

OPERATING INSTRUCTIONS AND MAINTENANCE MANUAL

Boring Attachment U TRONIC 8 – 1000 S

7ME-429-00-11

Š K O D A M A C H I N E T O O L

Production Number: 21110026

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Enclosure: drawings

TYPE OF ATTACHMENT	NUMBERS OF DRAWINGS
UT 8-1000 S	Ob 00015183, Ob 33488 S Operating Instructions of Face Plate D'Andrea from Producer Electric Diagram 18.99.58.150.051 Instructions of motor Siemens 1FT6 Instructions of measuring Heidenhain ROD 486

1. **Generally**

These Operating Instructions and Maintenance Manual contains the most important data and information about function, control and maintenance and hints for assembly and setting the attachment supplied.

The operator must not switch on the machine until he gets acquainted with this manual in detail. Maintenance staff is recommended to get acquainted with respective parts in detail according to his profession.

The operator and the maintenance man must be professionally qualified and sufficiently experienced for required working. He must keep cleanness, proper procedure of assembly and disassembly. He must use only first rate tools, fixtures and gauges.

Every maintenance man, who runs or provides repair of this attachment, must be qualified and experienced for required working. Before every repair he must study texts as well as respective charts.

It is necessary to keep terms of the inspections mentioned in this manual in order the attachment would be kept in operation for a long time.

In case you need more information about attachment, state designation and the production number of this attachment and for easier orientation also further denomination in the manual (number of the page, chart, position etc.).

2. **Brief Description**

(Ob 00015183, Ob 33488 S)

The attachment is intended for boring operations performed on the horizontal boring and milling machines. It consists of the face plate D'Andrea, extension piece and flange. The flange provides connection the attachment with the machine.

The face plate is equipped with sliding ram. The rotary motion is transmitted from machine boring spindle.

The boring tools are clamped to the tool-holders. The tool-holders are clamped to the sliding ram of the attachment.

The attachment is equipped with the inner air distribution that prevents dust, impurities and coolant to penetrate inside the attachment.

The attachment is also equipped with cooling liquid inlet for cooling the tool.

The attachment can be used at the horizontal boring and milling machine ŠKODA of HCW. The attachment is clamped to the ram face automatically. Loading and unloading the attachment can be carried out either by using the pallet or by the PICK-UP ISQ *.* V equipment. The pallet can be transported by the ISQ equipment from the storing area to the working zone. PICK-UP ISQ *.* V-equipment operates absolutely automatically (see Operating Instructions ISQ*.*V).

The boring attachment can be supplied for the standard engineering shop environment. It is suitable to operate in the temperature range +5 to +40°C and in environment where is not danger of damage due to chemical or mechanical impurity. The noise of the attachment jointed with the machine is measured on the horizontal boring machine platform. The noise level A measured on the operator platform can be as high as 80 dB(A).

Geometrical accuracy is measured according to the Tests of Accuracy.

3. Safety Regulations for Operation

- For operation of machine tools made in the Czech Republic and supplied to the customers the safety regulations included in EN ISO 12100-1,2 are in force.
- Operating the attachment can be done only by the operator who is appointed, experienced and acquainted about safety regulations. It is necessary to keep hints and instructions included in this manual or in other safety regulations.
- Another way of operations, which cannot ensure the same safety of work, is not allowed.
- When the operator leaves the machine or performs setting, lubricant filling, repairing and cleaning the attachment, he must switch the machine off, lock the main switch and take out the key.
- The operator must announce any fault of the attachment to his foreman who is obliged to arrange repair or, at least, to inform the operator attending the machine at the next shift.
- Announced or found faults must be immediately removed. It is not allowed to operate with a defected attachment.
- Prior to attachment repair such provision must be done which prevents the machine from putting it into operation by any incompetent person. On the starting attachment a visible warning plate marked with " CAUTION - DO NOT SWITCH ON - IN REPAIR ".
- The attachment can be put in operation after repair is finished and all functions are checked. Regulations of this latter article do not concern the attachment being tested or set in the course of the repair work, or, when the attachment is putting into operation.

4. Specifications

4.1 Basic sketch of the attachment (Ob 00015183)

4.2 Main technical data

Described in the Operating Instructions of D'Andrea Producer.

Weight of attachment incl. flange kg 2.167

4.3 Standard accessories

- Operating Instructions and Maintenance Manual
- Tests of Accuracy

4.4 Optional accessories

- Pallet for attachment storing (must be ordered especially)

4.5 Attachment transport

Transport without pallet is carried out by crane by the help of suspension eyes.

