

DMTFH Handheld Ultrasonic Flow Meters

Series DMTFH Handheld Transit Time Ultrasonic Flow Meter is carefully designed so that it is very compact and easy to use. A user can use hand to hold as well as to operate the flow meter main unit .The user-interface is self-explanatory and very easy to follow. Besides, the unique clamp-on fixture design makes the installation very simple and no special skills or tools required. Due to the non-intrusive nature of the clamp-on technique, there is no pressure drop, no moving parts, no leaks and no contamination.



▲ Transmitter & Transducer



▲ Full set of Handheld



▲ Data logger

Features:

- 1. Compact design, light-weight and user-friendly.
- 2. Principle of Transit Time and MultiPulseTM Technology.
- 3. Can be used for mobile measurement, flow rate calibration, data comparing, meters running status checking.
- 4. A variety of liquid applications can be accommodated: ultra-pure liquids, potable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent, etc.
- 5. Data Logger functions. The capacity is based on users' choice, and the maximum can reach 8GB. Users can store 5 years' data in it at least and user can read, edit and export the data for reference and analysis.

Applications:

- Water (hot water, cooling water, potable water, sea water etc.)
- Petroleum products
- ◆ Chemicals, including alcohol, acids, etc
- Beverage, food and pharmaceutical processors
- Secondary sewage, waste treatment, etc.
- Power plants, Metallurgy and miming applications
- Pipeline leak detection, inspection, tracking and collection



Size	Α	В	С	D
K1:	55	39	42	34
3/4", 1"	55	39	42	54
K2:	64	46	42	43
3/4", 1", 1-1/4"	04	40	72	40
K3:	80	46	42	61
1-1/4", 1-3/4", 2"	60	40	42	ΟI



Note: K transducers utilize the Round-Clamp method, and the transducers' transmitting and receiving sides are connected with the pipe surface thoroughly to acquire enough coupling area, better reliability, stability, etc.

Principle of Measurement

DMTF transit time flow meter utilizes two transducers that function as both ultrasonic transmitters and receivers. The transducers are clamped on the outside of a closed pipe at a specific distance from each other. The transducers can be mounted in V-method in which case the ultra sound transverses the pipe twice, or W-method in which case the ultra sound transverses the pipe four times, or in Z-method in which case the transducers are mounted on opposite sides of the pipe and the ultra sound transverses the pipe only once. The selection of mounting method depends on pipe and liquid characteristics. When the flow meter works, the two transducers transmits and receives ultrasonic signals amplified by multi beam which travels firstly downstream and then upstream (Figure 1). Because ultra sound travels faster downstream than upstream, there will be a difference of time of flight (Δ t). When the flow is still, the time difference (Δ t) is zero. Therefore, as long as we know the time of flight both downstream and upstream, we can work out the time difference, and then the flow velocity (V) and flow volume (Q) via the following formula.

