KESLA HARVESTER HEADS

KESLA

THE MULTI-TALENT IN FOREST TECHNOLOGY

THE MULTI-TALENT IN HARVESTER TECHNOLOGY

Kesla's extensive experience in forest technology has given it superior expertise as a developer of harvesters. Kesla's harvester family offers the market's most comprehensive line of both roller and stroke harvester heads. The product family also includes excavator harvester packages as well as special harvesters for eucalyptus handling.

When developing the harvester head range, special attention has been paid on requirements of biomass harvesting. With optional accessories the Kesla harvester heads can be equipped for effective biomass logging in addition to conventional timber harvesting, without compromises.

Kesla is a pioneer in the outfitting of excavators for harvester use. Kesla has an in-depth knowledge of almost all the excavator brands and their special requirements. When it comes to stroke harvesters, is Kesla is also the world's market and technology leader. An extensive selection of cranes designed specifically for harvesting use supplements the range of harvester products. As a testimony to Kesla's quality, several harvester manufacturers around the world have chosen KESLA as their original equipment. The design and manufacturing of Kesla's forest machines complies with all applicable international quality criteria. All products pass through a rigorous quality assurance program as well as practical performance and safety tests; the principles of sustainable development guide every aspect of Kesla's operations.

COMPREHENSIVE SOLUTIONS:

- cut-to-length thinning and final felling
- gentle processing of valuable special timber
- harvesting of hardwoods and trees with robust branches
- cutting and debarking of eucalyptus trees
- processing as a part of a tree-length harvesting chain
- effective biomass harvesting
- cranes for harvesters and forwarders
- harvester accessories for excavators

SUPERIOR DURABILITY AND PERFORMANCE

KESLA PROCON

Besides bringing power and fluency to delimbing, the stepless adjustable feeding speed results in unprecedently accurate feed to the correct cutting length. The computer-controlled pressure adjustment is based on tree diameter ensuring optimal clamping force throughout the feeding; the feed rollers' grip and delimbing power is maximized without wasting energy on unnecessary clamping. For RH and RHS models.

Unique geometry of feeding rollers

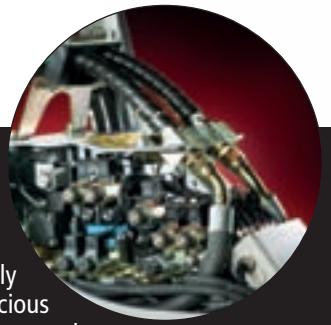
Low friction and excellent traction of feeding rollers in all working conditions saves energy and maximizes performance.

KESLA HYDCON

The computer-controlled HydCON length measuring wheel follows the timber surface precisely in all conditions which significantly improves measuring accuracy. When gripping on a new tree the measuring wheel is retracted, substantially facilitating and speeding up picking of trees. For 18, 20, 25, 28 and 30 RH/RHS models.

