



SVM-2VMC
Mini Industrial Machining Center
Direct Sale EX-Work Price List
2018 V1.1

SUPER PERFORMANCE

HIGH PRECISION

LOW PRICE



Quick review to help your decisions:

Table 1: Basic Configurations

| Model | Enclosure | Spindle System | Spindle Drive | Axis Drive | CNC controller |
|---|----------------|----------------|---------------|------------|----------------------------------|
| SVM-2VMC Mini VMC | Full Enclosure | BT30 +PDB | AC SERVO | AC SERVO | 5 Axis Industrial CNC Controller |
| SVM-2VMC Workstation with Linuxcnc controller is under updating. We will bring new version soon. | | | | | |

TABLE 2: Option Status & Remarks

| Model | PDB | 2 nd Spindle Kit | 4 th / 5 th Axis Kit | ATC | MPG | Remarks |
|---|-----|-----------------------------|--|-----|-----|---|
| SVM-2VMC Mini VMC | • | ✓ | ✓ | ✓ | ✓ | Professional Mini industrial level Machining Center for Micro-Manufacturing |
| ✓ optional X not optional • pre-installed | | | | | | |

TABLE 3: Option Index

[Optional Installation of SVM-2VMC series](#)

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Update Log

| Date | Contents |
|------------|--|
| 2018/01/06 | <ul style="list-style-type: none"> ● Upgraded from 4-axis controller to 5-axis / 5-align controller. ● Upgraded AC SERVO Spindle system to support rigid tapping with more accurate control. ● Enhanced spindle motor system with 30% more cutting force at lower end speed. ● Made Auto Tool Changer as standard configuration. ● 4th + 5th axis add-on is formally available. ● Enhanced axis ball screw bearings. ● Enhanced coolant system with more powerful pump. ● Other small detail upgrades. |

SVM-2VMC Mini Industrial**Start \$16800**

SVM-2VMC is a professional small industrial machining center with full AC SERVO systems for spindle and 3-axis driving. It's upgraded with 5-axis & 5-align industrial CNC controller on 2018 version.

SVM-2VMC supports 4th + 5th axis add-on and a slave 2nd high speed engraving spindle.

12-tool Auto Tool changer is a standard installation part on 2018 version.

Rigid tapping is fully supported on 2018 version.



*Some parts in the pictures are optional

KEY FEATURES:

- Compact SKYFIRECNC original design
- Super rigid/high quality **HT250** resin sand casting iron structure
- Precision **LINEAR WAYS** for all 3 axis
- Enhanced **heavy duty roller type** linear ways for Z axis
- **C3** class ground ball screws for all 3 axis
- Industrial level motion **accuracy**
- Super powerful **AC SERVO** spindle driving system
- Precision **AC SERVO** driving system for all 3 axis
- Industrial standard **BT30** spindle unit & pneumatic **power drawbar**
- **12-tool Auto Tool Changer** installation
- Professional/easy 4th axis+ 5th axis expanding capability
- Support **Rigid Tapping** functions
- **5-Axis&5-align** Industrial CNC controller with full tech. support
- **Full Auto** central lubrication system for all motion parts

Dimensions

| | |
|----------------------------|-------------------------------------|
| Table Size: | 760mm×240mm / 30"×9.8" |
| Table Slots: | 5×14mm Slots |
| Travel Range (X Y Z): | 400mm×250mm×400mm / 15.7"×10"×15.7" |
| MAX Spindle Nose to Table: | 450mm / 17.7" |
| MIN Spindle Nose to Table: | 50mm / 2" |
| Spindle Center to Column: | 280mm / 11" |

Motion Features

| | |
|--|-------------------|
| Max On Table Weight: | 100Kgs |
| Max Feed Rate: | 10MPM / 393IPM |
| Positional Tolerance: | 0.005mm/200mm |
| Repeatable Tolerance: | ≤0.005mm |
| XYZ Traveling Tolerance: | ≤0.01mm /200mm |
| 1 st Spindle Radio/Axial Run Out: | ≤0.003mm at taper |

