



OFA, OHA



GEAR CUTTING MACHINES

SLOVÁCKÉ STROJÍRNY, a.s.





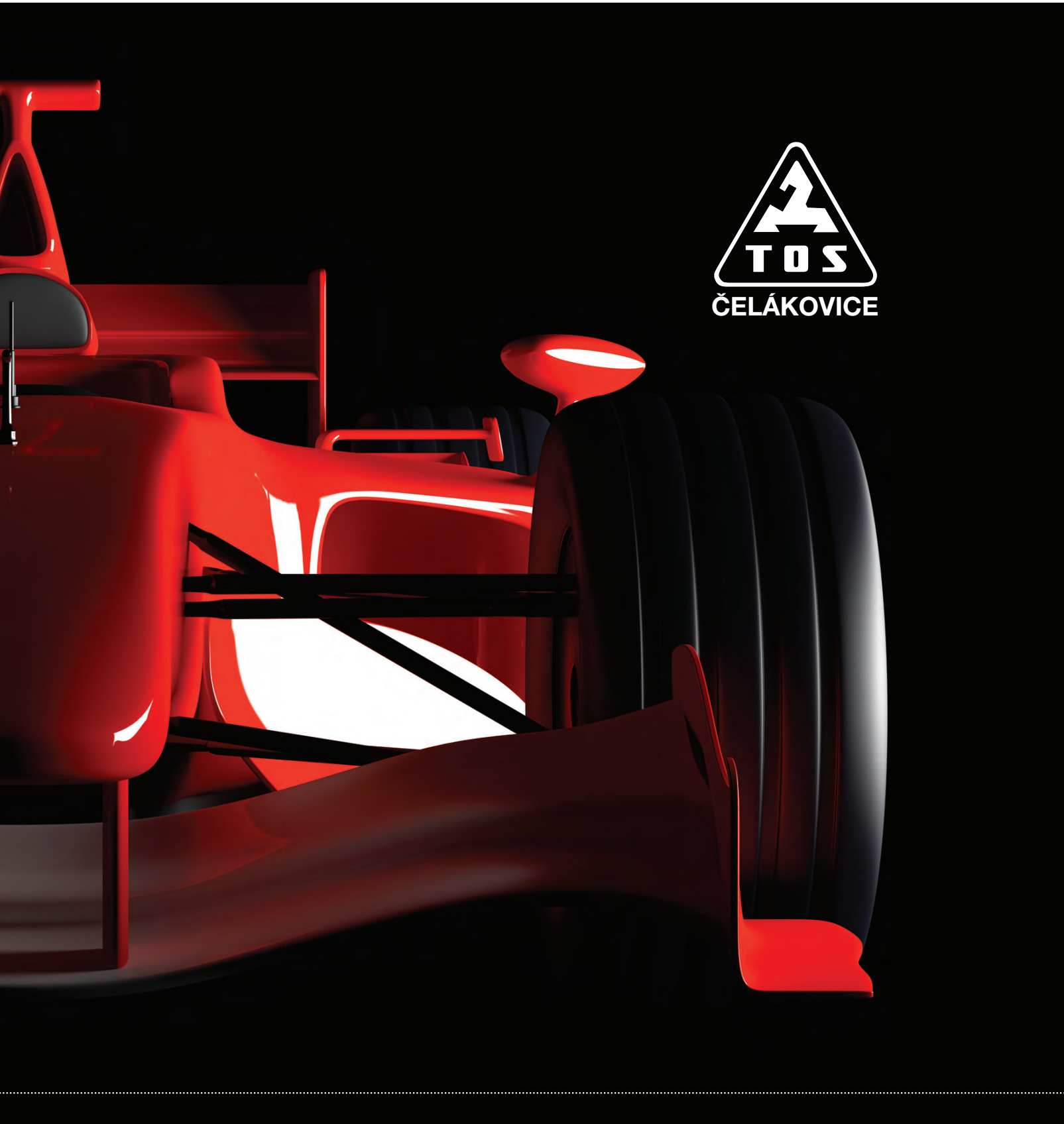
**GEAR CUTTING MACHINES
TOS FOR YOUR PROFIT**