Automatic chain tightener

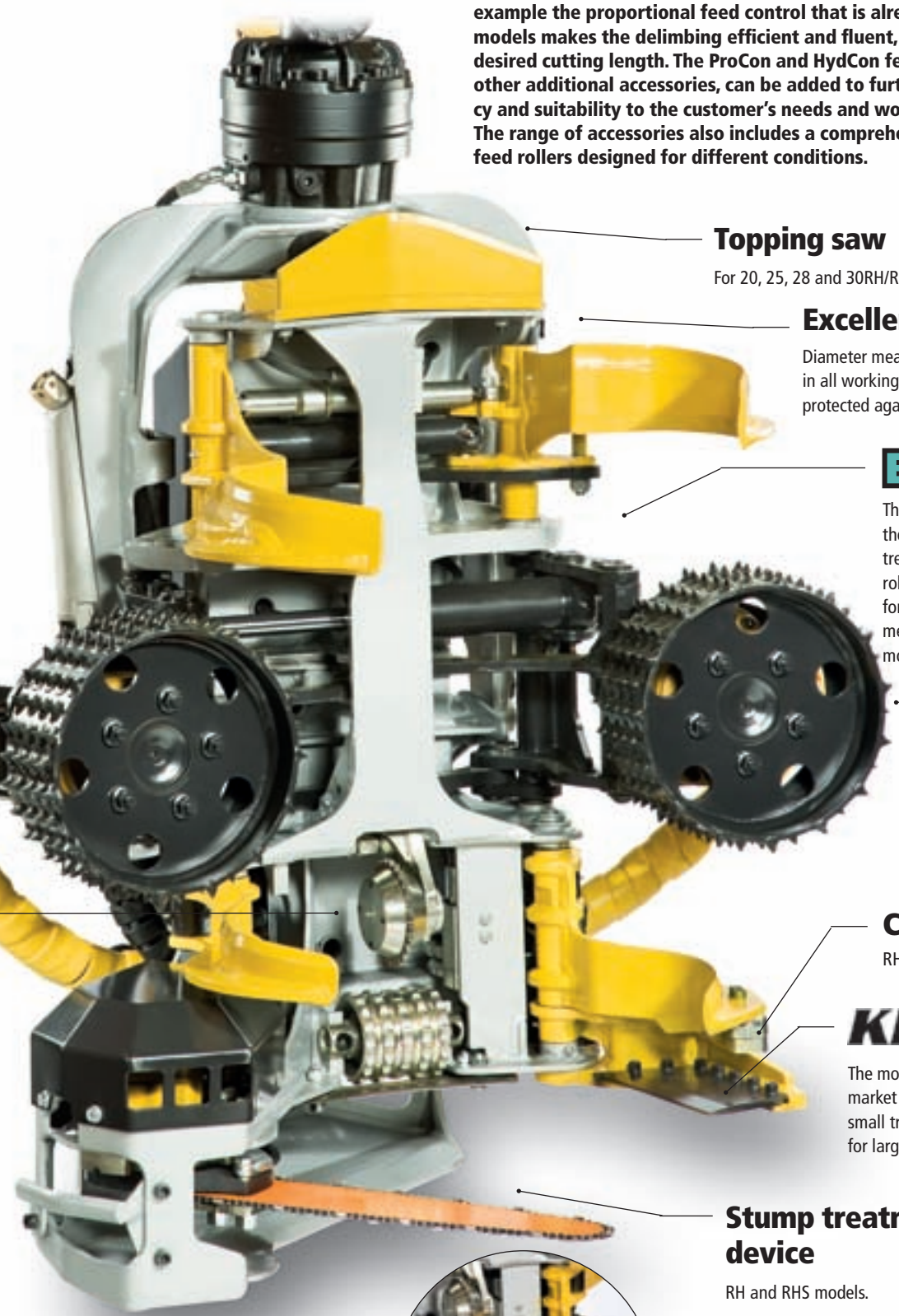
RH and RHS models.



EXCELLENT SERVICEABILITY

Special attention has been paid for ease and convenience of daily maintenance. Thanks to the spacious structure of the Kesla heads, for example lubrication and change of hoses are easy to do.

Kesla harvesters have been designed to withstand extreme conditions. The market's best materials and components, combined with high quality and superior design, ensure the harvesters' reliability and ease of servicing.
The standard equipment of Kesla harvesters have been carefully thought out. For example the proportional feed control that is already standard in all RH and RHS models makes the delimbing efficient and fluent, and feeding stops precisely to the desired cutting length. The ProCon and HydCon features, as well as a broad range of other additional accessories, can be added to further enhance the harvesters' efficiency and suitability to the customer's needs and working conditions.
The range of accessories also includes a comprehensive range of rotators as well as feed rollers designed for different conditions.



Topping saw

For 20, 25, 28 and 30RH/RHS models.

Excellent measuring accuracy

Diameter measuring carried out with front knives is accurate in all working conditions. Sensors of the system are well protected against twigs, snow, ice etc.

EUCAPRO

The EucaPro has been developed specifically for the efficient cutting and debarking of eucalyptus trees. The accessory package includes feeding rollers and delimbing knives specifically designed for eucalyptus tree, as well as special software for measuring computer. For 25, 28 and 30 RH/RHS models.

Multi-stem processing

Effective multi-stem functions carried out with intelligent control logics, without expensive and heavy hardware.

