



BK-H series  
horizontal hobbing machines

BK-H series

Our objective:  
Creating the  
economic surplus  
in your daily  
manufacturing life

precision



BK 100 H  
for small and medium workpieces  
up to 100 mm in dia.



BK 200 H  
for long and heavy workpieces  
up to 200 mm in dia., different length versions available



## The BK-H series of horizontal hobbing machines for the economic manufacturing of gears and shafts – now for workpieces up to 600 mm in diameter and module 25 .0

We craft each and every machine with a wide range of options to suit your individual needs, guaranteeing you the efficient manufacturing of top quality workpieces. This versatile horizontal series is ideally suited to hob and mill geared workpieces, especially a wide array of small, medium sized and very long and heavy geared shafts. For larger workpiece lots you can equip the BK-H with either a driven chain loader or a portal loader solution for larger and heavier workpieces.

The BK-H series features three basic machine variants which can be equipped with a wide range options to fit your specific application requirement including high-torque hob heads for larger modules and heavy-duty steady rests for very long and heavy shafts. All processes are supported by an easy and intuitive conversational software which guides the operator through the different manufacturing steps.

Of course Star-SU supplies you also with the right tool for the job, solid HSS and carbide hobs with the latest wear coatings including sharpening and recoating services.

### Your advantages at a glance

- + Full machine enclosure (BK 100-400 H)
- + Clean and protected work area
- + Hydraulic-free standard design
- + Vibration-free steel-polymer concrete structure
- + Machine extension for long workpieces (option)
- + Integral work spindle
- + Dry or wet hobbing
- + High-stock removal and chip evacuation capacity
- + Optional tool spindles
- + Precision linear roller ways and precision ball screws for spindle movements
- + Super-alloy for large bearing surfaces
- + Stainless steel roller covers for high-speed dry hobbing
- + Num, Fanuc or Siemens control



BK 400 H  
for large and heavy workpieces  
up to 400 mm in dia., different length versions available



BK 600 H  
for extra-long shafts, shown with optional enclosure  
up to 600 mm in dia. and up to 7,500 mm in length

The small footprint horizontal hobbing machine for shafts and gears, up to 127 mm in diameter and module 2.54



# BK 100 H

The BK 100 H is the smallest version of the H series machines. Its compact design leaves you with minimum space requirements to worry about. The simple construction features no hydraulics with only a limited number of wear parts.

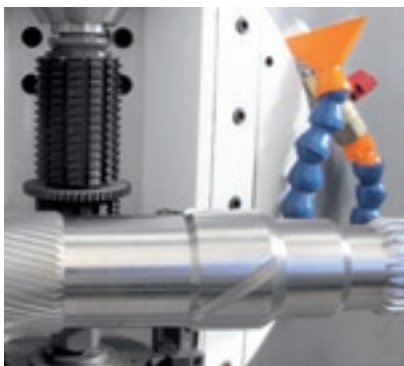
The machine cuts external spur and helical gears as well as crown gears. It is especially suited for splines and geared shafts up to 100 mm in diameter.

Especially advantageous is the possibility to mount tool combinations to cut different gearings on one workpiece or to mill coolant flutes with one tool setup and without reclamping of the workpiece. Optionally the machine can be fitted with a driven chain loader for larger lots.