$$O=S*V$$

Where: V Liquid velocity

K Constant

∆t Time difference

Q Flow rate

S Sectional area of pipe

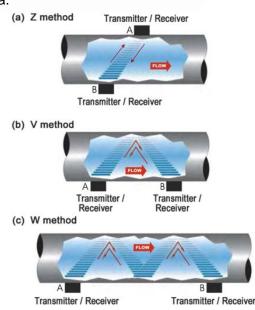


Figure 1



Specifications

Power Supply 12 hours of operation. 90-240VAC for the charger Velocity 0.003 to 12 m/s, bi-directional								
Transmitter Display		Power Supply	3 AAA Ni-H built-in batteries. When fully recharged it will last over 12 hours of operation. 90-240VAC for the charger					
Transmitter Transmitter Transmitter Output Accuracy Accuracy Sensitivity Dimensions and Weight Temperature Transducer Transducer Transducer Transducer Transducer Transducer Dimensions and Weight Transducer Transducer Transducer Transducer Dimensions and Weight Transducer Dimensions and Weight Transducer Dimensions and Weight Transducer Dimensions and Weight Dimensions Sizice: 40~121°C High Temp.: -40~25°C Std M transducer: DN20-50 K type transducer: DN20-50 Cybional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Velocity	0.003 to 12 m/s, bi-directional					
Transmitter Rate Totalized Paylons, ft³, barrels, lbs, liters, m³,kg Prequency, RS232; options: up to 8 GB Data logger ### 1.0%-2.0% of reading at rates >0.5 m/s ###################################		Display	4 line×16 digits LCD, it can display total flow, flow rate, velocity and meter running status etc.					
Transmitter Totalized		Units	User Configured (English and Metric)					
Transmitter Output Frequency, RS232; options: up to 8 GB Data logger #1.0%-2.0% of reading at rates >0.5 m/s #0.005 m/s of reading at rates >0.5 m/s Sensitivity 0.003m/s Repeatability 0.2% of reading Security Keypad lockout, access code enable Dimensions and Weight 100*204*34 Weight: <0.5kg Liquid Types Supported solids (TSS) or aeration Suited Liquid Temperature High Temp.: -40~121°C High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN40-1000 L transducer: DN20-50 K type transducer: DN20-50 K type transducer: DN20-50 S Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg Data Logger Software Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Rate						
Output Accuracy #1.0%~2.0% of reading at rates >0.5 m/s #0.005 m/s of reading at rates <0.5 m/s Sensitivity 0.003m/s Repeatability Security Dimensions and Weight Liquid Types Supported Suited Liquid Temperature Pipe Size Dimensions and Weight Transducer Dimensions and Weight Transducer Dimensions and Weight Dimensions and Weight Accuracy #1.0%~2.0% of reading at rates <0.5 m/s #2.0003m/s #2.		Totalized						
#Understand ## ## ## ## ## ## ## ## ## ## ## ## ##	Transmitter	Output	Frequency, RS232; options: up to 8 GB Data logger					
Sensitivity 0.003m/s Repeatability 0.2% of reading Security Keypad lockout, access code enable Dimensions and Weight Liquid Types Supported solids (TSS) or aeration Suited Liquid Std. Temp.: -40~121°C Temperature High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN1000-4500 S transducer: DN20-50 K type transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg Data Logger Software Dottonal 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Accuracy	±1.0%~2.0% of reading at rates >0.5 m/s					
Repeatability 0.2% of reading Security Keypad lockout, access code enable Dimensions and Weight 100*204*34 Weight: <0.5kg Liquid Types Supported solids (TSS) or aeration Suited Liquid Std. Temp.: -40~121°C Temperature High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN40-1000 L transducer: DN20-50 K type transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and			±0.005 m/s of reading at rates <0.5 m/s					
Security Keypad lockout, access code enable Dimensions and Weight Liquid Types Supported solids (TSS) or aeration Suited Liquid Temp.: -40~121°C Temperature High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN1000-4500 S transducer: DN20-50 K type transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Sensitivity	0.003m/s					
Dimensions and Weight Liquid Types Supported Suited Liquid Temperature Pipe Size Pipe Size Dimensions and Weight Dimensions Suited Liquid Transducer Pipe Size Dimensions And Weight Dimensions Side Liquid Dimensions Side March Stransducer: DN40-1000 Later Liquid Std. Temp.: -40~121°C Std March Temp.: -40~25°C Std March Te		Repeatability	0.2% of reading					
Transducer Pipe Size Dimensions and Weight Data Logger Software Data Logger Software Dimensions and Weight Data Logger Software Liquid Types Virtually most any liquid containing less than 5% total suspended solids (TSS) or aeration Std. Temp.: -40~121°C High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN1000-4500 S transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Security	Keypad lockout, access code enable					
Liquid Types Supported Supported Suited Liquid Suited Liquid Temperature Pipe Size Pipe Size Dimensions and Weight Data Logger Software Liquid Types Subject Virtually most any liquid containing less than 5% total suspended solids (TSS) or aeration Std. Temp.: -40~121°C High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN20-50 S transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and			100*204*34 Weight: <0.5kg					
Suited Liquid Temperature Pipe Size Pipe Size Dimensions and Weight Data Logger Software Suited Liquid Temp.: -40~121°C High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN20-50 S transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Liquid Types	Virtually most any liquid containing less than 5% total suspended					
Transducer Pipe Size Pipe Size Pipe Size Dimensions and Weight Data Logger Software Pipe Size High Temp.: -40~25°C Std M transducer: DN40-1000 L transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Supported	solids (TSS) or aeration					
Transducer Pipe Size Pipe Size Std M transducer: DN40-1000 L transducer: DN1000-4500 S transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Suited Liquid	Std. Temp.: -40~121°C					
Transducer Pipe Size L transducer: DN1000-4500 S transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Temperature	High Temp.: -40~25°C					
Transducer Pipe Size S transducer: DN20-50			Std M transducer: DN40-1000					
Transducer S transducer: DN20-50 K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Pipe Size	L transducer: DN1000-4500					
Dimensions and Weight Data Logger Software K type transducer: DN20-50 S: Size:42*25*25; weight:<0.2kg M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and	Towns from		S transducer: DN20-50					
Dimensions and Weight M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and	Transducer		K type transducer: DN20-50					
and Weight M: Size:60*43*43; weight:<0.5kg L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and		Dimensis	S: Size:42*25*25; weight:<0.2kg					
Data Logger Software L: Size:80*53*53; weight:<1.0kg Optional 512M to 8GB SD card Windows-based Software Utility, data logging, data report, and			M: Size:60*43*43; weight:<0.5kg					
Data Logger Windows-based Software Utility, data logging, data report, and		and weight	L: Size:80*53*53; weight:<1.0kg					
Software Windows-based Software Utility, data logging, data report, and			Optional 512M to 8GB SD card					
data curve and analyze.			Windows-based Software Utility, data logging, data report, and					
			data curve and analyze.					



