

# NISULA

THE FUTURE OF EFFICIENT LOGGING



| N5 THINNING HARVESTER |  
| NEW 500H HEAD |  
| NEW GENERATION CONTROL SYSTEMS |

# NIS

## THE FUTURE OF EFFICIENT THINNING

### IMPROVED PRODUCTIVITY

- Nimble and balanced
  - moves fast in the felling area
- Parallel crane in line with the operator
  - head fast to take to the tree
- Less driving, more harvesting
  - 9, 10 and 10.5 m crane alternatives
- Harvester heads with efficient power/weight ratio
  - fast and accurate handling of trees

### LOWER COSTS

- Low purchase price
  - less capital needed
- Low fuel consumption (6.5-8 l/h)
  - no money wasted
- Reliable with no unnecessary frills
  - less downtime
- Regular maintenance costs
  - less than €2/h



**WATCH THE VIDEO**

<https://www.youtube.com/watch?v=3Fbbt8caltA>

### HEAD ALTERNATIVES

#### NISULA 425H



Reach of the crane  
10.5 m

#### NISULA 425C



Reach of the crane  
10.5 m

#### NISULA 500H



Reach of the crane  
10 m

#### NISULA 285E+



Head change facility and  
accumulating energy wood head  
as accessories



# NEW 500H

– EVERYTHING YOU COULD WANT IN A HARVESTER HEAD ?

Nisula 500H is a true harvester head that serves you from first thinning to the last improvement felling. Both the physical dimensions and the weight of the head are ideal for thinning. Thanks to high-quality materials, the head only weighs 640 kg without the rotator. The head is easy and fast to take to the tree, and thanks to the efficient drive motors, even challenging stems go easily through the grapple. 500H's single cut diameter is 50 cm.

## DETAILS THAT IMPROVE DURABILITY, USABILITY AND RELIABILITY

- All the structures of the heads are made of high strength steel. (Hardox 400).
- The structures are welded by using special filler metals designed for high strength steel.
- The shaft sleeves are made of tempered steel and the axles of surface hardened tempered steel.
- The cylinders of the heads do not move length-ways, which minimises the movement of the hoses and thereby the risk of damage.
- The design of the saw casing helps the operator find the correct cut-off point and reduces the risk of the saw hitting the ground.
- The accurately measured position of the saw maximises the utilisation of the saw bar: comparatively larger cut-through diameter and minimised movement of the saw bar. These features bring savings in chain and saw bar costs.
- The whole head can be greased in one position (tilt up and grapple closed)

### WATCH THE VIDEO

Valmet 911 + Nisula 500H

[http://www.youtube.com/watch?v=7Q8WDu\\_cmWM](http://www.youtube.com/watch?v=7Q8WDu_cmWM)

DETAILED TECHNICAL SPECIFICATION:  
[WWW.NISULAFORREST.COM](http://WWW.NISULAFORREST.COM)

## NEW GENERATION EASY-TO-USE CONTROL SYSTEMS

### NISULA NCU3 WITH CUBIC VOLUME MEASURING FACILITY



The Nisula NCU3 control system has been developed on the basis of four decades of experience. The new electronics generation has increased the measuring efficiency of the system. NCU3 controls the head accurately. The simple menu structure makes it easy for the operators to find the settings they need.

The hydraulics control has been taken to a new level, allowing fast and accurate positioning in the sawing window. Accuracy is excellent in all conditions. There is a separate fuse for the sensors to reduce the risk of damage to them. NCU3 can also be equipped with the control system of the Nisula NCC crane. The new NCU3 control system is the result of cooperation between Technion Oy and Nisula.

### NISULA NCU3X WITH VALUE AND QUALITY SCALING



NCU3X is equipped with a larger 12.1" touch screen. The X Model has value and quality scaling and data transfer facilities. Thanks to the new electronics generation and improved computing capacity, the value and quality scaling is extremely accurate. The new advanced algorithm maximises the production.

As the PC used for reading map software and for data transfer is a separate system, the embedded solution guarantees reliability. Possible Windows/PC problems do not stop the felling operations. The felling operations do not depend on the PC's computing capacity, either. Therefore forestry companies' software may contain extensive maps and other heavy-duty features.

## N5 TECHNICAL DATA

### STANDARD EQUIPMENT AND ACCESSORIES

An extensive range of accessories and versatile head and crane alternatives allow you to customise N5 to meet your special needs. It is always sensible to avoid unnecessary investments. N5 with standard equipment is a full-fledged thinning harvester.

### N5, STANDARD EQUIPMENT:

- 600/65R34 Nokia Forest Rider tyres
- Nisula P990 parallel crane, reach 9 m
- Nisula 425H harvester head
- Nisula NCU3 measuring device
- Mini levers
- Webasto, air conditioning system
- Stereo equipment, handsfree facility for the mobile phone
- Air suspension seat

### N5 ACCESSORIES:

- 710/55R34 Nokia Forest Rider tyres + chains
- Nisula P995 parallel crane, reach 10.0 m
- Nisula P995.5 parallel crane, reach 10.5 m
- Epsilon M80F101 crane
- Nisula 425C multi-purpose head
- Nisula 500H harvester head
- Colour marking, stump treatment facility, saw control, automatic chain adjuster
- Head change facility for the accumulating Nisula 285E+ energy wood head
- Nisula NCU3X control system with value and quality scaling and data transfer facility
- Tablet PC for data transfer and map software management
- Calliper
- LED lights, 16 pcs for the standard harvester
- LED lights for the crane
- Automatic ventilation
- GSM control system for the additional heater
- Cool box

## CRANE ALTERNATIVES



### NISULA PARALLEL CRANES

The Nisula parallel cranes are designed for thinning. Fast and accurate manoeuvring, optimal location of the crane for the operator and sufficient lifting and swing torques all contribute to fast and productive work. The crane can easily be adjusted for the operator through the terminal device. Standard accessory: 9-metre P990 without extended boom. A 10-metre P995 equipped with a hydraulic extension is available as accessory with both 425 and 500 harvester head series. The reach of P995.5 is 10.5 metres, and it is available with 425H or 425C.