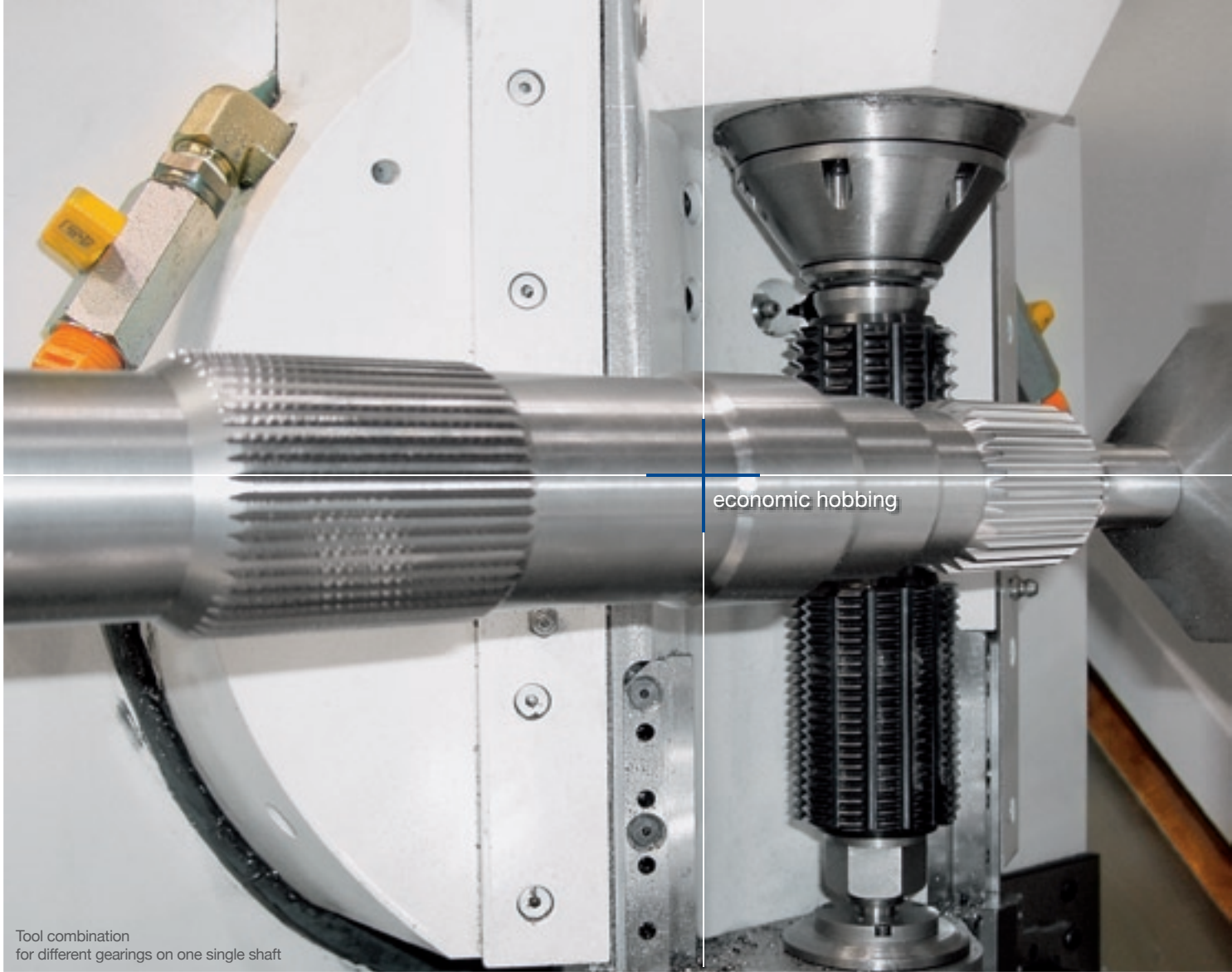
The chip conveyor is located directly under the tool spindle and chips are evacuated immediately from the machine to avoid any thermal distortions.

## at a glance

- + Flexible manufacturing of small and large lots
- + Hobbing and single-index milling
- + Ideally suited for cutting splines and shafts
- + Operator-friendly, very intuitive software interface
- + Num, Fanuc or Siemens control



Tool combinations on one tool spindle  
Vibration-free steel-polymer structure  
Optimum chip flow and evacuation

