-OVTW											Roots Flow Meter
Special Function	U										Screw Connection
	T1 ,2										High temp. with cooling tube
Material Instruction	Body	E									Cast Steel
		B (c)									Stainless Steel
	Rotor	A									Cast Steel
		B (c)									Stainless Steel
Diameter			050								Three Digitals ; for example : 010 : 10mm ; 050 : 50mm
Special Request				K(S)							Flange Extension / Reduced
Norminal Pressure					.2/						1.6 (2.0) Mpa
					.3/						2.5 Mpa
					.4/						4.0 Mpa
					.6/						6.3 Mpa
Counter					A5, J1						Mech. counter
					A6, Z , M						Zero reset mech . Counter
					E						LCD counter
Regulator							GF3				Precision regulator
Signal Generator								QF-I			12VDC photoelectric pulse transmitter
								QF-II			24VDC photoelectric pulse transmitter
								TW-01			4-20mA analog output transmitter
Accuracy									J (K)		+/-0.2%(+/-0.5%)

Caution

- Do not check flow meter with water.
- Pipes should be thoroughly cleaned before installing, and a strainer is suggested to install before inlet of flow meter to prevent flow meter being damaged by residues in pipeline. The air eliminator should be installed if the measured liquid contains gas
- When starting or stopping the fluid, the gate valve should be slow to prevent a sudden shock, and should prevent backflow
- When the flow meter repairing, there shall be no demolition of the rear cover so as to avoid re-generated when the impact of changes to the precision accuracy
- Dimension of high temperature type is confirmed by final designing
- If there is gas in pipeline, flow meter should be installed after the gas eliminator

Installation diagram

