

MANUAL

Leak Location systems

MEASURING INSTRUMENTS

LOS 201
AHO 203

LOE 202
TGO 204

EC Declaration of Conformity, IIA

According to the EC Directives for Measuring Devices
2009/137/EC; 2004/22/EC; 2007/13/EC; 71/316/EEC; 2009/34/EC

For device series: Measuring Devices

Typ: LU-2.2

Die E.LU-Mess GmbH, Steinstraße 18, 33397 Rietberg, declares that, if the mentioned devices are installed, maintained and operated according to the operating instructions and state-the-art technology, they shall comply with essential health and safety requirements of the Machine Directive, as well as the following provisions and standards.

Relevant EC Directives:

Low Voltage Directive:

2006/95/EC
2006/95/EC
2006/96/EC

EMC - Directive:

2004/137/EC
2004/108/EC
2004/22/EC
2007/13/EC
71/316/EEC
2009/34/EC

Applied harmonized standards and technical specifications:

EN50178: 1997
EN 61010-1: 2001
EN61326-1: 2006

In case of unauthorized changes to the machine the declaration shall be voided.

General Manager

Ewald Lümmer

Rietberg, 28.08.2018



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ATTENTION:

Read prior to initial operation!

Please carefully observe the information in the operating instruction. Non-compliance shall void any warranty claims. The manufacturer shall not be liable for any resulting damage or secondary damage.



1. General

Safety Information

By purchasing the pipe locating system LO-330 you purchased a device of highest quality.

Please observe:

- _ Any device operation requires exact knowledge of its functionality and application purpose.
- _ Maintenance and repair may only be performed by trained LÜMMEN personnel.
- _ Only use genuine LO-330 accessories.
- _ The operating instruction must be observed.
- _ The device may only be used in accordance with the intended use described in the operating instruction.

LÜMMEN shall not be liable for any damage caused by non-compliance with the operating instruction and/or the information listed above. In case of improper repair or maintenance, or in case of improper use different from intended use described in the operating instruction, the owner or carrier shall be liable for device functionality.

If pipe locating should be used in rooms with medical equipment or IT systems, the manufacturer should be consulted regarding sufficient interference protection. With respect to frequency and strength the electromagnetic interference/radiation of pipe locating can be compared to a speaker box of a small stereo system.

We reserve the right to make technical changes within the scope of further development.



2. Line Location OS 330 / OE 330

Pipe locating

To locate leakage has occurred, the pipes must be known. This situation is however not always, just think about:

- Underground utility lines
- pipes in the building under the screed, behind tiles, cavities, etc.
- cables in ducts
- outflow pipes

Before the search is a tube leakage detection for the determination of the course of essential. Particularly susceptible to damage the branches (tees) must be recognized. In many cases, where the thermography gives no satisfactory results (lack of heat dissipation), other systems are used the pipe location.

Measurement Systems

For accurate and rapid detection of metal lines, the electro Magnetic Locators used. With her next to the course is also laying depth to determine. A pulse generated in the pipes an electromagnetic field that is detected by a special receiver with a search coil. Plastic pipes can be located by means of a metal coil that is inserted into the tube.

Even with a **body microphone** sound can be detected and the pipeline. This flow noise in pipes can be located directly or indirectly. The thermal imaging locates the heat radiation of the line (if available).

An inexpensive solution is an infrared thermometer with a laser spot, which is to get in trade for about 100 €.

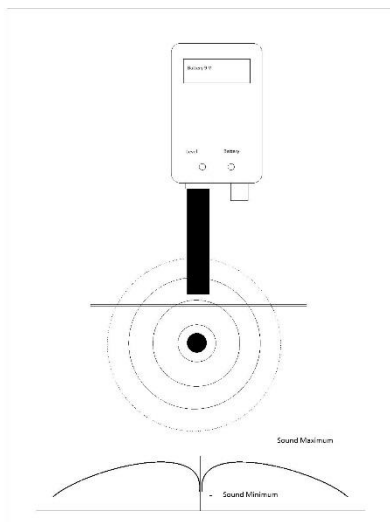


Pipe locating made easy...

Here we present the tracking system **Luro 2.2**

The system consists of a transmitter and a receiver and allows exact locating of pipes as well as routing in hollow spaces or under screed. The pipe depths can be determined as well. The device is ideally suited for pipes of indoor installations. Install the pipe locating system to establish an electrical circuit. Only metal pipes can be detected

The transmitter applies a signal to the pipe. A green LED on the transmitter indicates correct installation. If a connecting channel exists, then the receiver can receive the signal, whereby a minimum signal can be detected directly above the pipe. On the left and right of the pipe the signal is very loud (sound maximum). If the device is tilted by 45 degrees over the pipe center, and pulled away from the pipe route, then the difference to the new sound minimum indicates the pipe depth. This enables pipe locating with a few centimeters accuracy.



Charging of the transmitter

While charging the transmitter is not operational. The charging process takes approximately 3 hours depending on the discharge of the battery.

Standard Equipment in the case:

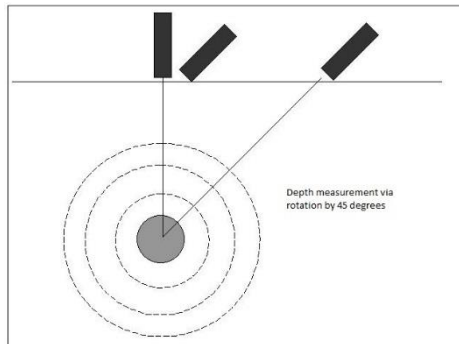
Transmitter: with integrated functional test, 2 cables with clamps, charger

Receiver: with antenna, integrated loudspeaker, level indicator and battery control

When using the line location in a room with medical equipment or computer equipment you should check with the manufacturer to determine if the devices have a sufficient security against interference radiation. The electromagnetic radiation of the line location is the same as in frequency and intensity of a small speaker stereo systems.



Application



The pipe locating system must be installed to establish an electrical circuit. For example one transmitter clamp to the corner valve of the toilet tank, the other one to the bathtub faucet. The signal travels from one clamp to the other via the piping material. Only this pipe radiates the signal. Several measurements are required in order to detect all pipes in the house (bathroom).

Water and heating pipes must be connected to the house grounding. The grounding contact of the Schuko socket (safety outlet) has the same potential.

Apply the signal to the pipe in the upper floor and close the circuit by plugging the adapter plug into the Schuko socket. The signal travels through the pipes to the equalizing bar in the basement and returns to the transmitter via the yellow/green wire (grounding contact) Using this method ascending pipes can be detected in the indoor installation.

Only use the adapter plug, the phase (live) and neutral conductors of the socket may not be used to return the signal.

Often pipes and electrical lines are routed in the same ascending conduct. In order to avoid mix-ups, a cable extension can be used for the return. The pipe, to which the signal is applied, is detected "minimum procedure". On the left and right of the pipe the signal is very loud (sound maximum) Directly above the pipe a sound minimum can be measured.

If the antenna is rotated 45 degrees at the pipe center (sound minimum), a sound maximum is generated. In other words, a soft signal is turned into a loud signal.

Now the antenna is pulled sideways away until a new sound minimum is generated. The difference between these two points is the depth of the pipe.

Using this method depth and location of pipes underneath floors or behind walls can be easily detected.



3. Electro-Acoustic detection device HO 330

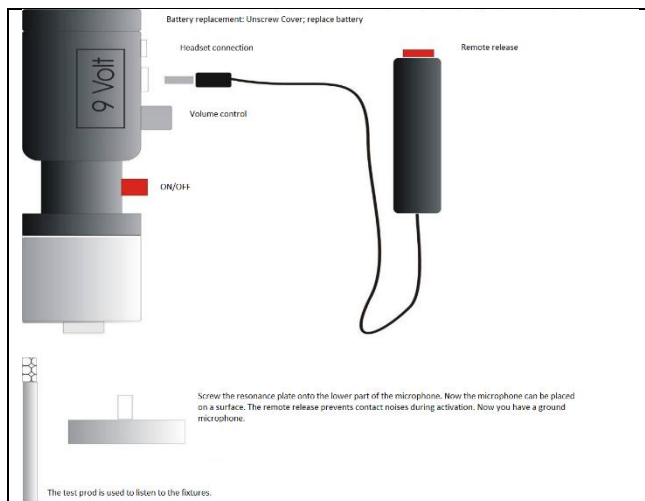
Application

The electric-acoustic detection device HO 330 is specifically developed for leak locating in a pipe installation. However, it also offers a variety of other application options. For example:

- Leak locating on water , compressed air or gas pipes
- Damage locating and determination on machine parts and motors (bearing damage etc.)
- Damage locating an determination on electrical machines and motors

The functional principle of the electro-acoustic detection device HO 330 is based on the recording of structure-borne sound vibrations, their amplification by order of magnitudes, and their conversion into an audible sound.

HO 330 configuration



Operation

Pre-locating (using the test prod)

Plug the headset connector into the designated socket. Attach the test prod. The device is now ready for operation.

Put on the headset and use the volume control to adjust the volume to the lowest level. Only increase it as needed during locating.

Now pre-locating can start beginning from the faucets.



Precise locating (as ground microphone)

Plug the remote release into the designated socket. Plug the headset connector into the designated socket. Screw extension and base plate together. Screw extension to device. The device is now ready for operation.

Put on the headset and use the volume control to adjust the volume to the lowest level. Only increase it as needed during locating.

If possible, always switch the device on using the remote release in order to prevent hand contact noises on the device.

Locating sequence

Listening to pipes is a very old but efficient method to detect leaks. The beginning of the “listening box” will not be further discussed. However, the technology can be compared to today’s electro-acoustic devices.

When water is pressurized, two basic sounds are generated:

1. The pipe material and the water itself transport a structure-borne sound, which can be recorded using microphones at the faucets or any possible pipe locations. (more, less, no sound)
2. The water motion at the emission point (leak) is absorbed as sound by floor or wall covering. The sound propagation follows a bell shape. Ground microphones locate the leak.

The leak sound propagates to both sides of the leak location and can be heard at the adjacent contact locations using a microphone. Based on the principle “louder = closer” and “softer = more distant” pre-locating takes place. This way the leak can be located within one area.

Next, using the ground microphones the exact location of the leak can be detected.

Additional measures

Not hearing anything does not mean, there is no leak. A pressure test should always be performed as well. If no audible sound is generated at low pressures, then some assistance may be required. First increase the water pressure. However, the better method is the connection of an air compressor, which is part of the standard configuration of the leak detector. Higher pressure as well as an air-water-combination will usually generate well audible sounds at the leak location. For heating systems a pressure increase is only possible to a limited extent. Observe the burst strength of the heating elements.

Previously performed pipe locating is very helpful for any leak detection method.



Sequence:

1. Pressure test
2. Pre-locating
3. Ground microphone for exact locating
4. Damage correction
5. Pressure test - result checking

4. Tracer gas measuring system TGO 330**Application**

The TGO 330 system is a handy measuring device for leak detection of all common gas types, such as: propane, butane, methane, liquefied petroleum gas, natural gas and forming gas (see data sheet).

The TGO system is well suited for leak-tightness monitoring of gas pipes.

The sensor attached using an 18cm flexible cable, allows measurements even at locations, which are difficult to access. The gas concentration is indicated via LEDs as well as an acoustic signal.

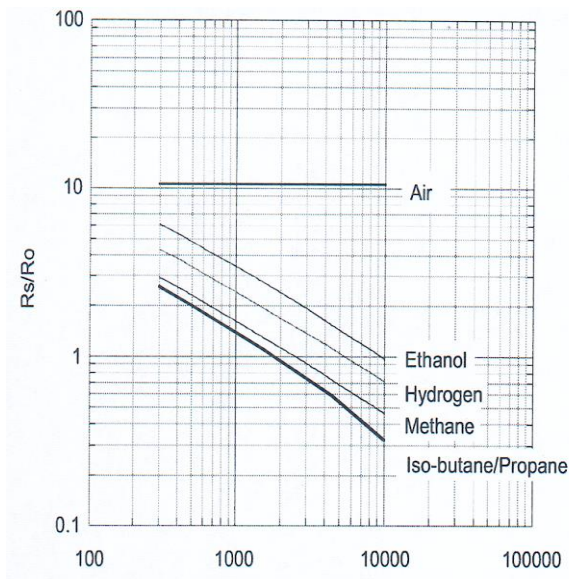
The TGO 330 is switched on at the top left. The device needs a few seconds to adjust the sensor to a suitable operating temperature. A short signal sound indicates readiness for operation.

The measuring device is powered by a 9V battery. If the red LED at the top right flashes, when the device is switched on, then the battery needs to be replaced. Open the lid on the underside of the housing and replace the 9V battery.

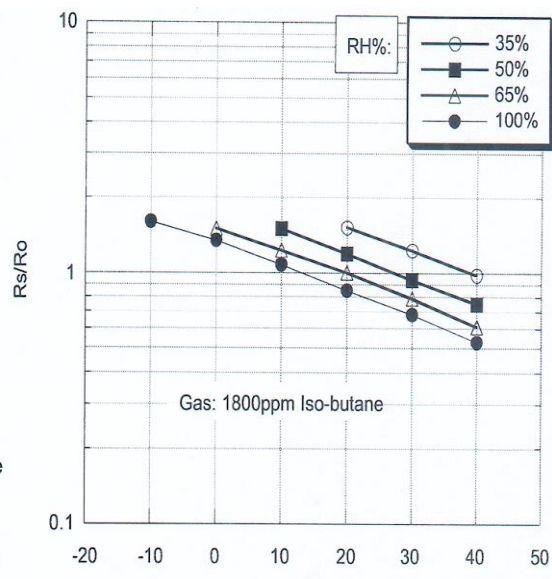
Technical data

Weight	174 g
Housing dimensions	140 x 60 x 30 mm (L/B/H)
Goose neck with sensor head	180 mm
Power supply	9 Volt-Block
Battery life	ca. 180 Min.
Gas sensor data	see below





Gas concentration (ppm)



Ambient temperature (°C)

Ambient operating conditions

- Relative air humidity 0.. 80%
- Ambient temperature: 0.. 40°C
- Max. elevation above sea level 2000 m

Safety symbols:

CE EMC tested

Switching the device off

Press and hold the ON/OFF button for 2 seconds to switch the device off.

Gas concentration measurement

After previous tests located the possibly leaking pipe section, empty the section completely (if possible). It is recommended to blow out the pipe section using a compressor. Next fill the pipe using sample gas (forming gas 95/05). The sample gas will escape at the leak location and can be measured using the TGO 330 in close proximity of the leak.

Position the gas sensor head (using the goose neck extension as needed) as close as possible to the affected pipe. We recommend to initially measure open areas (joints, door frames, open jointing etc.). In direct proximity of the leak, the TGO 330 measures the highest gas concentration. This is indicated by a high reading on the LED display with dynamic bar graph (red LEDs are illuminated) an acoustic beep.



General Terms and Conditions (GTC)

§ 1 General - Scope of application

- (1) Only our sales conditions are applicable; any contrary conditions of the purchaser or conditions differing from our sales conditions are not accepted by us, unless, we have expressly agreed to them in writing. Our terms and conditions of sale shall apply even if we make the delivery to the buyer without reservation, in full awareness of conflicting or deviating terms and conditions of the buyer.
- (2) All agreements that are concluded between us and the customer for the purposes of executing this contract are contained in writing in this contract.
- (3) Our terms of sale shall only apply towards entrepreneurs within the meaning of § 310 Par. 1 BGB [German Civil Code].

§ 2 Offer - Offer documents

- (1) If the order is to qualify as an offer in terms of § 145 BGB, we shall have 2 weeks in which to accept it.
- (2) We reserve the proprietary rights and copyrights to all illustrations, drawings, calculations and other documents. This shall also apply to such written documents which are labelled "confidential". The customer requires our express prior consent before these may be forwarded to third parties.

§ 3 Prices-Terms of Payment

- (1) Provided that nothing else is stated in the order confirmation, our prices are "ex works", exclusive of packaging; which shall be charged separately.
- (2) Our prices do not include the statutory VAT; the VAT is stated on the invoice separately at the applicable rate on the date of the invoice.
- (3) Deduction of discount requires a special written agreement.
- (4) Unless not otherwise specified in the confirmation of order, the net sales price (without deduction) will be due for payment within 30 days after date of invoice. The statutory rules regarding the consequences of default of payment apply.
- (5) The customer will be only entitled to rights set-off, if his counter claims are found to be legally valid, are undisputed or recognized by us. In addition, the customer is authorized to practice the right of retention in so far as his counter claim is based on the same contractual relationship.

§ 4 Delivery time

- (1) The beginning of the delivery time specified by us implies that all technical questions have been clarified.
- (2) The compliance with our delivery conditions is subject to the prompt and orderly fulfilment of the obligations of the customer. The objection to a non-fulfilled contract remains reserved
- (3) If the customer fails to accept the goods or if he culpably infringes any other duty to collaborate, we shall be entitled to demand compensation for any resulting damage including any possible extra expenses. All further claims or rights are reserved.
- (4) Insofar as the preconditions of paragraph (3) exist, the risk of an accidental loss or the accidental deterioration of the object of the purchase shall pass to the customer at the moment that he is in default of acceptance or payment.
- (5) We are liable under the statutory provisions, to the extent that the base contract is a firm deal in terms of § 286 para. 2 No. 4 BGB or § 376 HGB [German Commercial Code]. We are also liable in accordance with the statutory provisions to the extent that, in consequence of a delay in delivery caused by us, the customer is entitled to enforce the assertion that his interest in the further fulfilment of the agreement no longer exists.
- (6) Furthermore, we shall be liable in accordance with legal provisions should the failure to deliver be founded on a wilful or grossly negligent breach of contract for which we are responsible; negligence on the part of our representatives or vicarious agents is to be attributed to us. Provided that the delay in delivery is due to a grossly negligent violation of the agreement attributable to us, our liability for losses or damage shall be limited to the foreseeable, typically incurred damage.
- (7) We shall also bear legal liability under statutory regulations if the delay in delivery for which we are responsible has been caused by the culpable violation of a major contractual obligation, but in any such case our liability for damages shall be limited to such losses, which are foreseeable and typical of such circumstances.
- (8) This shall not affect the customer's other legal claims and rights.



§ 5 Transfer of risk - Cost of packaging

- (1) To the extent that nothing to the contrary can be understood from the order confirmation, delivery "ex works" has been agreed.
- (2) Special agreements shall apply for the return of packaging.
- (3) Insofar as the customer desires, we shall take out transport insurance for the shipment; the customer shall pay the resulting costs.

§ 6 Liability for faults

- (1) Claims for faults by the customer provide that the customer met his obligation of inspection and reporting of defects according to § 377 HGB [Commercial Code] correctly.
- (2) Insofar as the purchase item has a fault, the purchaser shall be entitled to supplementary performance in the form of rectification of the fault or to delivery of a new item free of faults. If removal of faults or replacement delivery takes place, we are obligated to assume all necessary expenses for the purpose of supplementary performance, especially transportation, shipping, labour, and material costs, insofar as these are not increased by the fact that the purchase item has been brought to a location other than the place of performance.
- (3) If the supplementary performance is not successful, the customer has the option of withdrawal or demanding a reduction.
- (4) We will be liable in accordance with statutory provisions insofar as the customer makes claims for damages that are based on intent or gross negligence, including intent or gross negligence by our representatives or vicarious agents. As far as we are not accused of wilful breach of contract, our liability for claims for damages is limited to the foreseeable, typically occurring damage.
- (5) We shall be liable in accordance with the statutory provisions insofar as we culpably breach an essential contractual obligation; also in this case, liability for damages shall be limited to the foreseeable typically occurring damage. An essential contractual obligation exists where the breach of duty refers to a duty the performance of which the customer relied on and could rely on.
- (6) Insofar as the purchaser additionally, due to a negligent breach of duty, has a claim for compensation in lieu of performance, our liability shall also be limited to compensation for the foreseeable loss or damage that might typically incur.
- (7) Liability for culpable injury to life, limb or health remains unaffected; this also applies to mandatory liability in accordance with the product liability law.
- (8) Unless otherwise specified, liability shall be excluded.
- (9) The limitation period for any claims arising from faults is 12 months, beginning with the transfer of risk. This shall not apply if the item purchase item is usually used for a building and caused the defect.
- (10) The limitation period in the case of a delivery regress under §§ 478 and 479 BGB [German Civil Code] remains unaffected; it amounts to 5 years reckoned from delivery of the defective item.

§ 7 Total liability

- (1) Further liability for losses or damage other than that provided for under § 6 is excluded, irrespective of the legal nature of the asserted claim. This applies particularly to damage claims for liabilities resulting from contract closure, due to other non-fulfilment of commitments or legal claims for replacement due to damage according to § 823 BGB [German Civil Code].
- (2) Limitation according to paragraph (1) also applies as far as the customer, instead of a claim for replacement due to damages, demands reimbursement of useless expenditure instead of performance.
- (3) As far as the liability for compensation against us is excluded or restricted, this shall be valid as well with respect to the personal liability for compensations of our employees, staff members, representatives and vicarious agents.

§ 8 Security of the Reservation of Title

- (1) We reserve title to the purchase item until receipt of all payments from the delivery contract. If the customer acts contrary to contract, in particular if he is in default of payment, we are authorised to take back the purchase item. By taking back the purchase item we withdraw from the contract. After taking back the purchase item we are authorized to exploit it, the proceeds are to be imputed to the account of the customer - minus reasonable usage costs.
- (2) The customer is obliged to handle the object of the contract carefully, particularly he is obliged to effect a new for old insurance at his expense against the risk of fire, water damage and theft. Should maintenance and inspection work be required, the customer must perform such work in good time and at his own expense.



- (3) In case of distraints or other interventions of third parties, the customer has to inform us immediately in writing, that we can take legal actions in accordance with § 771 ZPO [German Civil Practice Act]. As far as such third party is unable to reimburse us the court and out-of-court costs of a lawsuit according to § 771 ZPO, the customer is liable for the loss occurred to us.
- (4) The customer shall be entitled to resell the purchase goods in the proper course of business; however, the customer already now assigns to the supplier all and any claims in the amount of the final invoice amount, including value added tax, which arise to it from the resale, against its customers or against third parties, irrespective of whether the purchase item has been resold after resale. The customer shall still be authorized to collect the amount due after the assignment. Our right to collect the payment ourselves remains unaffected hereof. However, we undertake not to collect these accounts receivable as long as the customer meets his payment obligations from earnings received from the sale, does not get into arrears with payment and in particular does not make application to start insolvency proceedings or ceases to make payments. Should this be the case, however, we may demand that the customer discloses to us the assigned claims and their debtors, that he furnishes all necessary information and surrenders all appropriate documents and that he notifies the debtors (third parties) of the assignment.
- (5) The processing or modification of the purchased item by the customer will always be carried out on our behalf. If the purchase item is processed with other objects not belonging to us, we acquire the joint ownership of the new resulting item in proportion to the value of the new resulting item (invoice sum total, including value added tax) and the other processed goods at the time of processing. For the item produced through processing, the same applies in other respects as for the purchase item under retention of title.
- (6) If the purchase item is inseparably mixed with other goods not belonging to us, then we shall acquire co-ownership of the new item created in the ratio of the value of the purchase item (final invoice value including value-added tax) to the value of the other mixed goods at the time of processing. If the mixing takes place in such a manner that the item of the Supplier is to be regarded as the main item, then it is deemed to be agreed that the Supplier transfers co-ownership on a pro rate basis. The customer shall then hold the resultant sole or partial ownership for us.
- (7) To secure our claims against him the customer shall also assign all claims against a third party that accrue to him through the connection of the purchase item to property.
- (8) We undertake to release the securities due to us at the request of the customer insofar as the value of the securities exceeds the secured accounts receivable by more than 10 %; the securities released shall be at our discretion.

§ 9 Court of Jurisdiction - area of performance

- (1) If the customer is a merchant, the place of jurisdiction shall be our registered office; we are also authorized, to sue the buyer in the court of his residence.
- (2) The laws of the Federal Republic of Germany shall apply; the terms of the UN Sales Convention shall not apply.
- (3) As far as not otherwise stated in the confirmation of order, our registered offices shall be the place of fulfilment.

General Conditions of Services

§ 1 General - Scope of application

- (1) For agreed services in the areas of building drying, location technology and assessments as well as consultations there are no building work services. For these and for all other services, including consultations, the following general terms of service apply.
- (2) Only our conditions of services are applicable; any contrary conditions of the customer or conditions differing from our sales conditions are not accepted by us, unless, we have expressly agreed to them in writing. Our conditions of services shall apply even if we make the service to the customer without reservation, in full awareness of conflicting or deviating conditions of services of the customer.
- (3) All agreements that are concluded between us and the customer for the purposes of executing this contract are contained in writing in this contract.
- (4) Our conditions of services shall only apply towards entrepreneurs within the meaning of § 310 Par. 1 BGB [German Civil Code].

§ 2 Offer - Offer documents

- (1) If the order placement is to qualify as an offer in terms of § 145 BGB, we shall have 2 weeks in which to accept it.



- (2) We reserve the proprietary rights and copyrights to all illustrations, drawings, calculations and other documents. This shall also apply to such written documents which are labelled "confidential". The customer requires our express prior consent before these may be forwarded to third parties.

§ 3 Prices - Terms of payment

- (1) As far as not otherwise stated in the confirmation of order, our prices at the time of order placement shall be applicable.
- (2) Our services are based on the current price list, according to our set rate and hourly rate. The related journeys to and fro are charged per kilometre. Services provided on Saturdays, Sundays and bank holidays are charged separately.
- (3) Weather and temperature-related delays, repetitions, waiting times, etc., including the ancillary costs and renewed journeys to and fro are calculated using our current price list.
- (4) Costs of heating up and heating facilities and buildings to be examined shall be borne by the client.
- (5) We are entitled to deviate from the conditions of § 632a BGB [German Civil Code] and send invoices for partial amounts. Services, which are billed according to performance and with hourly rates may be charged weekly.
- (6) Our prices do not include the statutory sales tax/VAT; they are is stated on the invoice separately at the applicable rate on the date of the invoice.
- (7) Deduction of discount requires a special written agreement.
- (8) Unless not otherwise specified in the confirmation of order, the invoice amount (without deduction) will be due for payment within 7 days after date of invoice. The statutory rules regarding the consequences of default of payment apply.
- (9) The customer will be only entitled to rights set-off, if his counter claims are found to be legally valid, are undisputed or recognized by us. In addition, the customer is authorized to practice the right of retention in so far as his counter claim is based on the same contractual relationship.

§ 4 Productivity time

- (1) The beginning of the stated time of productivity of our service implies that all technical questions have been clarified.
- (2) The compliance with our performance obligation is subject to the prompt and orderly fulfilment of the obligations and cooperation of the customer. The obligations of the customer to cooperate arise from the respective order. In each case, the customer has to ensure that all necessary documents and permits are provided, we have unrestricted access and an electricity and water supply and sewage drain is provided at the place of work. The objection to a non-fulfilled contract remains reserved
- (3) If the customer fails to accept the goods or if he culpably infringes any other duty to collaborate, we shall be entitled to demand compensation for any resulting damage including any possible extra expenses. All further claims or rights are reserved.
- (5) We are liable under the statutory provisions, to the extent that the basic service contract is a firm deal in terms of § 286 para. 2 No. 4 BGB or § 376 HGB [German Commercial Code]. We are also liable in accordance with the statutory provisions to the extent that, in consequence of a delay in performance caused by us, the customer is entitled to enforce the assertion that his interest in the further fulfilment of the agreement no longer exists.
- (6) Furthermore, we shall be liable in accordance with legal provisions should the delay in performance be founded on a wilful or grossly negligent breach of contract for which we are responsible; negligence on the part of our representatives or vicarious agents is to be attributed to us. Provided that the delay in performance is due to a grossly negligent violation of the agreement attributable to us, our liability for losses or damage shall be limited to the foreseeable, typically incurred damage.
- (7) We shall also bear legal liability under statutory regulations if the acceptable delay in performance for which we are responsible has been caused by the culpable violation of a major contractual obligation, but in any such case our liability for damages shall be limited to such losses as are foreseeable and typical of such circumstances.
- (8) This shall not affect the customer's other legal claims and rights.

§ 5 Liability for faults

- (1) Claims for faults by the customer provide that the customer met his obligation of inspection and reporting of defects according to § 377 HGB [Commercial Code] correctly.
- (2) In case of inadequate service, the customer has a claim for improvement. In case of repair or rectification work, we are obliged to bear all necessary costs for the purpose of supplementary performance, in particular transport, travel, labour and material costs.
- (3) If the supplementary performance is not successful, the customer has the option of withdrawal or demanding a reduction.



- (4) We will be liable in accordance with statutory provisions insofar as the customer makes claims for damages that are based on intent or gross negligence, including intent or gross negligence by our representatives or vicarious agents. As far as we are not accused of wilful breach of contract, our liability for claims for damages is limited to the foreseeable, typically occurring damage.
- (5) We shall be liable in accordance with the statutory provisions insofar as we culpably breach an essential contractual obligation; also in this case, liability for damages shall be limited to the foreseeable typically occurring damage. An essential contractual obligation exists where the breach of duty refers to a duty the performance of which the customer relied on and could rely on.
- (6) Insofar as the purchaser additionally, due to a negligent breach of duty, has a claim to compensation in lieu of performance, our liability shall also be limited to compensation for the foreseeable loss or damage that might typically incur.
- (7) The liability for culpable injury to life, body or health remains unaffected.
- (8) Unless otherwise specified, liability shall be excluded.
- (9) The limitation period for any claims arising from faults is 12 months, beginning with the completion of work.

§ 6 Total liability

- (1) A further liability for losses or damage other than that provided for under § 6 is excluded, irrespective of the legal nature of the asserted claim. This applies particularly to damage claims for liabilities resulting from contract closure, due to other non-fulfilment of commitments or legal claims for property damage according to § 823 BGB [German Civil Code].
- (2) Limitation according to paragraph (1) also applies as far as the customer, instead of a claim for damages, demands reimbursement of useless expenditure instead of performance.
- (3) As far as the liability for compensation against us is excluded or restricted, this shall be valid as well with respect to the personal liability for compensations of our employees, staff members, representatives and vicarious agents.

§ 7 Court of Jurisdiction - area of performance

- (1) If the customer is a merchant, the place of jurisdiction shall be our registered office; we are also authorized, to sue the customer in the court of his residence.
- (2) The laws of the Federal Republic of Germany shall apply; the terms of the UN Sales Convention shall not apply.
- (3) As far as not otherwise stated in the confirmation of order, our registered offices shall be the place of fulfilment.

§ 8 Final provisions

- (1) Should individual provisions of this contract be ineffective or non-executable or become ineffective or non-executable after the conclusion of the contract, the effectiveness of the contract remains otherwise unaffected. The ineffective or unfeasible provision shall be replaced by an effective or feasible provision which comes nearest to the purpose which the contracting parties were seeking to achieve with the ineffective or unfeasible provision.
- (2) The provisions above in paragraph (1) shall apply in the event that the contract proves to be incomplete.

Any Questions ?

Customer Service:

Tel.: 0049 5244 939330

Mail: info@luemmen-messtechnik.de

Homepage: www.luemmen-messtechnik.de

