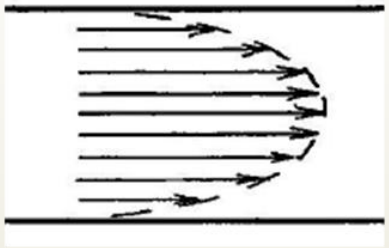
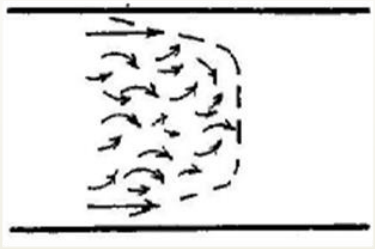
Meter installation

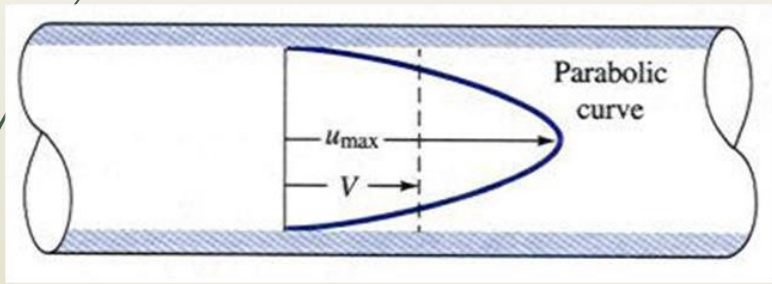
Installation requirements

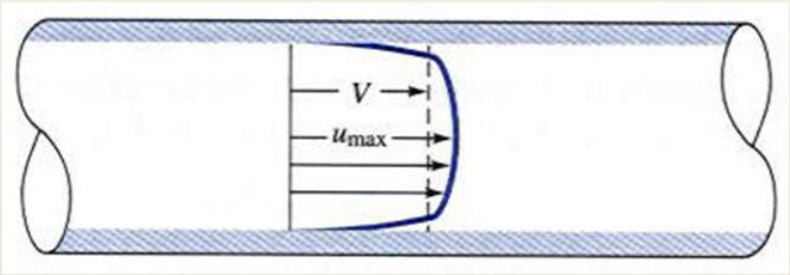
- The meter will only be as accurate as the correctness of its installation

