

Wet cutting machines

Herbert Arnold GmbH & Co. KG Weilburg
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Universal cutting saw 72/330.050 NIRO

Item number: VT1-00154

Category: Wet cutting machines

This model with a cutting disc from above, adjustable in height and arrestable in any position allows not only an optimal use of the cutting disc diameter, but is also for a very versatile application. For example, the machine is suitable for cutting plates and blocks, making slots into these materials, and cutting tubes longitudinally, etc.

The cutting aggregate can be laterally adjusted by +/- 300 mm via a threaded spindle with a hand wheel. As an option a step motor drive can be delivered.

Complete machine base frame made from stainless steel!



Dimension of cutting table:	Width 1000 mm x Depth 1000 mm
Max. moving distance from table:	approx. 1000 mm
Drive:	Three-phase current 230/400 Volt, 50 Hz (Special voltages available upon request)
Power:	2,2 KW
Side adjustment:	+/- 300 mm
Pan-angle:	0 - 45°

Chop Saw NC 72/452

Item number: VT1-00035

Category: Wet cutting machines

Machine description Machine bed in welded steel construction with integrated cooling lubricant basin. Strainfree annealed, sand-blasted and mechanically machined. On the rear side of the bed, the rolling bearing rail guidance for the saw unit is mounted in vertical arrangement. The guiding rails are covered with expansion bellows and additionally protected in the upper area by a stainless steel profile. Tool supports 4 pcs. made of stainless steel with fitted Teflon rails. The rails are axially adjustable and can be fixed mechanically in each position. By means of two radial adjustable prismatic jaws the rest can be adapted to the respective rod diameter. Tailstocks 2 pcs. for clamping and fixing the tail and top pieces, beared in synthetic bushes, made of hard aluminum, additionally anodized, with Morse cone acceptance for the quick exchange of the clamping acceptance. As the geometry of top and tail pieces is undetermined, additional vacuum clamping acceptances can be installed, if needed. Please note that they are not included in the range of delivery. Setting and clamping of the acceptance will be made manually. The tailstocks can be moved easily on the machine base and can be fixed in each position via clamping devices. The tailstock sleeves are adjustable via thread spindle and are protected against abrasion with expansion bellow. Horizontal positioning axes consisting of roller beared support in steel welded construction with four guide supports movable on the guidances on the rear bed side. The support will be moved via large dimensioned ball bearing, synchronous



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belt drive and AC-servo gear motor. Cutting unit in grey cast iron casting, with changeable cutting spindle, Poly-V belt drive and AC-rotary current servo motor. The vertical guidance is installed in a pillar construction with two hardened and grinded round pillars. The sinusoidal advance drive will be effected via ball screw, synchronous belt drive and AC-servo gear motor. The guidances and ball screws are covered with rubber discbellows. Switching point for quick motion and creep speed is processed by means of a mechanical diameter sight system in the PLC. On the rear side of the stand a counter weight is installed.

- short processing time
- high quality of surface of the sections
-
- housed working area
- guiding shafts and ball screw encapsulated in expansion bellows
- cutting aggregate driveable over the complete working area
- infeed of the cutting aggregate sinusoidal, for the optimising of the separating cut
- machine optionally with tailstocks retrofitable
- The control recognizes the position of the work piece supports independently
- Machine is optionally retrofitable with a laser measuring system, for measuring the geometry of the work pieces and at the same time working of the data in the control

Cutting disc diameter:	700 mm
Cutting speed:	stepless - 45 m/s
Cutting unit advance	fast motion: 3 m/min slow motion: 1-100 mm/min
Electro connection:	400 V, 50 Hz, 3 Ph., approx. 8 KW

Long tube cutting-off saw 72/440.15

Item number: VT3-00127

Category: Wet cutting machines

Contrary to the conventional principle, the workpiece is fed stationary into a roller rest and the cutting segment can be moved over the complete machine length. Mechanical construction: The roller rest for acceptance of workpieces, which is located on the machine bed, is equipped with PUR-coated rollers. The roll segments are arranged logarithmically. The actual cutting segment is swivelling mounted on a traverse and guided in ball bushings at the machine bed. The submerging into the work piece happens as a standard manually. A motorised advance is optionally available. In the working area of the operator a sliding and adjustable splash protection made of plexiglass is placed, which additionally also prevents the intervention into the working area.



tube diameter:	200 - 1000 mm
length of roller rest:	5000 mm

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diameter of cutting disc:	300 mm
max. free cutting depth:	90 mm

Long tube cutting-off saw 72/440

Item number: VT3-00071

Category: Wet cutting machines

Contrary to the conventional principle the workpiece will be stationary fed into a roller rest and the cutting segment can be moved over the complete machine length.