Spindle Configurations

| | |
|---|--|
| 1 st Spindle Taper: | BT30 |
| 1 st Spindle Max Speed: | 8000RPM |
| 1 st Spindle Driving System: | 2.2Kw AC SERVO Motor System (3.7Kw optional with 3 phase power input) |
| 1 st Tool Changing: | Pneumatic Power Drawbar |
| Auto Tool Changer: | BT30-12 Tool ATC |

3-Axis Configurations

| | |
|-----------------|------------------------------------|
| 3 Axis Driving: | 0.75kw/Axis AC SERVO Motor System |
| 3 Axis Motion: | H Class Linear Ways For All 3 Axis |
| Ball Screws: | C3 Class Ground Type Ball Screws |
| Bearings: | P4 Class Precision Bearings |

CNC Control System

| | |
|----------------------------|--|
| CNC Controller: | ADTECH CNC4650 5-axis & 5-align CNC controller |
| Max Axis Control Number: | 5 Axis |
| Rigid Tapping Support: | Yes |
| Auto Tool Changer Support: | Yes |
| Additional Control Panel: | Included |

Power Requirements

| | |
|--------------------|--|
| Power Input: | 200-240VAC 50/60HZ Single Phase (220/380VAC 3-Phase optional) |
| Power Consumption: | Typical 5Kw |

Miscellaneous Features

| | |
|-------------------------|--|
| Machine Enclosure: | Full Enclosure with Cabinet Stand |
| Machine Head Balancing: | 2x Nitrogen Springs |
| Lubrication: | Auto Central Lubrication |
| Work Light: | LED Work Light |
| Coolant System: | Integrated Coolant System and Chip Collector |
| Mist Cooling System: | <i>optional</i> |
| Hand-held MPG: | <i>optional</i> |
| Air Blow Gun: | included |
| Air Source: | >0.5Mpa |

Overall Features

| | |
|----------------------------|-------------------------|
| Overall Dimensions(L*W*H): | LWH 1000*1500*1700mm |
| Net Weight: | ≈780kgs |
| Package Dimensions(L*W*H): | LWH 1200*1600*1900mm |
| Gross Weight: | ≈880kgs |
| Package Type: | Composite Plywood Crate |

Standard Accessories

| | |
|---------------|--------------------------|
| Machine Feet: | FOOT-MASTER Casters 4pcs |
| | |
| | |

Optional Installations of SVM-2VMC:

- ☐ SKYFIRE HVR-6 Harmonic Drive 6" 4th Axis Installation

Enable the machine to do 4 axis cutting job

+\$1400

ZERO backlash / Tolerance<3' / Easy Servo Driving



- ☐ 125mm 3-jaw Chuck Kit for HVR-6

O.D 125mm chuck + adapter plate

+\$120



- ☐ SKYFIRE HVR-8 Harmonic Drive 8" 4th Axis Installation

Enable the machine to do 4 axis cutting job

+\$1800

ZERO backlash / Tolerance<3' / Easy Servo Driving



- ☐ 160mm 3-jaw Chuck Kit for HVR-8

O.D 160mm chuck + adapter plate

+\$160



- ☐ Tail Stock for 4th Axis

Help to hold long rod material on the 4th axis

+\$80

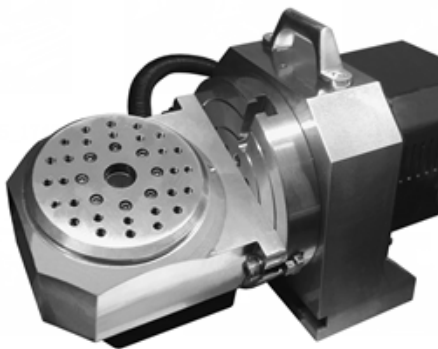


- ☐ SKYFIRE HHR-4 Harmonic Drive 4" 5th Axis Installation

Enable the machine to do 5 axis cutting job

5th axis add-on kit for HVR-6/8 4th axis

+\$1400

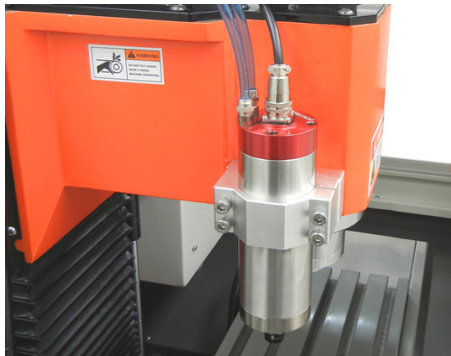


- ☐ 2nd High Speed Engraving Spindle Kit Installation

Enable the machine to engrave art works like a CNC router

800W / 24krpm / ER11 / Water cooled / Spindle+VFD & liquid cooling unit

+\$600



- ☐ Mist Cooling Kit Installation

Enable the machine to cool tools with air flow and mist

Air/Liquid volume adjustable / Including control valve

+\$100



☐ Hand-held MPG

Enable the machine axis to be controlled by MPG

+\$125

100PPR; 5 axis control



☐ 10krpm BT30 Spindle Unit Upgrade

Improve max spindle speed from 8krpm to 10krpm

+\$380



☐ 3.7kw AC SERVO Spindle Motor System Upgrade

Give the spindle more power to improve cutting efficiency

+\$500

**Must be with 220VAC/380VAC 3phase power supply*



☐ High Speed Electric Spindle Upgrade

BT30 taper / 4Kw / 24krpm / Support ATC

Excellent for high speed, high quality milling

+\$3300

**Must be with 220VAC/380VAC 3phase power supply*



- ☐ Ring Type coolant sprayer Upgrade
360 ° coolant flood injection / Help to cool spindle unit

+\$150

Coming soon

Degrade Options:

- ☐ REMOVE Auto Tool Changer-BT30-12T
Change tools manually only (PDB still installed)

-\$1900



- ☐ change to 4-Axis CNC Control System
Support max 4 axis only / No rigid tapping, float tapping only

-\$400



- More Machine Options please inquire us directly.

Common Accessories / Tooling for SVM-2VMC:

Detector & Measurement series:

- | | |
|--|-------|
| <input type="checkbox"/> Electronic Tool Setter-Type A | \$120 |
|--|-------|

This type tool setter is fixed-mounted on worktable and suitable to work with ATC.

It outputs measuring and limit signals / Air blower&valve integrated



- | | |
|---|------|
| <input type="checkbox"/> Optical Tool Setter-Type B | \$90 |
|---|------|

This type tool setter is only manually used to measure Z height.

50mm height / magnet bottom



- | | |
|--|------|
| <input type="checkbox"/> Mechanical Tool Setter-Type C | \$60 |
|--|------|

This type tool setter is only manually used to measure Z height.

50mm height / magnet bottom / easy and economic



- | | |
|---|------|
| <input type="checkbox"/> Optical Edge Finder-16LB | \$20 |
|---|------|

OD16mm / 10mm ball / LED-BEEP/ Tolerance 0.05mm



- | | |
|---|------|
| <input type="checkbox"/> Optical Edge Finder-20LB High Precision Type | \$80 |
|---|------|

OD20mm / 10mm ball / LED-BEEP/ Tolerance 0.005mm



Work-holding Series:

- ☐ 5" Angle Clamp Precision Mill Vise

\$80



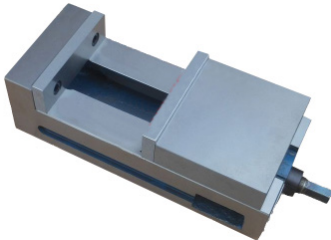
- ☐ 6" Angle Clamp Precision Mill Vise

\$100



- ☐ 6" Heavy Ground Precision Mill Vise

\$155



- ☐ M12-58pcs Clamping Kit

\$58



- ☐ Precision Parallels Kit (18pcs)

\$55



BT30 Tool Holder Series:

