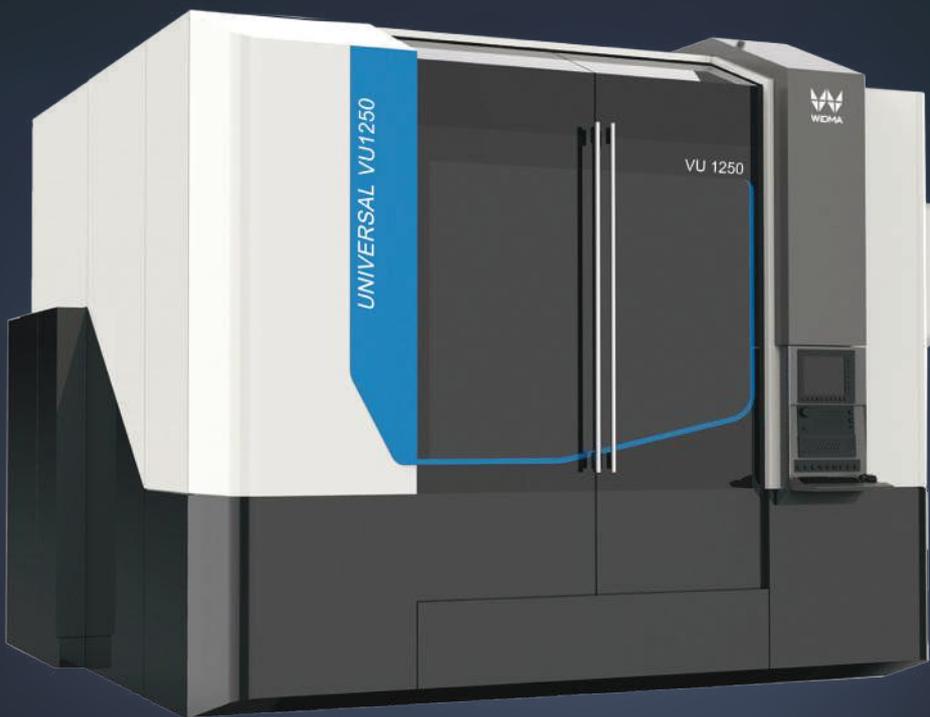


Vertical Turning Solutions



machineering[™]
tomorrow

WIDMA - machineering™ tomorrow

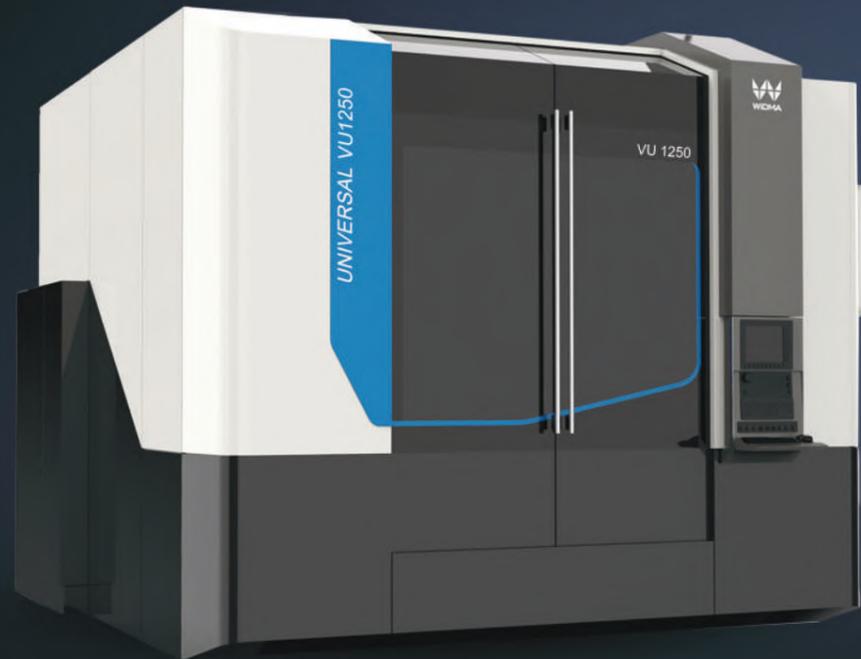
For over three decades, WIDMA has been a leading player in providing customized metal cutting CNC machines covering a wide spectrum of machining operations that demand high accuracy and productivity. Leveraging its 75,000 sq. ft state-of-the-art manufacturing unit in Bengaluru, India, WIDMA hosts in-house manufacturing and assembly capabilities for building complex machines, backed by a strong team of sales, engineering, design, manufacturing, assembly, application and service support professionals – all under one roof. Today, WIDMA has completed 4000 installations across Asia, Europe and the Americas.