GEAR HOBGING MACHINES

**OFA 32 CNC6, OFA 75 CNC6,
OFA 100 CNC6**

GEAR SHAPING MACHINE

OHA 50 CNC5



ČELÁKOVICE

GEAR HOBBLING MACHINES OFA 32 CNC 6, OFA 75CNC 6, OFA 100 CNC 6

The OFA CNC 6 vertical gear hobbling machine is designed to cut spur gears or helical gears, sprocket wheels, worm gears hobbled by the radial or tangential method, gears with longitudinal modification, spline shafts and other types of gearing generated by the hobbing process. The modern design with backlash elimination of hob carriage and table offers hobbing of hardened gears and high speed milling of non-hardened gears with carbide tipped tools. The machine is suitable for mass production as well as piece production. The operation, setting and maintenance of the machine are performed simply, swiftly and with ease. The automatic work cycle of the machine along with possible application of a work-piece magazine enables to operate several machines by one operator. In its basic version the machine is equipped with the SIEMENS Sinumeric 840D sl control system and drives. There are six controlled machine axes.



STANDARD ACCESSORIES:

- Cooling system
- Magnetic chip conveyor with chip container
- Cutter arbor dia. 40 mm (1 ½") with hydraulic nut SCHREM
- Work mandrel ø 40 mm (1 ½") (OFA 32 CNC6)
- Cutter arbor Ø50 (OFA 100 CNC6) with stand
- Work mandrel Ø50 with stand(OFA 75 and100 CNC6)
- Work setting pin
- Coolant splash guards
- Spot light
- Set of wrenches and tools
- Operating instruction

OTHER MACHINE EXECUTION

- Machine with increased table speeds 225 min-1 (OFA 32 CNC6)
- Machine with increased tool speeds 900 min-1 (OFA 32 CNC6)
- Inch execution
- Painting in other colored shade
- Automatic work piece change with circular magazine IOPF 25 (OFA 32 CNC6)
- Other version of automation and robotics
- HSK shafts
- Version for other execution of voltage than 400 V 50 Hz

OPTIONAL ACCESSORIES

- Cutter arbors
- Hydraulic clamping cylinder
- Additional chip container
- Clamping attachment to clamping cylinder
- Oil mist exhaust
- Top cover to connect oil mist exhaust
- Oil mix exhaust
- Anchoring material
- Set of spare parts
- plate under supporting column
- Light packaging
- Overseas packaging
- Clamping steadies of work piece (OFA 75 and OFA 100 CNC 6 only)
- Working cycle for hobbing with dividing method.
- Working cycle for worm gear with tangential method
- Working cycle for skiving
- Hand operator panel Table plug