- | | | |
|--------------------------|--|-----------------|
| <input type="checkbox"/> | BT30-L60-ER32/25/20/16/11 Mill Tool Holder Series <i>Taper Runout $\leq 0.005\text{mm}$ / Suitable to common milling works</i> | \$20/pcs |
|--------------------------|--|-----------------|



- | | | |
|--------------------------|--|-----------------|
| <input type="checkbox"/> | BT30-L60-ER32/25/20/16/11-H Mill Tool Holder Series <i>High Precision/High Speed Series</i> <i>Dynamic balanced / Up to 24krpm / Taper Runout $\leq 0.003\text{mm}$</i> | \$50/pcs |
|--------------------------|--|-----------------|



- | | | |
|--------------------------|---|-----------------|
| <input type="checkbox"/> | BT30-APU13 Drill Tool Holder <i>max 13mm / Precision</i> | \$46/pcs |
|--------------------------|---|-----------------|



- | | | |
|--------------------------|---|-----------------|
| <input type="checkbox"/> | BT30-APU16 Drill Tool Holder <i>max 16mm / Precision</i> | \$56/pcs |
|--------------------------|---|-----------------|



- | | | |
|--------------------------|---------------------------------|-----------------|
| <input type="checkbox"/> | BT30-L45-FMB22 Face Mill Holder | \$22/pcs |
|--------------------------|---------------------------------|-----------------|



- | | | |
|--------------------------|----------------------------------|-----------------|
| <input type="checkbox"/> | BT30- L45-FMB27 Face Mill Holder | \$22/pcs |
|--------------------------|----------------------------------|-----------------|



- | | | |
|--------------------------|-----------------------------|-----------------|
| <input type="checkbox"/> | BT30-BF1 Boring Tool Holder | \$22/pcs |
|--------------------------|-----------------------------|-----------------|



- | | | |
|--------------------------|----------------------------------|-----------------|
| <input type="checkbox"/> | BT30-SCA22-L75 Saw Cutter Holder | \$55/pcs |
|--------------------------|----------------------------------|-----------------|



- ☐ BT30-GT12 Load Protection Tapping Kit
M3/M4/M5/M6/M8/M10/M12 tapping collet full set / Only for float tapping

\$185/set



- ☐ BT30-NBH2084 Boring Tool Kit
Boring Range $\phi 8$ - $\phi 280$ / Turning Step 0.01mm

\$330/set



- ☐ BT30 Pull Stud-45degree

\$3.5/pcs



- ☐ BT30 Tool Locker

\$18/pcs



ER Collets Series:

- ☐ ER32 Collets-AA class high precision
1/2/3/4/5/6/7/8/9/10/11/12/13/14/15/16/17/18/19/20mm
(inch series 3/32"-25/32" available)

mm: \$5/pcs
inch: \$8/pcs



- ☐ ER25 Collets-AA class high precision
1/2/3/4/5/6/7/8/9/10/11/12/13/14/15/16mm
(inch series 1/16"-5/8" available)

mm: \$5/pcs
inch: \$8/pcs



- ☐ ER20 Collets-AA class high precision
1/2/3/4/5/6/7/8/9/10/11/12/13mm
(inch series 1/16"-1/2" available)

mm: \$4/pcs
inch: \$7/pcs



- ☐ ER16 Collets-AA class high precision
1/2/3/4/5/6/7/8/9/10mm
(inch series 1/32"-13/32" available)

mm: \$4/pcs
inch: \$7/pcs



- ☐ ER11 Collets-AA class high precision
1/2/3/4/5/6/7mm
(inch series 1/8", 1/4" available)

mm: \$4/pcs
inch: \$7/pcs



- ☐ ER Nut Spanners
(ER16-A / ER20-A / ER25-A / ER32-UM)



ER11-A: \$4/pcs
ER16-A: \$4/pcs
ER20-A: \$5/pcs
ER25-A: \$6/pcs
ER32-UM: \$8/pcs

Mill Tool Series:

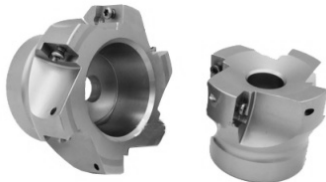
- ☐ Full series Mill/Drill/Tapping Tools and Inserts
**please ask for tool price list from SKYFIRE CNC*