Parts Identification:

Parts Identification:

Transmitter:



Handheld transmitter

Transducers:





K transducer

High temperature transducer







M-Transducer



L-Transducer



M-Mounting Frame (V method and Z method)





S-Mounting Frame (V method and Z method)

Accessories:



Portable Case



Stainless Steel Strap



Flexible belts



Couplant



DMTFH Handheld Ultrasonic Flow Meter Selection Table

Model	DMTFH	-X	Χ	-X	/ *	(Transduce	rs)	
Handheld S	Series			1				
Output Sel	ection 1 ————	\square						
N—N/A								
1—Frequen	ncy (Flow rate or Totalize	er)						
2—RS232	Note: RS232 and Data	logger c	annot b	e used at	t the s	ame time.		
3—Data Lo	gger & Software							
Output Sel	ection 2							
Same as O	utput Selection 1							
Power Sup	ply (Charger connecto	or type)						
D-90-240\	/AC							
Model D	Н	-X	-X	-X -	X -	X		
	r Type							
S— Small (•							
	n (DN40-1000)							
• •	DN1000-4500)							
	nall-Pipe Round Clamp-	`	1					
	ansducers material is	POM, if	you ne	ed stain	less	steel transd	ucers, ple	ase contact the
factory.)			10					
Mounting F	rame ———							
N— None								
FS— for DN				7				
FM— for Di								
	rs Temperature			_				
N— - 40∼1								
	250°C (Only for S, M tra	nsducer.	If large	r transd	ucer,	consult us.)		
Mounting					l			
N-Commo								
0	ic force (suitable for pipe	e above	DN80)					
Cable Leng						<u> </u>		
	ers straight cable (STD.))						
	non cable Max 300m							
XmH—High	temp. cable Max 300m	1						

Parts Number Construction example:

DMTFH-1 2-D /DH-M-N-N-N-4m

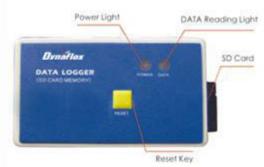
Description: DMTFH Handheld ultrasonic flow meter, Frequency and RS232 output, with 90-240VAC power supply; Standard M type transducer, no mounting frame, standard temperature -40~121 $^{\circ}$ C, common mounting type, 4m straight cable.



Data Logger and Software Utility

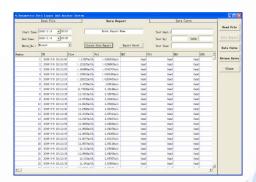
Features:

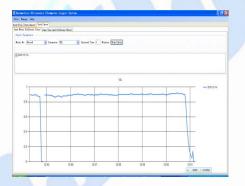
- 1. Provides data logging, based on SD card data memory, the memory capacity can be 512M,1GB, 2GB, 4GB, 8GB. Normally, 1GB can store 5 years data with 5 minutes logging interval.
- 2. Very easy to read data from SD card (just plug it out from Dynaflox Data Logger, and run Dynaflox Data Logging and Analyze software, browse the SD card file).