Our portfolio comprises Special Purpose Machines, Vertical Turning Solutions, Special HMCs, Tool and Cutter Grinding Machines, as well as Fixture and Tooling Solutions through our portfolio.

WIDMA's Vertical Turning Lathes (VTL) are the preferred choice for many manufacturers looking for high accuracies and complex machining solutions. They are uniquely designed to maximize productivity, and combine operations in a single set-up without compromising on component quality. Our customers have benefited by upgrading from their conventional set-ups to our machines, resulting in improved accuracies and reduced cycle time, thereby enhancing productivity and quality.

Ranging from simple turning to complex 5-face machining, these machines are classified under three categories- Multi-Tasking Turn Mill Machines (VU), Vertical Turn Mill Machines (VM), and Vertical Turning Machines (VT) - from two-axes to five-axes configurations with table sizes ranging from 500 mm to 3000 mm.

Machine Configuration



VU - 5 Axes Multi-Tasking Turn Mill Machines



VM - 3 Axes Vertical Turn Mill Machine



VT - 2 Axes Vertical Turning Lathe

Components

VU - 5 Axes Multi-Tasking Turn Mill Machine



VM - 3 Axes Vertical Turn Mill Machine



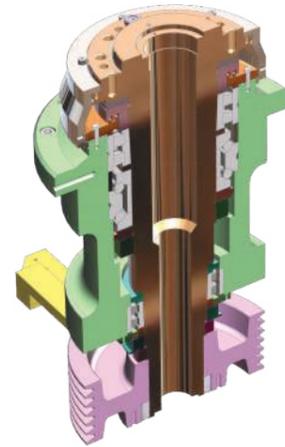
VT - 2 Axes Vertical Turning Lathe



Work Spindle : Rigidity and Precision

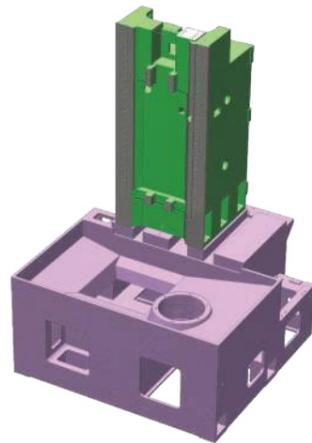
Cartridge type work spindles with super precision bearings provide excellent rigidity and accuracy for turret machines. The generous sizing of the spindle bearing offers required load ratings. The spindle is also grease packed for life, and its labyrinth packing is designed for superior protection from coolant entry. It is assembled with utmost care in a dust-free and temperature-controlled atmosphere.

For RAM machines, table type of work spindle is provided with cylindrical roller thrust bearing and taper roller bearing.



Machine Structure : Rugged Construction

All VTL structures incorporate a Finite Element Method (FEM) optimized design, along with a robust and adequately ribbed cast iron construction, which lays a solid foundation for prolonged trouble-free operation. Cast iron also provides additional benefits such as excellent structural strength, reduction of vibration and superior rigidity at extreme operating conditions. Additionally, the machine has a compact footprint and the flexibility of having the chip disposal either from the side or the rear end of the machine (850 model).



Standard Safety Features



Pressure switch for hydraulic chuck



Level switch for monitoring lubricant and coolant level in tank

Pressure switch for hydraulic counter balance



Pressure switch for monitoring compressed air supply pressure



In-built tool management program built into CNC



Interlock feature for operator and maintenance doors



B and Y Axis (VU Model) : Flexibility and Speed

In the VU model, the live spindle is equipped with additional rotational B axis (with the ability to rotate from -95 degrees to +95 degrees) and linear Y axis. These provide flexibility to perform machining operations on the components' sides, circular interpolation, helical interpolation, etc. This helps in machining all five sides of the components, thereby reducing the number of setups, while helping achieve relative geometric tolerances with high accuracy.



