ISO 9001
LL-C (Certification)

Instructions for installation, operation and maintenance of

X-Y CNC tables WJ1530-1Z-SJ-S

with high-pressure water jet technology

Serial number: **40-1058**
Year of production: **2018**

CE

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CONTENT OF THE WRITTEN PART

CONTENT OF THE PICTURE PART

Note: The photo of the CNC table, SJ - S, on the first page is illustrative only. The supplied model may not correspond in all the details to the photo.

Made by: Ing. Jan Kunert
Dated: 26.9.2011

1. Safety of the operator

Hygienic and safety precautions

Please, read carefully following duties of the user before initiation of operation of your X-Y CNC cutting table with high-pressure water jet technology:

1. It is not allowed to change position of the cutting table on the workplace without attendance of technician of the producer (supplier) of the machine or without attendance of a person authorized by the producer.
2. Floor, on which the machine is located and the operator of the machine moves, must be insulated against dampness and cool. It must allow safe working movements of the operator. It must be easy-to-maintain.
3. Good order and condition of the workplace shall be ensured by the user, operator or the manager of the workplace. It shall is solved by means of operating instructions of the workplace issued by the user.
4. The initial inspection of the electric equipment according directives, regulations and standards for operation of machine tools valid in the country of the user must be carried out before the entire workplace is put into operation. .
5. It is inevitable to carry out regular tests and measuring of the electrical equipment in predetermined deadlines according directives, regulations and standards for operation of machine tools valid in the country of the user.
6. Only a person trained in accordance with EN 60 204-1(ED2) or IEC 204-1(ED2) article 3.30 may connect the machine to electric network and work with the electrical appliance.
7. Only a person trained according EN 60204-1(ED2) or IEC 204-1 (ED2)can operate the X-Y CNC cutting table with high-pressure water jet technology.
8. In the first instance, the operator of the machine must acquaint himself with these instructions for installation, operation and maintenance.

Safety precautions for the operator

With respect to injury hazard caused by moving parts of the cutting table and especially by cutting high-pressure water jet it is necessary to observe following safety precautions:

1. Never make any repairs while the machine is operating.
2. Never take covers of motors out and close the door of the control system distributor.
3. Never take covering shields out and never manipulate with end and reference sensors.
4. Keep the cutting table, its working space and space for operator's moving clean and in good order.
5. In case you are going to carry out repair of the machine, first you have to hang out warning sign with notification that the machine is out of operation and being repaired.

6. No other object mustn't be placed in spaces where individual parts of the machine are moving except those which fulfill their functions there. That goes especially for working space of the cutting table and space of moving linear axes of the cutting table.
7. Never touch moving parts of the cutting table.
8. Make sure that you reliably master operation allowing stopping the cutting table or the high-pressure water jet before you start operation of the machine.
9. Operate the cutting table only in modes predetermined for the relevant cutting case.
10. Only prescribed working clothes with fitting sleeves so as suitable working shoes with antiskid soles may be used at the operation of the cutting table. It is necessary to use safety glasses with side protectors or shield and earmuffs.
11. A worker who has bandage on his hand mustn't operate the cutting table.
12. In case of malfunction stop the machine immediately.
13. Use only working tools which are exclusively determined in these instructions for operation for use at the cutting table
14. If clamps are used to clamp the raw product they mustn't be placed in the current space of moving cutting heads or moving parts of the machine.
15. The machine must be idle at the manipulation with raw products or with cut parts.
16. It is strictly prohibited to touch the raw product with hand or to manipulate with it otherwise when it is being cut.
17. It is not allowed to brake or push any moving parts of the cutting table when the control system is on.
18. It is not allowed to manipulate with loose cut parts, inside the working space while the cutting table is in operation. The operator may be injured by the moving cutting head.

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19. Protective gloves must be used at the loading the raw product to the cutting area. Further, attention must be paid so that a hand of the worker gets between the raw product and the cutting grate or supporting rulers which could cause injury to the operator.
20. In case the raw product must be loaded or cut pieces and waste pieces must be taken out and some mechanization must be used it must be operated only by a trained operator.
21. It is inevitable to use gloves when cut pieces and waste pieces are being taken out from the cutting area. This can prevent injury of hands by the cutting grate, supporting rulers or by individual cut parts or parts of waste material. Special attention must be paid in this case to brittle material or shatters (glass, marble, granite, fiberglass, etc.). Working gloves must be used at the change of worn away cutting grates and supporting rulers.
22. Particular attention has to be paid while operating the cutting table while it is moving. Careless moving may grip the hand between parts of the cable support and the conductor of the cable support. The part of the cable support may catch the loose working clothes.

23. The operator can move on the cutting area only when the cutting grate is not damaged essentially, because it could decrease its bearing capacity. The operator then must pay particular attention. He/she has to use working shoes with antiskid sole.

! 24. It is prohibited to move on the cutting surface if the cutting table is operating – the worker may be clamped between support of Z axis and linear conducting Y axes. Or there is danger of fall caused by the X axis which could hit the worker.

25. In case of careless manipulation there is a danger of injury caused by sharp conducting plates of shields of linear axes as well. If the operator is moving in its immediate closeness they must use protective gloves.

26. Switch off the main switch and block the motors and switching of high-pressure water on the switchboard if the cutting machine is without supervision.

Special safety precautions related to high-pressure water jet

! 1.

! 2.

! 3. Operator must use all prescribed protective equipment (especially protection of eyes and ears – facial shield or protective glasses, earmuffs).