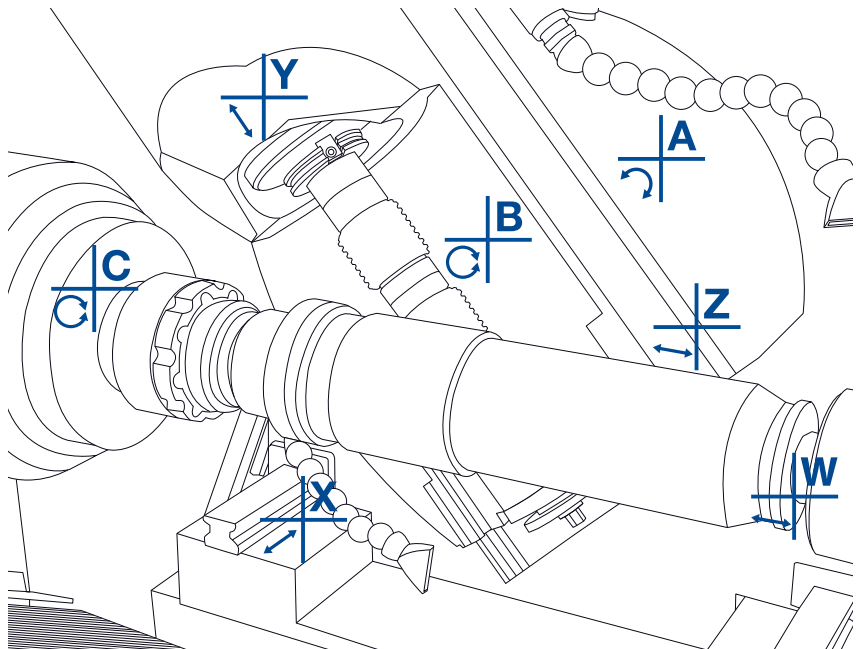


Tool combination for different gears on one single shaft

## CNC-driven precision

All machines of the BK-H series feature 6- or even 7-axes CNC control. The automated tailstock travel is optionally available for the BK 100 H and the BK 600 H and comes as a standard feature for the BK 200/400 H.

- A Tool head swivel
- B Tool spindle rotation
- C Work spindle rotation
- X Radial tool head travel
- Y Tangential tool head travel
- Z Axial tool column travel
- (W Automatic tailstock travel, opt.)



Horizontal hobbing  
of large parts with  
heavy duty tool  
spindles,  
up to 400 mm  
in diameter and  
module 6.4



# BK 200/400 H

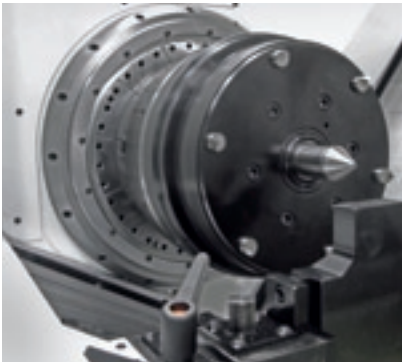
The medium-sized BK-H series comes in several versions for work piece diameters of 200 and 400 mm and an optional extension of the machine for workpieces up to 1,930 mm in length.

Its powerful, proven hob spindles and extremely stabile steel-polymer composite components make it a must for the manufacture of larger and heavier shaft parts. All spindle movements are supported by high-precision ball screws and precision