H I G H P R O D U C T I V I T Y



EASY OPERATION
GEAR HOBGING MACHINES

OFA

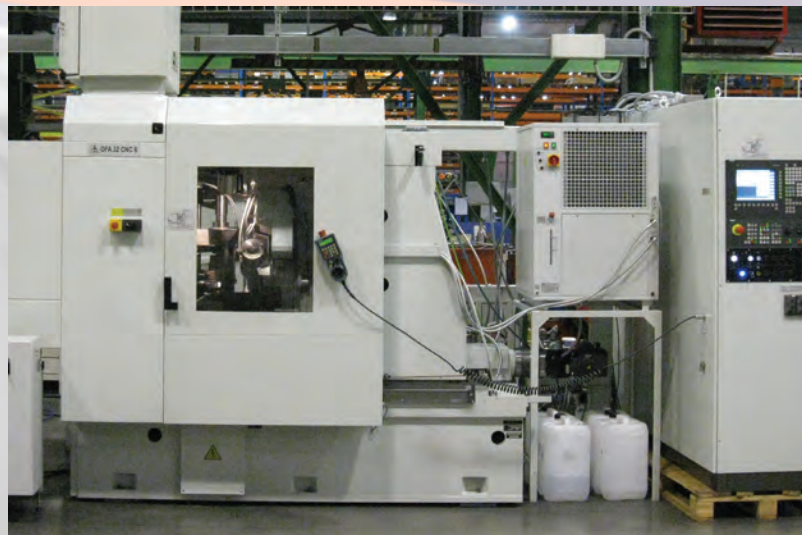




OFA		OFA 32 CNC 6	OFA 75 CNC 6	OFA 100 CNC 6
Working capacity				
Max. module to be geared	mm	7	12 (14*)	14 (16*)
Max. dia to be geared	mm	320	750 (900*)	1 050(1120**)
Min. number of teeth to be geared		3	3	3
Max. helix angle of teeth	°	±45	±45	±45
Max/min distance hob axis :				
Table axis	mm	300/40	580/60	625/80
Surface of table	mm	505/205	850/220	850/220
Clamping table				
Diameter	mm	300	680	890
Bore	mm	80	150	180
Hob carriage				
Taper in spindle		MORSE 5	MORSE 5	MORSE 5
Max. carriage travel	mm	300	630	630
Hob tangential adjustment	mm	158	250	250
Max. dia of hob	mm	160	190	190
Max. length of hob	mm	220	300	300
Range of hob speeds	1x min ⁻¹	71 - 700	25 - 450	25 - 450
Main motor output	kW	12	28	28
Working feed axial	mm.min ⁻¹	1 - 1 000	0,01 - 340	0,01 - 340
radial	mm.min ⁻¹	0,5 - 1 000	0,01 - 170	0,01 - 170
tangential	mm.min ⁻¹	0,25 - 1 000	0,1 - 170	0,1 - 170
Rapid traverse axial	mm.min ⁻¹	2 000	2 500	2 500
radial	mm.min ⁻¹	3 000	3 000	3 000
tangential	mm.min ⁻¹	2 000	3 000	3 000
Machine				
Total input required	kVA	45	70	70
Dimensions: length	mm	4 213	4 050	4 500
width	mm	3 150	3 530	3 530
height	mm	2 800	3 100	3 100
Weight	kg	8 000	13 500	14 000