! 4. The high-pressure pump must be unquestioningly switched off at the change of high-pressure water-jet nozzles.

a) Torque wrenches with correctly set torque (see relevant instructions) must be used for tightening of high-pressure screwed joint. Otherwise the high-pressure distribution could be damaged and it could cause subsequent danger of injury. Operator must wear protective gloves while tightening the screws. In case the high-pressure pipe and parts of high-pressure distribution are damaged and the high-pressure water is leaking out the operator must proceed as follows. Approaching to the proximity of the place of operation is prohibited in all cases.

b) The high-pressure pump must be immediately switched off (by the STOP button on the electric distributor or on the high-pressure pump) provided the automation of the high-pressure pump didn't switch off the operation itself (provided the high-pressure pump is equipped with this automation).

c) The high-pressure pump must be secured against its initiation by mistake (e.g. by means of switched off distributor).

d) Inform the manager of the working place on the emergence of the failure.

! 5.

! 6.

! 7. Increased principles of clearness (with respect to lifetime of high-pressure parts) must be adhered at the replacement and adjustment of high-pressure elements.

All operations relating to high-pressure system may be carried out only by a trained person and in the extent determined by a protocol on training. Serious repairs may be repaired only by the producer of the machine or a person authorized and trained by the producer.

2. Main dimensions, technical data and noise parameters of the machine

2.1. Mechanics of the cutting table

Dimensions (total)		see drawing of dimensions
Weight		according table of weights
Nominal voltage		3 NPE 50 Hz 400/230 V, system TN-S
Maximal current		16 A
Pressure air		max. 7 bar, max. 200 l/min
High-pressure water pump)		max. 4 137 bar, max. 8 l/min (according type of used
Bearing capacity of loading area of cutting grate		max. weight 150 kg / 1m^2 of the surface (at undisturbed condition of grates)
Bearing capacity of loading area of cutting bars		max. weight 500 kg / 1m^2 of the surface (provided bars are undisturbed)
Working range	stroke in axis X	1 000, 1 500, 2 000,
	stroke in axis Y	1 000, 1 500, 2 000, 2 500, 3 000, 3 500, 4 000, 4 500, 5 000, 6 000, 7 000, 8 000, 9 000, 10 000 mm stated dimensions of complete typical brand actual ones are according typical marking XXYY Not all the mutual combinations are possible.
	stroke in axis Z	200 mm
Height of loading area		800 edge of catcher, 770 mm grates, 740 of rule
Repeatable accuracy of positioning		+/- 0,05 mm (independently on technology)
Absolute accuracy of mechanics		+/- 0,10 mm / 1000 mm
Number of Z-supports		1
Carried mass on the end part of axis Z		max. 5 kg
Scale of working speeds		1 up to 20 000 mm/min (standardly)
Scale of crossing speeds		1 up to 30 000 mm/min
Scale of working acceleration		0,01 up to 0,1 m/s^2
Scale of working temperatures		5^o up to 35^o C

2.2. Control system

Control case:

Dimensions (total)	length	400 mm
	width	1200 mm
	height	760 mm
Weight		75 up to 90 kg
Control panel		
Dimensions (total)	length	300 mm
	width	600 mm
	height	400 mm
Weight		15
Nominal voltage		3 NPE 50 Hz 400/230 V, system TN-S
Maximal voltage		16 A
Rate of coverage		IP54
Scale of working temperatures		5° up to 35°
Scale of working humidity		up to 80%
Packing		according customer's or carrier's requirements

2.3. Noise parameters of the machine

Level of noisiness in the place of the operator L_{aeq} 83 db (A)

Measuring was carried out based on conditions of ČSN EN ISO 11202:1997, ČSN ISO 11202:1996

The level of noise at the cutting process may in some cases reach up to 90dB (A), therefore operators should use ear protection (earmuffs etc.).

(Stated values are valid for work with correctly rectified technology and at correctly performed cutting process.)

3. Standard and special accessories

3.1. Standard accessories of the table:

1. based on agreement

3.2. Special accessories of the table:

The supply may be enlarged based on specification stated in the purchase contract concluded with the customer:

1. graphical PC station consisting of PC with monitor, keyboard and a mouse,(for CNC files preparation)
2. cable connection, control system and graphical PC station,
3. terminal for manual operation,
4. software equipment consisting of technological program WRYKRYS or IGEMS with option of language
5. makro program for special applications,
6. kit with cutting sets (optional – according customer's needs),
7. catcher with water level regulation
8. spare set of supporting bars
9. sludge system,
10. sedimentation system,
11. altitude sensor,
12. location of position of the raw product by means of laser beam,
13. cross laser ray detection of the intermediate-product's position
14. pressure transportation of abrasive including feeder.
15. proportional doser of abrasive
16. semiproduct clamps kit

4. Transportation, storing and placing the machine in the working place

According to the customer´s site layout, the CNC table is transported disassembled in a container or it is shipped on a covered truck. If the work area is smaller, the table can be transported in the assembled form. If the table is transported without a firm cover, the whole machine is protected by elastic polyethylene foil. The movable parts are fixed in their final positions. With regards to the fact that the installation of the machine is done by a group of PTV technicians and no delay between the shipment and the installation is expected, no anti-corrosion preservatives are applied. For transport purposes, the machine is disassembled into the following parts: mechanical part (catcher, Y-axis, portal, Z-axis), control system, graphic station, set of joining and installation parts. According to how much it has been dismantled, one part of the components is fixed to the catcher and the rest is transported on europallets. The portal is transported on a special pallet.

During transportation the machine should not be transported together with substances which may create an aggressive environment.

Transportation shall be made by common vehicles allowing transportation of so large shipment. Loading shall be made by means of lift truck with minimum loading capacity 3 000 kg with elongated forks to 2500 mm, opening to minimum width 1 000 mm. For loading a catcher with a working length of over 5,000 millimeters, it is necessary to use a crane or - exceptionally - 2 forklifts in parallel.

Points for handling and manipulation are marked in a drawing in the document „Transport Instructions".