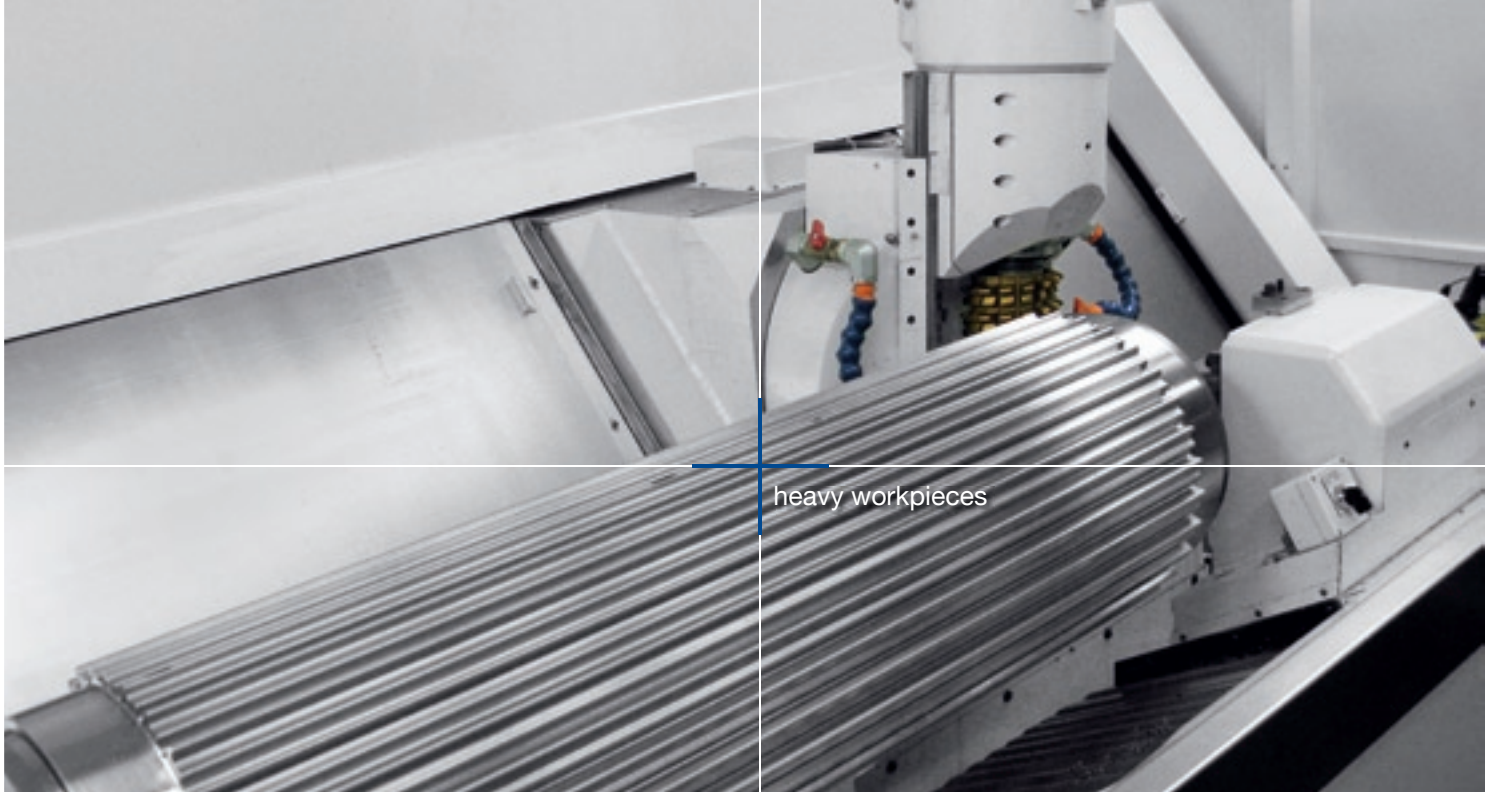
linear roller ways resulting in very fast setups and precise part machining. The BK 200/400 H can be flexibly configured for dry or wet hobbing. Its chip removal capability has been further improved in order to remove even heaviest chip loads at highest cutting rates. The innovative through-hole work spindle drive allows for the clamping of shaft parts that exceed the actual work area limitations.

## at a glance

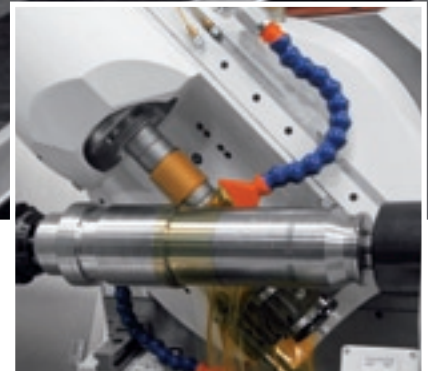
- + Special machine version for the manufacture of heavier workpieces
- + Machine length extensions available (HXL)
- + Extra powerful spindle options and optimised chip removal capacity for high-stock removal
- + Double tool setup for several gears on one shaft or rough and finish cutting on one spindle
- + Innovative through-hole work spindle drive for clamping of longer workpieces
- + Tried and tested manufacturing software
- + Integrated measuring



Innovative work spindle drive with through-hole option for the clamping of longer workpieces



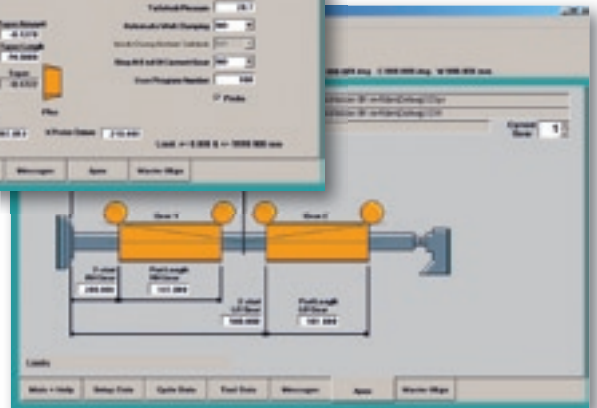
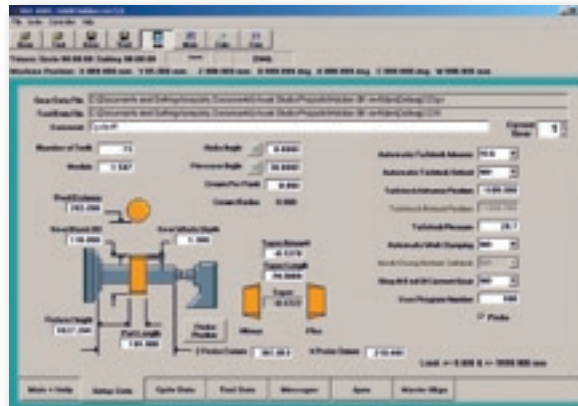
heavy workpieces