** for steel up to 600Mpa

** without support with supporting column



TRADITION

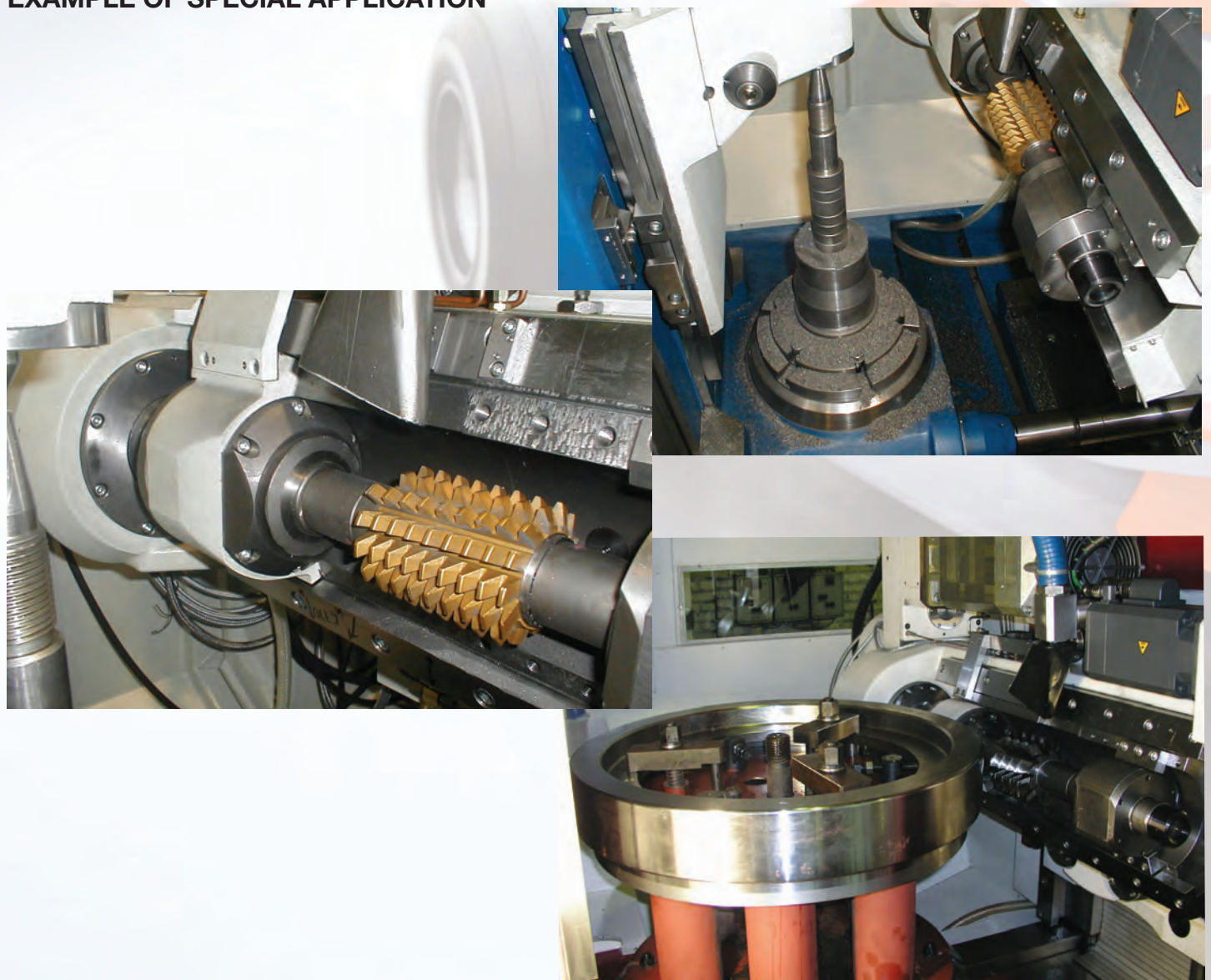
EASY OPERATION

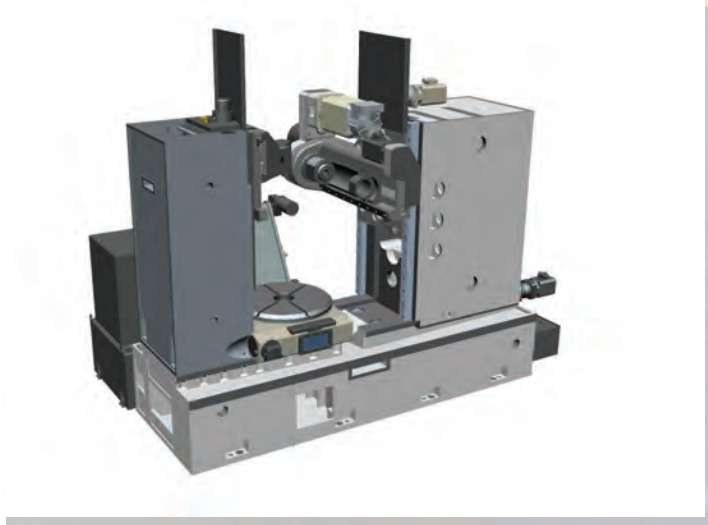
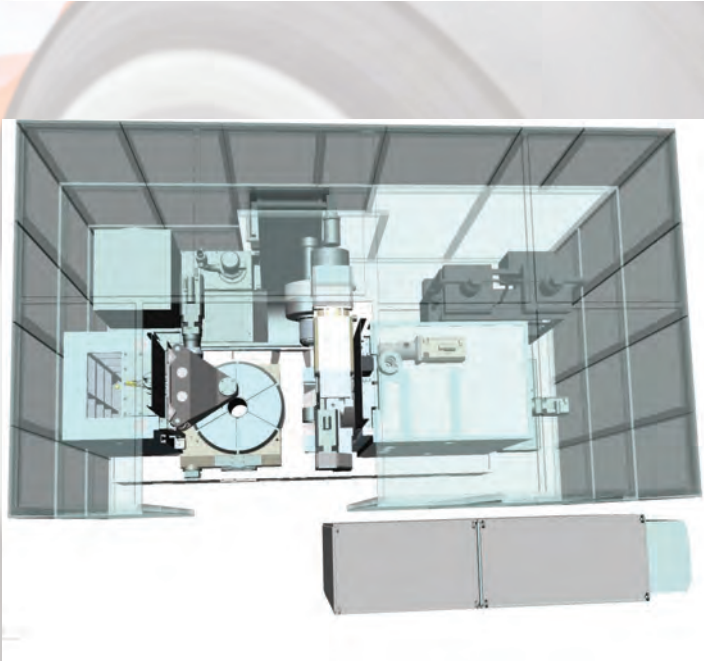