▲ Data logger

3. Data report and Data Curve functions (Figure2, Figure3).





▲ Figure 2

▲ Figure 3

- 4. User can edit, generate Excel report and print it on PC (Figure 4).
- 5. Logging Parameters: Date and Time, Flow Rate, Velocity, Positive total flow, Negative total flow, Net total flow, Total Heat flow, Temperature in, Temperature out, Temperature difference and Heat flow rate.

 If user is interested in other parameters, please consult

us. Users can delete the unnecessary parameters from Excel Table and then print the data table.

6. Users can download the software from our website: www.dynaflox.com

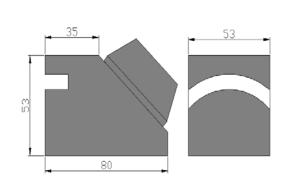
Die !	longs Hily										
and Tile	Baba Regard	Data Corre									
Diet D	ies: 000#10	P(48) 12:44:13		8	Strier Leave, Ben-		-		Test Best		
Sel 1	ine TRANS	Model of their		м	Create Jets for	et Input 18.			Test By		
Brise	To Retard				Arabia della haj	eter Ted my Test	1				
	Free Dalagest	Colore							-5.00		
2 72 m 2 744		100 100	E Br	Mit.	Ø tre						
	Deletana	Em bibli	745,961	HE 600	FIX SAT	200 (A)7	Bit (w)	ET Gvid	Tie .	Test.	1.1
	1990-12-14 1		0.80	50	36	0	375.61		12.9	0.0	92.75
2	100-12-04 8	25.27	0.90	30	34	0	3N. IT		12.3	25.14	-12.19
- 2	1 88-12-668	25.26	0.00	30	34	0.	151.95		12.9	29.15	137,74
- 2	990-12-14-1	25.44	0.90	. 24	24	0	275.21		12.3	5.5	92.74
12	100-13-14 1	25.21	0.00	34	34	0	374.54		712-741	25-84	-92.73
- 2	1 44-11-008	25.24	0.66	34	74.	0	275.53		12.90	25.54	12.32
- 2	990 12:14 E	25.6	0.9	34	24	0	277.06	3	12.38	25.04	42.72
- 4	100-12-14 1	25.54	0.9	34	ia.	9	279.41	*	12.98	25-63	-92.12
- 2	moral-14 1	25.6	0.9	31	34	0	277.96	10	(10.94	25.52	-12.60
2	100-12-01	25.40	0.6	N	34.	0	25.6	39	12.90	25.4	-32.60
2	1 44-11-008	25.59	8.9	34	74.	7	177.16	38	10:10	25.56	-11.67
- 2	100 12:14 1	25.5	0.9	34	24	0	275.17	39	12.9	25.58	12.57
- 2	100-12-01 1	25.77	0.91	H	34	0	179.75	10	12.98	25.10	-92.67
- 6	100-12-14 1	25.96	0.9	34	26.	9	576.00	11	12,98	25.59	-12 At
	100-12-14 1	21.64	0.9	31	24	0	275.11	11	22.3	25.50	-12.67
2	100-12-14 1	25.96	0.9	26	26	0	276.2	11	12.9	25.18	-92.67
2	800-12-14-1	25.50	0.9	34	54	in .	779.05	11	12.8	25.96	-12.67
10	100-12-14 1	25.67	0.0	34	34	0	275.30	21	12.3	25.77	-10.60
	make their 6	75.45	0.9		74	10	of a sa	100	10.2	196, 67	+ 0055



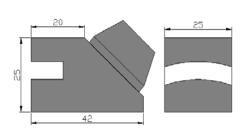
Parts & Dimensions



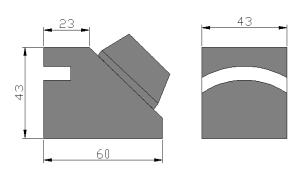
Handheld Transmitter



L Transducer



S Transducer



Std. M Transducer



DYNAFLOX SHANGHAI CO., LTD.

No.106 Qianpu Road, Eastward New Area Songjiang Industrial Zone, Shanghai, China

TEL: +86-21-67602289 FAX: +86-21-67602287

ZIP: 201611

E-mail: info@dynaflox.com.cn
Website: www.dynaflox.com.com