Transport in the pallet is carried out by crane by the help of suspension eyes on the pallet.

5. Technical Description of the Attachment

5.1 Basic parts of the attachment

(Ob 00015183)

The boring attachment consists of the face plate D'Andrea (1), the extension piece (2) and the flange (3). As a compact body the attachment is clamped to the machine ram.

5.2 Drive of the face plate

(Ob 00015183)

The face plate (1) is driven by the boring spindle of machine (4) via the driver (5).

5.3 Feed of ram

The radial feed of ram is derived from the separate electromotor.

Limit positions of ram feed are protected automatically after clamping the attachment on the machine.

5.4 Tool clamping

Tools are clamped to the tool-holders.

Range of use of individual tool-holders is described in the Operating Instructions of D'Andrea Producer.

5.5 Energy supplies

(Ob 33488 S)

Energy supplies at HCW can be connected automatically.

Supplies surway:

1. CHV coolant
2. OV pressure air protection
3. ZZ clamping the attachment
4. UZ attachment releasing
5. EL electric connection of the face plate

5.5.1 Coolant supply (CHV)

Coolant is supplied to the extension piece of attachment (2) and through two flexible hoses (27) to the tool.

5.5.2 Air supply for pressure air protection (OV)

Air is supplied into the inner space of the attachment. This circuit is permanent in operation during the working mode of the attachment. It prevents dust, impurities and coolant to penetrate inside the attachment. Pressure in this circuit must not exceed the value of 0.1 MPa.

5.5.3 Pressure oil supply (ZZ, UZ)

Pressure oil supply ZZ is intended for the automatic attachment clamping on the machine.

Pressure oil supply UZ is intended for unloading the attachment from the machine.

5.5.4 Electric connection of face plate (EL)

The face plate is connected by cables through connectors on the extension piece (2).

6. Lubrication and Maintenance of the Attachment

(Ob 00015183, Ob 33488 S)

Lubrication and maintenance of the face plate according to the Operating Instructions of D'Andrea producer.

The rim of collets (500 – Ob 33488 S) of flange (3) must be lubricated with the layer of plastics lubricant with addition of molybdenum disulphide. The lubrication of collets must be regularly checked.

Part	Position	Lubr. volume (cm ³)	Type of lubricant	Producer	Classification ISO	Classification DIN
Rim of flange	500	1000 <	MOBIL-GREASE HP 322 Spec.	MOBIL		

7. Loading the Attachment on the Machine

(Ob 00015183, Ob 33488 S)

7.1 Machine and attachment preparation

- The boring spindle (4) is extended to the theoretical value of 181 mm. The space of 1 mm must stay between the driver (5) and the machine spindle (4) and spindle keys are oriented in the horizontal position according to the keyways of the attachment driver (5).
- The driver (5) of the boring attachment must be arrested, i. e. the key (6) must be inserted in the cavity of the ring (7). (The figure shows the disengaged position).

7.2 Loading the attachment on the machine

- The boring head is loaded on the machine automatically. Loading is carried out either from the pallet or by the help of the storing equipment PICK-UP ISQ *.* V (see Manual ISQ *.* V). Automatic cycle of machine movements provides positioning the machine to the attachment position, clamping the attachment to the face of the ram, shifting the machine out in directions X and Y and positioning the machine to the initial position.
- By loading the attachment the keys of the machine boring spindle (4) will be inserted in the driver keyways (5) and the driver will be disengaged.

TYPE OF MACHINE	DESCRIPTION OF LOADING	CHART
HCW 2	Attachment is clamped hydraulically by the collet mechanism (500)	Ob 34268 S

TYPE OF MACHINE	DESCRIPTION OF LOADING	CHART
HCW 3	Attachment is clamped hydraulically by the collet mechanism (500), then clamping by extension piece of the shaft (151) follows	Ob 33488 S

- Hydraulic and pneumatic connectors are connected automatically with the HCW machines.
- Unloading the attachment from the machine and loading either on the pallet or into the ISQ *.* V is carried out the other way round.
- Machine spindle extension is locked during the working mode of the boring attachment.
- The eye bolts must be removed when the attachment is loaded on the machine.