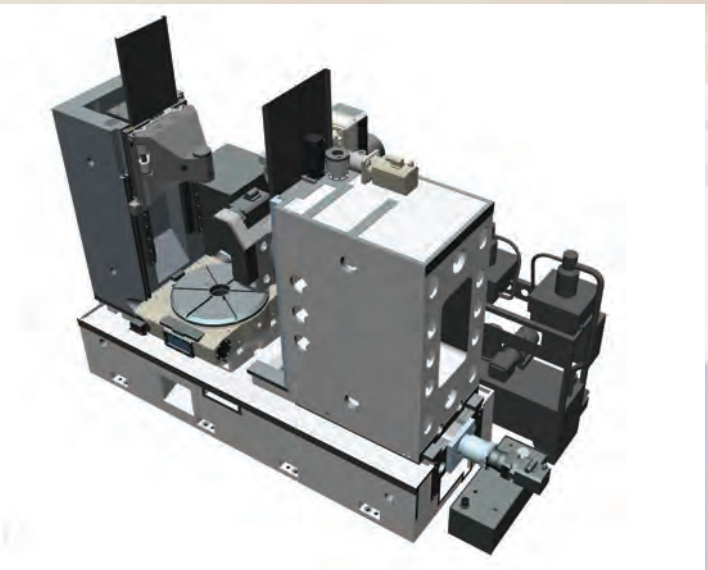
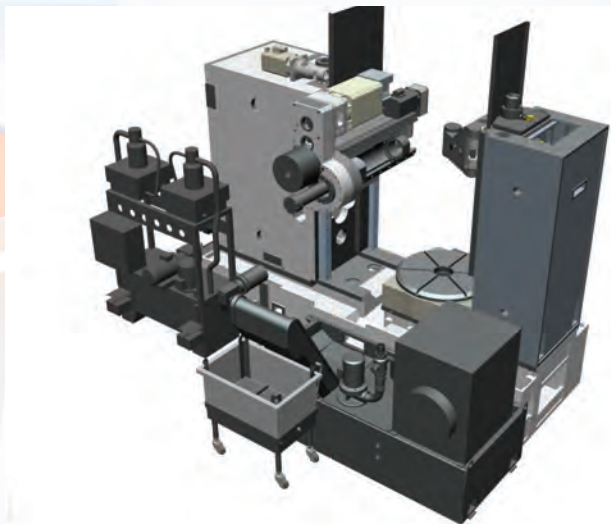
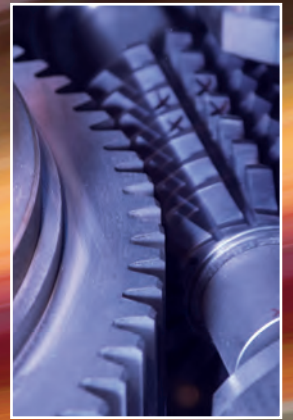
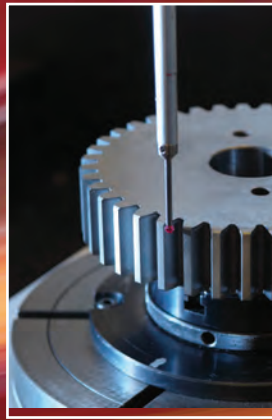
GEAR HOBBLING MACHINES