Color marking device

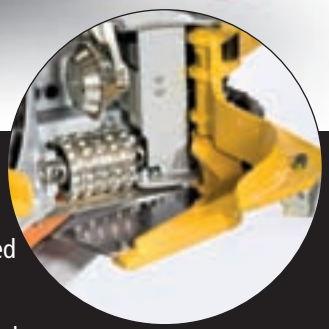
RH and RHS models.

KESLA ProLX

The most ingenious double cutting system at the market combines maintenance-free cutting knife for small trees and unbeatable performance of chain saw for larger trees. For 16, 20 and 25 RH/RHS models.

Stump treatment device

RH and RHS models.



EQUIPPED TO MEET THE CUSTOMER'S NEEDS

The Kesla heads are always equipped according to the needs of customer. With the wide range of optional equipment and accessories there is always a Kesla head that perfectly fits to you.

WIDE RANGE OF CONTROL- AND MEASURING SYSTEMS

The Kesla harvester heads are compatible with the common control- and measuring systems at the market.

Kesla 16RH is the market's lightest professional harvester head equipped with four delimbing knives and multi-stem functions. It's specially designed for integrated harvesting of timber and biomass. Professional multi-stem functions and the unique ProAX-cutting systems are unequalled features in this size- and weight class. The 16RH and 16RHS are real powerhouses for thinning, suited to 6-10 tons wheeled harvesters and tractors.

TECHNICAL SPEC.	16RH	16RHS
Width, head open:	1 040 mm 41"	1 040 mm 41"
Width, head closed:		
Length:	1 110 mm 44 ½"	1 110 mm 44 ½"
Height (without rotator):	1 100 mm 43"	1 100 mm 43"
Weight (without rotator):	430 kg 950 lbs	430 kg 950 lbs
Chain saw		
Max cutting diameter:	450 mm 18"	450 mm 18"
Guide bar length:	18"	18"
Saw motor displacement:	10 cc	10 cc
Feeding (2 rollers)		
Max. opening of rollers:	420 mm 44 ½"	420 mm 44 ½"
Feed force:	16 kN 3,600 lbs	13 kN 2,920 lbs
Max. feed speed:	4.0 m/s 13 ft/s	4.0 m/s 13 ft/s
Delimbing		
Knives:	4 moving, 1 fixed	4 moving, 1 fixed
Diameter tip-to-tip:	330 mm 13"	330 mm 13"
Front knives max. opening:	480 mm 19"	480 mm 19"
Rear knives max. opening:	500 mm 20"	500 mm 20"
Hydraulic requirements		
Operating pressure:	230-250 bar 3.335 – 3.625 PSI	230-250 bar 3.335 – 3.625 PSI
Flow required:	150-170 l/min 40 – 45 gpm(US)	120-150 l/min 32 – 40 gpm(US)
Power required:	65-80 kW 87 – 107 hp	50-65 kW 67 – 87 hp
Crane recommendation:	Kesla 671H parallel crane	

The values provided by the manufacturer are indicative. Kesla reserves the right to make changes. The harvesters shown may have additional accessories.

The Kesla 18RH and 18RHS are genuine powerhouses when it come to thinning. The feeding and sawing forces are exceptionally high compared to the head's weight. 18RH and 18RHS are at their best in thinning where the trees' average diameter is less than 25 cm. The head's maximum opening is 40 cm. The head's compact construction also enables it to process crooked stems effectively. Additional accessories include the HydCon measuring roller, color marking device, automatic chain tightener and stump treatment device. The Kesla 18RH and 18RHS are best suited to 7-10 ton wheeled harvesters.

TECHNICAL SPEC.	18RH	18RHS
Width, head open:	1 130 mm 44 1/2"	
Width, head closed:	870 mm 34 1/4"	
Length:	1 140 mm 45"	
Height (without rotator):	1 100 mm 43 1/4"	
Weight (without rotator):	450 kg 992 lbs	445kg 980 lbs
Chain saw		
Max cutting diameter:	450 mm 18"	450 mm 18"
Guide bar length:	18"	18"
Saw motor displacement:	19 cc	10 cc
Feeding (2 rollers)		
Max. opening of rollers:	400 mm 16"	400 mm 16"
Feed force:	19 kN 4,270 lbf	15,1 kN 4,270 lbf
Max. feed speed:	5 m/s 16 1/2 ft/s	5 m/s 16 1/2 ft/s
Delimbing		
Knives:	2 moving, 1 fixed	2 moving, 1 fixed
Diameter tip-to-tip:	330 mm 13"	330 mm 13"
Front knives max. opening:	480 mm 19"	480 mm 19"
Rear knives max. opening:	-	-
Hydraulic requirements		
Operating pressure:	210-240 bar 3,045-3,480 PSI	210-240 bar 3,045-3,480 PSI
Flow required:	170-200 l/min 45-53 gpm (US)	125-150 l/min 33-40 gpm (US)
Power required:	60-80 kW 80-107 hp	48-60 kW 65-80 hp
Crane recommendation:	Kesla 671H parallel crane	