Live Tool Spindle (VM & VU Models only) : Optimal Power and Versatility

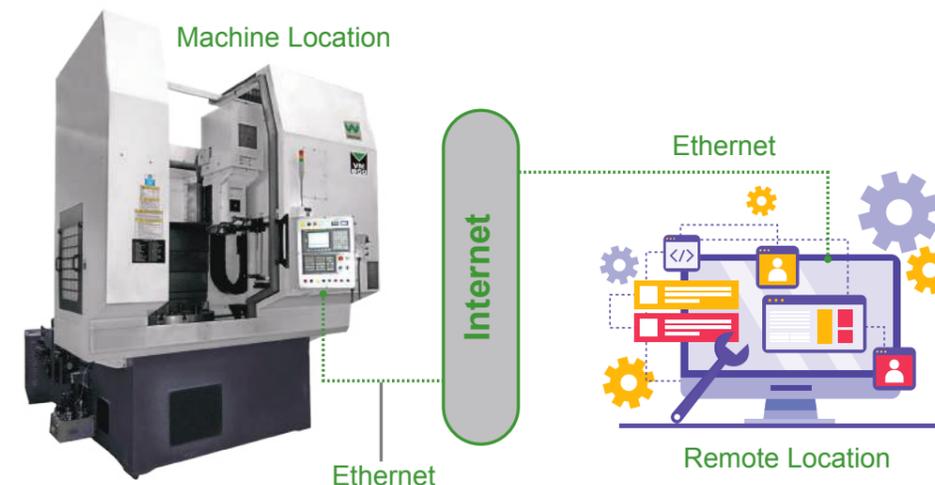
WIDMA's live tool spindle enhances the versatility for VM & VU models with BT50 adaption, providing optimal power. It is typically equipped with drum, umbrella or chain style magazine supported with Automatic Tool Changer (ATC). The high-pressure coolant through spindle and helical interpolation facility is offered as an option. The spindle also comes with a ready-to-interface angular head as an attachment.

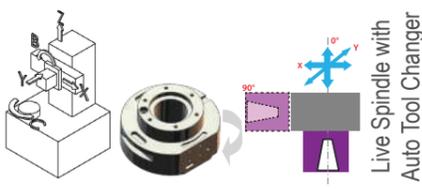
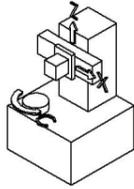
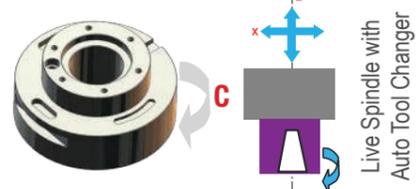
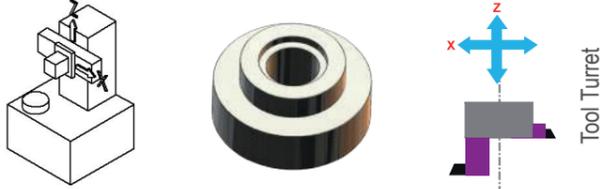


Remote Diagnostics (Optional) : Industry 4.0 compatibility

WIDMA machines provide the option of remote diagnostic capability for CNC controllers. This fast and reliable communication feature provides access to the controller data from any remote location. This feature enables access to the machine immediately after the user reports any concern. Analysis and correction of the root cause can be carried out by an expert remotely with minimum machine downtime.

Dedicated IoT edge device with supporting cloud based software is provided as an optional feature with the machine, enabling remote access of machine production reports.