YOUR TECHNOLOGY ON OUR MACHINE TOOLS TOS

EXAMPLE OF SPECIAL APPLICATION

OFA





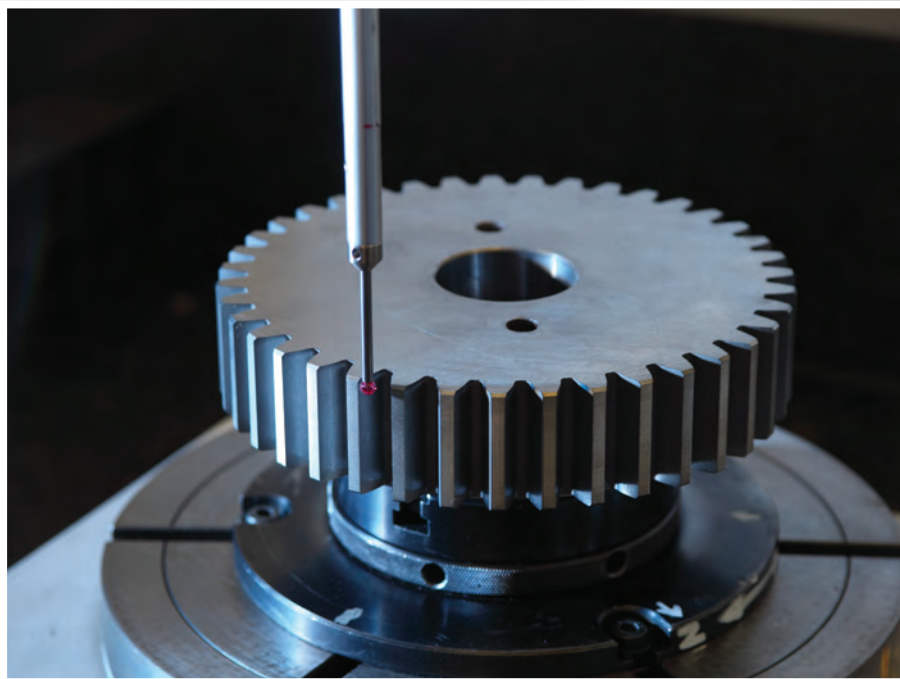
GEAR SHAPING MACHINE OHA 50 CNC 5

The vertical gear shaping machine OHA 50 CNC 5 with control system Sinumeric 840 D sl, which provides the control of 5 axes, and digital servo drives, is a highly universal machine intended for shaping of external and internal spur and helical gears.

In addition to the control of individual axes the system assures the control of all machine functions incl. the automatic working cycle and error and operational diagnostics.

The machine can shape various profiles and gear segments, and by using a special accessory also gear racks up to a length of 1 meter. For each shaping it can be selected up to 20 cuts. For each cut the optimum cutting conditions can be selected.

The great working range and applications make this machine ideal for single-piece and small-run production.



ADVANTAGE

- Hydrostatic bearing of ram spindle
- In cutting process during the return ram spindle motion the tool is retracted in radial direction or in oblique direction
- Choice of cutting Parameters for each cut
- The possibility of step swivel of tool
- Back up of working programs
- Counting of performed working cycles
- Stop of ram spindle in dead upper position
- Breaking of run-out of ram spindle
- Positioning of tool and also work piece
- Error diagnostic
- Safety guarding of machine
- Lighting of working area
- Centring of tool tooth into pre-cut work piece tooth
- Height adjustment of ram support even during the working cycle

STANDARD ACCESSORIES

- Cooling system with pump
- Magnetic chip conveyor with chip container
- Guards with manual sliding door
- Spot light workplace
- Hydrostatic straight guides
- Arbor for clamping cutter dia.5" bore dia.44.45 mm (1 3/4")
- Work table plug
- Set of wrenches and tools
- Flange for clamping mandrels work piece
- Steps
- Operating instruction (1x copy, 1x CD)
- Chip pan

OPTIONAL ACCESSORIES

- Cutter clamping arbors
- Clamping bushes for cutters with shank
- Clamping mandrels for gear blanks (with cylindrical pin)
- Gear blank clamping mandrels with expanding bushes
- Guide puller
- Dial indicator holder
- Another chip pan
- Set of spare parts
- Light packaging
- Overseas packaging
- Hydraulic clamping cylinder
- Hydraulically operated supporting column
- Rack Shaping attachment max. length 1000 mm
- Oil mist exhaust attachment

Design according to the customers requirement

- Helical guides
- Work piece clamping device (specially designed)
- Clamping bushes with taper cavity (special)
- Clamping arbors for one or more cutters acc. to clients specification

OTHER MACHINE EXECUTION

- Machine in inch system
- Power operated tool clamping
- Version with accelerated return stroke of ram spindle
- Automatic work piece change with circular magazine
- Version for infinitely corrected teething
- Version with chain conveyor
- Electrical outfit for other values than 400 V, 50 Hz voltage
- Other colour design variant