\$



- ☐ BAP400R50-22-4T Face Mill Tool

\$28/pcs



- ☐ BAP400R63-22-5T Face Mill Tool

\$38/pcs



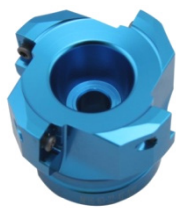
- ☐ KAP400R50-22-4T Face Mill Tool (For Aluminum Cuts)

\$30/pcs



- ☐ KAP400R63-22-4T Face Mill Tool *(For Aluminum Cuts)*

\$38/pcs



- ☐ BAP300R-10/12/16/20- Mill Shank Series

BAP300R-10-120-C10-1T: \$10/pcs

BAP300R-12-120-C12-1T: \$10/pcs

BAP300R-16-120-C16-2T: \$15/pcs

BAP300R-20-120-C20-2T: \$15/pcs



☐

☐

FAQ:

- What are the advantages of SKYFIRE CNC milling machines compared to other brands at similar size?

Firstly, SKYFIRE CNC milling machines are small industrial CNC but not hobby level ones. All SKYFIRE CNC machines are made at standard industrial level for small scale but precision machining works. SKYFIRE CNC machines have many superior features including full linear rails of 3 axis, AC SERVO spindle motor and AC SERVO 3 axis driving systems, industrial CNC controllers, 4th / 5th axis set and ATC installations etc. Even on the most economic machine types, CLOSED LOOP steppers are installed to make sure of high precision machining works. Many other detailed advantages are listed in the datasheets too.

Besides the configuration advantages above, SKYFIRE CNC machines are about 2/3 price of other same size CNC machines of similar brands but at least 2X performance of them. No matter you are a hobby machinist or professional machining manufacturer, SKYFIRE CNC will be your best high performance/low cost choice. Many machine types/options to make sure you will find one that most suitable to you. What's more, we provide customized machines as you want to have.

- What's the difference between SVM-1 and SVM-2 series?

Except the obvious work range difference of SVM-1/2, there are some other different features too. SVM-1 is a middle size benchtop machine with lighter frame; SVM-2 has much heavier and stronger machine frame to endure heavy duty milling works. So SVM-1 is fitful to do light but high speed milling works, but SVM-2 can handle every works you need to do.

- What's the difference between SVM-2L and SVM-2VMC (Workstation)?

SVM-2VMC (Workstation) has a full enclosure that can keep all swarf and coolant inside the machine. It's better than the half enclosure of SVM-2L. And full AC SERVO motor system has more advantage than the closed loop stepper + BLDC spindle system of SVM-2L especially during high speed milling works. SVM-2L is an economic type but it's still much better than other similar machines with traditional stepper motors and normal inductive AC spindle motors.

- What's the difference between SVM-2VMC Workstation and SVM-2VMC?

The only difference is the CNC controller. SVM-2VMC Workstation is equipped with PC based CNC controllers. We integrated an industrial tablet PC with touch screen and a keyboard on the machine directly. Users can do all CNC works from CAD/CAM design/programming to machining on it.

SVM-2VMC has our standard industrial CNC controller. Compared to PC based controllers, it's more reliable for long time machining works because the reliability of the PC based controllers depends on the computer OS also.

So for industrial users, we will suggest SVM-2VMC. But for personal and professional CNC machinist, SVM-2VMC Workstation will be a great choice because it's very expandable on both software and hardware so users can have a lot of fun on it.

- What's the difference of the CNC controllers?

MACH3/4 CNC controller is the easiest controller to start with. You can find many supports and references on the internet. So it's good for CNC beginners who don't have much advanced requirements of the controller.

LINUXCNC is a more advanced PC based controller with MESA cards. The good point is that it's much more "real time" than MACH3/4. LINUXCNC responses very fast and supports encoder feedbacks. So its performance is pretty near to the industrial CNC controllers. We suggest expert machinists who are familiar with LINUXCNC and CNC programming to choose it. Of course, LINUXCNC has a lot of supports and reference too on the internet.

