

Integrated Contouring Head Machine Tools



Double the Productivity

- Dual function live spindle and integrated contouring head optimizes cutting time and part quality
- Contouring head performs multiple operations and cuts features of varying sizes, reducing tooling needs
- Standard modular tools changeable into either head or 50 taper into live spindle
- Available on Giddings & Lewis horizontal boring mills and machining centers and Cincinnati horizontal machining centers

Dual Function Head Adds Machining Versatility

OPTIMIZED HEADSTOCK DESIGN

The new design offers both a live spindle with added Z/W-axis reach and an integrated contouring head with U-axis turning capabilities. Automatic changeover from the live spindle to the integrated contouring head optimizes spindle utilization, improves part accuracy and reduces cycle time.

- Integrated contouring head reduces tooling needs by cutting part features of varying sizes and providing turning operations such as grooving, threading, contouring, facing, backfacing and more
- Absolute positioning slide handles 50 to 540 mm diameters with single tool position
- Powered by the same spindle motor, a simple shifting mechanism changes from the live spindle to the integrated contouring head
- Slide motion of the integrated contouring head counterbalanced to reduce vibration and improve bore quality In-cycle probing increases throughput and precision



USE OF STANDARD TOOLING REDUCES COSTS

Standard Capto C8 or KM 80 tooling is interchangeable into both spindles. The Giddings & Lewis HBM and HMC live spindles also accept 50 taper tools.

- Fully automatic tool changes
- Wide range of commercially-available tool holders with taper face contact for optimal stiffness
- Auto-coupler allows use of programmable boring bars up to 50 kg (110 lb) and 750 mm (29.5 in) in live spindle; bars are tool changeable
- Integrated contouring head features substantial tool length (600 mm) and weight (18 kg) capacity
- Maximum tool moment

Capto C8 / KM	40 Nm	29.5 ft lb
50 Taper (main spindle)	110 Nm	81.1 ft lb
- Standard services such as coolant are plumbed through the contouring head to eliminate manual intervention and ensure maximum tool life
- Integrated contouring head able to use tool management and redundant tooling



Capto tooling



KM tooling



Programmable boring bar

Available on horizontal boring mills and machining centers

GIDDINGS & LEWIS HORIZONTAL BORING MILLS

The integrated contouring head is available on all types of Giddings & Lewis horizontal boring mills including plain-table, rotary-table, pallet-shuttle and floor-type. An additional weapon in the Fives Giddings & Lewis arsenal of modular design choices, the integrated contouring head adds machining flexibility to the industry leading rigidity and accuracy of Giddings & Lewis horizontal boring mills.

GIDDINGS & LEWIS HMC SERIES

The Giddings & Lewis HMC Series of horizontal machining centers and all boring mills offer features such as linear scales, high-pressure coolant and hydrostatic contouring tables as standard. The integrated contouring head is the latest addition to the choice of high-precision, high-torque and 5-axis headstocks available with this large-capacity, high-speed machining center product line.

CINCINNATI HORIZONTAL MACHINING CENTER

Cincinnati's HMC800 is built for power and speed. A high strength, single-piece, nodular cast bridge structure provides superior damping to maximize rigidity. Dual ballscrews and scales on X-, Y- and Z-axes improve accuracy and finish. Designed for cellular manufacturing applications, the Cincinnati HMC800 UW can share pallets automatically with 4-axis and tilt spindle 5-axis machines for the ultimate in flexibility.



Giddings & Lewis RT 1600 U Rotary Table Horizontal Boring Mill with Integrated Contouring Head



Giddings & Lewis HMC 1600 U Horizontal Machining Center



Cincinnati HMC800 UW Horizontal Machining Center

Technical Data

Integrated Contouring Head				Live Spindle				
		HMC	HBM			HMC	HBM	
Max dia ID	mm / in	540 / 21.3	540 / 21.3	980 / 38.6	Spindle diameter	mm / in	130 / 5.1	155 / 6.1
Max dia OD	mm / in	340 / 13.4	340 / 13.4	780 / 30.7	Travel	mm / in	800 / 31.5	1000 / 39.4
U stroke	mm / in	220 / 8.7	220 / 8.7	440 / 17.3	Max speed		4000	3500
Slide traverse	mmpm / ipm		750 / 29.7		Max tool length	mm / in		750 / 29.5
Max speed	rpm		600		Max tool weight	kg / lb		50 / 110
Max tool length	mm / in		600 / 23.6		Tool taper		Capto C8, KM 80 or CAT 50	
Max tool weight	kg / lb		18 / 39.6		Power cont.	kW / hp	30 / 40	37 / 50
Tool taper		Capto C8 or KM 80			Power S6-40%	kW / hp	45 / 60	56 / 75
Power cont.	kW / hp	30 / 40	37 / 50		Torque cont.	Nm / ft lb	1108 / 817	1475 / 1085
Power S6-40%	kW / hp	45 / 60	56 / 75		Torque S6-40%	Nm / ft lb	1662 / 1226	2200 / 1680
Torque cont.	Nm / ft lb	1980 / 1465	2300 / 1696					
Torque S6-40%	Nm / ft lb	2970 / 2198	3700 / 2738					

		Horizontal Boring Mills			Horizontal Machining Centers		
		PT 1600/1800 U	RT 1250/1600 U	MC1250/1600 U	FT 3500 U	HMC800 UW	HMC 1250/1600 UW
X axis travel	mm	3000 - 4200	2500 - 4800	2500 - 4800	4000 - 24000	1295	2100 - 3300
	in	118.1 - 165.4	98.4 - 189	98.4 - 189	157.5 - 945	51	82.7 - 130
Y axis travel	mm	2100 - 3525	2100 - 3525	2100 - 3525	2000 - 3525	1040	1500 - 2100
	in	82.7 - 138.8	82.7 - 138.8	82.7 - 138.8	78.7 - 138.8	40.9	59 - 82.7
Saddle/column travel	mm	1500 - 3500	1500 - 3500	1500 - 3500		800	800
	in	59 - 137.8	59 - 137.8	59 - 137.8		31.5	31.5
Load capacity	kg	25,000 - 40,000	15,000 - 25,000	7,000 - 25,000		2,200	5,000 - 15,000
	lb	55,100 - 88,200	33,100 - 55,100	15,400 - 55,100		4,850	11,000 - 33,100
Rapid traverse	m/min	up to 25	up to 25	up to 25	up to 30	up to 60	up to 40
	ipm	up to 985	up to 985	up to 985	up to 1180	up to 2362	up to 1575

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