Storing at the customer (it means before special installation made by the supplier) must be ensured in the protected space securing protection against any damage of any parts of the machine. It especially means prevention of emergence of corrosion due to impact of chemicals on the machine, prevention against freeze (under 0° C), or influence of high temperatures (above 50° C) on the machine, prevention against mechanical damage of the machine. Machine must be kept in the original shipping case.

Installation of the cutting table shall be made by the worker of the producer. Location of individual parts of the cutting table is depicted in the annex, on the drawing of spatial position of the workplace. Mechanics of the cutting table is provided with flanges on legs through which the table is anchored to the floor of the workplace. Control system stands free on the floor.

Producer forbids any relocations of cutting table without previous information given to the producer and subsequent approval made by the producer.

5. Electrical part of the machine

CNC cutting table is construed for use in an environment with increased humidity; electric circuits are protected against water drops and dustiness. According ČDN 33 2000-3 it is an environment with AD3 influence. Electrical devise is designed according EN 60 204-1/ED2/2007. Electrical device was tested according EN 60 439-1 ED2/2000. Control system creates the part of the cutting table. The control system has its serial number and year of production stated on the number plate. Certificate on testing of the distributor creates part of this document. Number plate is located on the inner part of the frontal door.

5.1. Values of electrical installation

Nominal voltage		TN-S,3+N+PE400/230V/50-60Hz
	or	TN-C,3+PEN400/230V/50-60Hz
Nominal current		16A
Protection of supply		25A
Control voltage		24 VDC PELV
System		TN-S or TN-C
Number of drawing		PTV-012-V-0084, list 1 až 5
Rate of covering		IP54

Current values of fuses or circuit breakers are stated in the basic drawing of the machine.

5.2. Electrical equipment of the machine

Electrical equipment of the cutting table consists of distributor of the control system and distributor placed on the cutting table. Button controls are placed on the control system. Main control commands are done by means of the keyboard, respectively touch display. Feeding of the cutting system is carried out from the outlet connected to electro-distributor of HP pump (or it can be supplied from other place outside the distributor – after previous approval of the producer).

5.3. Connection to the net

First it is necessary to check if the operational voltage and frequency of the machine stated on the tag of the electrical equipment of the control system and in chapter 5.1 of these instructions corresponds to type of the net to which the machine should be connected. Then it is possible to put the plug to the outlet (provided the control system is not connected directly to the main distributor of the workplace). For connection to other voltage it is necessary to place in front of distributor of control system of the transformer. The producer can install transformer including its protection as part of the supply. Components used in control system allow operation in frequency 60 Hz as well.

Connection of the machine and other services on the electrical equipment may be carried out only by a person who is authorized and familiar with this equipment.

6. Technical description of the machine

CNC X-Y table WJxxyy-nZ-SJ-S is a coordinate cutting table which is carrying technological heads of high-pressure water jet or high-pressure water jet with abrasive. It allows cutting of raw products in form of boards. Cutting area or loading area and the catcher are universally construed for cutting of wide range of materials and thicknesses. Mechanism of the machine is covered against unfavorable influence of splashing water or humidity. Control system allows a continuous automatic moving of cutting heads in the X-Y and Z.

CNC X-Y table WJxxyy-nZ-SJ-S is a specially construed device. It consists of several groups of components.

6.1. Supporting structure

The bearing structure weldment is made from closed drawn profiles and sheet metals. It includes also a catcher which constitutes a basis for the loading area and serves as a retaining system to reduce redundant energy of the water jet. The grate, respectively supporting rulers, constitute a bearing loading area with a minimized contact with the material to be cut (with regards to reflection of the water jet). Under the grate there is a water tank, used to brake redundant energy of the water jet. All the used materials are made from common stainless steel. The standard equipment includes only rulers. The grids can be delivered as OPTIONAL.

6.2. Moving parts

Mechanism of the table is created with linear axes in H arrangement. Carriages carrying portal of X axis travel on two parallel Y axes. Linear lines are rolling. The movement is realized by compact synchronnous servo-drives with integrated planet gearbox. Gear engagement is through pinion rotary put to toothed rack. Some parts of linear axes are made of non-corrodible materials. Axes are protected against dust and splashing water by means of shielding. The Z-axis is placed on the X-axis tray. High pressure tubing or, alternatively, the doser of abrasive are fixed to the Z-axis. The cutting head is fixed to the lower flange.

6.3. Cable distribution

Connection of active elements (servo-drives, reference and end sensors, control elements mounted on the frame of the table, electromagnetic valves) to the control system is realized by means of cables placed in carriers or channel for cables. All cables are made in version for cable carriers.

6.4. Control system

The central element of the system is industrial computer. Control panel consists of a 17“ LCD screen with touch display, keyboard and mouse. The electrical distributor of the machine contains a stabilized source, communication CAN-OPEN bus modules, servointensifiers and other necessary devices. The connection of the electrical devices is described in the separate electrical documentation.

All the above mentioned components are built into the distributor's industrial casing and the control panel. The height of the panel enables the operator to access easily all the control components and to control all the process on the monitor. The system is designed as closed. It can be provided with an air conditioning unit (option) which reduces the inner temperature of the electrical switchboard.

7. Cutting options of the machine

The cutting table is exclusively designated for cutting of high-pressure water jet without or with abrasive. Using the cutting table as a support for another technology is inadmissible. Using the cutting table in an explosive environment is inadmissible.

Loading area is adjusted for loading of large raw products up to the size of working area according type of the CNC table (working stroke of axes X and Y enlarged by c. 100mm). Its bearing capacity is 150 or even 500 kg /m^2. Cut raw products may be thick 1 up to 200 mm.

Even layers of raw products can be cut.

Cutting table is not designated for production lines.

It is prohibited to use the cutting table in another way then described above.