Mechanical construction: The roller rest for acceptance of workpieces, which is located on the machine bed, is equipped with PUR-coated rollers. The roller segments are logarithmically arranged. The actual cutting segment is swivelling mounted on a traverse and guided in ball bushings at the machine bed. Submerging the work piece is made in standard manually. A motoric advance is optionally available for this.

In the working area of the operator a splash protection made from plexiglass is placed movable that is avoiding additionally the engagement into the working area.



tube diameter:	60 - 400 mm
length of roller rest:	4000 mm
diameter of cutting disc:	300 mm
max. free cutting depth:	90 mm

Vertical cutting saw 72/V 2120

Item number: VZ1-00001

Category: Wet cutting machines

The vertical saw consists of a base plate with driven work piece circular table and flanged guiding stand for the acceptance of the saw rocker with cutting aggregate.

Working method: The work pieces (glass tubes) will be put vertically on the circular table and clamped with clamping jaws guided in detachable T-slots. The cutting aggregate will be adjusted manually to the requested cutting lengths (heights) by means of thread spindle and two longitudinal guides. The aligning rate will be read from a counter (100-1500 mm, +/- 0,5 mm). The adjustment will be fixed then manually by means of a fixing unit. Afterwards the cutting aggregate will be manually and oil-damped (adjustable) swivelled into the work piece for making the first cut. The circular table will be changed to rotation in order to cut the requested part.



- More simple handling of vertical stores tubes with a diameter range of 300 - 1000 mm
- High surface quality of the cutting edge via peripheral cutting
- Cutting unit adjustable in height via hand wheel, part length readable via digital display

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- All corrosion endangered parts are made from stainless steel, slide guidances with shock absorber splash proof
- Bigger diameter range as on horizontal cutting machines can be cut
- Budget priced alternative to horizontal cutting machines
- Space-saving against horizontal cutting machines

Diameter of the circular table:	1200 mm
Speed of the circular table:	0-6 rpm
Diameter of the cutting disc:	400 mm
Speed of the cutting disc (constant):	2800 rpm

Universal cutting saw 72/800 NIRO

Item number: VT1-00009

Category: Wet cutting machines

The machine is suitable to accept diamond cutting discs of 125 mm up to 150 mm diameter. The speed is adapted for cutting discs of 125 and 150 mm dia. For special applications tubes and rods of bigger diameters can be cut by turning the workpiece. Additionally by using the V-rest under the tiltable cutting table bigger pieces can be cut. Due to the free accessible table area the machine is very well suited for cutting small plates and blocks. The machine housing consists of a welded stainless-steel construction, as a standard the cutting table is made of high-strength aluminium (Al Zn Mg Cu 1,5) material 3.1354 - hardcoated. The cooling water supply is achieved by means of a small water pump integrated in the machine housing. Standard accessories: 1 Longitudinal stop 1 Water pump



Max. cutting height above table:	125 mm = approx. 23 mm 150 mm = approx. 35 mm
Cutting speed:	125 mm = approx. 23 m/s 150 mm = approx. 27,5 m/s
Cutting table dimensions:	Width 270 mm x Depth 425 mm

Universal cutting saw 72 NIRO

Item number: VT1-00006

Category: Wet cutting machines

The machine is suitable to accept diamond cutting discs from Ø 250 mm up to Ø 300 mm. The use of carborundum discs is also possible.

Maximum free cutting depth with discs	Ø 250 mm = 65 mm Ø 300 mm = 90 mm
Cutting table moving distance	max. 170 mm



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Universal cutting saw 72/330 NIRO

Item number: VT1-00003

Category: Wet cutting machines

This model with cutting disc from above, adjustable in height and arrestable in any position allows not only an optimal use of the cutting disc diameter, but is also for a very versatile application. For example, the machine is suitable for cutting plates and blocks, making slots into these materials, and cutting tubes longitudinally, etc.

Complete machine base frame made from stainless steel!



motor speed:	1435 rpm
Dimension of cutting table:	Width 515 mm x Depth 720 mm
Drive:	Three-phase current 230/400 Volt, 50 Hz (Special voltages available upon request)
Power:	2,2 KW
Moving distance:	ma. 400 mm
Maximum free cutting depth with disc diameter:	300 mm = 90 mm / 400 mm = 140 mm

Universal cutting saw HT6

Item number: VTH-00003

Category: Wet cutting machines

Besides the classic materials such as glass, quartz glass, porcelain and ceramic, also stone, semiprecious stone, precious stone, Al-oxyd, graphite, synthetic materials etc. can be cut by use of corresponding special diamond cutting discs. The machine is designed for use of diamond cutting discs with a diameter of 150 mm. Cutting table with a limit stop is made of corrosionproof light metal, runs in closed ball bushings on hardened, ground and hard chrome plated guidingshafts. The cutting table is equipped with an automatic, steplessly adjustable advance drive and can also be moved manually via a hand wheel and disengaged.