The values provided by the manufacturer are indicative. Kesla reserves the right to make changes. The harvesters shown may have additional accessories.

The Kesla 20RH and 20RHS are fast and agile heads for thinning and final fellings where the trees' average diameter is less than 30 cm. The head's maximum opening is 45 cm. Considering their size class, these lightweight yet sturdily constructed harvesters provide exceptionally powerful feeding and sawing forces. Thanks to the 4 delimbing knives, the picking properties and delimbing quality are excellent. Additional accessories include the ProCon and HydCon features as well as color marking device, automatic chain tightener and stump treatment device. The Kesla 20RH and 20RHS heads can be equipped also for productive biomass harvesting with the unique Kesla ProAX-cutting system and multi-stem functions.
The Kesla 20RH and 20RHS suit 8-13 ton wheeled harvesters and excavators.

TECHNICAL SPEC.	20RH	20RHS
Width, head open:	1 150 mm 45 1/3"	
Width, head closed:	900 mm 35 1/2"	
Length:	1 275 mm 50"	
Height (without rotator):	1 220 mm 48"	
Weight (without rotator):	570 kg 1,256 lbs	
Chain saw		
Max cutting diameter:	450 mm 18"	(520 mm) (35 1/2")
Guide bar length:	18" (20")	
Saw motor displacement:	19 cc	10 cc
Feeding (2 rollers synchronized)		
Max. opening of rollers:	450 mm 18"	450 mm 18"
Feed force:	19 kN 4,270 lbf	15,1 kN 3,400 lbf
Max. feed speed:	5 m/s 16 1/2 ft/s	5 m/s 16 1/2 ft/s
Delimbing		
Knives:	4 moving, 1 fixed	4 moving, 1 fixed
Diameter tip-to-tip:	330 mm 13"	330 mm 13"
Front knives max. opening:	480 mm 9"	480 mm 19"
Rear knives max. opening:	520 mm 20"	520 mm 20"
Hydraulic requirements		
Operating pressure:	210-240 bar 3,045-3,480 PSI	210-240 bar 3,045-3,480 PSI
Flow required:	170-200 l/min 45-53 gpm (US)	135-160 l/min 36-42 gpm (US)
Power required:	60-80 kW 80-107 hp	50-65 kW 67-87 hp
Crane recommendation:	Kesla 13H and 16H-series parallel cranes	

The values provided by the manufacturer are indicative. Kesla reserves the right to make changes. The harvesters shown may have additional accessories.

OPTIONAL EQUIPMENT

X= standard equipment
O= optional equipment
- = not available

proportional feeding control
proportional clamping pressure control (KESLA ProCON)
hydraulic length measuring wheel (KESLA HydCON)
color marking equipment
stump treatment equipment
automatic chain tightener
control valve for rotator
Eucalyptus debarking equipment
KESLA ProAX-cutting system
multi-stem processing (depending on measuring system)
ProSTROKE-stroke feed system
Topping saw

The Kesla 25RH and 25RHS are truly versatile harvester heads for thinning and final felling where the trees' average diameters are less than 40 cm. The head's maximum opening is 58 cm. The excellent balance, combined with the geometry of the rollers and knives, facilitates and speeds up the picking of trees either standing or laying on the ground, either vertically or from bundles lying on the ground. The head is also well suited to the processing on landing. Additional accessories include the ProCon, HydCon and EucaPRO features as well as color marking device, automatic chain tightener as well as stump treatment device. The 25RH and 25RHS can be equipped also for productive biomass harvesting with the unique Kesla ProAX-cutting system and multi-stem functions.
Kesla 25RH and 25RHS are best suited to 12-20 ton base machines. The 25RHS has been designed especially for use with excavators.