8. Machine control

8.1. A CNC machine control is described in an independent document called „Operation of the control system“.

8.2. Adjusting of cutting heads, Z axes

For handling the cutting head it is necessary to close the manual high pressure valve which closes the high pressure inlet water supply for the cutting head. A small quantity of compressed water remains in the circuit between the valve and the cutting head (if the head was closed before the manual valve was closed). When releasing any part of the circuit, a small quantity of water is blown off from relief holes on the untightened circuit screw-coupling. That is why it is more convenient and safer to switch off the high pressure pump (on the electrical distributor). Cutting head handling operations that require the above mentioned steps include replacing the high pressure nozzle and high pressure seals. For such operations it is necessary to switch off the pump.

The settings and adjustment of the Z-axis. The cutting table can be equipped with one Z-axis only which can bear one or two cutting heads. The height settings are realized by means of the Z1+ and Z1- buttons.

Cutting head settings, replacing high pressure nozzles, replacing and adjusting the abrasive nozzles and replacing the high pressure seals in the cutting head are described in the maintenance manuals for the respective devices.

8.3. Loading of raw products and taking ready parts out

Except these operations operator must load the raw material for cutting and take out cut parts and cut remainders from loading area of cutting grates. The operator must at the same time pay attention so that the table is unconditionally idle with switched of jet when the operator manipulates with the material or product. Only after that the operator may manipulate in the cutting space of the table. Even after that the operator mustn’t put his hands under cutting heads (he can be injured by the thin jet which he may not see).

Operator must have working gloves so that to avoid injury of hands made by bottom grate, supporting rulers or cut raw material or cut waste.

It is necessary to take care so that the load on the supporting grate (150 kg/1m^2) is not exceeded, because it could deform it or destroy (the same goes for cutting on bars, load 500 kg/1m^2). Supporting grate and supporting rulers are articles of consumption and it is necessary to monitor the level of their wear. Excessive wear may lead to reduction of solidity of supporting cutting surface and therefore it can cause dangerous falling of raw products, cutouts, waste or even falling of the operators to the catcher. Used components of supporting cutting surface must be immediately replaced by new ones.

9. Machine maintenance

All activities relating to adjustment, lubrication and maintenance you should make in the idle state of the cutting table and with control system switched off. Always provide the control system with warning sign – Maintenance is being carried out – DON'T SWITCH ON!

It is not allowed to interfere to mechanism of the cutting table. All elements were adjusted by the producer and it is prohibited to manipulate with them. It relates especially to reference and end sensors, servomotors, measuring sensors, box terminals and connectors, cables, bearings of travels. **All repairs within guarantee period shall be made only by the producer** (provided the user doesn't have producer's approval for such repairs.)

Maintenance which shall be done by the operator is based especially in keeping the cutting table clean.

Once a month at least, it is necessary to take out covering shields from moving axes, vacuum the dust and check if some dust didn't penetrate under shields. Possible untightness shall be repaired. Clean racks and apply the PTFE coating on it. It is being delivered by company WURTH under name Teflon dry – slide in 300 ml packages, catalogue number: 0893550-K. It stops corroding process and reduces friction resistance.

Lubrication of the linear guides of Y- and X-carriages and Z-axis is realized automatically by impulses coming from the control system to the central lubricating systém. It is necessary to fill up the oil when the operator detects its lack.

Functioning of the central lubricating system is described in an independent dokument.

Maintenance of Z-axis shall be made once in 3 months or in case of problem. Visually following items shall be checked:

- integrity of shielding – if the shield is damaged it is necessary to repair it or replace as soon as possible. Damaged shield doesn't carries out its function and it is dangerous because the axis could corrode inside.
- the state of the inner part of axis when the facing board is taken out = no corrosion should be found .

Further following maintenance shall be made:

- clutch shall be checked. In case it is worn down the clutch shall be changed – order it at the supplier,
- old silicone binding agent on contact flat facing boards and peripheral sides shall be taken out. New silicone binding agent should be applied and facial boards should be screwed on back on their places.

In case of long-term standstill of the cutting table (more than 14 days) it is necessary to drain and clean the whole catcher of the cutting table otherwise biological and microbiological risk occurs.

10. Influence of high-pressure water jet technology on waste water and waste solid material

High-pressure water jet uses water (as it follows from its name). It is common water from local feeder. Quality of water is different in different localities. The important thing for trouble-free operation of the technology is amount and size of mechanical dirt, acidity of the water and amount of dissolved minerals and iron. Therefore a cascade of filters catching mechanical dirt is integrated at the output to the system. Sometimes due to above stated reasons chemical treatment of water is necessary (by means of softeners, demineralization, and reverse osmosis).