Flow types and profiles







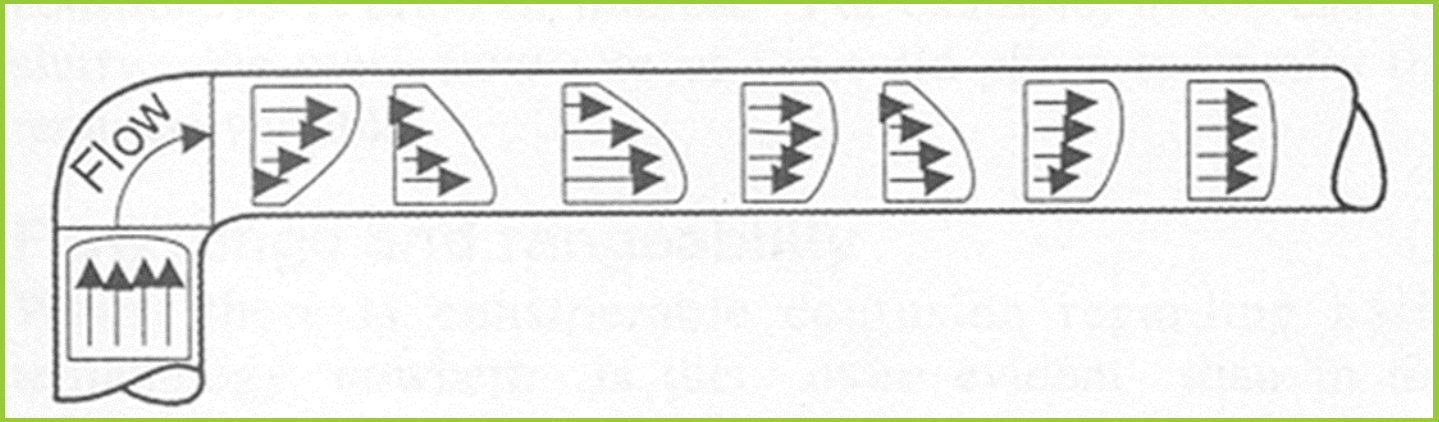


Laminar flow

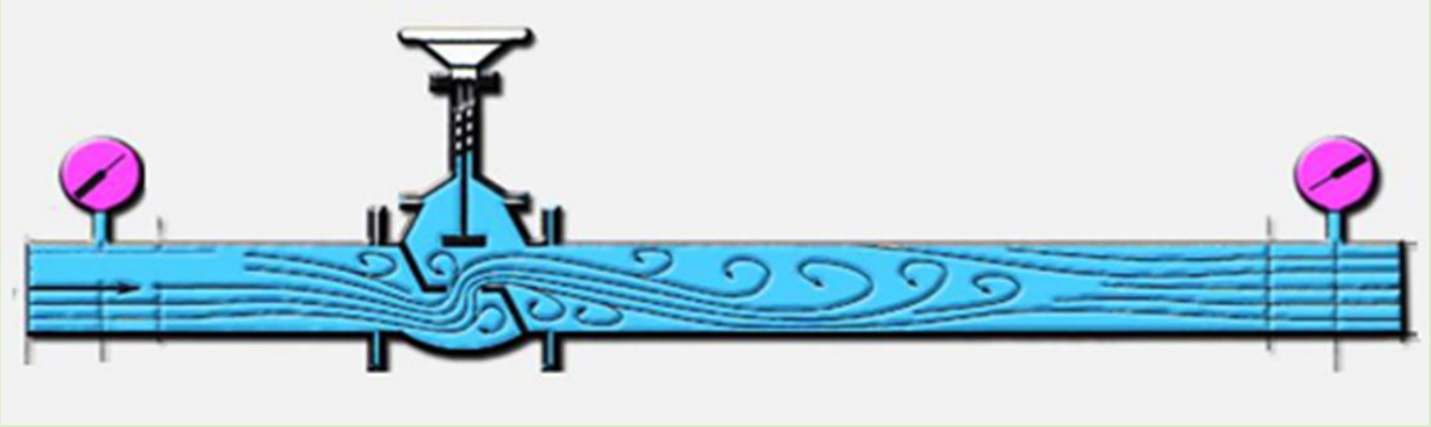