7.3 Emergency unloading the attachment from the machine

- From the safety reasons (risk of injury) operations of emergency unloading the attachment must be carried out only by switched-out machine power supply (machine without oil pressure) – see Part I Machine Operating Instructions – part Basic Operating, chap. 4.
- In the case of fault of the clamping mechanism the attachment can be emergency unloaded from the machine hydraulically.
- Before emergency unloading the attachment must be secured by supporting or suspension on the crane.

TYPE OF MACHINE	DESCRIPTION OF EMERGENCY UNLOADING	CHART
HCW 2	- Zero the pressure in channel ZZ by releasing the plug (601) - Pressure inlet of max. 6 MPa to channel UZ after removing the plug (600)	Ob 34268 S

TYPE OF MACHINE	DESCRIPTION OF EMERGENCY UNLOADING	CHART
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8. List of Sealings

For flange HCW 2

Pcs	Type, dimension, marking	Producer
1	Sealing ring T PT 0803500 – T46N	Busak + Shamban
2	Sealing ring T RT 0803200 – T46N	Busak + Shamban
	Sealing KR 3	Busak + Shamban
1	Ring O355 x 3,55	Busak + Shamban
10	Ring 10 x 2	Busak + Shamban

For flange HCW 3

Pcs	Type, dimension, marking	Producer
1	Sealing ring T PT 0803900 – T46N	Busak + Shamban
1	Sealing ring T RT 0803750 – T46N	Busak + Shamban
1	Sealing ring T RT 0803200 – T46N	Busak + Shamban
	Sealing KR 3	Busak + Shamban
1	Ring O405,26 x 3,53	Busak + Shamban
10	Ring 10 x 2	Busak + Shamban

9. Packaging. Transport. Storing. Warranty.

9.1 Packaging

- Packaging must correspond to Czech Standard ČSN 77 0020, ČSN 77 0100 to ČSN 77 0106, ČSN 77 0110, ČSN 77 0111.
- If the consignment is delivered to the regions where phytoquarantine regulations are in force, the package wood must be protected with suitable treatment against penetration of insects that spoil wood. This condition must be stated in the contract. Designation of the prescribed protection must be marked out on the packing.
- All mechanical parts, which can be influenced by climate and are not coated, must be carefully provided with suitable conservation e. g. with TECTYL 506.

9.2 Transport

- The attachment is transported in packages. As far as the attachment is transported by train, the package must correspond to the Czech Railway Regulations.
- Packages located on wagons must be made provided against movement and wagons must be marked with " CAUTION - CAREFULLY SHUNT".
- The supplier is not obliged for defects caused by transport. In this case the customer procedures according to juridical regulations.

9.3 Storing

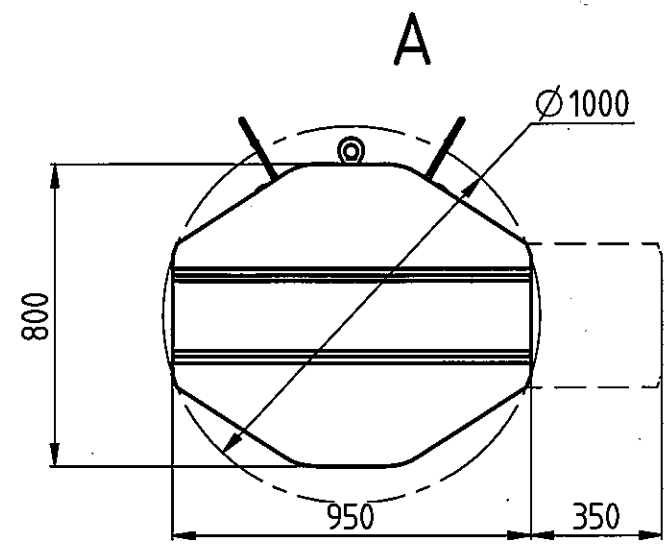
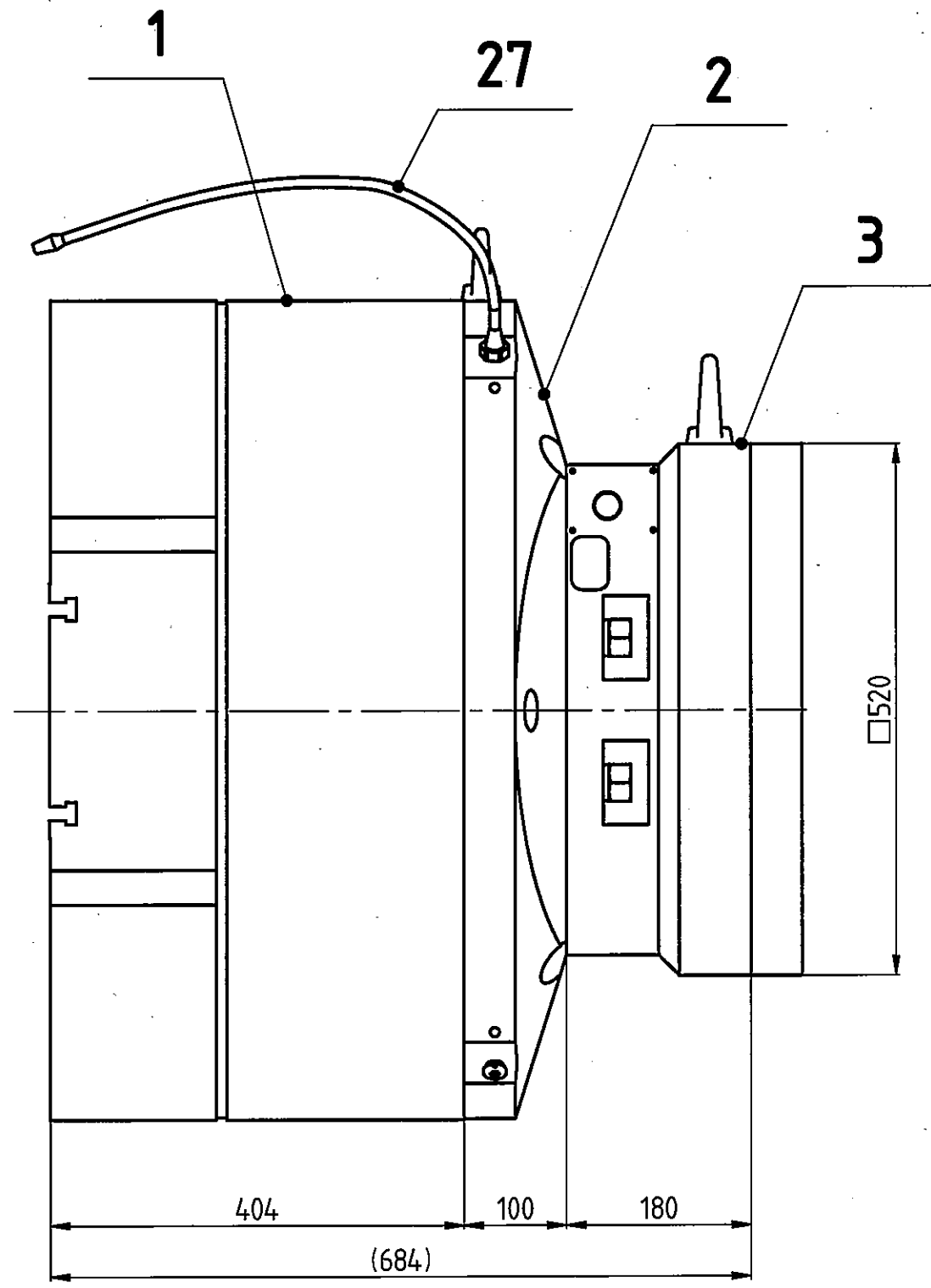
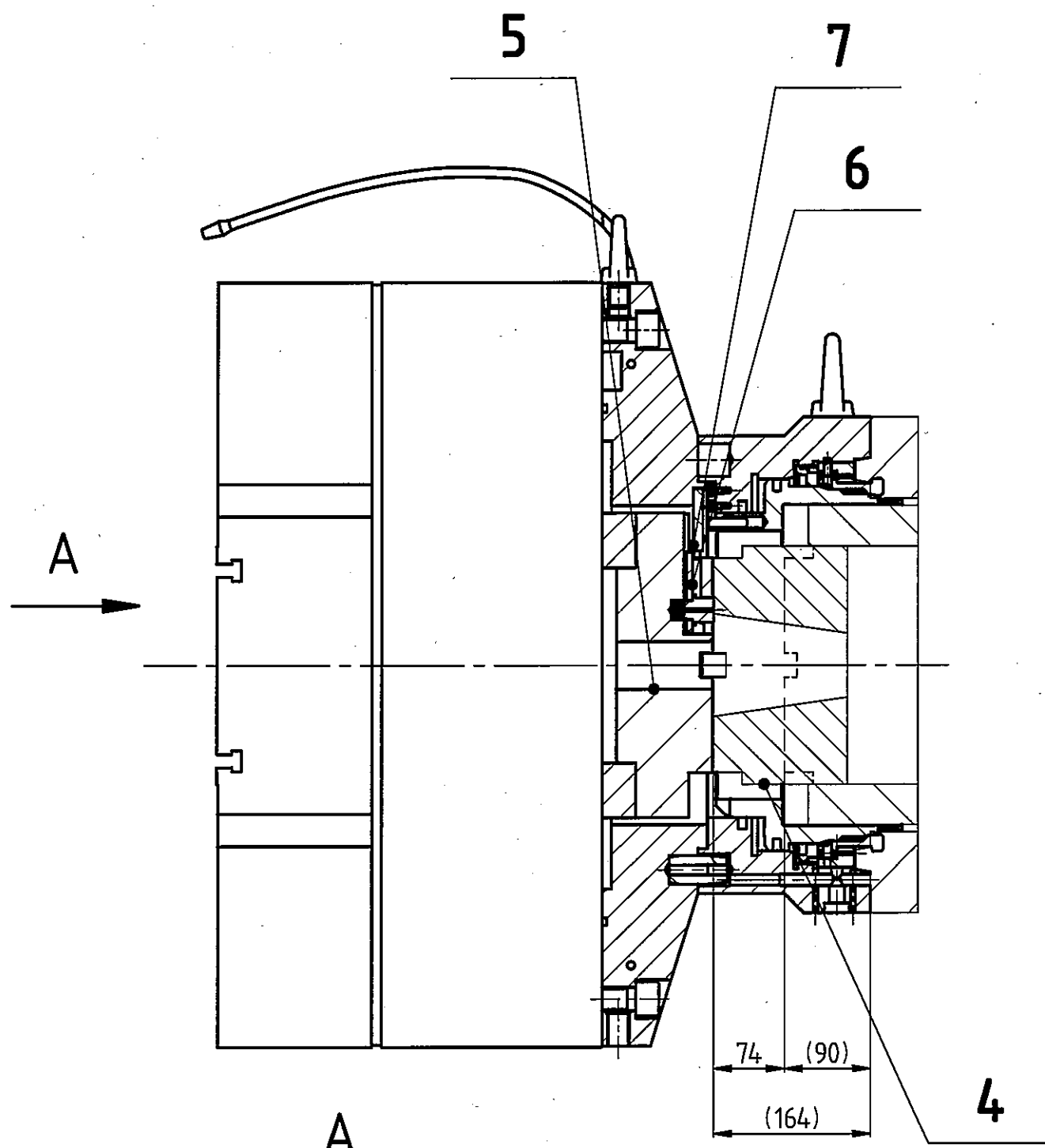
- The packing with the attachment must be stored in the closed store (assembly hall) in a manner which prevents from condensation of air humidity on the attachment.
- The packing with the attachment must be protected against mechanical, chemical or other damages and placed on a stable and plane basis.
- Package state with regard to damage must be charted by the preventive examination. The further examination must be carried out at least after 6 months.
- Damaging of the package and conservation, which was caused by transport or storing, must be professionally repaired with reconservation and package repair by the customer. After 12 months time from delivery date of the attachment, it is necessary to retrofit conservation even if the package is intact.
- There is no warranty for conservation or packaging when the package was unwrapped or damaged.