## Software for the most demanding applications made easy

With the user-friendly menu-guided HMI, users are guided through the manufacturing process via easy and intuitive entry and demonstration screens and are supported by data validation and error correction software.

Hobbing of large shaft for printing press  
 Integrated control for concentricity and referencing  
 Hobbing of construction machinery shaft  
 Hobbing of large module stepped tooth shaft



BK 200/400 H kinematics:

- A Tool head swivel
- B Tool spindle rotation
- C Work spindle rotation
- W Automatic tailstock travel, std.
- X Radial tool head travel
- Y Tangential tool head travel
- Z Axial tool column travel

Hobbing of extra long parts,  
up to 635 mm in diameter and  
module 25.0



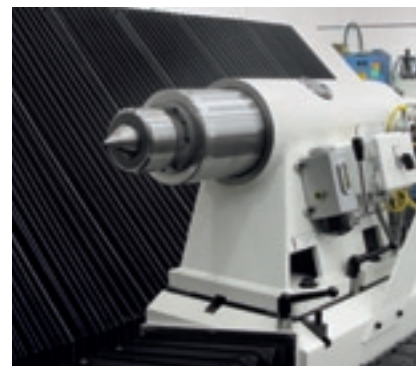
# BK 600 H

The BK 600 H with an six-axes-CNC is designed for hobbing spur and helical gears, splines, and threads on cylindrical blanks or shafts. It is practical to hob and/or mill more than one component sequentially if multiple components exist on a shaft. The very sturdy and stiff machine has been specifically designed for very long and heavy workpieces of up to 600 mm in diameter. and 7,500 mm in length. Heavy-duty workpiece

rests assure that even the longest and heaviest shafts are reliably clamped and supported. Optional high torque hob heads for up to module 17 or 25 mm are available. With a wide array of options like hydraulic clamping fixtures, a full machine enclosure and workpiece automation, the BK 600 H addresses all requirements of your large shafts production.