	16RH / RHS	18RH / RHS	20RH / RHS	25 RH / RHS	28 RH / RHS	30RH / RHS	20SH	25SH
	X	X	X	X	X	X	-	-
	X	O	O	O	X	O	-	-
	-	O	O	O	O	O	-	-
	O	O	O	O	O	O	-	-
	O	O	O	O	O	O	-	-
	O	O	O	O	O	O	-	-
	O	O	O	O	O	O	O	O
	-	-	-	O	O	O	-	-
	O	-	O	O	-	-	-	-
	X	-	X	X	X	X	-	-
	-	-	-	-	-	-	X	X
	-	-	O	O	O	O	-	-

TECHNICAL SPEC.	25RH	25RHS
Width, head open:	1 350 mm 53"	1 350 mm 53"
Width, head closed:	980 mm 38 ½"	980 mm 38 ½"
Length:	1 400 mm 55"	1 400 mm 55"
Height (without rotator):	1 390 mm 54 ¾"	1 390 mm 54 ¾"
Weight (without rotator):	790 kg 1,740 lbs	790 kg 1,740 lbs
Chain saw		
Max cutting diameter:	670 mm 26 ¼"	560 mm 22" (670 mm) (26 ¼")
Guide bar length:	25"	22 (25)"
Saw motor displacement:	19 cc	19 cc
Feeding (2 rollers synchronized)		
Max. opening of rollers:	580 mm 23"	580 mm 23"
Feed force:	24 kN 5,400 lbf	20 kN 4,500 lbf
Max. feed speed:	5 m/s 16 ½ ft/s	5 m/s 16 ½ ft/s
Delimbing		
Knives:	4 moving, 1 fixed	4 moving, 1 fixed
Diameter tip-to-tip:	390 mm 15 ½"	390 mm 15 ½"
Front knives max. opening:	600 mm 23 ¾"	600 mm 23 ¾"
Rear knives max. opening:	680 mm 26 ¾"	680 mm 26 ¾"
Hydraulic requirements		
Operating pressure:	210-240 bar 3,045-3,480 PSI	210-240 bar 3,045-3,480 PSI
Flow required:	200-250 l/min 53-66 gpm (US)	170-210 l/min 45-55 gpm (US)
Power required:	75-100 kW 100-135 hp	60-85 kW 80-115 hp
Crane recommendation:	Kesla 13H and 16H-series parallel cranes	

The values provided by the manufacturer are indicative. Kesla reserves the right to make changes. The harvesters shown may have additional accessories.

28RH · 28RHS · 30RH · 30RHS

Kesla 28RH is based on experiences of 30RH, well-known as strong and reliable head for most demanding conditions. The 28RH and 30RH heads are sturdily constructed for heavy-duty final felling where trees' average diameter can be as large as 50 cm. These heads suit perfectly also to processing on landing as well as debarking of eucalyptus. The mechanically synchronized 4-motor drive of the 30RH and 30RHS provides plenty of power for processing of even the most robustly branched trees. The 2-motor driven 28RH and 28RHS are equipped with totally new hydraulic anti-slip system, providing feeding power and speed at incredible operating efficiency and fuel economy. The heads can be equipped with ProCON-hydraulics, HydCON-measuring wheel and EucaPRO-package as well as color marking, stump treatment and automatic chain tightener among others. The 30RH and 30RHS are made for 18 – 25 tons excavators, while the lighter 28RH and 28RHS fit to heavy wheeled harvesters and 17 – 22 tons excavators.