Turbulent flow

Disturbance of the flow profile

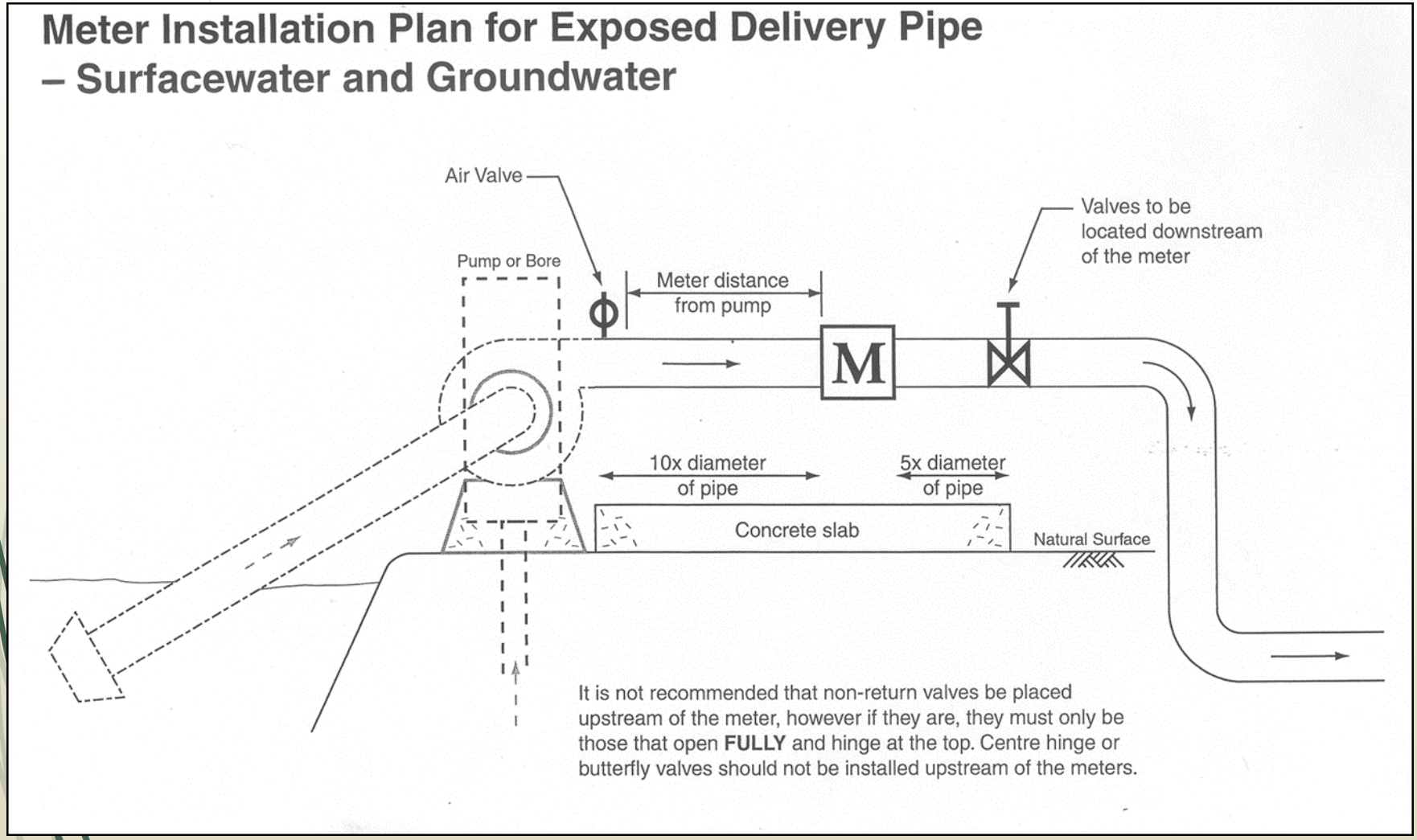
After a bend:



After a valve:



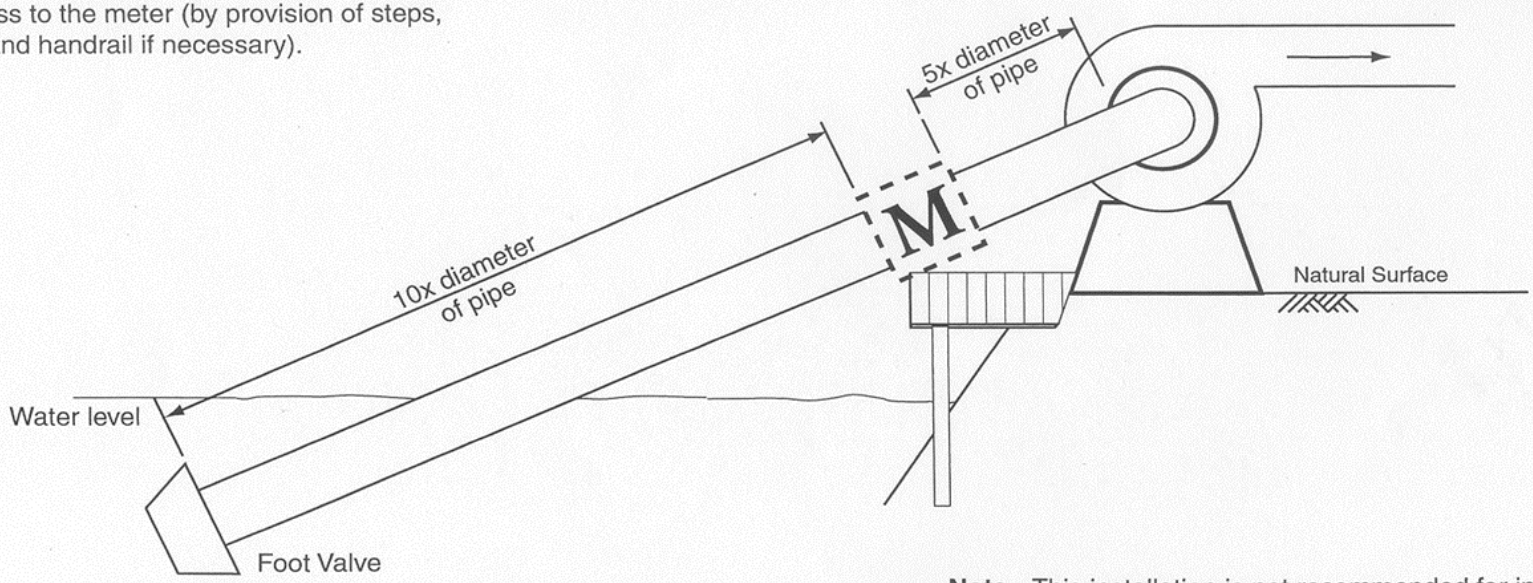
Installation



Installation

Meter Installation Plan for Exposed Suction Pipe Located on or above an Embankment

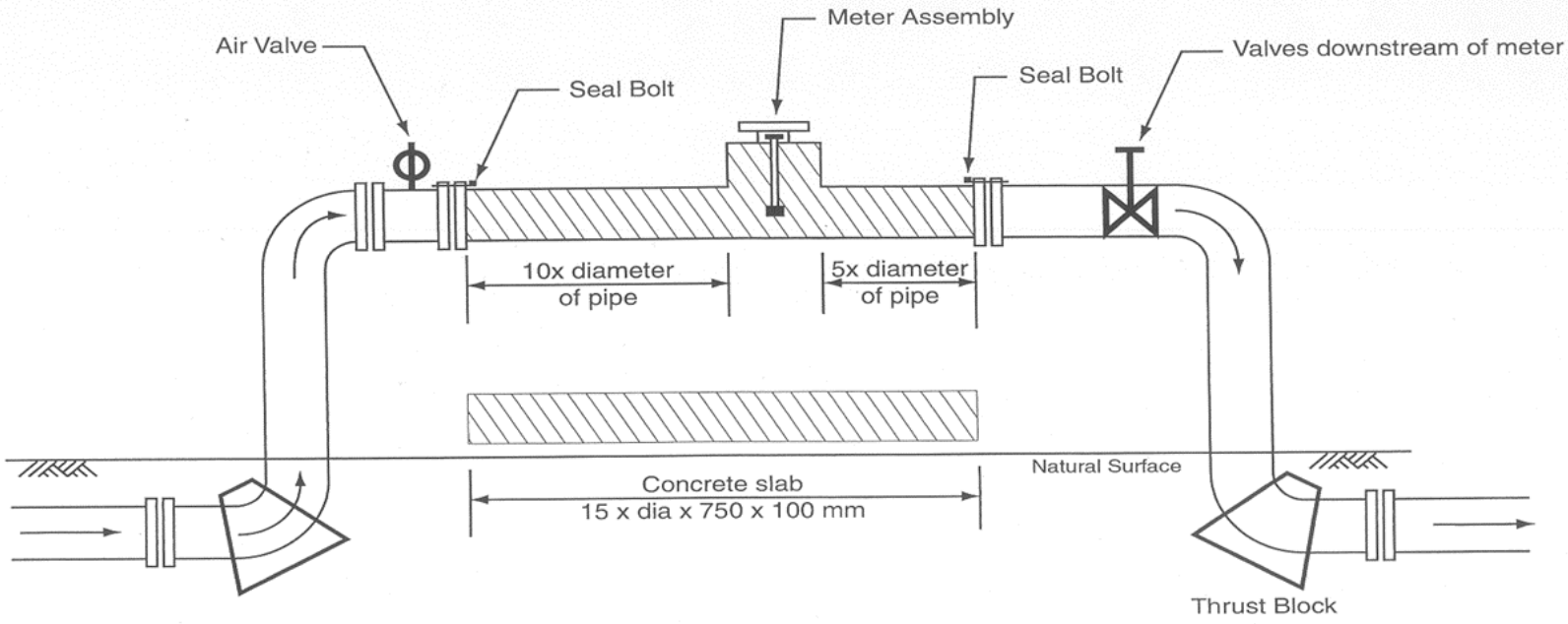
Meter on suction pipes on river banks **MUST** have safe access to the meter (by provision of steps, platform and handrail if necessary).



Note: This installation is not recommended for instream high velocity flooding situations, unless there are no other options.

Installation

Meter Installation Plan in Underground Main brought to the Surface



It is not recommended that non-return valves be placed upstream of the meter, however if they are, they must only be those that open **FULLY** and hinge at the top. Centre hinge or butterfly valves should not be installed upstream of the meters.

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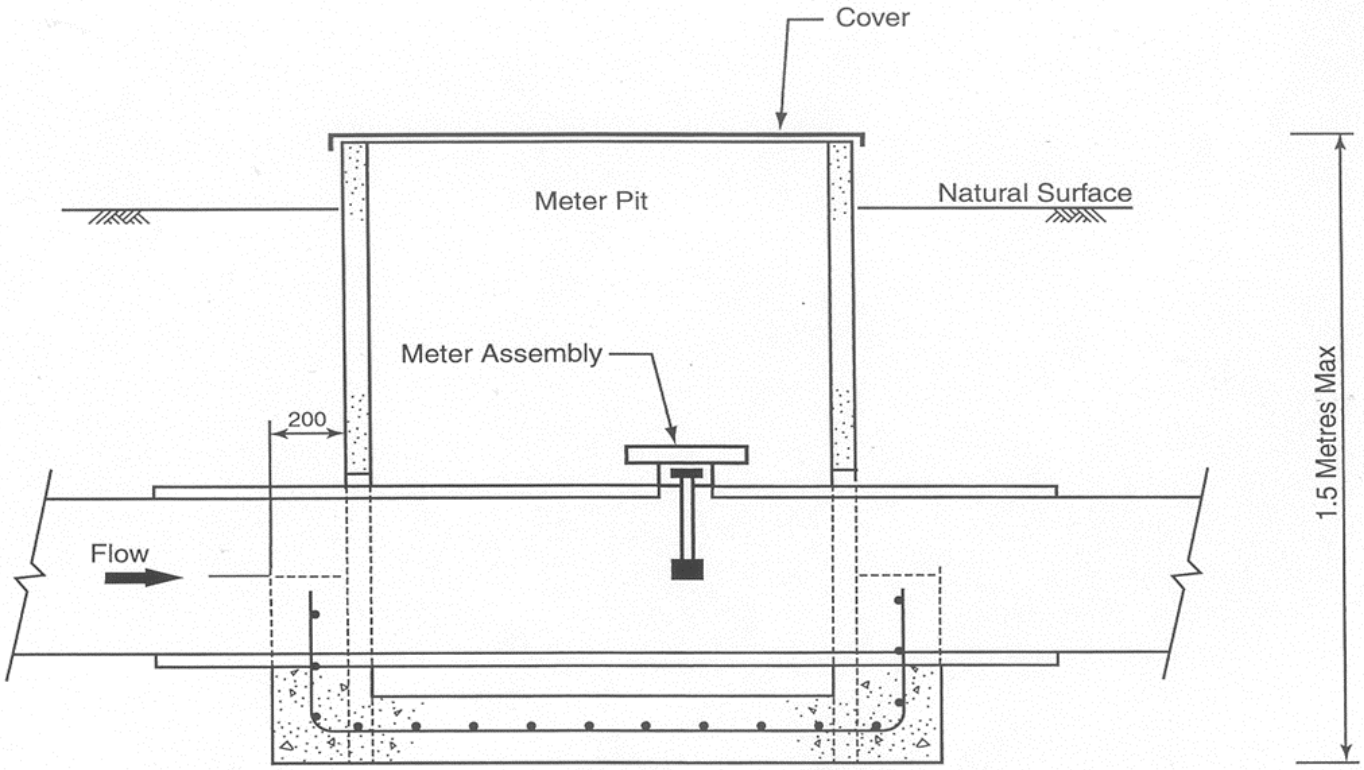
Installation

