KOEPFER
160 CNC

Universal Wälzfräsmaschine

Fabrikat	KOEPFER
Modell	160 CNC
Baujahr	2013 / *NUR ca. 1.088 Einschaltstunden*
Steuerung	CNC-Steuerung BWO 900 mit 8 Achsen
Maschinennummer	160261

TECHNISCHE DATEN

Max. Modul	2,5
Max. Werkstück-Ø bei automatische Beladung	60 mm
Max. Werkstück-Ø bei manuelle Beladung bis Fräs-Ø 40 mm	140 mm
Min./Max Abstand zwischen Werkstück und Frässpindel	0 / 90 mm
Max. Fräslänge (automatische- / manuelle Beladung)	300 / ~ 400 mm
Max. Axialbewegung	200 mm
Max. Fräsdurchmesser	63 mm
Max. Fräslänge	250 mm
Max. Shiftweg	160 mm
Max. Hauptspindeldrehzahl	4.000 U/min
Max. Fräsdrehzahl	5.000 U/min
Max. Drehzahl des Frässchlittens beim Eilgang (Axial und Radial)	100 mm/sec
Max./Min. Vorschub (stufenlos)	0,1 / 5,0 mm
Max. Spindeldurchmesser (intern)	50 mm
Max./Min. Reitstockkraft	1,0 / 7,0 kN
Anschlusswert	19 kVA

AUSSTATTUNG

CNC-Steuerung BWO 900 mit 8 Achsen

Vibrationsbeständiges Maschinenbett aus harzgebundenem Epoxidmaterial

Hauptspindel mit integriertem Direktgerät

Hochgeschwindigkeitsschalt-Fräskopf

Portallader inklusive rotierender Doppelgreifer

Signal Lampe „rot“ zeigt alle Fehler an
(die Art des Fehlers wird auf dem Display des Bedienfelds deutlich angezeigt)

Zentralschmiereinrichtung

Kühlmittel-Zuführeinrichtung 250 l Inhalt, 90 l/min.

Ölfangschale

Nivelastische Elemente
(zur ordnungsgemäßen Einstellung der Maschine sowie zur Reduzierung von Vibrationen)

Hydraulikaggregat Fabrikat: REXROTH

Hydraulische und pneumatische Versorgung für Spannvorrichtungen

Komplettes Gehäuse des Arbeitsbereiches mit elektromagnetischer Verriegelung

Kaltlicht-Maschinenlampe (staub- und spritzwassergeschützt)

Kühlmittelzufuhr zur Kühlung des Werkzeugs und zur Reinigung des Arbeitsbereichs

Stundenzähler

Betriebsanleitung / Dokumentation

Maschinenparameter auf Speichermedium

HOB HEAD

1 HIGH SPEED SHIFTING HOB HEAD
The shifting movement of the hob in axial direction is CNC-controlled. The hob head is designed for the use with interchangeable high precision hob arbors with HSK connection system. (min. diameter of the hob arbor: 8 mm)

Shifting range:	160	mm
Max. hob - Ø:	63	mm
Max. hob width:	250	mm
Max. hob head swivel *:	± 50	°
Hob speed range:	500 - 5000	min^{-1}

(*for larger swivel please contact us.)
The hob head swivel is CNC- controlled, i.e. swivel, positioning and automatic locking.

WORKPIECE CLAMPING

1 BASIC EQUIPMENT FOR BORE TYPE PARTS
For actuation of drawbars for clamping gears and bore type parts by means of a retractable arbor.

ELECTRIC / ELECTRONIC

1 AUTOMATIC SWITCH- OFF FUNCTION
This item allows the machine to run without an operator. After hobbing of a predetermined quantity of parts the machine will be switched off automatically. (Main switch off)

SOFTWARE

1 OPERATING INTERFACE IN STANDARD LANGUAGE
Usually our operating interfaces are equipped either with German, English or French language.

1 KOEPFER- STANDARD- DIALOGUE 01
For user- friendly praxis orientated shop floor programming of the machine and of the automation.
Programming in metric (mm) or imperial (inch)

KOEPFER- STANDARD- DIALOGUE 01
covers the following hobbing strategies/functions:

- one gear
- single- or two- cut- strategy
- radial or axial hobbing or combination of both (longitudinal plunge hobbing)
- climb or conventional hobbing
- different feed rates at entry and exit
- crowning
- semi- automatic tool correction
- step shifting / two position shifting / pitch shifting

1 CORRECTION MENU OF THE LEAD ANGLE
The correction will be done directly in µm or $^{1}/_{10}$ mm instead of changing the hob head swivel.

1 DATA PROCESSING VIA EXTERNAL PC
Individual NC- programs can be transferred by means of the external PC and data back-ups can be generated. (PC not included.)

AUXILIARY TOOLS/ SPECIAL APPLICATIONS

1 BASIC UNIT AUXILIARY TOOL I (SINGLE)
Pneumatically actuated base for interchangeable tools such as deburring disc, steadyrest or automatic skiving sensor.

1 DEBURRING HEAD FOR AUXILIARY TOOL(S)
A spring mounted disc cuts off the burr on the face side of the workpiece. (For parts of outside- Ø up to 60 mm.)

CHIP- EVACUATION/ OIL MIST SEPARATOR

1 MAGNETIC CHIP CONVEYOR
For ferrous materials.

1 CHIP CONTAINER 125 l
Movable chip container with drain tap and bail for crane transport. Capacity approx. 125 l.

1 COOLING OIL MICROFILTER SYSTEM
In addition to the chip conveyer a self-cleaning, maintenance poor filtration system removes microchips from the cooling oil (Topmesh). The filtered oil is recirculated to the hob head.
The microchips are separated and caught externally by means of filtration baskets. Includes:

- Signal light „Change the filtration basket"
- 2 filtration baskets (one spare basket)
- Recirculation of the cooling oil

Especially recommended for hobbing of parts with small modules or for worm milling or skiving operations.

1 OIL MIST SEPARATOR (STANDARD)
To evacuate and filter the oil mist that is generated by the machining process.

AUTOMATION

1 KOEPFER-GANTRY-LOADING SYSTEM
A workpiece distributor (separator) removes blanks from the workpiece magazine and forwards them to the gantry loader. The pneumatic actuated double gripper of the gantry loader exchanges a previously finished workpiece with a blank doing a rotary movement. While the distributor deposits the finished part onto the workpiece conveyor belt, the gantry loader forwards the previously taken blank from the automation cell to the work area of the machine (free programmable NC- axis). After arrival in the work area, the double gripper exchanges the (in the meantime) finished part with a new blank.

Max. workpiece - Ø: 60 mm
Max. workpiece length: 300 mm

The above gantry loading system is part of the machines basic equipment.

1 UNIVERSAL MAGAZINE (540 x 1.200mm)
STANDARD SINGLE EXECUTION
Standard gravity fed magazine with adjustable and interchangeable steel rails, for different shaped workpieces that roll properly by gravity. The length of the magazine is 1.200 mm which determines its capacity.

1 CONVEYOR BELT (460 x 1200mm)
A ribbed, step controlled belt ensures damage-free deposit of the finished workpieces onto the conveyor belt. The step is freely programmable in accordance to the workpiece diameter.

1 VIBRATING UNIT FOR UNIVERSAL MAGAZINE
A pneumatically actuated vibrating unit supports feeding of blanks that don't roll properly by gravity. (Intensity and duration are adjustable.)

WORKPIECE DEDICATED ACCESSORIES

Basic equipment for bore and disc type parts:

1 Work spindle adapter
1 Rotating tailstock body
1 Tailstock sleeve Ø50mm for tailstock bodies

For workpiece „Sun Gear JN12.02-01" consisting of:

1 Driving flange
1 Work arbor
1 Tailstock flange

1 Price for tryout of above mentioned workpiece dedicated equipment.

Clamping between centers with face driver

Basic equipment:

1 Work spindle adapter complete
1 Spring chamber complete
1 Tailstock sleeve
1 Rotating tailstock center

For workpiece „Planetery Gear JN12.02-04" consisting of:

1 Face driver
1 Centering pin

1 Set Grippers for gear type parts and pinions
Clamping range from Ø 5 to Ø 15 mm
(For feeder and extractor)

1 Set Grippers for gear type parts and pinions
Clamping range from Ø 15 to Ø 25 mm
(For feeder and extractor)

1 Set Transfer centers for gear type parts

HIGH PRECISION HOB ARBOR ASSEMBLIES (METRIC)

1 HIGH PRECISION HOB ARBOR Ø 10 mm
For hobs without longitudinal keyway with a length of
(alternatively, width in mm): 16 - 30 / 30 - 40 / 40 - 50

1 HIGH PRECISION HOB ARBOR Ø 13 mm
For hobs with longitudinal keyway with a length of
(alternatively, width in mm): 16 - 30 / 30 - 40 / 40 - 50 / 50 - 60

MASCHINENBILDER

Vielen Dank für Ihr Interesse

Diese Unterlagen legen keinen Anspruch auf Vollständigkeit und Richtigkeit. Eigenschaftszusicherungen werden mit den hier enthaltenen Angaben ausdrücklich nicht übernommen. Es handelt sich um eine Gebrauchtmaschine.