

# NISULA

THE FUTURE OF EFFICIENT LOGGING



CONVERSION OF A TRACTOR FOR FORESTRY WORK



**A SENSIBLY EQUIPPED TRACTOR IS VERSATILE, COST-EFFECTIVE AND CONVERTIBLE.**

## CONSIDERATIONS IN EQUIPPING A TRACTOR FOR FOREST WORK:

1. Use of the base machine outside forestry work: Required power, type of the transmission system and required equipment
2. Size of the harvester head: Small wood harvesting (first thinning) or thinning from first thinning to improvement felling
3. Control system of the harvester head



**= FUNCTIONAL COMBINATION IN WHICH THE ROUND-THE-YEAR USE OF THE TRACTOR IS AT THE OPTIMUM LEVEL.**

**WATCH THE VIDEO, NISULA 325H**  
<https://www.youtube.com/watch?v=0kcFat-Frz0>

## HEAD ALTERNATIVES

**NISULA 325H**



Max. outreach of the crane:  
10,0m

**NISULA 425H**



Max. outreach of the crane:  
9,0m

**NISULA 425C**



Max. outreach of the crane:  
9,0m

**NISULA 285E+**



Head change facility and accumulating energy wood head as accessories



# 425C

## MORE FEATURES TO ENHANCE HARVESTING OPERATIONS

Nisula 425C is a multi-purpose harvester head equipped with grapple arms that make handling and sorting timber effortless. The NCU3 control system adjusts the grip force of the grapple arms to the tree stem being handled, enabling a firm grip of the stem during felling, feeding and moving operations. In combined use, the separate grapple arms also allow loading without changing the head.

When larger and heavier trees are felled and moved, the grapple arms apply a strong grip on the stem. When feeding starts, the grip force is reduced to minimise friction.

The control system has a diameter limit set for the utilization of the grapple arms during processing. If necessary, the settings can be adjusted via the control system, but usually the harvester head works best with the standard settings.

New stronger driver motors increase the feeding capacity by 20% compared with the previous model. New machined front knives offer improved delimiting efficiency and durability as well as a larger delimiting diameter compared with the C model. 425C offers additional features for thinning.

### DETAILS THAT MAKE THE C SERIES HARVESTER HEAD UNIQUE

- The head is extremely easy to maintain. All the grease points can be handled with the head in one position.
- The cylinders of the head do not move lengthways, which minimises the movements of the hoses and thereby the risk of damage.
- The additional delimiting knives located in the centre of the head and below the stem create a triangular support for the stem while it is being processed. Thanks to this facility, also larger trees are kept in a tight grip.
- The triangular support structure also facilitates the handling of the stem and improves measuring accuracy.
- The additional knives next to the feeding rolls facilitate the delimiting of crooked stems. If necessary, the head can be slid past the crooks with the front knives open without losing grip of the stem or delimiting efficiency.
- The grapple arms make the head extremely versatile. For example, forked and fallen trees are processed without difficulty. The grapple arms make it easy to pick up the stem with the right grip for processing, which significantly reduces the risk of damaging the knives and the feed rolls.

**WATCH THE VIDEO, NISULA 425C**

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

## NEW GENERATION EASY-TO-USE CONTROL SYSTEMS

### NISULA NCU3 WITH CUBIC VOLUME MEASURING



Nisula's new NCU3 measuring device is a result of four decades of experience. The new electronics generation has increased the computing capacity 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.

### 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 increased computing capacity, value and quality scaling is accurate. The new advanced algorithm also adds to the maximisation of production.

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

## NISULA EASY2 – ALL NECESSARY CONTROLS IN THE SAME PACKAGE



Can equipping a tractor for timber harvesting be easier? The forestry work equipment of a tractor usually consists of a harvester head and crane control system, front axle locking, pedal and lever control system, levers with pre-selection switches and a voltage converter. Nisula's new Easy2 package has all the necessary components and controls in one neat package. When forestry work is over in the spring, you just take the package out of the tractor and no extra modules are left in the cabin when you switch to other operations. In the autumn, you simply mount the package in the cabin of the tractor again, and everything is ready for forestry work. Easy, isn't it?

### THE EASY2 PACKAGE CONSIST OF THE FOLLOWING

- Harvester head control system alternatives:
  - NCU2 length measuring device
  - NCU3LITE with length and thickness measurement facility
  - NCU3 cubic volume measurement facility
  - NCU3X with cubic volume measurement facility, value scaling facility and data transfer facility
- Nisula NCC crane's control system (Parker L90 or Danfoss PVG32)
  - Motion-specific adjustment via the display screen of the control system (NCU3LITE, NCU, NCU3X)
- Potentiometer for adjusting the motion speed of the crane
- Mini levers + necessary pre-selection switches for controlling the harvester head
  - The levers are mounted on Easy2 in the rear
  - The levers can also be mounted on the driver's seat (NCU3 and NCU3X)
- Printer (NCU3 and NCU3X)
- Voltage converter (12V-24V)
- Power switch of the crane and measuring device and an emergency stop button

- Front axle stabiliser control
- Drive direction lever
- Use of the Valtra Twin Track reverse drive system pedal as a drive pedal
- Lever control of the front wheels (accessory, requires a separate valve block)
- Hydraulic oil level and temperature warning lights (requires a tank equipped with a sensor)
- Necessary valve harness

### Benefits to the customer

- Fast switch from forestry work to other operations and vice versa. The Easy2 package is fast to dismantle from and mount on the cabin
- All the necessary components in one package and not spread around the cabin.
- Easy maintenance
- The levers can be mounted on the Easy2 package in the rear or on the armrests of the driver's seat

### EASY2 IS COMPATIBLE WITH

- Valtra/Valmet 6000, 8000, A, X, XM, M, N and T series tractors

## HARVESTER HEADS FOR TRACTORS

The suitability of the Nisula harvester heads for use with tractors is superb. Typical features of Nisula harvester heads include an extremely strong frame and high-quality materials and components.



### NISULA 325H

Nisula 325H is a harvester head that is especially suitable for first thinning and delimbed energy wood harvesting. It is light and easy to use, making work fast and easy.

The head is equipped with one fixed and three moving delimiting knives. Its straightforward structure and high-quality materials and components ensure a long useful life. This harvester head is extremely easy to maintain.

Weight, kg	285
Kaatoläpimitta Ø mm	340
Number of delimiting knives	3+1
Clean delimiting Ø, mm	240
Operating pressure, bar	190

#### Accessories

Thickness measure sensor, cylinders for the front knives, saw control, automatic chain adjustment



### NISULA 425H

The new 425-sarja offers additional features for thinning. The harvester head processes the stem in a controlled manner. The new type of head control improves the speed and accuracy of the process.

Stronger drive motors increase the feeding capacity by 20% compared with the previous model. New machined front knives ensure wear resistance and a larger clean delimiting diameter.

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

#### Accessories:

Stump treatment facility, colour marking, saw control, automatic chain adjustment



### NISULA 425C

The new 425C offers additional features that enhance thinning operations. The new type of head control improves the speed and accuracy of the process. Stronger drive motors

increase the feeding capacity by 20% compared with the previous model. Nisula 425C is a multi-purpose model in which the control system utilises the grapple arms also in felling. This allows a sturdy grip of the stem during felling, feeding and moving operations. Separate grapple arms make the moving, loading and sorting of timber easy.

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

#### Accessories:

Stump treatment facility, colour marking, saw control, automatic chain adjustment