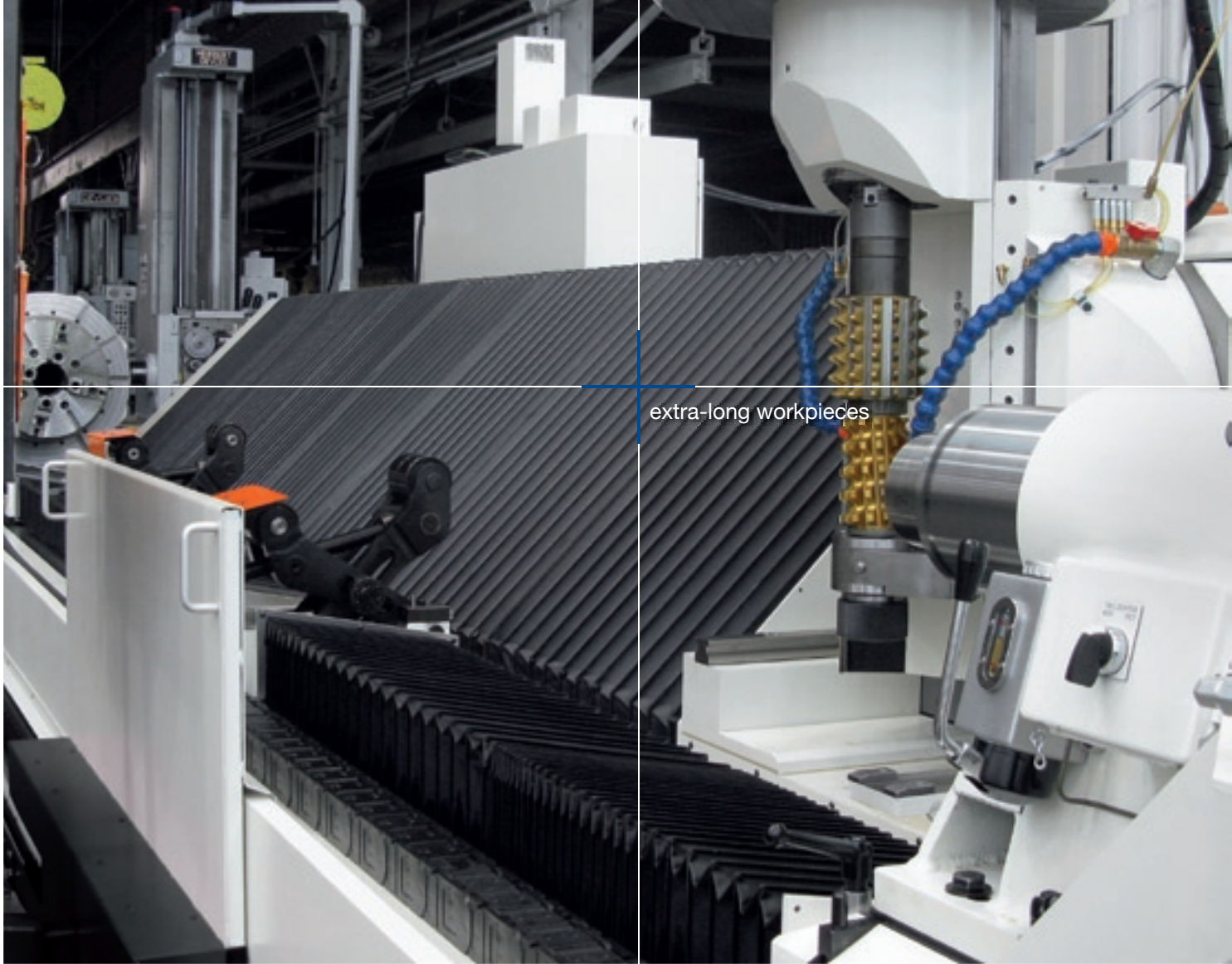
## at a glance

- + Wet or dry hobbing and single-index milling of very long and heavy shafts up to 635 mm in diameter
- + Machine capability can be extended up to module 25.0 and 7,500 mm in length
- + Heavy-duty steady rests
- + Hydraulic quick clamping



Part support options  
Adjustable scissor-type workpiece steady rests  
Hydraulic tailstock option



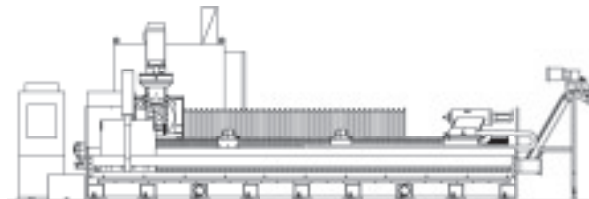
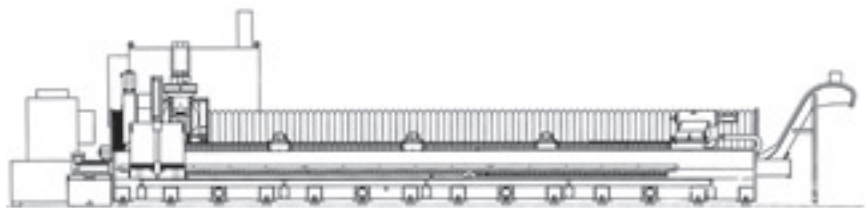


extra-long workpieces

BK 600 H extended bed equipped with standard hob head

## HXL versions

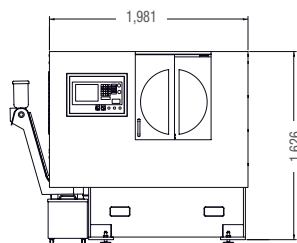
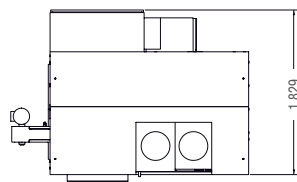
Extending your machine bed length capacity for extra long workpiece shafts.