However, our industrial CNC controller is the most recommended one for SVM-2. It's a really professional controller with great features like reliability, performance and multi functions. It's also easy to operate with our full English manuals. SVM-2 can do the best under its control. Besides, it can read CAD files directly, supports Ethernet, has additional control panel for manual operation etc. Its CNC system is open so we can do many OEM functions/remaps based on it.

- What industrial CNC controllers are available?

We recommend our 4 axis/5axis industrial CNC controller first. They are economic and reliable with good English technical support. All axis are motion linkage at the same time. Our CNC controller G codes are compatible to FANUC G codes so you don't need to worry about post processor of your CAM software too. Other information or advantages please refer to our controller manuals.

Of course, we can also install other customer specified CNC controllers too. Please talk to us directly on such requirements.

- What materials can SVM-2 series mill?

SVM-2 series is rigid and powerful to mill any material from Aluminum, brass, mild steel, stainless steel to Titanium. After our many tests on the materials, SVM-2 has shown stable and reliable milling performance.

- Do I need an ATC? Can it be added on later?

ATC is very useful if your milling works need many different tools. It will make tool changing much more efficient and easier. With ATC, you don't need to watch the machine all the time and change tools manually. ATC is especially very good for your batch production.

The ATC device can be added later by yourself if you are expert or have a skilled engineer. SVM-2 has standard mounting position for ATC and we left electric connectors and I/O pins on the controller to enable the installation.

- How about the 4th axis or 5th axis set?

Our Harmonic Drive 4th and 5th axis sets are of very high industrial level accuracy. So please don't compare them to the cheap ones retrofitted from manual rotary table. We can install the 4th /5th set together with your machine, or you can purchase and install them by yourself later.

- Can I order a customized SVM machine?

Yes. The advantage of SKYFIRE CNC is that we can provide customized machine as you required. We have full R&D capability to provide upgrades or modifications based on our machine frame. So any such requirements just talk to us directly.

- How should I place and setup the machine?

First of all, HANDLE THE MACHINE CAREFULLY. SVM-2 is a heavy machine so must be careful during lifting and placement. The machine comes with 4pcs FOOTMASTERS so you can set and move it easily. But for the best stability, we suggest you to mount the machine to solid ground. It will eliminate some vibration and make mill surface even better.

- How can I start to operate the machine?

If the machine is equipped with a PC based CNC controller, we will provide the controller drive software, the configuration files and setup manual. If the machine comes with the industrial controller, we will provide operation manuals in English.

The machine startup is easy. Connect the correct power supply, add lubrication oil and connect air source, then power up and start to use it. We will provide a startup manual for you. Any more help you need just contact us.

- What shipment methods available?

For oversea clients, we can provide ocean shipping to your sea port (CIF/FOB). And we can also provide TO DOOR delivery worldwide. It's all depends on you. Please talk to us directly about the shipping method. If we have a local distributor nearby, the distributor will handle everything for you.

- What warranty do I have?

Normally, we provide 12 month warranty for all of the machine parts. Any parts failed because of quality reason, we will send you a new one for replacement free. If you buy our machines from one of our

distributors, the distributor will provide services as well. Beyond the warranty period, we will keep provide services and replacement parts at cost price.

But under the conditions that the parts damaged by user's fault, like crashing, overload, wrong power supply etc. we will not be able to provide free services and replacements. But all will be still at cost prices.

Help Information:

Due to the continuous improvement of our products, such as the technical parameters in this datasheet are modified without prior notice. If you have any questions or view the contents of this datasheet and the details of all time, please put the consultation, we will be very glad to answer your questions, advice and criticism.

SKYFIRE CNC reserves right of final interpretation of this document.

Please visit our website www.skyfirecnc.com for more information.

Any ordering question Please email sales@skyfirecnc.com for answers ASAP.

Any technical questions please email support@skyfirecnc.com for our service ASAP.

You can also add our Skype: skyfirecnc for direct communication.

Updated 2018-01-14