#### Benefits to the customer:

- Optimal motion paths for harvesting
- Strong and accurate motorised turning
- Accurate adjustment of the crane for the operator
- Dual swing damper adds to accuracy
- Strong crane base with tilting facility
- The crane is made of ultra strong steel
- Three LED lights available as accessory

#### Technical Specification NISULA P990

Total weight	1510 kg
Reach	9 m
Swing torque, gross	31 kNm
Lifting torque, gross	130 kNm
Lifting capacity with full reach	800 kg

#### Technical Specification NISULA P995/P995.5

Total weight	1580 kg
Reach	10.0/10.5m
Swing torque, gross	31 kNm
Lifting torque, gross	115 kNm
Lifting capacity with full reach	700/660 kg

### ENGINE

N5 is equipped with the reliable Agco Power 4.9 AWI engine. The output torque of this long-stroke, four-cylinder engine is optimal for harvesting. A sufficient hydraulics capacity is reached at 1300-1500 r/min, depending on the felling area and the harvester head. This guarantees extremely low fuel consumption – according to our measurements, about 6.5-8 l/h, depending on the felling area.

#### Benefits to the customer:

- Reliable Finnish engine
- Low fuel consumption
- Long maintenance intervals

Engine:	Agco Power, 4.9 AWI, supercharged and intercooled
Power	118 kW /2000 r/min (ISO14396)
Maximum torque	708 Nm / 1200 - 1500 r/min
Starter motor	4.0 kW
Batteries	2 x 145 Ah

### WORK HYDRAULICS

Pump:	Rexroth
Output:	220-280 l/min depending on the head (2000r/min)
Operating pressure:	210-230 bar depending on the head
Oil tank capacity:	210 litres

#### Benefits to the customer:

- The operating hydraulics can be optimised for each head – lower consumption

### DIMENSIONS

Length	1030 cm (transport position)
Width	268 cm (600 tyres), 287 (710 tyres)
Transport height	335 cm (370 cm during on-road transportation)
Weight	12500-14400 kg

### POWER TRANSMISSION

The hydrostatic-mechanical power transmission with differential axle locks ensures smooth and safe driving even in the most demanding terrains. Driving is accurate and controlled. Moving from one felling area to another is fast. The maximum transport speed is 40 km/h.

#### Benefits to the customer:

- Reliable power transmission, simple structure
- Nimble movement in the forest, fast and accurate harvesting operations
- Excellent pulling force, fast and economic transport from one site to another

#### Power transmission:

- Hydrostatic-mechanical power transmission
- Variable displacement swash plate pump, Sauer 115 cm3/r
- Variable displacement axial piston motor, Sauer 160 cm3/r
- 3 operating modes, HSD driving mode (operation/transport)
- CSD control system
- Drive speed regulator, crawling
- Front and back drive pedal can be used for driving

#### Gearbox:

- Two-speed gearbox ZF (2HL290)
- Electro-hydraulic control of the gearbox (Power-Shift)
- Speeds, forward/reverse, Gear1, 0...10. 7 km/h, Gear 2, 0...40 km/h

#### Axles :

- Drive axles in front and rear / Dana
- Axles with differential locks

## HARVESTER HEAD ALTERNATIVES



### NISULA 500H

Weight, kg	640
Clean delimiting Ø, mm	430
Single cut Ø, mm (1 stem)	500
Number of delimiting knives	5+1
Opening of front knives, mm	500
Opening of additional knives, mm	720
Width in delimiting position, mm (open/closed)	1200/980
Height in delimiting position, mm (open/closed)	1250/1050
Height in felling position, mm	1120
Operating pressure, bar	210-230
Oil consumption, l/m	140-180

**Accessories:** Stump treatment facility, colour marking, saw control, automatic chain adjustment

### NISULA 425H/C

	425H	425C
Weight, kg	410	425
Clean delimiting Ø, mm	320	300
Single cut Ø, mm (1 stem)	425	425
Number of delimiting knives	4+1	2+1
Opening of front knives, mm	430	430
Grapple opening, mm	580	920
Width in delimiting position, mm (open/closed)	1100/940	1100/940
Height in delimiting position, mm	880	880
Height in felling position, mm	880	880
Operating pressure, bar	210	210
Oil consumption, l/m	120-150	120-150

**Accessories:** Stump treatment facility, colour marking, saw control, automatic chain adjustment

### NISULA 285E+

Weight, kg	330
Grapple opening, mm	930
Cut diameter Ø, mm	280
Single cut Ø, mm (1 stem)	180-240
Operating pressure, bar	180-210
Oil consumption, l/m	80-150