TECHNICAL SPEC.	28RH	28RHS	30RH	30RHS
Width, head open:	1 725 mm 68″		1 725 mm 68″	
Width, head closed:	1 130 mm 44½″		1 130 mm 44½″	
Length:	1 635 mm 64½″		1 635 mm 64½″	
Height (without rotator):	1 620 mm 64″		1 620 mm 64″	
Weight (without rotator):	1 280 kg 2,820 lbs		1 400 kg 3,086 lbs	
Chain saw				
Max cutting diameter:	670 (750) mm 26″ (29½″)		670 (750) mm 26″ (29½″)	
Guide bar length:	25″ (28″)		25″ (28″)	
Saw motor displacement:	19 cc		19 cc	
Feeding	(2 rollers synchronized)		(3 rollers synchronized)	
Max. opening of rollers:	700 mm 27½″		700 mm 27½″	
Feed force:	30 kN 6,750 lbf	25 kN 5,620 lbf	30 kN 6,750 lbf	27 kN 6,070 lbf
Max. feed speed:	4.0 m/s (@300 l/min) 13ft/s	4.0 m/s (@250 l/min) 13ft/s	4.0 m/s (@300 l/min) 13ft/s	4.0 m/s (@250 l/min) 13ft/s
Delimbing				
Knives:	4 moving + 1 fixed		4 moving + 1 fixed	
Diameter tip-to-tip:	480 mm 19″		480 mm 19″	
Front knives max. opening:	720 mm 28½″		720 mm 28½″	
Rear knives max. opening:	760 mm 30″		760 mm 30″	
Hydraulic requirements				
Operating pressure:	240 – 270 bar 3,480 – 3,916 PSI		240 – 270 bar 3,480 – 3,916 PSI	
Flow required:	250-300 l/min 66-80 gpm (US)	220-270 l/min 58-70 gpm (US)	250-300 l/min 66-80 gpm (US)	220-270 l/min 58-70 gpm (US)
Power required:	120-150 kW 160-200 hp	100-130 kW 135-175 hp	120-150 kW 160-200 hp	100-130 kW 135 – 175 hp

The values provided by the manufacturer are indicative. Kesla reserves the right to make changes. The harvesters shown may have additional accessories.

KESLA HARVESTER EQUIPMENT FOR EXCAVATORS

Besides its extensive harvester head range suiting almost all excavator models, Kesla also provides comperehensive installation services and extensive accessory packages. Options selected by customers may include, for example, an installation kit for hydraulics, measuring and control system, Xtender boom and a full range of safety equipment.

Supplied with the measuring system is a kit that makes its installation quick and easy; sensitive components are protected, and the finished result is stylish and user-friendly.

The Kesla Xtender boom expands the excavator's working range, improves the boom's geometry and facilitates movement in the terrain, resulting in a dramatic increase in productivity. Besides making it easy to set the transport position as well as extremely low-slung transport heights, the Xtender boom can be customized to fit almost any excavator.

The Kesla Xtender provides additional assistance in difficult terrain.

TECHNICAL SPEC.	Xtender 10		Xtender 15H		Xtender 20	
Total length (telescope in)	2 660 mm	105"	2 615 mm	103"	3 120 mm	123"
Outreach	1 300 mm	51"	1 200 – 2 650 mm	47"-104"	1 300 mm	51"
Length of telescope	-	-	1 450 mm	57"	-	-
Weight (depending on the fittings)	230 kg	507 lbs	450 kg	992 lbs	530 kg	1168 lbs
Compatible Kesla harvester heads:	18RH/S, 20SH		20 RH/S, 25RH/S, 25SH		28RH/S, 30RH/S	
Recommended weight of excavator	max 10 t	22000 lbs	10 – 16 t	22000-35000 lbs	16 – 25 t	35000-55000 lbs

Die Angaben des Herstellers sind Richtwerte. Kesla behält sich das Recht auf Änderungen vor. Die abgebildeten Harvesteraggregate können mit Extrazubehör ausgestattet sein.

KESLA ProAX

The most ingenious biomass cutting equipment for harvester heads!

- **One head for cutting of biomass and saw logs, without any compromise!**
- **The unbeatable power of chain saw when cutting large timber -The durability of knife when cutting small trees, bushes and tree tops.**
- **Cut either with saw or knife –it's always up to the operator's choice.**
- **Simple construction -Less than 25 kg extra weight.**
- **The features of the chain saw remain -No effect to the height of the stumps or cutting capacity.**
- **Max. cutting diameter of the knife 8 cm (depending of hardness of the wood etc.)**
- **Available to KESLA 16RH, 20RH and 25RH heads**

LEADING STROKE HARVESTER TECHNOLOGY

As the leader of stroke harvester market, Kesla has brought the technology of stroke heads to totally new level. The Kesla SH- stroke heads include lots of features and components previously known from the roller heads. For example the control- and measuring system are similar.

