



6.19 Gas facilities

Updated on: 2010-12-21

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Technical conditions for equipment of gas appliances.

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The latest updated version of this ITS is available at the "<http://cts.skoda-auto.com/>" web site, the company is not obliged to notify their business partners on the ITS update.

Therefore we strongly recommend that everybody checks the ITS regularly. These documents become valid on the date of their last update. For the contracts signed is decisive the validity of the ITS at the time of the order.

Note: In case of any differences between the Czech, English or German language mutation of this ITS, the Czech version takes precedence. The Czech version is available at <http://cts.skoda-auto.com/>.

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| Change - number: | Date: | Note: |
|------------------|------------|--------------------------------|
| 1. | 2002-02-01 | Arial font, ŠkodaAuto logotype |
| 2. | 2008-07-15 | art. 3 completed |
| 3. | 2009-05-18 | art. 4 completed |
| 4. | 2010-12-21 | fully revised |



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1 Introductory stipulations

1.1 These standards apply for operation of intake gas appliances at ŠkodaAuto. They apply to industrial furnaces equipped with gas torches (e.g. drying furnaces, forging furnaces, quenching furnaces and foundry furnaces) whose nominal power exceeds 50 kW.

1.2 Projection, construction, production, testing, assembly, operation, servicing, maintenance, tests, inspections, repairs and reconstruction of industrial furnaces are to be conducted as per ČSN 06 3003.

2 Connection of gas appliances

2.1 Connection of new intake gas appliances is conducted in line with a previously approved technical documentation which is based on local conditions depending on the operational gas overpressure and the input of the installed appliance.

2.2 Operational overpressure of natural gas in the central distribution system is 20kPa and 170kPa for technological needs.

2.3 ČSN 38 6443 applies for the installation of regulation sequences and gas pressure regulators.

2.4 Gas connection must be finished with a stop valve which also serves as the main appliance gas lock.

2.5 Cocks, valves and slide valves may be used as mechanical stops at gas lines. Any fittings used must be adapted to the operational gas overpressure and must be determined by the supplier for the medium delivered.

2.6 Ventilation pipeline leading out of the building must be installed close to the main appliance stop valve. Ventilation pipeline must be equipped with a sampling fitting, possibly also with a checking venting torch.

2.7 Further details on drawing projects, construction, testing, operation and repairs of industrial gas pipelines are stipulated by ČSN EN 15001-1.

3 Basic technical requirements for gas torches to be used in industrial facilities

Control and security components

The torch automatics must ensure safe and reliable lighting of the torch, transmission to operation mode, control and shutdown as given by the selected programme. Required sequence of individual operations must be mutually blocked.

Lighting of a torch with automatic control must be disabled in the following cases:

- a) upon electricity shutdown
- b) if the fuel pressure drops below the set limit
- c) if the appliance parameters do not fulfil requirements given
- d) if there is a lack of burning air
- e) if ventilation device malfunction occurs or a device for burnt gas outlet or re-circulation is defected
- f) if there is a leakage of fuel stop valves when a torch is equipped with an automatic device for leakage control

If a torch with automatic device is used safety shutdown must be secured in the following cases:

- a) if the flame of a secured torch shuts down
- b) if the values of appliance safety parameters exceed limits allowed
- c) if the flow of the burning air drops under safety limit
- d) if the device for burnt gas outlet or re-circulation is defected



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Safety shutdown of the torch must be indicated (e.g. by an optic, acoustic, tactile or other signal). After the cause of the safety shutdown has been removed the torch may only be started manually by the operator. Act.no.22/1997 Coll. applies which requires obligatory authorization of products that may threaten the user's health and their surroundings, cause a large-scale harm or products whose convenience for a given environment must be approved. Product approval is granted by the Engineering Test Institute in Brno.

4 Technical documentation for the customer

Deliveries of torches must be accompanied by technical documentation including drawings of the complete set, drawings and schemes of connections, technical characteristics, transport orders, storage, assembly and common maintenance. Technical documentation must be in Czech and must include at least the following information:

For gas appliances under the stipulation of NV [146/2007](#) Coll. the supplier is obligated to state in the technical documentation the minimum heat efficiency of burning, this figure must adhere to supplement no.7 NV 146/2007 Coll.

- a) manufacturer
- b) type, type and catalogue number
- c) purpose of the use of the torch
- d) nominal heat output, possibly also output range
- e) control range of the torch or regulation ratio
- f) volume flow of the fuel and combustion air
- g) prescribed fuel
- h) nominal overpressure of the fuel and combustion air
- i) connecting overpressure of the fuel and combustion air
- j) list of accessories and spare parts
- k) layout of assembly parameters
- l) connecting voltage and electric current frequency, type of environment, degree of shielding
- m) connection scheme of electric appliances
- n) report on initial inspection of electronic facilities as given by ITS 1.11, art.14
- o) list of organizations conducting assembly and repairs
- p) assembly instructions
- r) operation instructions for processing local operating instructions as given by ČSN 38 6405
- s) recommended dates of regular checks of torch function, adjustment and dates of regular electric facilities
- u) certification of quality and completeness

5 Data on products

A torch must be labelled with the following information:

- a) name or registered trademark of the manufacturer
- b) labelling of the torch type
- c) production number of the torch (according to the manufacturer's set)
- d) year of production
- e) type of fuel
- f) nominal heat output
- g) connecting overpressure of the fuel

6 Local operating instructions

Local operating instructions constitute a set of technical and organization measures including safety principles securing safe and uninterrupted operation.

Local operating instructions is drawn for gas appliances with an output exceeding 50kW in line with ČSN 38 6405.

Upon import of gas appliances necessary documents must be obtained which enable local operating instructions to be drawn in Czech.

Local operating instructions is drawn by the supplier of the gas appliance. Local operating instructions must be drawn within one month after operation launch. Operation launch is regarded as the moment when the organization has started operating the facility until the time when required tests and revisions have been



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finished. Until the local operating instructions have been processed the operation is ensured according to the principles given in the project and supplier's documentation or the manufacturer's orders.

Local operating instructions must include the following:

- 1) primary components
 - a) title page
 - b) table of contents
 - c) addresses and phone numbers of the emergency, servicing, healthcare and gas fighting service
 - d) basic technical characteristics of the facility (power output, gas flow, operational overpressure, etc.)
 - e) description of the facility and requirements on its placing
 - f) brief characteristics of the gas (at least its composition, heat output, density, toxicity, explosion limits)
 - g) labelling of the supplier and possibly also the manufacturer
- 2) other components
 - a) basic scheme of the gas part of the facility from the main stop valve of the respective facility including its labelling
 - b) instructions for regulation, measurement, control of automatically functioning elements, securing devices and other devices
 - c) instructions for testing the function of the gas appliance
 - d) instructions for venting and manner of checking
 - e) instructions for degassing and manner of checking
 - f) instructions for determining leakages incl. deadlines
 - g) instructions for checking of the climate
 - h) instructions for operation launch including the manner of operation (permanent, random, etc.)
 - i) instructions for operation
 - j) instructions for operation cut-off
 - k) instructions in case of defect, accident and fire
 - l) deadlines for conducting checks, inspections, scheduled repairs and cleaning
 - m) rules of the first aid in case of poisoning, burning, electric current injury (according to the type of gas used and type of facility)
 - n) requirements on the equipment provided to the servicing personnel as regards personal and safety working items, necessary devices and tools
 - o) special requirements will be supplemented by the user (if the type of facility so requires considering its operation and linkage to other technological equipment which is decisive for its safe and uninterrupted operation)

Remark:

Before the local operating instruction change or amendments have been approved by the operating authority its proposal must be discussed with the inspection technician of gas appliances at ŠkodaAuto.



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7 Inspection log of gas appliances

Inspection log is a set of selected technical and operational documents which allow for random inspection of the gas appliance, changes and amendments in the course of its operation. It is one of the documents used for conducting checks, reviews and inspections.

Inspection logs must be drawn for gas appliances with installed heat input from 50kW up in which necessary heat is generated by burning gas fuels as per ČSN 38 5502.

The gas appliance supplier (i.e. a company manufacturing or securing or conducting complementation of its deliveries) is obligated to draw an inspection log in Czech and hand it over together with each gas appliance.

Every gas appliance inspection log must include the following documents:

- a) title page
 - b) sheets with the contents of the inspection log in which ordinal numbers, labels and numbers of pages are recorded
 - c) certification of the gas appliance
 - d) local operating instructions, see art.6
 - e) operating authority's declaration
 - f) twenty paginated sheets for recording changes, amendments and supplements to the inspection log
 - g) photocopy of the state testing authority resolution of approval or resolution of exclusion to obligatory approval if the appliance is submitted to obligatory approval
 - h) report on the inspection of electric facility if this is a part of the gas appliance
 - i) record of pressure tests of the gas distribution
 - j) record of an introductory review of the gas appliance
 - k) certification of expert technical testing of gas appliance in the case if this is heated by one of the heating gas test
 - l) ten pieces of pockets for enclosing other documents
 - m) situation drawing of placement of the gas appliance
 - n) drawing for construction of the gas appliance in keeping with the design of the gas appliance
- drawings for composition of gas distribution and distribution of burning air including a list of pieces or a scheme of gas distribution and distribution of burning air including specification, material, fittings, scheme of hydraulic and pneumatic facility, scheme of measuring and regulation technology, scheme of hydraulic and pneumatic facility

Every gas appliance inspection log which is intended for the user must be sealed by the inspection expert for the supplier.