Such prepared water goes through high-pressure pump, it is pressed to level of c. 2800 bar or 4137bar (according type of high-pressure pump), goes out through water nozzle in form of a jet which is able to cut soft materials. If hard materials shall be cut a suitable abrasive is admixed to the water and creates with it the jet. The cutting process is then a certain type of grinding. Currently the dominantly used abrasive is natural mineral garnet (pyrite) which is mined in various places of the world (Australia, India, Canada, various places in Africa, formerly Czech garnet from Měděnec). Graininess of the garnet is various, ranges from c. 1 mm up to 0.005 mm. Quantity of garnet is optional and ranges from 0.1 up to 1 kg/min. Garnet, as a product of nature and except its grinding to a suitable fraction and cleaning it is not a hygienically defective material. Its typical composition is determined in an enclosed catalogue paper of one of the world producer. When the jet goes through the cut material it often shoots down parts of the cut material. Energy of the water jet is being softened in a water catcher (tank with depth c. 700 mm). This catcher catches cutting water so as abrasive and the particles of cut material. The water flows from the catcher by overflow to the auxiliary sedimentation tank and then to sewerage. The catcher fills up gradually with products of cutting and when it is full it must be cleaned. For this it is necessary to drain the water above deposited sediment and the sediment must be relocated to the waste container. Workplaces equipped comfortably have special sedimentation system. It consist of filtering pump which sucks up the water with abrasive and waste material from catcher and drives it to pervious filtering bag which catches all except water and it drives the water by means of back return pump back to the catcher. These sedimentation systems create sufficient hygienic protections. The condition of their right function is regular cleaning of sedimentation tank or the catcher or catching bags. The system obviously catches only heavy parts which settle in it. It doesn't work as chemical waste water cleaner. Therefore the system should be supplemented with another chemical barrier in case some hygienically defective materials from which leaches could result shall be cut. But this doesn't happen at cutting normal engineering materials. Only amount of water which came to the workplace (doesn't matter if it is equipped with the system or not) may leave the workplace, i.e. c. 2 up to 8 liters/min, which go through the high-pressure pump and the estimated amount c. 2 liters/min of water which is used by the operator to rinse the cut parts.

Sediment from catcher or catching shields is a solid waste with higher humidity. The same rules as for water going out to sewerage, provided no hygienically defective raw products are being cut, are valid. It may be deposited to a common dump (as a building flat).

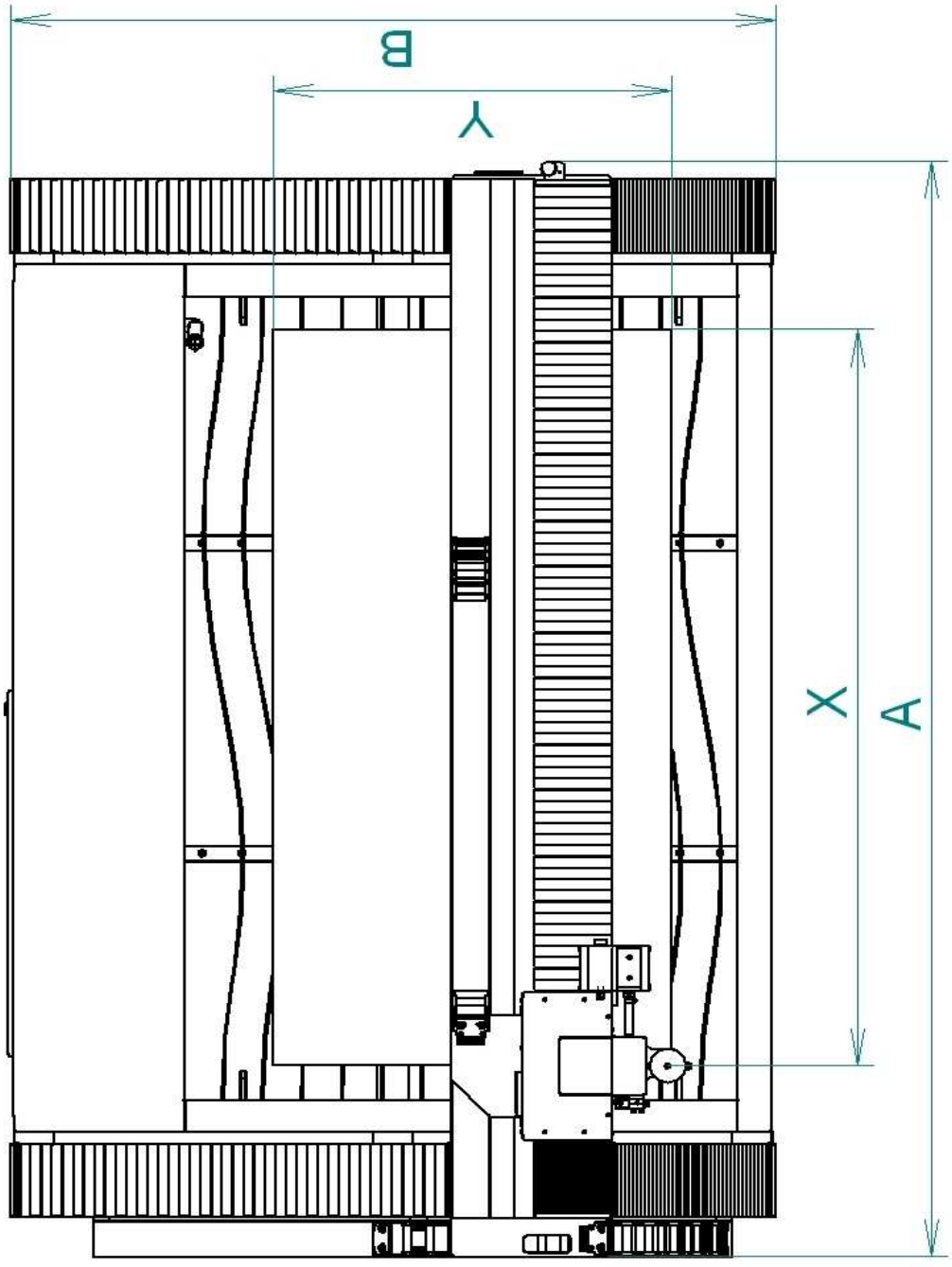
Conclusion: Technology of high-pressure water jet doesn't produce any hygienically defective waste products which could load the environment. It is valid only in case when only hygienically perfect materials or materials which do not react with water and do not produce dangerous spent liquors are cut.

I. Views, main dimensions

Table Dimension	X-axis Elevation	Y-axis Elevation	Width A	Length B
WJ1010-1Z	1 000 mm	1 000 mm	2 350 mm	2 130 mm
WJ1015-1Z		1 500 mm		2 680 mm
WJ1020-1Z		2 000 mm		3 230 mm
WJ1030-1Z		3 000 mm		4 330 mm
WJ1040-1Z		4 000 mm		5 430 mm
WJ1050-1Z		5 000 mm		6 630 mm
WJ1060-1Z		6 000 mm		7 830 mm
WJ1080-1Z		8 000 mm		10 230 mm
WJ10100-1Z		10 000 mm		12 630 mm

Table Dimension	X-axis Elevation	Y-axis Elevation	Width A	Length B
WJ1510-1Z	1 500 mm	1 000 mm	2 850 mm	2 130 mm
WJ1515-1Z		1 500 mm		2 680 mm
WJ1520-1Z		2 000 mm		3 230 mm
WJ1530-1Z		3 000 mm		4 330 mm
WJ1540-1Z		4 000 mm		5 430 mm
WJ1550-1Z		5 000 mm		6 630 mm
WJ1560-1Z		6 000 mm		7 830 mm
WJ1580-1Z		8 000 mm		10 230 mm
WJ15100-1Z		10 000 mm		12 630 mm

Table Dimension	X-axis Elevation	Y-axis Elevation	Width A	Length B
WJ2010-1Z	2 000 mm	1 000 mm	3 350 mm	2 130 mm
WJ2015-1Z		1 500 mm		2 680 mm
WJ2020-1Z		2 000 mm		3 230 mm
WJ2030-1Z		3 000 mm		4 330 mm
WJ2040-1Z		4 000 mm		5 430 mm
WJ2050-1Z		5 000 mm		6 630 mm
WJ2060-1Z		6 000 mm		7 830 mm
WJ2080-1Z		8 000 mm		10 230 mm
WJ20100-1Z		10 000 mm		12 630 mm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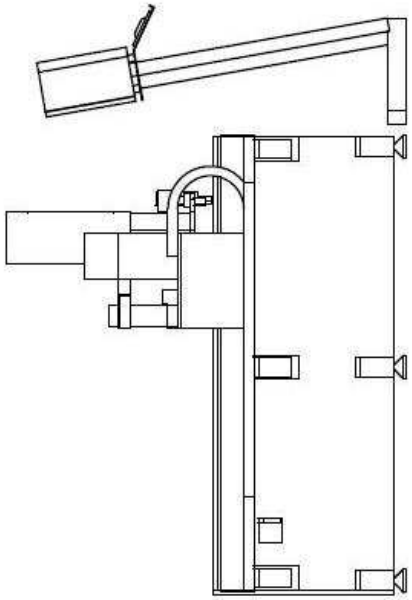
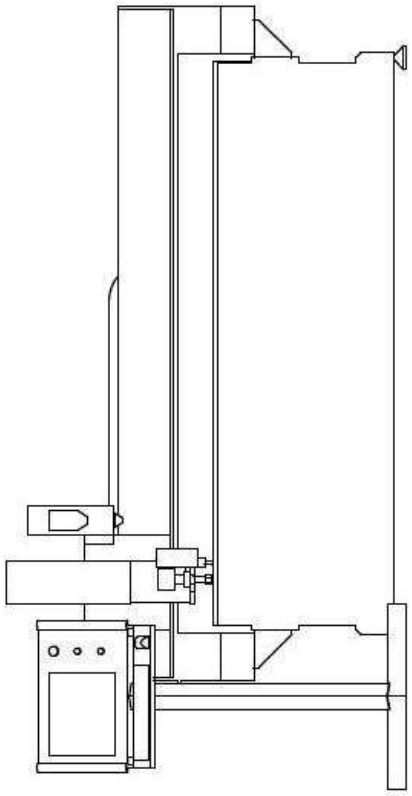
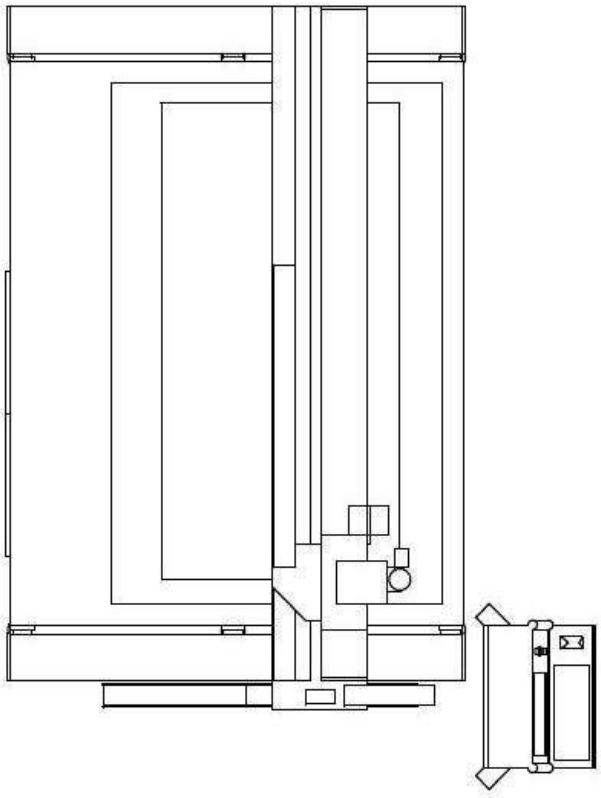
A



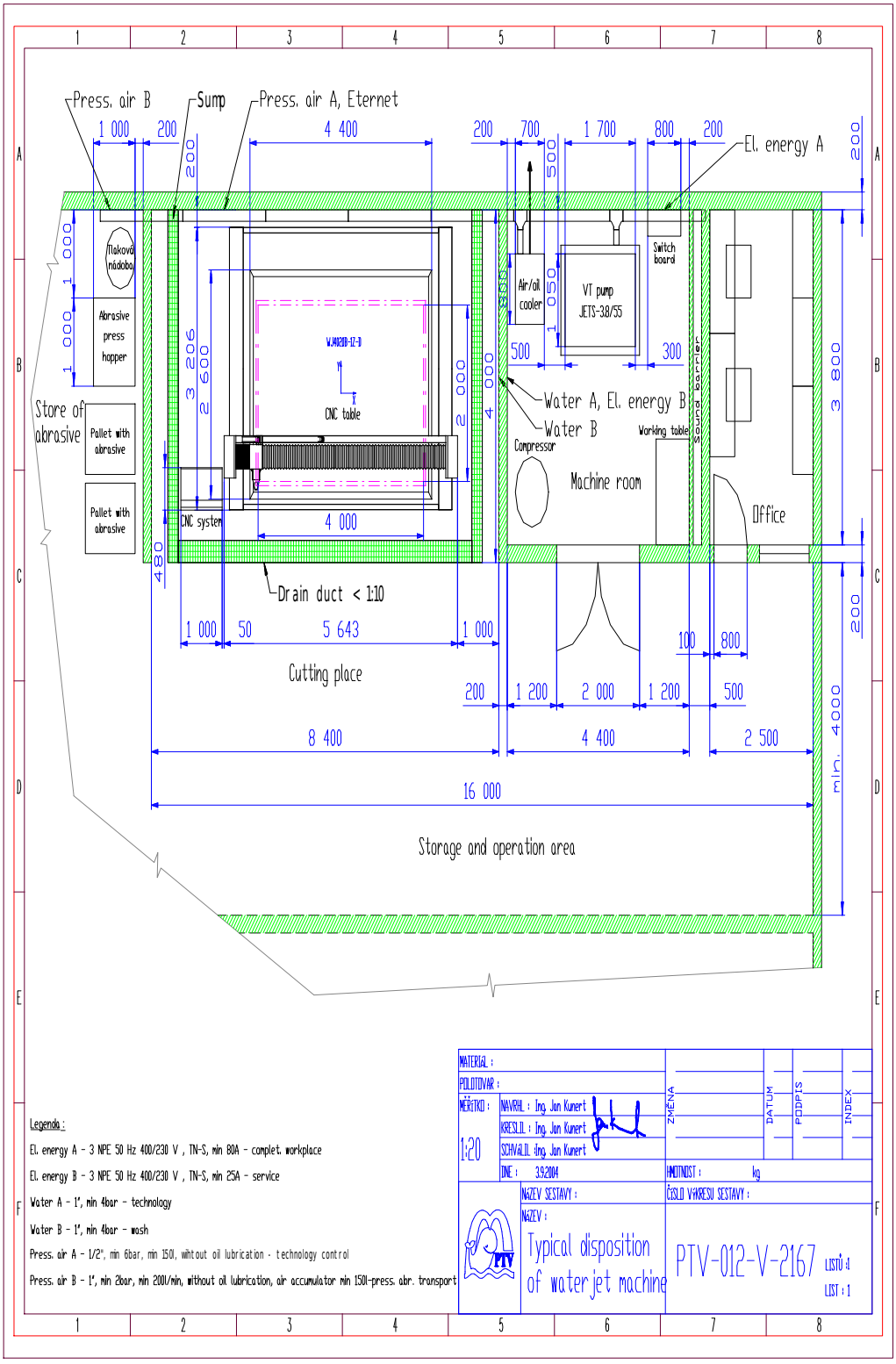




II. Position of the table on the workplace, workplace and position of the operator

Drawing of disposition of workplace is being individually consulted with the user.

1. Typical disposition of water-jet machine PTV-012-V-2167



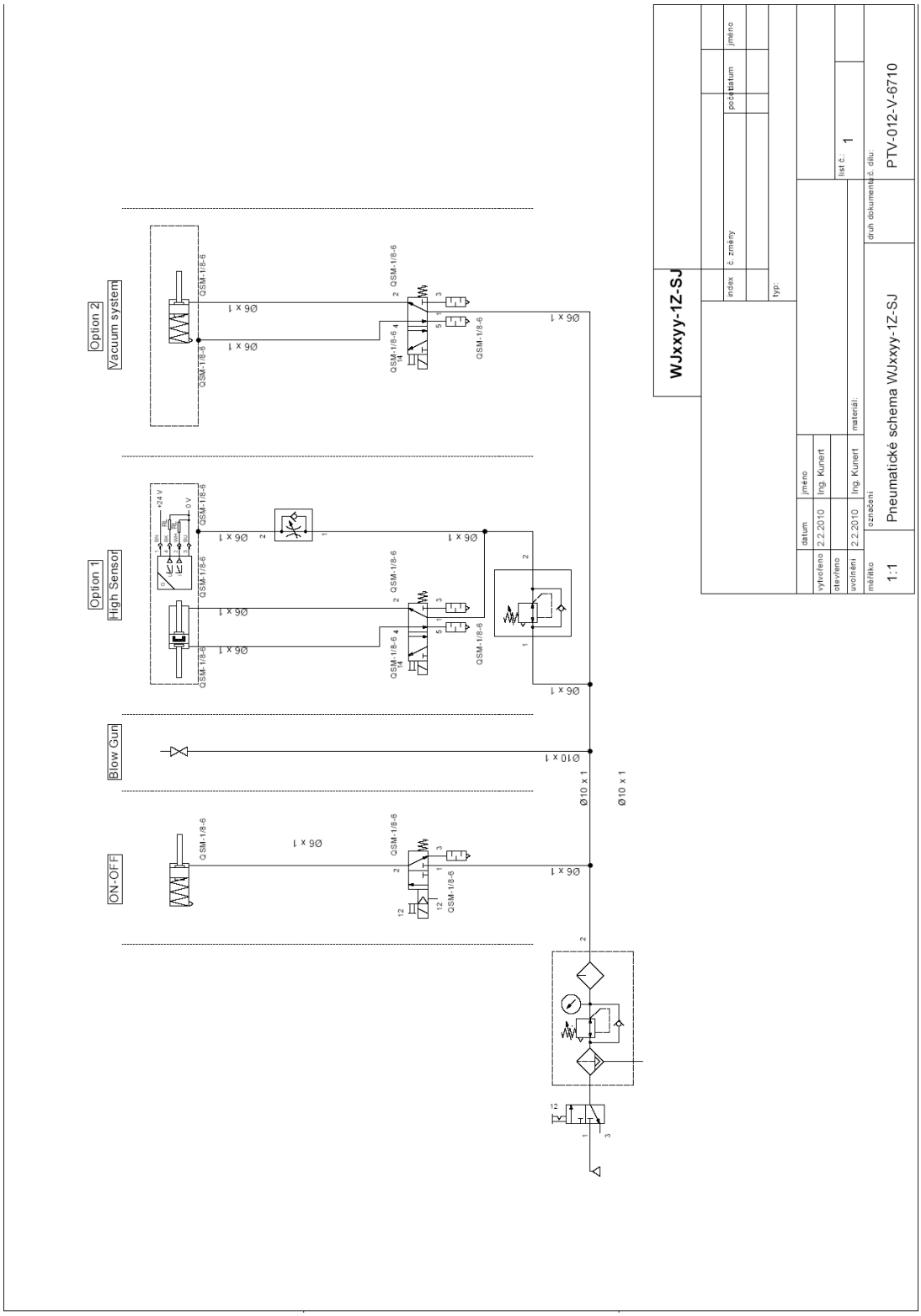
III. Diagram of electrical equipment

Entire documentation of CNC table electric connections we deliver in a separate document.

IV. Scheme of pneumatic device

List of drawings:

1. Connection of pneumatic PTV-012-V-6710



V. Certificate of Engineering Test Institute, s.p.

Strojírenský zkušební ústav, s. p., Brno, Česká republika
Engineering Test Institute, public enterprise, Brno, Czech Republic

CERTIFIKÁT
CERTIFICATE

podle směrnice 98/37/ES (stroje)
according to Directive 98/37/EC (machinery)

Číslo / *Number* **E-31-00668-08**

Držitel certifikátu - výrobce *Owner of certificate - manufacturer*	PTV, spol. s r.o. Československé armády 23, 253 01 Hostivice Česká republika - *Czech Republic*
Výrobek *Product*	Stůl X-Y CNC *Table X-Y CNC*
Typové označení *Type designation*	WJ xxyy-nZ
Podklad pro vydání certifikátu *Basis of certificate*	Závěrečný protokol č. 31-8392 ze dne 2008-08-29 *Final Report No. 31-8392 dated 2008-08-29*

Strojírenský zkušební ústav, s. p. potvrzuje, že výše uvedený výrobek splňuje základní požadavky na ochranu zdraví a bezpečnost směrnice 98/37/ES (nařízení vlády č. 24/2003 Sb.). Označení CE smí být na výrobek umístěno pouze v případě, že je výrobek ve shodě se všemi příslušnými platnými směrnicemi (nařízeními vlády), které se na něj vztahují.

The Engineering Test Institute approves that the above-mentioned product is up to the essential requirements to health protection and safety of Directive 98/37/EC (Government Regulation No. 24/2003 Coll.). The CE marking may be applied only provided the product is in line with all appropriate valid directives (Government Regulations) related to it.

Brno 2008-08-29

STROJÍRENSKÝ ZKUŠEBNÍ ÚSTAV, s.p. CZ 1

Ing. Jiří Rozsíval
zástupce ředitele
Deputy Director

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Strojírenský zkušební ústav, s. p., Hudcova 56b, 621 00 Brno, Česká republika
Engineering Test Institute, public enterprise, Hudcova 56b, 621 00 Brno, Czech Republic
www.szutest.cz

Strojírenský zkušební ústav, s. p., Brno, Česká republika
Engineering Test Institute, public enterprise, Brno, Czech Republic

CERTIFIKÁT
CERTIFICATE

podle směrnice 2006/95/ES (určité meze napětí)
according to Directive 2006/95/EC (certain voltage limits)

Číslo
Number **E-31-00669-08**

Držitel certifikátu - výrobce *Owner of certificate - manufacturer*	PTV, spol. s r.o. Československé armády 23, 253 01 Hostivice Česká republika - *Czech Republic*
Výrobek *Product*	Stůl X-Y CNC *Table X-Y CNC*
Typové označení *Type designation*	WJ xxyy-nZ
Podklad pro vydání certifikátu *Basis of certificate*	Závěrečný protokol č. 31-8392 ze dne 2008-08-29 *Final Report No. 31-8392 dated 2008-08-29*

Strojírenský zkušební ústav, s. p. potvrzuje, že výše uvedený výrobek splňuje základní bezpečnostní požadavky směrnice 2006/95/ES (nařízení vlády č. 17/2003 Sb.). Označení CE smí být na výrobek umístěno pouze v případě, že výrobek je ve shodě se všemi příslušnými platnými směrnicemi (nařízeními vlády), které se na něj vztahují.

The Engineering Test Institute confirms that the above-mentioned product fulfils the essential safety requirements of Directive 2006/95/EC (Government Regulation No. 17/2003 Coll.). The CE marking may be applied only provided the product is in line with all appropriate valid Directives (Government Regulations) related to it.

Brno 2008-08-29

STROJÍRENSKÝ ZKUŠEBNÍ ÚSTAV, s.p. CZ 1

Ing. Jiří Rozsíval
zástupce ředitele
Deputy Director

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