Diameter of cutting disc:	150 mm
Diameter of clamping flange:	75 mm
Spindle acceptance:	25 H7
Dimensions of cutting table:	270 x 127 mm
Max. travel:	210 mm

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Scratch / Breaking machines

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Cutting machine 71/200

Item number: 71/200

Category: Scratch / Breaking machines

Machine construction:

- Solid base frame in steel welded construction, annealed, sand blasted. All mounting surfaces are machined. - Feeding table made from Pertinax with limit stop and holding-down holder-
- Scratching/breaking device with linear guiding- Scratching/breaking device for quick retrofitting to different tube diameters mounted on very solid guide blocks with micrometer screw- Advance drive for scratching/breaking device and tube advance via ball screw and three-phase A. C. motor- Clamping device, holding-down holder and tube support pneumatically operated-
- Pressures via electrical controller acc. to program sort possible- Machine control Siemens PLC S7/300- Teleservice for remote assistance/failure correction actives possible

- machine control by means of PLC with interface for connection to additional linkage systems (for example fire-polishing machine of cat. no. 52/65)

- dry, parallel cuts due to the scratch-breaking procedure
- no cleaning and drying of cut pieces
- small length tolerance because of defined, motorized work piece feed
- optimal adjustment of the machine to different materials as well as work piece dimensions by means of easy and reproducible adjustments of scratching and breaking tools
- continuous procedure because of effective processing of material



Length of feed table	(standard) 1500 mm
Total length of machine	3800 mm
Smallest diameter to be cut	approx. 0,8 mm
Largest diameter to be cut	16 mm
Shortest cutting length	approx. 15 mm
Largest cutting length	250 mm
Remaining piece	approx. 50 mm

Cutting machines 71 W

Item number: VG1-00001

Category: Scratch / Breaking machines

A quick running A.C. motor with switch is screwed on a heavy, solid grey cast iron box. The steel cutting disc with respective cutting protection is mounted directly on the motor shaft. The cutting table made from Pertinax can be adjusted in height by means of a detachable clamping screw. Standard accessories:
1 pce. steel cutting disc diameter 300 mm



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1 pce. length limit stop

- dry and transparent cutting surfaces
- easy and quick cutting
- easiest operation

Cutting disc diameter	300 mm
Motor speed	2800 1/min

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Thermal shock machines

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Cracking-off machine 71/61

Item number: VG2-00009

Category: Thermal shock machines

Fully automatic execution of the proved cracking-off machine of cat. no. 71/8 for cracking-off soda glass, lead glass and borosilicate glass

- dry, plane-parallel and transparent cutting surface
- no cleaning and drying of the cuts
- small length tolerances
- optimal adjustments of the machine to different glass
- qualities and work piece dimensions
- easy handling

glass tube diameter	15 – 150 mm
smallest cutting length	min. 20 mm
largest cutting length	390 mm
original tube length	max. 1500 mm
middle cycle time	approx. 7 sec.



Cutting machine 71/8.20

Item number: VG2-00018

Category: Thermal shock machines

The tube to be cut is manually placed on the roller drive of the machine and pushed against the adjustable limit stop. Now the turning tube is manually scratched outside by means of a diamond. Thereupon the cracking-off burner, mounted on a slide, is placed against an also adjustable limit stop exactly at the scratching position and then inserted into the tube.

By means of the very sharp hydrogen/oxygen flame and the cleft made by the diamond at this position, the tube cracks off.

- Parallel, dry and transparent cuts
- Well suitable for cutting series as well as single cuts
- Easy operation
- Easy and fast adjustment to different tube diameters and individual cuts



Electrical cracking-off unit 70

Item number: VG1-00004

Category: Thermal shock machines

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Suitable for soft glass. Electrical cracking-off unit, current intensity steplessly variable up to max. output voltage of 1 kVA. Thus, voltage can be accurately adapted to any given glass type and thickness. The unit is supplied complete with cracking-off pliers and drum for spare cracking-off wire.

Electric supply: Single-phase A.C. 220 V, 50 cycles. – Other voltages upon request.

Cutting machine 71/8.10

Item number: VG2-00002

Category: Thermal shock machines

The tube to be cut is manually placed on the roller drive of the machine and pushed against the adjustable limit stop. Now the turning tube is manually scratched outside by means of a diamond. Thereupon the cracking-off burner, mounted on a slide, is placed against an also adjustable limit stop exactly on the scratching position and then inserted into the tube.

By means of the very sharp hydrogen/oxygen flame and the cleft made by the diamond at this position, the tube cracks off.

- Parallel, dry and transparent cuts
- Well suitable for cutting series as well as single cuts
- Easy operation
- Easy and fast adjustment to different tube diameters and individual cuts



Glass tube diameter	8 – 150 mm
Cutting lengths	20 – 400 mm
Cutting Capacity	According to glass tube diameter, wall thickness, glass type and cutting length approx. 300 – 800 tubes per hour

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