SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

VURCON VL-106 CNC Machining Center FANUC

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

VERTICAL MACHINING CENTRE BRAND VURCON VL series

Vurcon machining centres offer a leap in the quality of your machining performance. Efficient machines for the competitive demands of today's market.

Constructive features

A robust construction guarantees optimum rigidity and stability.
The important structural parts are made of high quality Meehanite cast iron (FC-30), hardened to over HB190 and tempered for stress relief. Super dimensioned with rigidly ribbed column, gives the machine great stability in critical moments such as accelerations, heavy roughing.....

Guiding system

The support system of orthogonal roller bearing guides gives the machine the following characteristics:

- Less friction, less heating.
- Smooth movement avoiding stick slip.
- Increased speed and acceleration.
- Higher precision and durability.
- Savings in future maintenance.
- Easier replacement of guides and slides.
- Excellent stability in hard machining conditions supporting high loads.

High precision and premium quality, class P

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

Spindles and axis motors

The spindles installed in the Vurcon machines are high precision pre-drawn, C3 quality, treated, ground and tied at both ends by means of direct transmission to the feed servomotors to avoid possible backlash and improve precision. The support bases of the spindles are machined in the foundry itself.
Double external recirculation nut system to avoid heating of the nut while maintaining the machine's level of precision.

Three axes equipped with precision ball screws class C3 and diameter 40 mm pitch 16mm

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

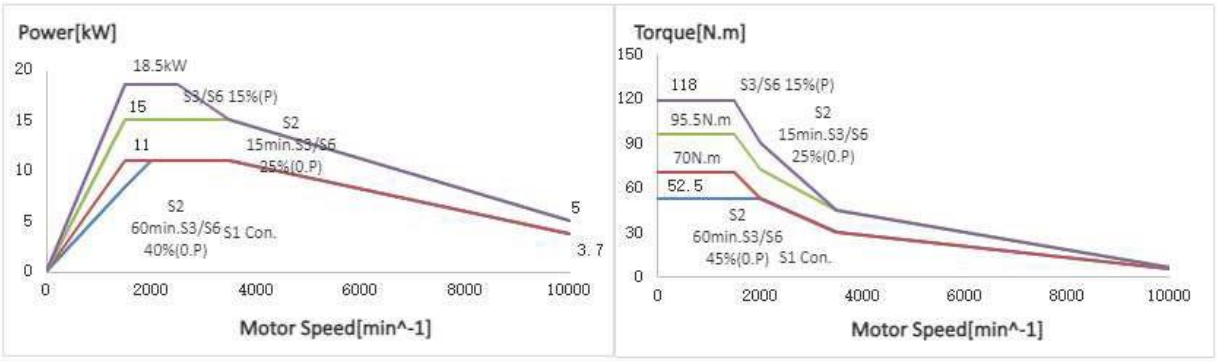
info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

Main spindle

The machine head is designed to withstand heavy machining conditions.

The machine can be equipped with different types of spindles, from 8,000 RPM spindles with BT-40 cone belts to 15,000 RPM direct drive.

High-quality machining guaranteed by incorporating high precision bearings, class P4. The tool anchoring system is floating. This ensures a good clamping of the tool to the spindle without transmitting stress to the bearings of the spindle and ensures longer life to the bearings. The spindle is cartridge type.
The oil cooling of the spindle prevents thermal expansion and guarantees machining accuracy. The Fanuc motor installed as standard motor of the main spindle is a βiI12 of 10000 rpm.



BBT 40 Cone

BIG-PLUS
SPINDLE SYSTEM PAT.
DUAL CONTACT
US Patent No. 5,352,073

The BBT40 double-contact taper main spindle interface is fitted as standard. This improves the machining performance of the machine by eliminating vibrations caused by the gap between the tool holder and the spindle nose.

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

Z-axis brake

Vurcon machining centres have no Z-axis counterbalance because the Z-axis motor is oversized to support the weight of the spindle assembly. The motor itself has a powerful electric brake.

With this system we have a faster response than the mechanical or pneumatic/ hydraulic counterweight.

Environmentally friendly, there is no oil leakage problem compared to the hydraulic system.

We improve the surface finish and the precision of the part because there is no backlash in the transmission of the Z-axis movement.

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

Oil cooler through the main spindle head

The machine is equipped with a controlled spindle oil cooling system. This allows the oil to be cooled and recirculated in a closed circuit through the machine spindle. The cooler keeps the oil temperature stable, which allows the machine to perform more demanding machining without thermal expansion.

The cooler is installed inside the fairing of the machine to minimise the space required.

Tool changer

The tool changer (ATC) can be varied according to customer requirements.
The machine is standard equipped with a Random type tool changer with a double 24-position arm.

As an option we have the possibility of incorporating a 32-tool ATC.

The changers are closed to prevent swarf from entering the changer and blocking it, and are also equipped with a brush at the tool infeed to clean it when it returns to the magazine.

Coolant system / coolant through spindle

The machining centre has two external cooling systems to the tool, one through the external flexible lances and the other located circularly on the nose of the spindle.
It also has a through-tool cooling system with a 20 Bar high pressure pump with sub-tank and built-in filters.

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

Modern and ergonomic fairing

The protections and the machine are designed so that the user has easy access to the work table and the machine itself. To this end, Vurcon has a double sliding front opening door as standard, which allows access to the full length of the table, allowing overhead loading as there is no ribbing or guide support to get in the way of overhead loads. The distance from the operator to the table is minimal to allow easy loading of workpieces. Side doors with easy access system to the machine. The CNC panel is integrated into the machine enclosure to allow programming with a view of the workpiece. The space occupied by the machine enclosure is adjusted to the size and stroke of the machine.

Chip conveyor

The machine is equipped as standard with a chain type chip extractor. The chip fall is very effective, assisted by the pressurised coolant jets at the rear and side of the machine, and the telescopic guards designed with the appropriate inclination.

Chip flushing

The machining centre is equipped with coolant outlet nozzles inside the machine that allow us to sweep the chips to the chip extractor, thus avoiding clogging inside the machine.

Greasing and lubrication

The lubrication system provides us with a precise distribution of the quantity of oil that we need in the guides as well as in the ball screws and bearings. This system is automatic and parameterised from the control.
The machine is designed and built with collection channels for the excess oil to prevent contamination of the coolant. However, an oil/coolant separator is installed in the coolant tank as standard.

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

4º/5º axis splitter (option)

Optionally, the machine can be equipped with 4th and 5th axis dividers that allow us to machine more complex parts in a single set-up. Different diameters and manufacturers of dividers can be installed on the Vurcon machine.

It is also possible to purchase the machine with the wiring and preparation for the future installation of the splitter.

Measuring and verification probes (option)

Any type of part verification and measurement probes can be installed, as well as tool setting probes, both physical and laser.

Optical scales (optional)

As an option, the machine can be supplied with optical scales, thus increasing the accuracy of the machine.

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

MANUAL GUIDE i

The Vurcon machining centre is equipped with Fanuc's MANUAL GUIDE i conversational software, this programming system helps the operator by simplifying and reducing the time and cost of preparing complex and simple programs, thanks to its direct programming system by machining cycles.

The conversational Manual Guide i system allows programming in ISO function, or by Fanuc canned cycles, as well as combining the two, which greatly facilitates operations.
The Manual Guide i screen displays programme coordinates, workpiece, consumption and axis position.
The useful cut, paste, rewind, etc. aids are standard on the Manual Guide i and allow you to cut and paste programs to create sub-programs, etc.

Standard conversational system cycles Manual Guide i:

- Stitching
- Drilling
- Tapping
- Reaming
- Boring
- drilling points various geometries
- roughing and finishing
- pockets
- block of fixed shapes, rectangle, circle, track
- block arbitrary figures, arc, straight line, chamfering, rounded corners.
- Roughing of external sides.
- Partial roughing.

It is also possible to draw parts arbitrarily for machining.

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

TECHNICAL SPECIFICATIONS

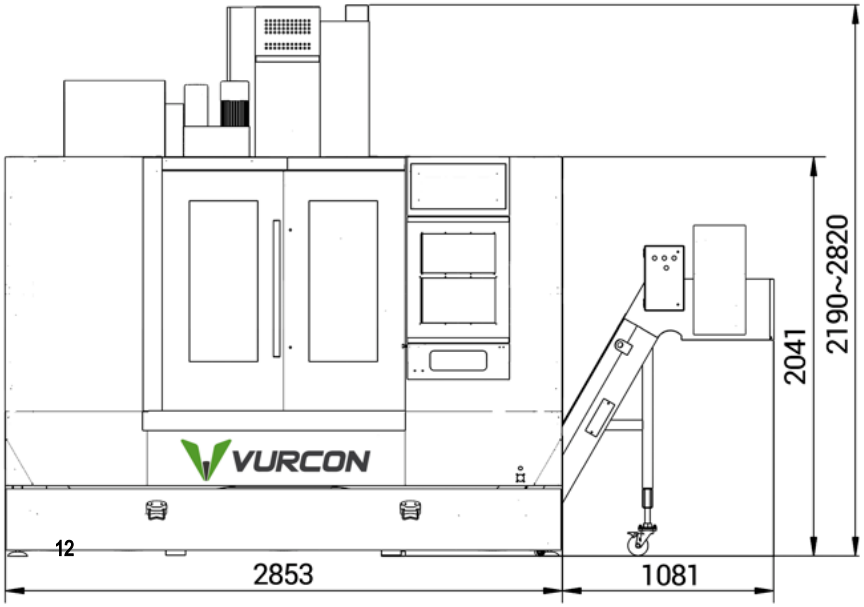
		Unit	VL106
Capacity	Worktable (Width x Height)	mm	600X1200
	Maximum Worktable Load	kg	1000
	T-slots on the table	mm	5-18 X 100
	Distance from Table to Spindle	mm	100-740
X,Y, Z Axes	Travels	mm	1000/620/630
	Rapid Feeds of the Axes	m/min	36/36/32
	Distance from Column to Spindle Center	mm	667
Spindles	Main Spindle Taper		BT40 (BBT40)
	Spindle Speed	rpm	8000 12000 10000 15000
	Type of Main Spindle Transmission		BELTS DIRECT
	Main Motor Power	k/W	11/15
Accuracy	Positioning (X,Y,Z	mm	± 0,005
	Repeatability (X,Y,Z	mm	± 0,003
Tool magazine	Number of tools		24
	Max tool diameter	mm	78/120
	Max. Tool Length	mm	300
	Max. Tool Weight	Kg	8
	Tool Change Time	s	2,5
Measurements	weight	kg	7300
	Specifications (LxWxH)	mm	2850x 2500 x2850
Power Supply	Pneumatic Consumption	Kg	6-8
	Electric Power Consumption	KVA	20
	Required Voltage		380V±10% 50Hz

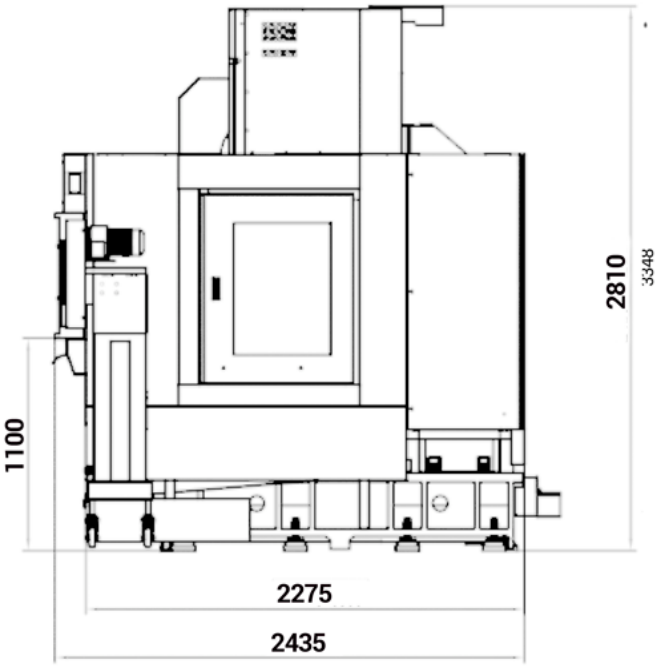
SWH GmbH
Sunter Werkzeugmaschinen Handel

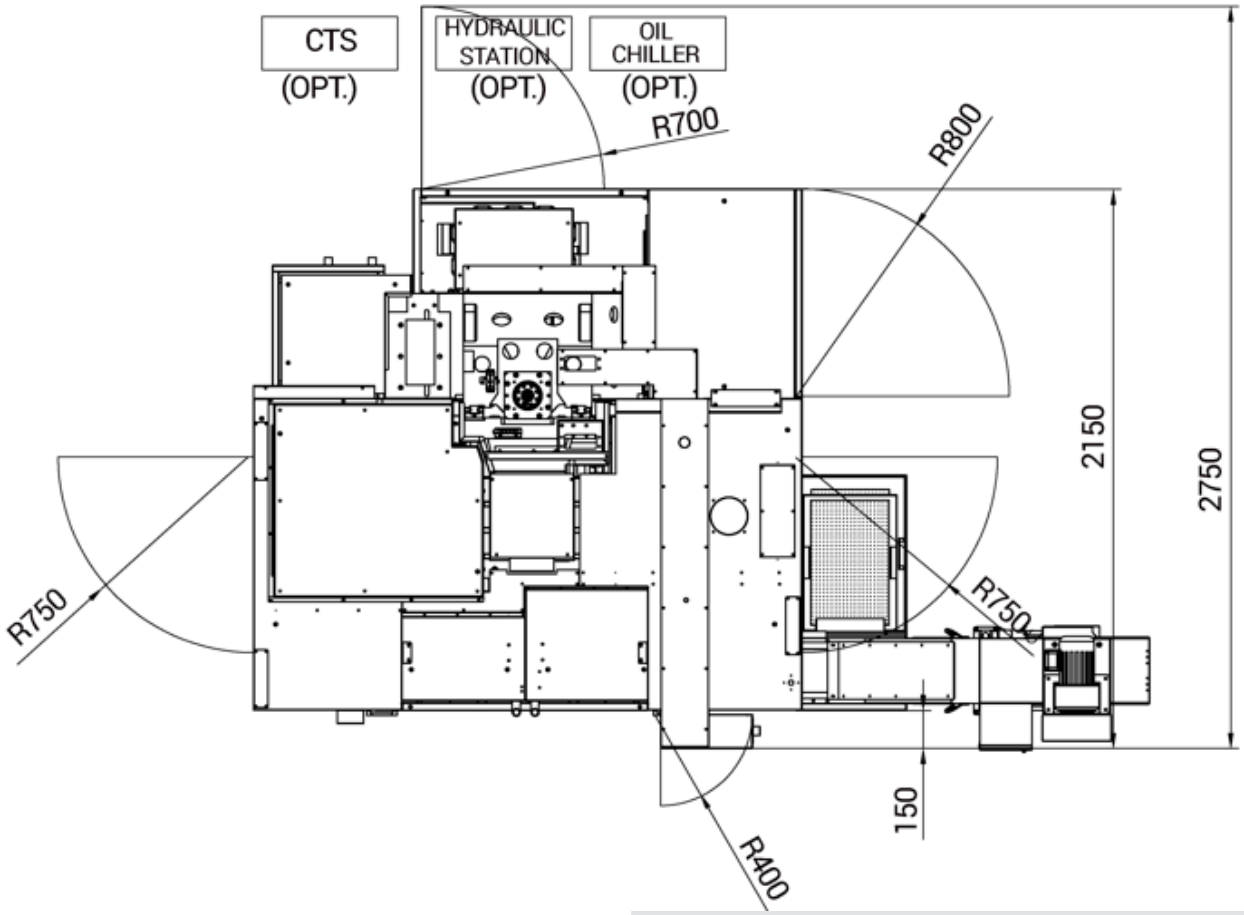
Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

LAYOUTS







SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

QUOTATION:

MACHINING CENTRE VURCON VL-106

- CN Fanuc 0i-MF PLUS (Type II)
- 15" TFT colour display
- Manual Guide i
- Rigid threading
- Communications interface: Ethernet, USB, Compacflash, RS232
- 11/15 kW main motor.
- 3kw servo axes motors.
- 10,000 RPM
- Oil cooled spindle
- Cone BBT-40
- 24-position double arm tool changer with Random changeover
- Oil/thinner separator
- Chain + trolley type chip conveyor
- Linear guides with roller slides on all three axes
- Telescopic guards on all three axes
- Automatic lubrication
- Air conditioning in the electrical panel
- Circular coolant system on main spindle plus coolant lances
- Chip sweeping by coolant flushing
- Coolant through the spindle with 20 Bar high pressure pump + Sub-tank with filters
- Working and machine status light
- Automatic switch off (M30 Off)
- Full cover
- CE mark

SWH GmbH
Sunter Werkzeugmaschinen Handel

Headquarter
Luther-Augustin-Straße 7
38820 Halberstadt

info@swh-gmbh.de
www.swh-gmbh.de
+ 49 (0) 208 / 594 07 19
+ 49 (0) 208 / 594 07 58

SUPPLY CONDITIONS

SHIPPING: FCA ELCHE .

DELIVERY TERM: Immediate delivery, unless sold

OFFER VALIDITY: 15 days.