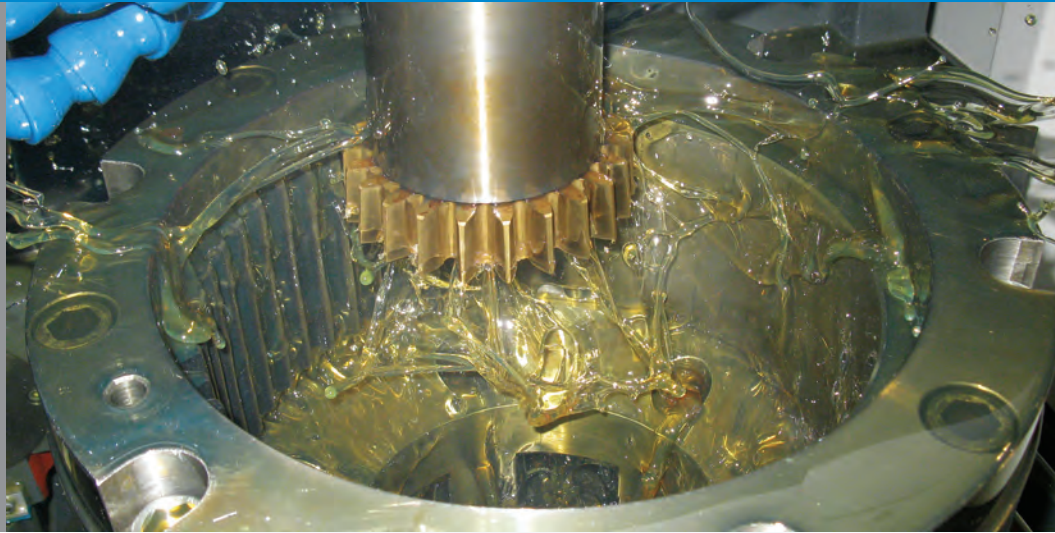
H I G H P R E C I S I O N

HIGH PRECISION

HIGH RIGIDITY
GEAR SHAPING MACHINE

OHA





OHA

OHA 50 CNC 5

Working capacity

Max. module of gearing to be shaped	mm	8
Max. diameter of gearing to be shaped	mm	500
Max. out diameter of gear	mm	800
Max. width of gearing to be shaped	mm	125

Clamping table

Diameter	mm	500
Bore	mm	205
Max. table load	kg	300

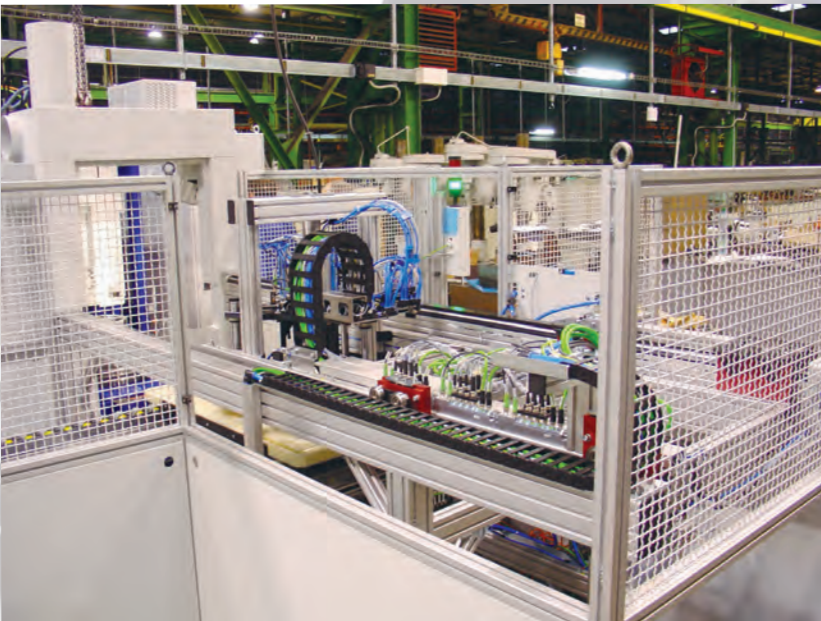
Ram slide

Vertical travel	mm	280
Max. ram stroke	mm	135
Max. distance ram axis:		
To table axis	mm	355
To the right	mm	125
Max. helix angle of teeth with nominal dia cutter	°	±41
Range of double-strokes	mm.min ⁻¹	40 - 800
Circular feeds range	mm.min ⁻¹	0 - 1 900
Radial feeds range	mm.min ⁻¹	0 - 5 000
Rapid traverse	mm.min ⁻¹	5 000
Main motor output	kW	17

Machine

Total input required	kVA	45
Dimensions :		
Length	mm	3 500
Width	mm	2 800
Height	mm	2 950
Weight	kg	7 200