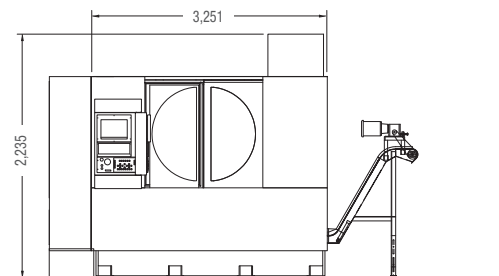
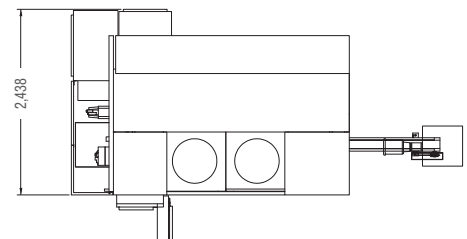
# Technical data BK-H series

		<b>BK 100 H</b>	<b>BK 200 H</b>
Workpiece diameter, max.	mm	127	203
Module, max. / optional	mm	2.54	6.4
Tool head swivel range	degree	+/- 45	+/- 45
Dist. work spindle face - tailstock centre, max. / ext. version	mm	675 / 915	1,321 / 1,930.4
Dist. work spindle face - c.l. hob spindle / ext. version	mm	76 - 457.2 / 812.8	152.4 - 132.1 / 1,930.4
Dist. c.l. work spindle / c.l. hob spindle	mm	0 - 114	12.7 - 203.2
Dist. c.l. work spindle / floor, min.	mm	955.0	1,270.0 min (w/o levelling wedges)
Axial travel, max.	mm	500 / 810	1,250 / 1,900
Tool length, max.	mm	152	215.0
Tool diameter, max.	mm	101	203.0
Tool shift tangential travel, max.	mm	152.0	200.0
Tool spindle power	kW	7.5	15
Tool spindle speed, max.	rpm	100 - 2,000	50 - 500
Work spindle speed	rpm	0 - 750	0 - 80
Machine weight / extended version	kg	3,230 / 3,735	7,250 / 9,070
Typical quality standards, double/single cut	DIN	6 / 7	6 / 7
	AGMA	10 / 9	10 / 9
Total connected load	kVA	150	150
CNC axes, standard	no.	6	7
CNC tailstock positioning and load setting	availability	optional	standard

Technical data is subject to change without prior notification. Maximum values depend on the application.



