



## FRAMEWORKS FOR MTA PIPE-INSPECTOR® INSPECTIONS



Pipeline inspection by means of MTA Pipe-Inspector is a novel approach to condition determination and assessment.

Smooth cooperation between Client and Contractor is needed to enable a successful project. Correct and comprehensive pipe data as well as the assistance of the Client before and during the inspection process are taken for granted. Still there are physical limitations to the technology that can make the passing of the

MTA Pipe-Inspector impossible such as unknown blockages within the pipe. Out of our company's general attitude to act fairly with our Clients the following hints are to show possible limitations and their technical and economic consequences.

Since the condition of a pipeline to be inspected is a "big unknown" for both, the Contractor and maybe also the Client, the Contractor shall not be liable for any damage or consequential damage during the execution of the entire work.

Deviations from the project details, such as they had been announced before the project start (quote), may increase the actual workload and eventually the project costs. Excessive deviations of the actual conditions from the project data specified in the correspondent checklist can even prevent successful project execution.

Additional expenses due to incomplete or incorrect project details will be charged.

If a pipeline cannot be inspected in its entirety, for reasons such as too massive deposits in the pipeline, unknown built-in parts, reduction in cross-section or other obstacles, yet 80% of the order total will be invoiced.

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## POSSIBLE RESTRICTIONS ON PROJECT MANAGEMENT -

### WATER QUALITY CONTROL

Turbidity measurements are carried out on a random basis prior to and during the inspection at the start and end point of the pipeline section to be inspected.



The quality of the video data recorded by MTA Pipe-Inspector is strongly dependent on the clarity of the medium. An excellent image quality can be expected from 0.0 to 4.0FNU, from 4.0 to 8.0FNU the image quality is limited, and optical inspections with turbidity values higher than 8.0FNU can only be performed to a very limited extent. Values above 40.0FNU do not any more allow video inspections.

Sediments may be detached from the inner pipe wall by MTA Pipe-Inspector equipment causing additional water turbidity. Also air may affect the video quality (see picture below). The Contractor has no influence on this and possible consequences on the results cannot be estimated by the Contractor prior to the inspection. This cannot be claimed as impairment. The risk is borne by the Client.

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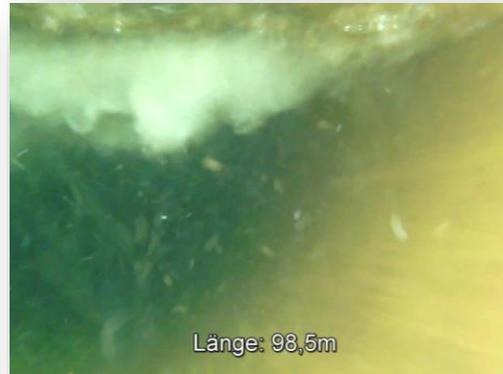
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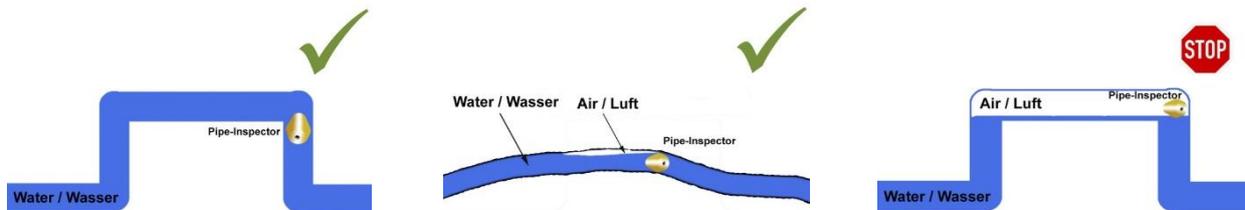
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## PEAKS AND LOW POINTS



Air pockets can lead to problems during the inspection for which the Contractor cannot be held liable. This does not constitute an impairment of the results of the inspection.



## CROSS-SECTIONAL ALTERATIONS AND DEFORMATIONS, FOREIGN OBJECTS AND SEDIMENTS

Any change in cross-section along the inspection section involves the risk of the inspection equipment becoming stuck or the velocity of the MTA Pipe Inspector equipment moving outside the allowable range.

This can lead to different effects on the inspection process and its outcome:

- Equipment stuckness
- Equipment standstill
- Excessive flow velocity
- Turbulences
- Etc.

If a pipe break causes a reduction of the main flow from the start to the end point, this can also lead to the above mentioned effects.

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#### SOME OBSTACLES

- Deformations
- Foreign objects
- Unknown built-in components (bends, fittings)
- Intruding obstacles
- Venturi pipes
- Measuring devices like turbidity probes
- Etc.



If the inspection equipment gets stuck for the reasons stated above or for other reasons, the recovery of the inspection equipment will be initiated jointly by MTA and the Client immediately or on the following working day at the latest. In case the Client postpones or delays recovery for unexplainable or unexplained reasons, costs amounting to € 3,200.00 (inspection equipment incl. MTA technician) will be incurred for each working day on which the inspection equipment cannot be used by the Contractor.

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In case the technicians are not on site anymore € 500.00 per day will be invoiced (inspection equipment excl. MTA technician) until the equipment purchase price has been reached.

Extra expenses for locating and salvaging the inspection equipment, e.g. due to inaccurate project details or obstacles etc. will be charged separately.

Expenses on the part of the Client or work by third parties for the salvage of the inspection equipment, e.g. for excavation, are not included in the price and shall be borne by the Client.

If further arrivals and departures are necessary for the salvage of the MTA Pipe-Inspector, or if the work is interrupted, the site installation cost will be billed separately for each further arrival and departure.

The exact procedure of the salvage is determined in writing with the Client. If the Client does not agree with this, the Contractor will determine the procedure itself and will inform the Client in writing about it.

If the MTA Pipe-Inspector equipment is recovered by third parties (not MTA employees), they are liable for any damage to the equipment. In the event of damage to the equipment, the Client will be charged for the repair or, in the case of total loss, the replacement.

The MTA Pipe-Inspector equipment is always the property of MTA Messtechnik and may not be passed on to third parties.

## CONTAMINATIONS

Possible biofilm injuries and microbial contamination may occur and are not the responsibility of the Contractor. Should the MTA Pipe-Inspector equipment - for whatever reason - not be recovered from the pipeline, the Contractor cannot be held responsible for any consequential damage.

In case the MTA Pipe-Inspector will be exposed to operational demands outside the technical application limits and get damaged due to missing or incorrect information, the Client is liable for this.

The lithium ion batteries in the MTA Pipe Inspector can come into contact with the medium in the pipeline if the MTA Pipe Inspector is damaged. Any contamination by this cannot be completely excluded. The Contractor is not liable for resulting damages and consequential damages.

In addition to the FRAMEWORKS FOR MTA PIPE-INSPECTOR® INSPECTIONS mentioned in this document, the General Terms and Conditions of MTA Messtechnik GmbH apply in the respectively valid version.

Court of jurisdiction is exclusively St. Veit an der Glan, Austria.

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