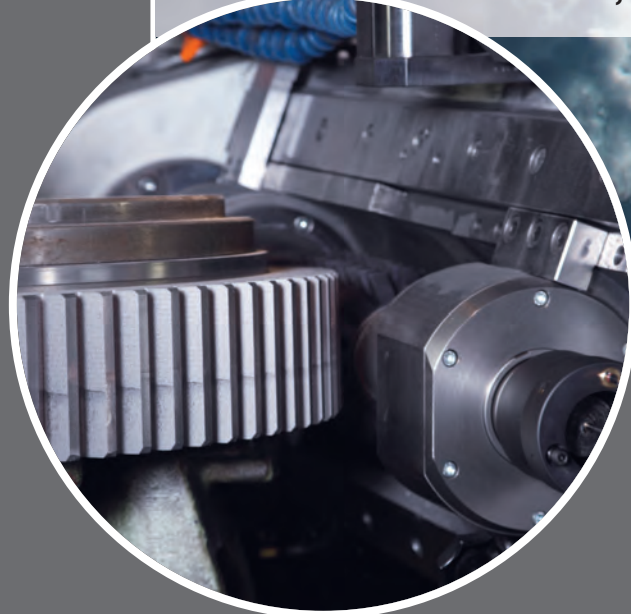
*By using of more chips is allowed bigger modul





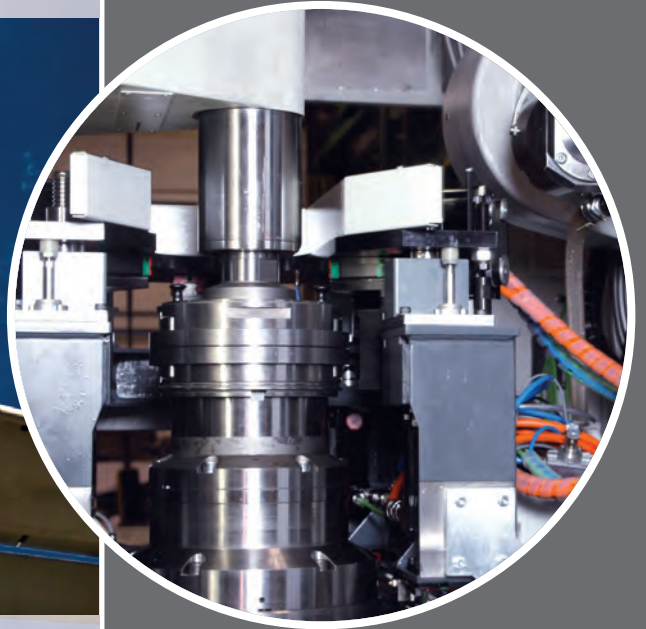
PRECISION OUT

OFA32CNC, OFA75CNC, O

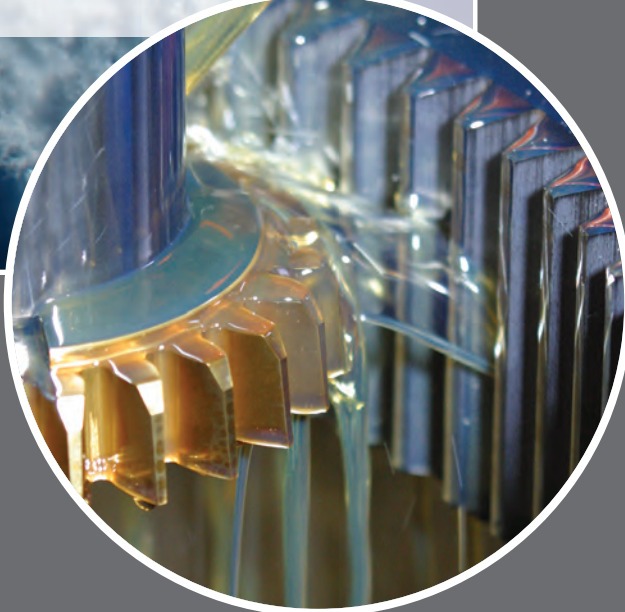




PUT RELIABILITY



FA100CNC6, OHA50CNC5





GPS: 50°9'49.66"N; 14°44'29.05"E

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