9.4 Warranty

- Warranty of the attachment and the transport package is ruled by negotiations included in the contract.
- The supplier guarantees conservation after 12 months time from delivery date from the factory of the producer providing that the subscribed transport and storing conditions were kept and package was not damaged.
- There are no warranties for defects caused by assembly which was not made by the supplier, for defects caused by normal wearing (e.g. wearing of sealings), corrosion and for defects arisen from wrong handling and operation and other unforeseen causes.
- Complaints of the customer can be admit if they are given in writing according to the juridical regulations.
- In case of consequential defects, the customer must enable the supplier to examine the way of attachment handling and operation which must correspond with Operation Instructions and Maintenance Manual.
- At the claim, it is necessary to state denomination, model and serial of the attachment which is written on the nameplate.

1 2 3 4 5 6 7 8

A
B
C
D
E
F



Pozn. Ob00013451		CAD Solid Edge	
Typ UT8 - 1000S / HCW3		Název UT8 - 1000S	
 Škoda Machine Tool a.s.	Kres. e.sykora	Číslo výkresu	A3 List 1
	Schv.	Ob00015183	Listu 1
	Dat. 22.3.2011		Ind. For. 1

1 2 3 4 5 6 7 8

1

2

3

4

A

A

B

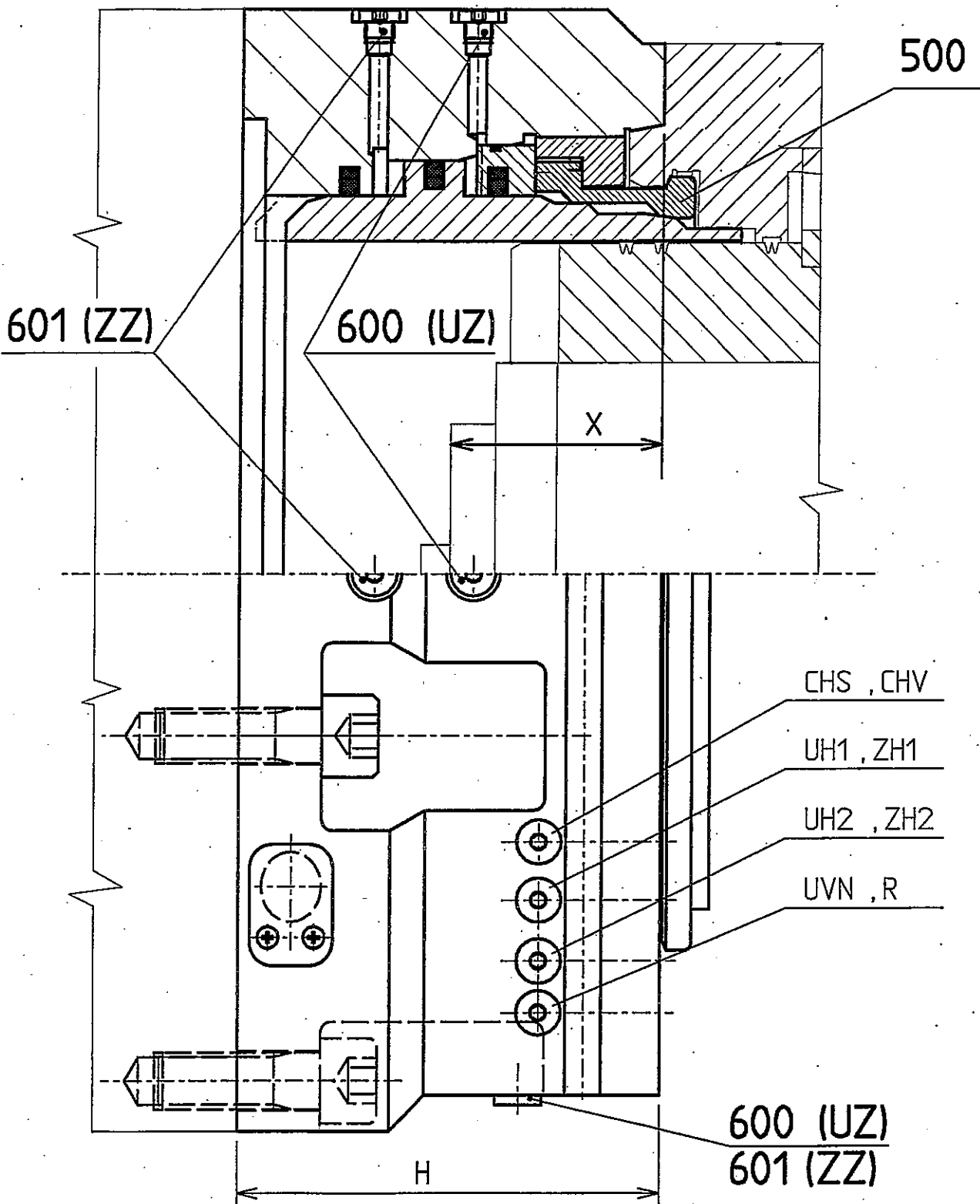
B


C

C

D

D



Pozn. HCW 1,2,3		CAD MStn	
Typ		Název IFVW, IWD, UFK, DTSA	
 ŠKODA MACHINE TOOL	Kres. MYTISKA	Cisto vykresu	A4 List
	Schv. <i>Kobu</i>	Ob 33488 S	Listu
	Dat. 3.11.2004		For.

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