

Bed and longitudinal slides			
Longitudinal working stroke of portal	axis X	12000	mm
Programming unit	axis X	0,001	mm
Feed force	axis X	30000	N
Feed range	axis X	1 – 20000	mm/min
Positioning accuracy (in length of 2 m in current work-space) according to ISO 230-2	axis X	20	µm
One-side repeatability of positioning (in length of 2 m in current work-space) according to ISO 230-2	axis X	10	µm
Portal			
Portal with moveable cross-rail, working stroke	axis W	2000	mm
Programming unit	axis W	0,001	mm
Feed range	axis W	1 – 4000	mm/min
Feed force	axis W	30000	N
Accuracy of positioning according to ISO 230-2	axis W	20	µm
One-side repeatability of positioning according to ISO 230-2	axis W	10	µm
Positioning accuracy (in length of 2 m in current worpcs.pace) according to ISO 230-2	axis W	20	µm
One-side repeatability of positioning (in length of 2 m in current worpcs.pace) according to ISO 230-2	axis W	10	µm
Max. distance between clamping plate and HIRTH		3390	mm
Distance between columns		4100	mm
Headstock and cross-slides			
Cross-slides, cross	axis Y	5000	mm

stroke			
Programming unit	axis Y	0,001	mm
Feed force	axis Y	30000	N
Feed range	axis Y	1 – 20000	mm/min
Positioning accuracy according to ISO 230-2 (in length of 2 m in current working space)	axis Y	20	µm
One-side repeatability of positioning according to ISO 230-2 (in length of 2 m in current working space)	axis Y	10	µm
Headstock for exchangeable milling heads, working stroke of the headstock	axis Z	1500	mm
Programming unit	axis Z	0,001	mm
Feed force	axis Z	30 000	N
Feed range	axis Z	1 – 15000	mm/min
Positioning accuracy according to ISO 230-2	axis Z	20	µm
One-side repeatability of positioning according to ISO 230-2	axis Z	10	µm
Milling heads			
Exchangeable milling head of type VK (2 axes head), ISO 50	4000 rev./min	1	pc
Exchangeable milling head of type VO (universal head), ISO 50	4000 rev./min	1	pc
Turning holder VZN1 with 2 positions for CAPTO C6	1	Pc	
Grinding head VG spec.	1	Pc	
Exchangeable milling head of type VA4 (straight head), ISO 50	4000 rev./min	1	pc
Exchangeable milling head of type VP14 (angle head), ISO 50	4000 rev./min	1	pc
Milling head exchange			

Moveable head magazine with baskets for heads VZN1, VK, VO, VG spec., VA4 and VP14	1	pcs.
Working space		
Rotary VTL table “KEP 40H/3 –size plate diameter 3000mm, loading 40 tons	1	pc
Clamping jaws	8	Pcs
Clamping plate 3000x8000x300 mm	1	Pc
Tool cooling		
Low pressure refrigerant circuit for external cooling tools - 3000 ltank, pump 10 bar, 60 l / min	1	pcs.
High pressure refrigerant circuit for internal cooling tools., pump 40 bar, 30 l / min	1	pcs.
Automatic tool exchange		
Chain type tool magazine R60 with panel HT8	1	pcs.
Standard machine accessories		
Hydraulic unit - standard execution for combined classes of environmental conditions IE 33 according to EN 60721-3-3	1	pcs.
Hydraulic components – standard execution		
Chip conveyor longitudinal	2	pcs.
Chip conveyor cross with pumping over cooling liquid	1	pcs.
Chip trolley	1	pcs.
Fixed operator space on working platform vertically adjustable, stroke 2000 mm	1	pcs.
Cooling unit for temperature stabilization of the drive spindle heads	1	pcs.
Security work zone protection and security fencing with gates with mechanical lock (wire mesh, height 2,2 and 1.4 m)	1	pcs.
Security work zone protection of VTL table with fence with polycarbonate	1	pcs.

windows (wire mesh, height 2.4 m)		
Paint in two colors in combination RAL colors 7021, 7035 and 3020		
Remote diagnostics during long life-time of the machine		
Machine accessories		
Workpiece probe RMP 60	1	pcs.
Tool probe NC4	1	pcs.
Electrical equipment		
Design electrical installations according to EN 60204-1		
Control system Siemens Sinumerik S840 D SL	1	pcs.
Portable control panel for control machines - radio hand wheel Hubitron HBG800 DP	1	pcs.
Spindle and feed drive - digital drive SINAMICS S120		
Linear incremental measuring HEIDENHAIN		
Measuring system rotary axis rotary encoders from HEIDENHAIN		