Variants	Vertical 5-Axis Turn-Mill Machines 				Vertical 3-Axis Turn-Mill Machines 				Turn Mill Machines 			Vertical 2-Axis Turning Machines 								
	Unit	5 Axis Multi Tasking Machines			3 Axis Vertical				Turn Mill Machines			2 Axis Vertical Turning Machines								
Specification**		VU550	VU850	VU1250	VM550	VM850	VM1250	VM1600	VM2000	VM2500	VM3000	VT550	VT850	VT1250	VT1600	VT2000	VT2500	VT3000		
Machine Capacity																				
Maximum turning diameter	mm	550	850	1250	550	850	1250	1600	2000	2500	3000	550	850	1250	1600	2000	2500	3000		
Standard turning diameter	mm	550	850	1250	450	600						450	600							
Swing over bed	mm	700	1000	1400	650	950	1500	2000	2500	3000	3500	650	950	1500	2000	2500	3000	3500		
Maximum turning height	mm	500	800	1000	500	800	1300 [1000]*			2000 [1000]*		500	800	1300 [1000]*			2000 [1000]*			
Maximum RAM stroke	mm								1000					1000						
Maximum weight of the job inclusive of chuck	Kg	500	1500	4000	500	1500	6000	8000	10000	15000	20000	500	1500	6000	8000	10000	15000	20000		
Work spindle																				
Power (Continuous 30 min.)	kW	18.5 22	22 30	30 37	18.5 22	22 30	30 37	37	45	60 75		18.5 22	22 30	30 37	37 45		60 75			
Spindle nose					A2 #8	A2 #11						A2 #8	A2 #11							
Maximum rpm	rpm	1500	1000	350	2000	1500	350		250	150	100	2000	1500	350		250	150	100		
Live Spindle (BT50)																				
Power (Continuous 30 min.)	kW	11 / 15 22 / 25			11 15				11 / 15 22 / 25											
Maximum rpm	rpm	6000			4000				6000											
B Axis		-95 to +95 deg																		
Axis																				
Construction		LM roller guideways			LM guideways	Hardened & Ground		guideways LM roller guideways			LM guideways		Hardened & Ground guideways LM roller guideways							
RAM cross section	mm							310 Sq.					250 Sq. 310 Sq.							
Tool station																				
Type		ATC with BT50 adaptation			ATC with BT50 adaptation		Umbrella type		ATC with BT50 adaptation			Electro mechanical turret		Umbrella type ATC with BT50 adaptation						
No. of tools (Std. Optional)	No.	20 40		40 60	20 24				12 24			8 12		12 24						
Weight (approx.)	Kg	16000	20000	24000	8000	12500	24000 [22000]*	32000 [30000]*	38000 [36000]*	45000 [43000]*	50000 [45000]*	7000	10000	22000 [20000]*	30000 [28000]*	35000 [33000]*	40000 [38000]*	45000 [40000]*		

* Values within [] are for fixed cross rail machine
The above specifications may change due to design improvement and continuous upgradation



www.widma.com

WIDMA Product Range



Special Purpose Machine



Deep Hole Drilling Machine



Flexible SPM (Flex Series Machine)



Vertical Turning Lathe



CNC Tool & Cutter Grinder



Fixture & Tooling

Our Network (India):

- Gurgaon • Ludhiana • Ahmedabad • Aurangabad • Pune • Chennai • Jamshedpur • Bengaluru

WIDMA Machining Solutions Group

CIN : L27109KA1964PLC001546

Factory Address & Registered Office:

8/9th Mile, Tumkur Road,
Bengaluru 560 073 INDIA

Phone: +91 80 43281137 / 141 / 349 / 350

k-in.widma@kennametal.com

WIDMA Machining Solutions Group is part of Kennametal India Limited

This document is purely for the general information purposes only and no reliance should be placed on the accuracy of the contents herein. Kennametal India Limited (KIL) cannot be held responsible for any change in the look, feel and desired end results of the products/ machines mentioned herein as most of our solutions including the standard solutions could be altered to suit the specific needs of customers and reading such solutions as if they give standard outputs, without formally checking with our authorized sales representative, may be misleading. The information provided in this document are subject to changes, without notice, as a part of our product development philosophy. For your exacting requirements, you are requested to please contact our authorized sales representative. Kennametal takes no obligation if any part of this document is construed by the reader as futuristic or having any material bearing on the financial and/or the stock prices of KIL, whether or not, by associating the contents of this document to any incidental circumstances/happenings in the market and/or economy. KIL reserves copyrights of this document and as such, no part of it can be reproduced/circulated in any form elsewhere, in any manner whatsoever, without written authorizations sanctioned by the KIL Marketing team and can be reached at k-india-communication@kennametal.com.

© Copyrighted material. All rights reserved with Kennametal India Limited.