Meter Installation Plan in Underground Main in Shallow Pit

(Less than 1.5 m below natural surface)



Note: The pit size must enable the removal of the meter.

Proper Installation (Zero "d" before and after meter)

90° Elbows Low Point

45° Elbows Vertical

90° Elbows Vertical (upward flow)

Installation requiring "d" before and after meter

"2 d" before and after isolating valves

"2 d" before and Tee piece

"5 d" after pump, "2 d" before isolating valves

"2 d" after strainers (filters)

Not so easy, though!

26.14

26.15

26.16

26.17

Meter bodies - examples

THREADED-END FLOWMETER MT100

- 2 " to 6 " line sizes

WELD-ON SADDLE FLOWMETER MW600

- 4 " to 48 " or larger line sizes

RIGHT ANGLE FLOWMETERS MW800/MM800

- 3 " to 24 " line sizes

MAIN LINE FLOWMETER MW900/MG900/MT900

- 2 " to 24 " or larger line sizes
- Smooth, grooved, or threaded ends

FLANGED-END FLOWMETER MF100

- 2 " to 12 " line sizes

Installation
– flanged meters

Installation – saddle meters

Installation certificate

Installation Certificate

Merchant Copy

Affidavit

I hereby confirm the installation of the McCrometer water meter at Site nr _____, and that the meter was is working order on the date of the signing of this document.

By signing this document I verify that I have received a copy of the *McCrometer Installation, Operation & Maintenance Manual* and the calibration certificate of the meter.

Information:

Name of Farm_____

Name of Farm representative_____

Name of UIC representative_____

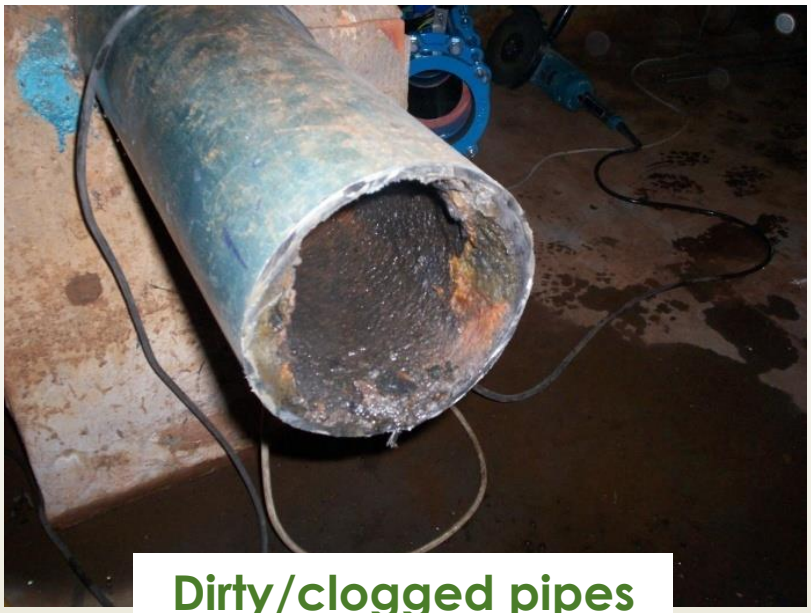
McCrometer Serial number_____

McCrometer Totaliser Value (m^3) _____

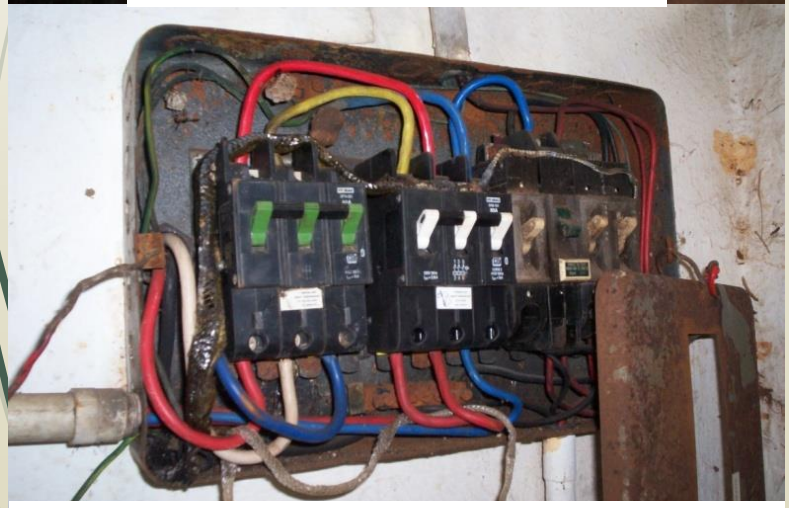
Farm Representative Signature:	UIC Representative Signature:	Date:

Problems

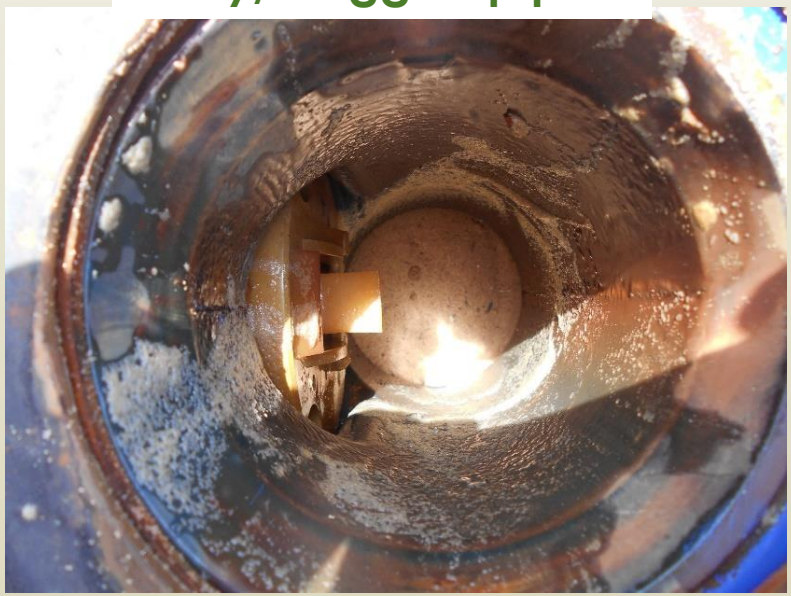
Bad pipe alignment



Dirty/clogged pipes



Poor electronic connections



Meter selection

Technical Data

Model	IRT 80	IRT 100	IRT 150	IRT 200	IRT 250
Size – (Flange, see price list)	80 mm	100 mm	150 mm	200 mm	250 mm
Pressure - Maximum (m)	160 metres				
Flow Rate q_{max} (m^3/h) – Note 1	150	250	500	900	1 400
Flow Rate $q_{nominal}$ (m^3/h)	90	125	250	450	750
Flow Rate $q_{transitional}$ (m^3/h)	10	11	15	30	70
Flow Rate q_{min} (m^3/h)	5	7	10	18	20
Straight pipe requirement	10 d before and 5 d after		10 (5) d before and 5 (3) d after meter		
Electronic Volume	100 Litre, 1 m^3, 10 m^3		1, 10, 100 m^3		
Installation	Any position (horizontal, vertical or inclined)				
Accuracy $q_{transitional}$ to q_{max}	± 2%				
Accuracy q_{min} to $q_{transitional}$	± 5%				
Head Loss	See graph				
Maximum register capacity	10^6 m^3/h	10^7 m^3/h		10^8 m^3/h	
Minimum register capacity	1 litre	10 litre		100 litre	