The stroke technology results in substantial delimbing force achieved with minimum hydraulic requirements. Kesla stroke harvesters particularly suit excavator bases. At their best they supply the raw delimbing power required for the harvesting of trees with robust branches; on the other hand are also able to process valuable special trees gently. Thanks to the huge delimbing power reversing feed is never needed, making actual delimbing speed unbeatable when processing robustly branched trees.

The unique ProStroke partial stroke feed facilitates the delimbing of even crooked trees.

Thanks to their excellent features for picking of trees and very wide movement angle of the tilt, the Kesla stroke harvesters excellently suit the cut-to-length harvesting of standing trees as well as the processing on landing as a part of tree length logging chain.

KESLA PROSTROKE

The Kesla 20SH stroke harvester is particularly well suited to the effective processing of robustly branched trees, either standing or in piles. Processing of valuable special trees without damaging timber surface is also easy with this harvester head. Thanks to the ProStroke partial stroke function, even the delimbing of crooked trees is efficient. The optimum diameter of trees is 25 cm. The Kesla 20SH suits 7-13 ton base machines.

The Kesla 25SH stroke harvester is at its best when processing robustly branched trees – standing or in piles – requiring substantial delimbing force. The stroke technology ensures that the tree's surface is not damaged, facilitating the gentle handling of valuable timber. The 25SH suits cut-to-length harvesting of standing trees as well as the processing on landing. The optimum tree diameter is 40 cm. The unique, combined middle feeding jaws and delimbing knives give even more force to handle heavy trees and improve delimbing quality. Thanks to the ProStroke partial stroke function, even delimbing of crooked trees is efficient.
The Kesla 25SH suits 10-15 ton base machines.

TECHNICAL SPEC.	20SH	25SH
Width, head open:	950 mm 37½"	1 030 mm 40½"
Width, head closed:	855 mm 33½"	1 015 mm 40"
Length:	1 400-2 150 mm 55-84½"	1 570-2 420 mm 62"-95"
Height (without rotator):	1 275 mm 50"	1 450 mm 57"
Weight (without rotator):	520 kg 1,150 lbs	880 kg 1,940 lbs
Chain saw		
Max cutting diameter:	450 mm 18"	670 mm 26½"
Guide bar length:	18 "	25 "
Saw motor displacement:	10 cc	19 cc
Feeding (stroke feed)		
Max. opening of rollers:	-	-
Feed force:	41 kN 9,220 lbf	65 kN 14,600 lbs
Max. feed speed:	750 mm 29½"	850 mm 33"
Delimbing		
Knives:	2 moving + fixed	2 moving + 2 combined knives/ feeding jaws + 1 fixed
Diameter tip-to-tip:	330 mm 13"	400 mm 15½"
Front knives max. opening:	480 mm 19"	600 mm 23½"
Rear knives max. opening:	520 mm 20½"	720 mm 28½"
Hydraulic requirements		
Operating pressure:	175-220 bar 2,540 – 3,190 PSI	175-220 bar 2,540 – 3,190 PSI
Flow required:	70-120 l/min 18 – 32 gpm(US)	120-180 l/min 32 – 48 gpm(US)
Crane recommendation:	20-44 kW 27-60 hp	40-75 kW 53-100 hp

The values provided by the manufacturer are indicative. Kesla reserves the right to make changes. The harvesters shown may have additional accessories.

Suomen Painotuote, Joensuu 2010




KESLA

Kesla is a dynamically evolving machine engineering group with as long as 50 years of experience as a developer and manufacturer of forest technology. Our technical know-how and continuous customer-oriented product development has enabled us to export our products to over 30 countries. Kesla controls the entire production chain by providing the best machines and equipment for wood harvesting, transport and chipping.

Manufacturered by:

KESLA
THE MULTI-TALENT IN FOREST TECHNOLOGY

Kuurnankatu 24
FI-80100 Joensuu, FINLAND
Tel. +358 20 786 2841
Fax +358 13 610 0512
www.kesla.com

Distributed by:

Sales and service: