

# KNEE TYPE MILLING MACHINE UNIVERSAL

## STANDARD FEATURES

- Metric or inch calibrations
- Flood coolant system
- Guideway covers (2) X-axis
- Milling safety guard
- Horizontal Arbors
- Arbor Support (2)
- Electrical 380, 415, 480V, 3 ph, 50, 60 Hz
- Controls, 24 Volts
- Power drawbar with safety interlock
- Solid state PC logic – Siemens Controls
- Piezoelectric pendant control of 3 axis
- Automatic hydraulic backlash eliminator
- Adjustable cam controls
- Hardened square ways – knee and column
- Sliding plastic coating on saddle cross and knee vertical guideways
- Feed drive shaft on end of saddle for rotary table, indexer and rack attachment
- **ApUG available (400/450)**



## Technical Specifications

TABLE	UNITS	KUM 400 x 1600	KUM 450 x 1800	KUM 500 x 1800
Working surface	mm (in)	400x1600 (15.7x62.9)	450x1800 (17.7x70.9)	500x1800 (19.7x70.9)
Number of T-slots	-	5	6	6
Width of T-slots	mm (in)	18 (11/16)	18 (11/16)	18 (11/16)
Swiveling range of table	deg.	45	45	45
Distance between T-slots	mm (in)	63 (2-1/2)	63 (2-1/2)	63 (2-1/2)
Maximum weight of workpiece including clamping device	kg (lb)	1500 (3300)	1500 (3300)	1500 (3300)
Travels				

Longitudinal	mm (in)	1120 (44.1)	1320 (52)	1330 (52.4)
Cross	mm (in)	345 (13.6)	345 (13.6)	360 (14.2)
Vertical (Standard)	mm (in)	400 (15.7)	400 (15.7)	630 (24.8)
Vertical (150)	mm (in)	550 (21.6)	550 (21.6)	-
Vertical (230)	mm (in)	630 (24.8)	630 (24.8)	-
Spindle center to table surface - maximum (Standard)	mm (in)	415 (16.3)	415 (16.3)	640 (25.19)
Spindle center to table surface - maximum (150)	mm (in)	565 (22.2)	565 (22.2)	-
Spindle center to table surface - maximum (230)	mm (in)	645 (25.4)	645 (25.4)	675 (26.6)
Spindle center to table surface - minimum	mm (in)	15 (0.59)	15 (0.59)	10 (0.4)
Spindle center to overarm support	mm (in)	160 (6.31)	160 (6.31)	150 (5.875)
Spindle				
Spindle drive	kW (HP)	11 (15)	15 (20)	15(20)
Spindle taper	ISO (NMTB)	50 (50)	50 (50)	50 (50)
Diameter of front bearing	mm (in)	110 (4-5/16)	110 (4-5/16)	110 (4-5/16)
Number of spindle speeds	-	18	18	17
Range of spindle speed	rpm	45-2240	45-2240	45-1800
Feeds				
Feed drive	kW (HP)	2.6 (3.5)	2.6 (3.5)	2.2 (3)
Number of feeds	-	18	18	18
Range, longitudinal and cross	mm/min (in/min)	16-800 (0.63-31.5)	16-800 (0.63-31.5)	16-800 (0.63-31.5)
Range vertical	mm/min (in/min)	5-250 (0.20-10)	5-250 (0.20-10)	5-250 (0.20-10)
Rapid travel longitudinal and cross	mm/min (in/min)	3150 (124)	3150 (124)	3000 (118)
Rapid travel, vertical	mm/min (in/min)	1000 (40)	1000 (40)	1000 (40)
Coolant System				
Pump drive	HP	0.1 (1/8)	0.1 (1/8)	0.1 (1/8)
Delivery rate	l/min (gal/min.)	10 (2.6)	10 (2.6)	10 (2.6)
Sump capacity	L (gal.)	45 (12)	45 (12)	45 (12)
Connected Load	KVA	14.5 (25 amps)	18.5 (31 amps)	18.5 (31 amps)
Net Weight, approx.	kG (lbs.)	3910 (8600)	4180 (9200)	4800 (10582)
Floor Space Required: W x D x H	mm (in)	3510x3530x2057 (138x139x81)	3910x3760x2130 (154x148x84)	3910x3760x2130 (154x148x84)