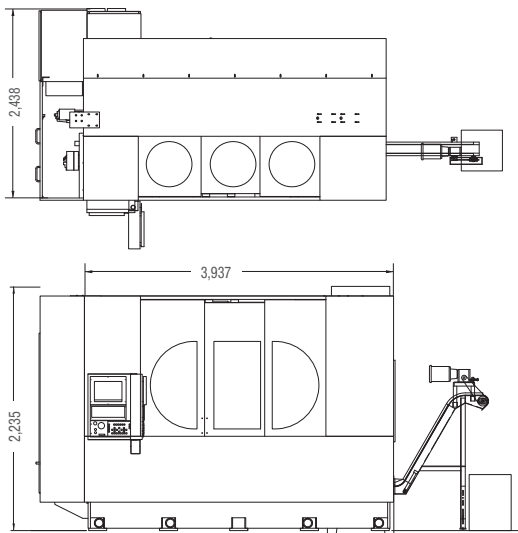
**BK 100 H**



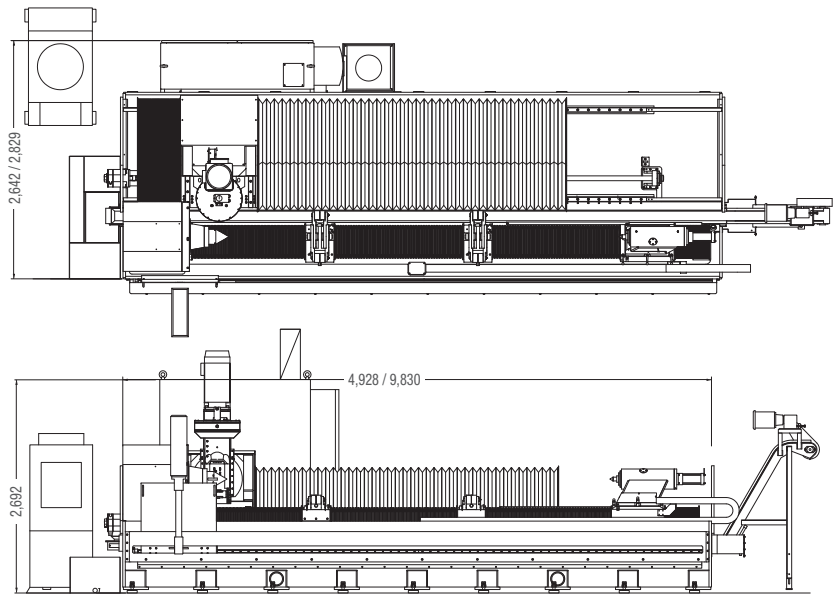
**BK 200/400 H**

BK 400 H	BK 600 H
400	635
6.4	12.0 / 17.0
+/- 45	+/- 45
1,321 / 1,932.4	2,489
152.4 - 132.1 / 1,930.4	89 - 2,489 / 7,112
12.7 - 304.8	75.0 - 381.0
1,270.0 min (w/o levelling wedges)	1143.0
1,250 / 1,900	2,540 / 3,750
215.0	250.0
203.0	200.0
200.0	250.0
15	15
20 - 375	35 - 350
0 - 80	0 - 40
7,703 / 9,515	17,272 / 33,750
6 / 7	6 / 7
10/ 9	10/ 9
100	150
7	6
standard	optional

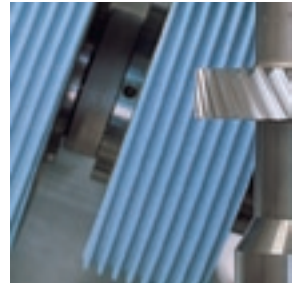
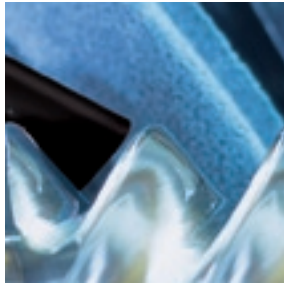
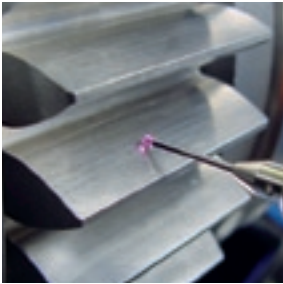
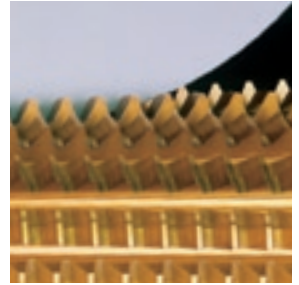
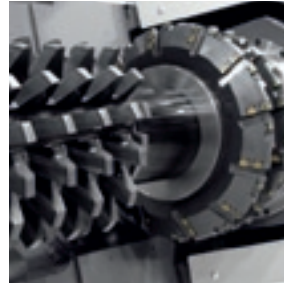
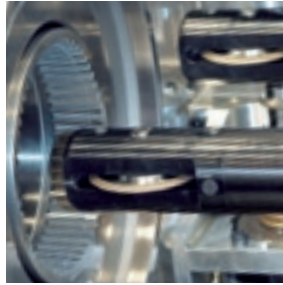
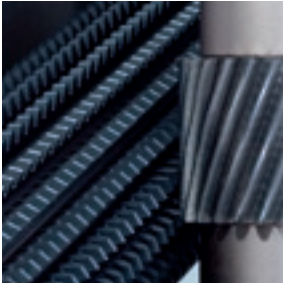
- ### Options at a glance
- + NUM, Fanuc or Siemens CNC
  - + Emergency withdraw at power loss
  - + Extended beds / travels
  - + Emergency withdrawal at power loss
  - + Different tool spindle speed ranges
  - + Automatic stock division system
  - + Quick change tool arbor clamping system
  - + Workpiece clamping assembly
  - + Automated workpiece loading / handling
  - + Workpiece steady rests
  - + Deburring attachment
  - + Interchangeable tool arbor assemblies
  - + Magnetic chip conveyor
  - + Paddle chip conveyor
  - + Special and live tailstock centers
  - + Additional enclosure lighting
  - + Electronically operated operator doors
  - + Smoke and mist collector
  - + Machine leveling wedges
  - + Replacement parts kit
  - + Customer part runoff
  - + Application training



BK 200/400 H ext.



BK 600 H / ext.



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