

Capstan



# Capstan

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## SALIENT FEATURES

- Mature design, careful selection of material and quality control at different stages of manufacture ensures that Capstan meters are precise, robust and durable.
- High quality wear resistant imported materials are used. Special attention is paid to moving parts and bearings.
- Roller counter mechanism is driven through a magnetic coupling. It is completely separated from water and always stays clean and easily readable, even under adverse condition.
- The rotor is the only part which moves in water. It has a defined two point bearing and runs on sapphire jewel bearings.
- Have equally spaced tangential holes in the measuring chamber through which the water flows and impinges on the impeller equally on all sides. There being no side thrust, the bearing wear is reduced to its minimum.
- Offer high measurement sensitivity and accuracy.
- Suitable for water temperature up to 45°C.
- Conforms to class 'B' of ISO : 4064/1 and IS:779 1994 and are ISI marked.

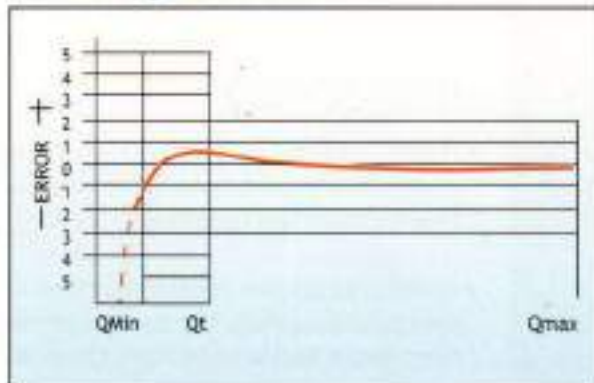
**Multi jet, dry dial, class 'B'  
domestic water meter**

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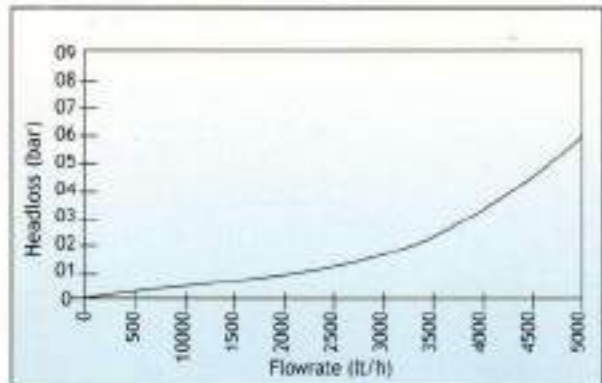
**Capstan** - The hallmark for quality and modern technology

## TECHNICAL DATA

### Accuracy Curve

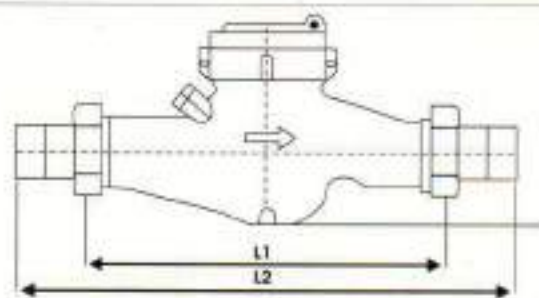


### Pressure Loss Curve



## PERFORMANCE TABLE

Size of Meter	mm		15	20	25	40	50
$Q_{max}$	Maximum peak flow	$\pm 2\%$ l/h	3000	5000	7000	20000	30000
$Q_n$	Nominal flow	$\pm 2\%$ l/h	1500	2500	3500	10000	15000
$Q_t$	Transitional flow	$\pm 2\%$ l/h	120	200	280	800	1200
$Q_{min}$	Min. flow	$\pm 5\%$ l/h	30	50	70	200	300
	Test pressure	$P_u$ bar	16	16	16	16	16
	Length face to face	$L_1$	165	190	260	300	330
	Length with nipples	$L_2$	250	290	380	430	470



## CAPASTAN METERS (INDIA) LTD.

ISO 9001:2000 COMPANY

WORKS AND SALES OFFICE: Tonk Road, Jaipur-302018

Ph.: (0141)-2551294, 2551470 Fax: (0141)-2545076 Email: capastan@datainfosys.net

REGD OFFICE: 52, Janpath, New Delhi-110001, Ph.(011)-23321098, 23312227

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Mumbai Office : 104, Marine Chambers, New Marine Lines, Mumbai-400020 Tele-fax :-(022)-22034101

# Capstan



## Multi jet, dry dial, class 'B' domestic water meter Model CM-12

### SALIENT FEATURES

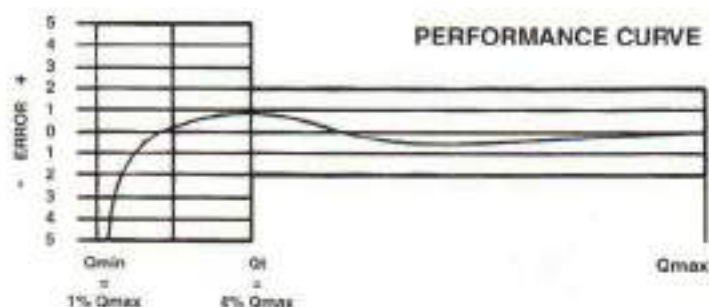
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- The rotor is the only part which moves in water. It has a defined two point bearing and runs on sapphire jewel bearings.
- Have equally spaced tangential holes in the measuring chamber through which the water flows and impinges on the impeller equally on all sides. There being no side thrust, the bearing wear is reduced to its minimum.
- Offer high measurement sensitivity and accuracy.
- Suitable for water temperature up to 45°C
- Conforms to class 'B' of ISO : 4064/1 and IS:779/1994 and are ISI marked.

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## Multi Jet Dry Type Water Meter Model CM-12

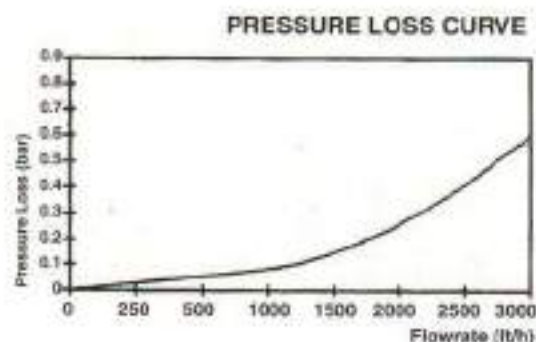
### GENERAL

- Multijet principle assures a long life
- Low head loss • 360° rotating lid
- Good sensitivity in initial starting
- Body made of corrosion resistant brass
- Body internally/externally powder painted
- Available for optical reading
- 1 year warranty
- Almost no maintenance
- Service and spare parts available.



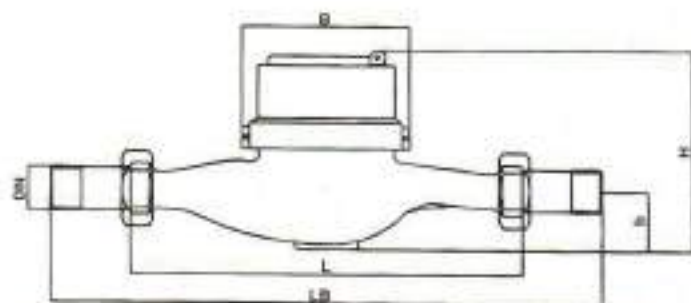
### PERFORMANCE

Nominal Flow	Qn	(m <sup>3</sup> /h)	: 1.5
Maximum Flow	Qmax	(m <sup>3</sup> /h)	: 3.0
Transitional Flow	Qt	(m <sup>3</sup> /h)	: 0.12
Minimum Flow	Qmin	(m <sup>3</sup> /h)	: 0.03
Initial Flow	Qi	(l/h)	: 10
Maximum Working Pressure		(bar)	: 16
Maximum Working Temperature		(°C)	: 45
Metrological Class			: B
Pressure Loss		(bar)	: 0.6
Maximum Registration Capacity		(m <sup>3</sup> )	: 9999
Smallest Reading Resolution		(m <sup>3</sup> )	: 0.00005
Mounting on the network			: Horizontal
Unit weight Washout next & number		(kg)	: 0.65
Quantity per package			: 10



### DIMENSIONS

Nominal diameter	DN	15	mm
Total overall meter height	H	85	mm
Axis height	h	20	mm
Length	L	165	mm
Width	B	80	mm
Length with connections	LB	250	mm



## CAPSTAN METERS (INDIA) LTD.

ISO 9001:2000 COMPANY

WORKS AND SALES OFFICE : TonkRoad, Jaipur-302018

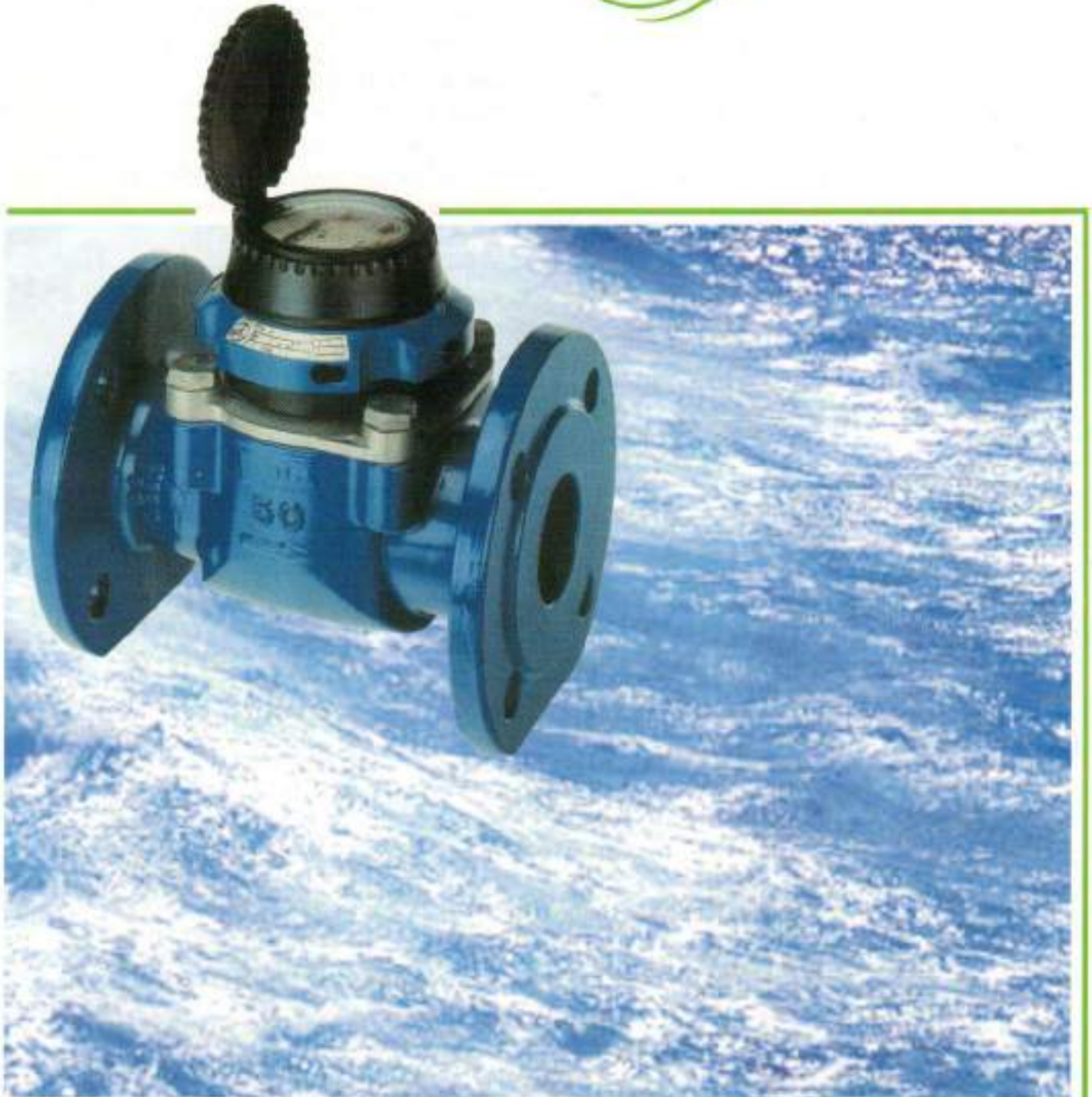
Ph: (0141)-6595719, 2551470 Fax: (0141)-2545076 Email: capstan@datainfosys.net

REGD OFFICE : 52, Janpath, New Delhi-110001, Ph. (011)-23321098, 2331227

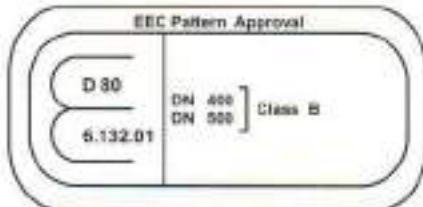
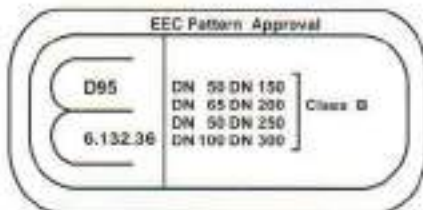
Fax: (011)-23324769, Email: capstan@jaidrinks.com

Mumbai Office : 104, Marine Chambers, New Marine Lines, Mumbai-400020 Tele-fax : (022)-22034101

# Capstan SENSUS

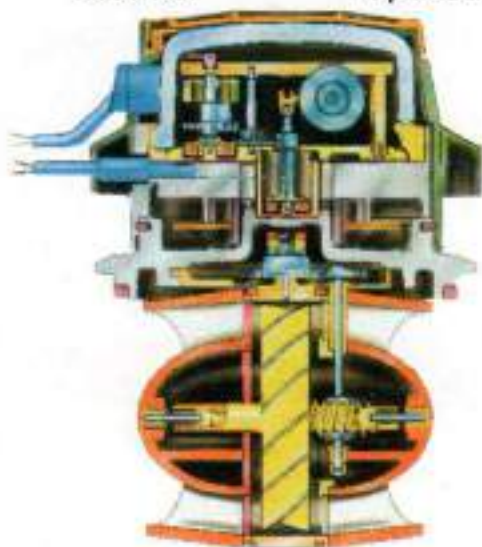


MANUFACTURED BY : **CAPSTAN METERS (INDIA) LTD.**  
AN ISO 9001 : 2000 COMPANY  
IN COLLABORATION WITH  
**SENSUS METERING SYSTEMS, GERMANY**



Reed RD

Opto OD



## Application

- Measurement of high, relatively constant flow rates of water upto 45° C

## Special Features

- Meters have EEC Marking
- Hermetically Sealed register (IP 68)
- Hydrodynamically balanced rotor (<DN 300)
- Symmetrical calibration adjustment (<DN 300)
- Register may be rotated through 360°
- High overload capability
- Removable measuring element
- Powder coating affords max. corrosion protection
- Not affected by external magnetic fields
- Up to 3 pulsers ( 1 x OD, 2 x RD) may be fitted without breaking the approval seal
- 1/4" connection port for pressure sensors
- Data Logger compatible Meter can also be supplied

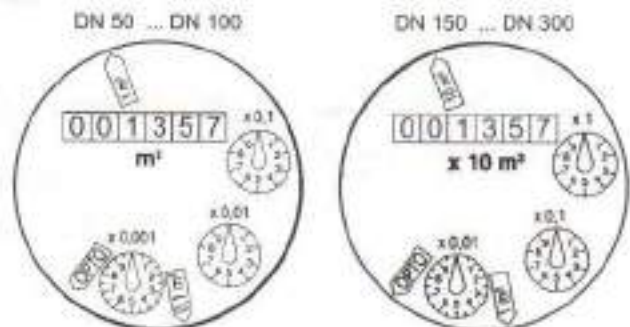
## Installation

Pipe	Horizontal Vertical Inclined	
Meter Head	Upwards Sideways	

## Installation Requirements

- Unrestricted straight pipe before and after the meter upto 300 mm : 3 x DIA ; from 400 mm : 5 x DIA
- No abrupt restriction immediately behind the meter. Installation of a strainer before the meter is recommended.

## Dials



## TECHNICAL DATA

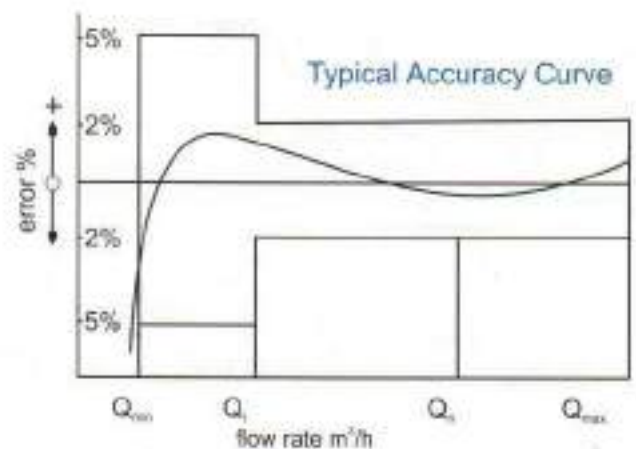
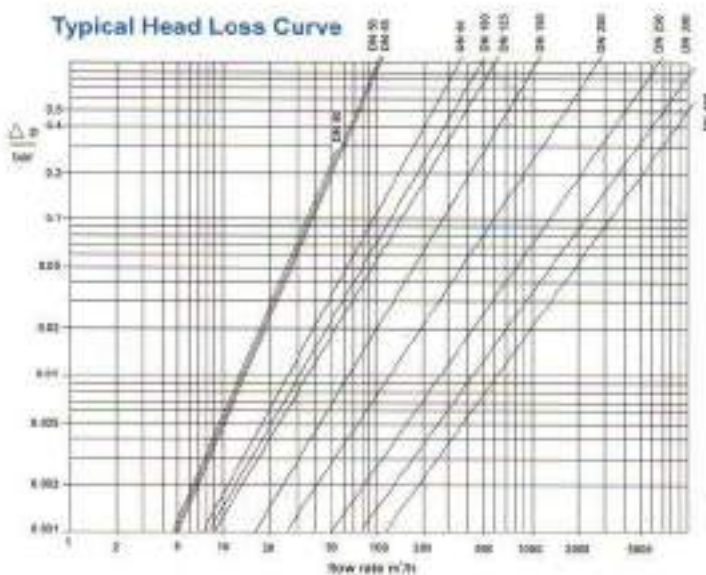
Performance Table as per ISO 4064/1 of 1993 Class B

Size of Meter	mm		50	65	80	100	150	200	250	300	400	500	600
$Q_{max}$	maximum peakflow (few minutes) $\pm 2\%$	$m^3/h$	30	50	80	120	300	500	800	1200	2000	3000	5000
$Q_n$	nominal flow $\pm 2\%$	$m^3/h$	15	25	40	60	150	250	400	600	1000	1500	2500
$Q_t$	transitional flow $\pm 2\%$	$m^3/h$	3	5	8	12	30	50	80	120	200	300	500
$Q_{min}$	minimum flow $\pm 5\%$	$m^3/h$	0.45	0.75	1.20	1.80	4.50	7.50	12.00	18.00	30.00	45.00	75

Performance Table as per ISO 4064/1 of 2005 (E)

Size of Meter	mm		50	65	80	100	150	200	250	300	400	500	600
$Q_{max}$	maximum peak flow (few minutes) $\pm 2\%$	$m^3/h$	31.25	50	78.75	125	312.5	500	787.5	1250	2000	3125	5000
$Q_n$	nominal flow $\pm 2\%$	$m^3/h$	25	40	63	100	250	400	630	1000	1600	2500	4000
$Q_t$	transitional flow $\pm 2\%$	$m^3/h$	1.27	2.03	3.2	5.08	12.7	20.32	32	50.8	81.28	127	203.2
$Q_{min}$	minimum flow $\pm 5\%$	$m^3/h$	0.795	1.27	2	3.175	7.94	12.7	20	31.75	50.8	79.36	127

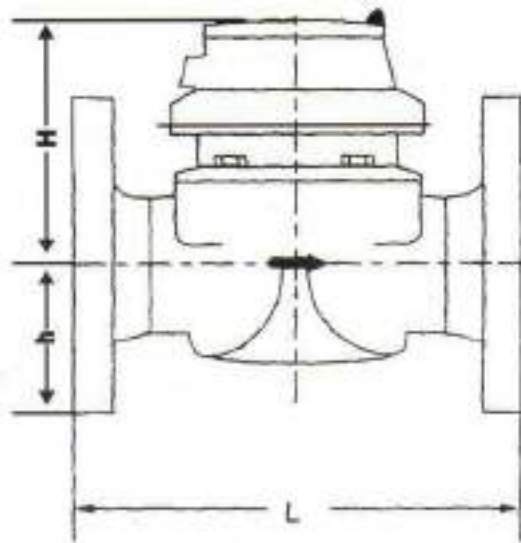
Typical Head Loss Curve



- $Q_{max}$  = maximum peak flow  $\pm 2\%$
- $Q_n$  = continuous flow  $\pm 2\%$
- $Q_t$  = transitional flow  $\pm 2\%$
- $Q_{min}$  = minimum flow  $\pm 5\%$



## Dimension Picture



## Dimensions & Weights

Size of Meter		DN	50	65	80	100	150	200	250	300	400	500	600
Dimensions	Overall length	L mm	200	200	225	250	300	350	450	500	600	800	1000
	height	H mm	120	120	150	150	177	206	231	256	365	412	470
		h mm	73	85	95	105	135	162	194	226	292	335	390
Weights	meter	kg	9.0	12.0	15.0	20.0	34.0	52.0	90.0	110.0	170.0	400.0	550.0
Test Pressure		PN bar		16	16	16	16	16	16	16	16	16	16

Flanges drilled as per I.S.S. unless otherwise specified



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ISO 9001 : 2000 COMPANY

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 E-mail : capstan@jaidrinks.com

### MUMBAI OFFICE :

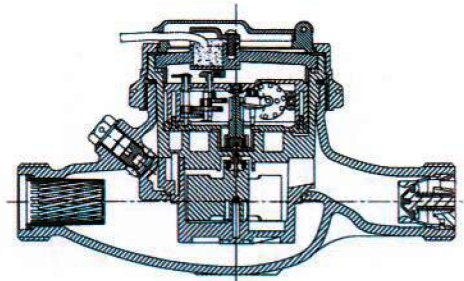
104, Marine Chambers,  
 New Marine Lines  
 Mumbai-400020  
 Tel-fax: (022)-22034101

## TK-2 Multi jet Dry type Water Meter



### GENERAL

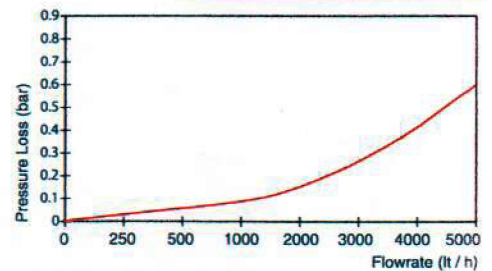
- MID Certificated
- Reading with reed sensor • 1 pulse output at 1/10/100 lt
- Suitable for potable water
- Low head loss • Good sensitivity in initial starting
- Special glass with high resistance to pressure and impact
- Electrostatic painted body made of corrosion resistant brass
- Body internally/externally e/p powder painted
- Available for optical reading • 360° rotating lid
- AMR reading features are optional
- 3 years of warranty • Non return valve
- Suitable for cold water up to 60°C
- Almost no maintenance • Vacuum mechanism
- Stainless steel register cup is optional
- Service and spare parts available for 10 years



### PERFORMANCE DATA

Permanent Flowrate	Q3 (m <sup>3</sup> /h) :	4
Overload Flowrate	Q4 (m <sup>3</sup> /h) :	5
Transitional Flowrate	Q2 (m <sup>3</sup> /h) :	0.064   0.0512   0.04   0.032
Minimum Flowrate	Q1 (m <sup>3</sup> /h) :	0.04   0.032   0.025   0.02
Q3/Q1 (MI-001 OIML R49)		: 100   125   160   200
Maximum Registration Capacity	(m <sup>3</sup> ) :	9999 / 99999 / 99999,99 / 99999,999
Initial Flowrate	Qi (l/h) :	6
Maximum Working Pressure	(bar) :	16
Maximum Working Temperature	(°C) :	60
Pressure Loss (Q3)	(bar) :	0.6
Smallest Reading Resolution	(m <sup>3</sup> ) :	0.00005
Class		: Class 1/2
Mounting on the network		: Horizontal
Unit weight	(kg) :	1.21
Package Weight (without connections)	(kg) :	12.86
Package Weight (with connections)	(kg) :	14.66
Quantity per package		: 10
Package dimensions	(cm) :	25x46.5x22

### PRESSURE LOSS CURVE

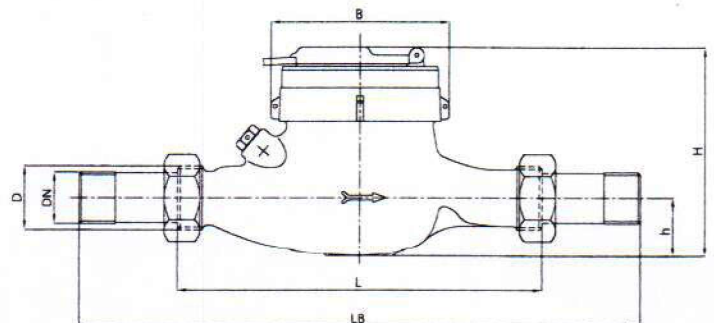


### PERFORMANCE CURVE



### DIMENSIONS

Nominal diameter	DN	20	mm
Connecting diameter	D	G 1	B
Total overall meter height	H	109	mm
Axis height	h	33	mm
Length	L	190	mm
Width	B	93	mm
Length with connections	LB	270	mm

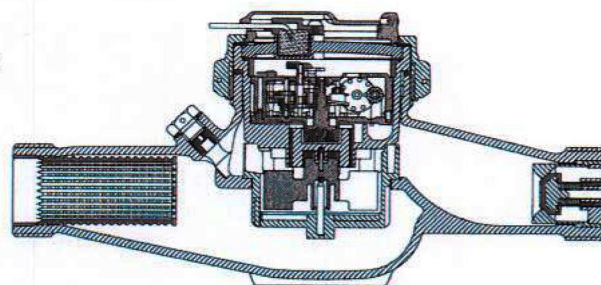


# TK-3C Multi jet Dry type Water Meter



## GENERAL

- MID Certificated
- Reading with reed sensor
- 1 pulse output at 1/10/100 lt
- Multijet principle assures a long service time
- Stainless steel register cup is optional
- Electrostatic painted body made of corrosion resistant brass
- Suitable for potable water
- Low head loss • 360° rotating lid
- Good sensitivity in initial starting
- Body internally/externally e/p powder painted
- Available for optical reading • Non return valve
- 3 years of warranty • Almost no maintenance
- Suitable for cold water up to 60°C
- Service and spare parts available for 10 years



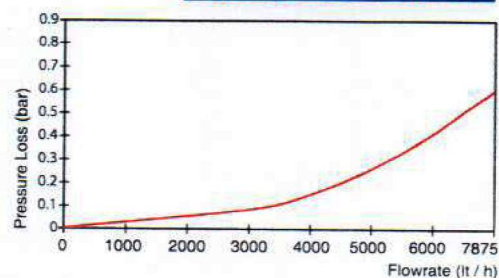
## PERFORMANCE DATA

Permanent Flowrate	Q3	( m <sup>3</sup> / h )	: 6.3
Overload Flowrate	Q4	( m <sup>3</sup> / h )	: 7.875
Transitional Flowrate	Q2	( m <sup>3</sup> / h )	: 0.063
Minimum Flowrate	Q1	( m <sup>3</sup> / h )	: 0.039
Initial Flowrate	Qi	( l/h )	: 7
Maximum Working Pressure		( bar )	: 16
Maximum Working Temperature		( °C )	: 60
Q3/Q1 (MI-001 OIML R49)			: 160
Pressure Loss (Q3)		( bar )	: 0.6
Maximum Registration Capacity		( m <sup>3</sup> )	: 99999
Smallest Reading Resolution		( m <sup>3</sup> )	: 0.00005
Mounting on the network			: Horizontal
Unit weight		( kg )	: 1.97
Package Weight (without connections)		( kg )	: 20.75
Package Weight (with connections)		( kg )	: 24.80
Quantity per package			: 10
Package dimensions		( cm )	: 26.5x52x30.5

## PERFORMANCE CURVE

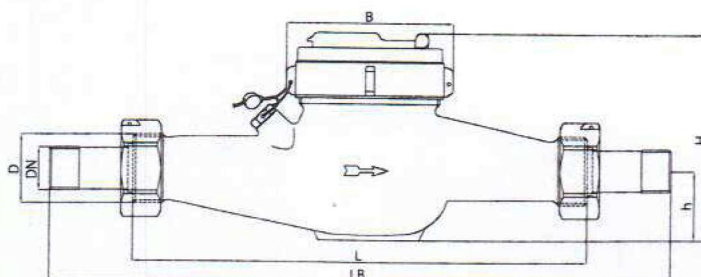


## PRESSURE LOSS CURVE



## DIMENSIONS

Nominal diameter	DN	25	mm
Connecting diameter	D	G1 1/4	B
Total overall meter height	H	123	mm
Axis height	h	42.5	mm
Length	L	260	mm
Width	B	93	mm
Length with connections	LB	378	mm



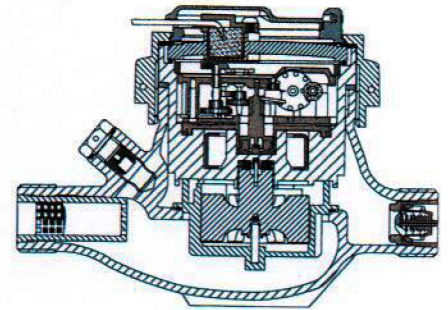
"Due to continuous development of our products, we reserve the right to modify our product design or construction without prior notice."

# TK-4 Multi jet Dry type Water Meter



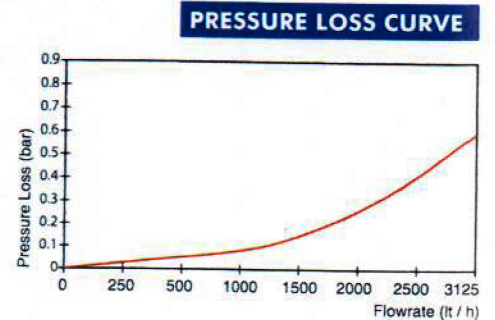
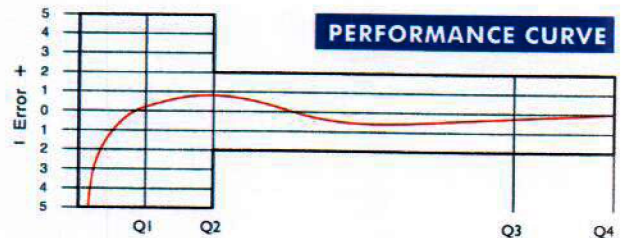
## GENERAL

- MID Certificated
- Reading with reed sensor • 1 pulse output at 1/10/100 lt
- Low head loss • Good sensitivity in initial starting
- 360° rotating lid • Non return valve • Suitable for potable water
- Special glass with high resistance to pressure and impact
- Electrostatic painted body made of corrosion resistant brass
- Body internally/externally e/p powder painted
- Available for optical reading
- Pulse output and AMR reading features are optional
- 3 years of warranty • Almost no maintenance
- Suitable for cold water up to 60°C
- Stainless steel register cup is optional
- Service and spare parts available for 10 years



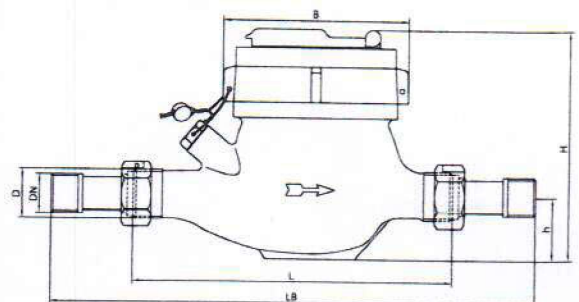
## PERFORMANCE DATA

Permanent Flowrate	Q3 (m <sup>3</sup> /h) :	2.5
Overload Flowrate	Q4 (m <sup>3</sup> /h) :	3.125
Transitional Flowrate	Q2 (m <sup>3</sup> /h) :	0.025   0.02   0.016
Minimum Flowrate	Q1 (m <sup>3</sup> /h) :	0.0156   0.125   0.01
Q3/Q1 (MI-001 OIML R49)		: 160   200   250
Initial Flowrate	Qi (l/h) :	5
Maximum Working Pressure	(bar) :	16
Maximum Working Temperature	(°C) :	60
Pressure Loss (Q3)	(bar) :	0.6
Maximum Registration Capacity	(m <sup>3</sup> ) :	99999
Smallest Reading Resolution	(m <sup>3</sup> ) :	0.00005
Class		: Class 1
Mounting on the network		: Horizontal
Unit weight	(kg) :	1.39
Package Weight (without connections)	(kg) :	14.69
Package Weight (with connections)	(kg) :	15.89
Quantity per package		: 10
Package dimensions	(cm) :	27x48.5x20



## DIMENSIONS

Nominal diameter	DN	15	mm
Connecting diameter	D	G 3/4 B	
Total overall meter height	H	117	mm
Axis height	h	33	mm
Length	L	165	mm
Width	B	96	mm
Length with connections	LB	241	mm



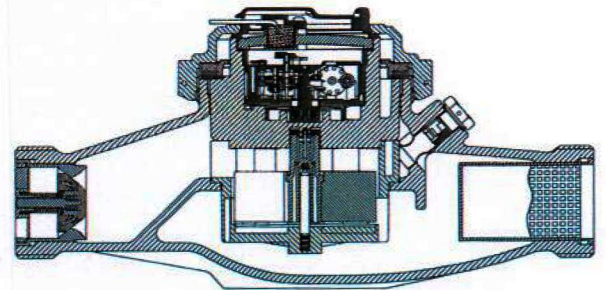
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# TK-5C Multi jet Dry type Water Meter



## GENERAL

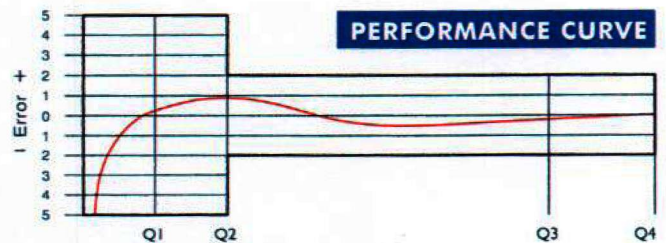
- MID Certificated
- Reading with reed sensor
- 1 pulse output at 1/10/100 lt
- Multijet principle assures a long service time
- Stainless steel register cup is optional
- Low head loss • Good sensitivity in initial starting
- Vacuum mechanism • Suitable for potable water
- Electrostatic painted body made of corrosion resistant brass
- Body internally/externally e/p powder painted
- Available for optical reading
- 3 years of warranty • Non return valve
- Suitable for cold water up to 60°C
- Almost no maintenance • 360° rotating lid
- Service and spare parts available for 10 years



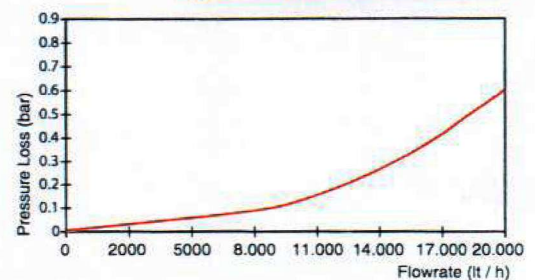
## PERFORMANCE DATA

Permanent Flowrate	Q3	( m <sup>3</sup> / h )	: 16
Overload Flowrate	Q4	( m <sup>3</sup> / h )	: 20
Transitional Flowrate	Q2	( m <sup>3</sup> / h )	: 0.16
Minimum Flowrate	Q1	( m <sup>3</sup> / h )	: 0.10
Initial Flowrate	Qi	( l/h )	: 15
Maximum Working Pressure		( bar )	: 16
Maximum Working Temperature		( °C )	: 60
Q3/Q1 (MI-001 OIML R49)			: 160
Pressure Loss (Q3)		( bar )	: 0.6
Maximum Registration Capacity		( m <sup>3</sup> )	: 99999
Smallest Reading Resolution		( m <sup>3</sup> )	: 0.00005
Mounting on the network			: Horizontal
Unit weight		( kg )	: 4.26
Package Weight (without connections)		( kg )	: 17.98
Package Weight (with connections)		( kg )	: 22.14
Quantity per package			: 4
Package dimensions		( cm )	: 30x33x35.5

## PERFORMANCE CURVE

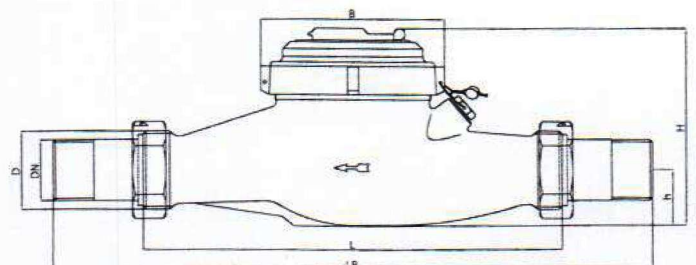


## PRESSURE LOSS CURVE



## DIMENSIONS

Nominal diameter	DN	40	mm
Connecting diameter	D	G 2	B
Total overall meter height	H	149	mm
Axis height	h	42	mm
Length	L	300	mm
Width	B	135	mm
Length with connections	LB	429	mm



"Due to continuous development of our products, we reserve the right to modify our product design or construction without prior notice."