CHEVALIER®

Grinding / Turning / Milling

PRODUCT GUIDE

CHEVALIER.

Grinding / Turning / Milling

About Falcon Company

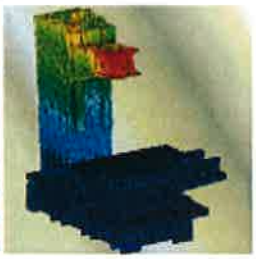
Established on 1972, FALCON, a leading manufacturer of grinding, turning and milling machines in Taiwan. FALCON is the first grinding machine manufacturer in Taiwan awarded as "Grade A Manufacturer". Our machines are assembled in our ISO 9001-certified facilities that include departments for R&D, Machining, Assembling, QA, Marketing, Application, Service, and Sheet Metal Production.

We provide superior solutions to our clients in a variety of industries, including Aerospace, Automotive, Construction, Defense, Turbine, Euergy, Medical, Printing, Semiconductor, Mold and Die, Tools, Machinery, Boat, Railroad…etc. Falcon regularly exhibits her products at well-known national and international trade shows. And with our extensive marketing networks around world, Chevalier our registed brand name, offers quick delivery, fast service and competitively priced machines.

Our U.S. office was established in Los Angeles in 1982 to provide marketing and service to U.S. customers. Our goal for products development is based on the global market requirement. And in search of perfection, we are paying our highest attention on supplying best quality products and after sales service to our customers. This is also the best way to develop the CHEVALIER Brand name in international market. In the meantime, We would like to share our own properity with our customers, employees, suppliers, share holders, and society. Customers satisfaction is the goal of our company operation.

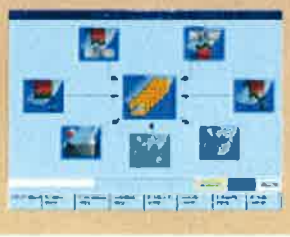
RESEARCH AND DEVELOPMENT

Our state-of-the-art R&D division includes design, prototype development, applications, electrical and electronics. The CAD division uses 3-D/Pro-E software that enables design engineers to achieve finite element analysis and dynamic simulation through all phases of the design process. This ensures maximum accuracy, flexibility and rigidity of all Chevalier machines.

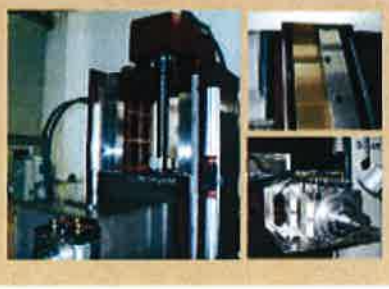


Some of our core Technology

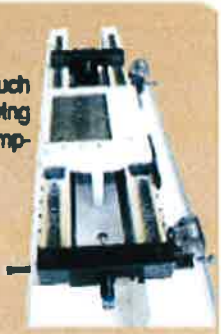
1. Our own developed SMART PC Based Control System, The standard features include conversational graphics, for easy to learn and operate, the machine and the grinding efficiency is increased a lot.



2. Hydrostatic spindle, guide ways, and screws, offer machines with higher precision, longer lift time and lower power consumption.



3. Linear motor transmission much offer machines with higher moving speed and lower power consumption.



4. Our machine construction design has a specially designed steel box ways for higher precision & higher machine rigidity on certain machines.

MANUFACTURING

Most of precision machining projects are completed in-house with dedicated, top-notch CNC manufacturing machines. All structural assembly work, including electrical and controls, are mastered by our team of highly trained and experienced assembly engineers.

QUALITY CONTROL

We follow the most stringent quality control process from casting to final assembly. Inspection stations are manned by the engineers who designed the machines to ensure that all aspects of the manufacturing process meet the designers' prescribed requirements.

New manufacturing and quality control equipment as well as advanced monitoring software have been acquired to lines as efficient as ever.

SALES AND SERVICE

Customer satisfaction is always the highest priority at Chevalier. Our knowledgeable service engineers, technicians and sales representatives travel around the world to provide assistance to our dealers and end-users. Chevalier's network of dealers in more than 80 countries is thoroughly trained to adhere to Chevalier's superior customer service standards. Our modern warehouse facility in the Los Angeles area maintains a comprehensive inventory of parts for all machines sold in the northern America area. Our well-educated staff also conducts thorough service training programs for our dealers and end-users.

Company History

1978	Established as a manufacturing firm specializing in producing precision surface grinders.
1982	U.S. branch office established in Los Angeles area to provide marketing and service capabilities to U.S. customers.
1987	Winner in the Excellent Product Design Contest for 1987, presented by the Taiwan External Trade Development Council.
1988	Peter Chang, CEO of FALCON Machine Tools, received citation from the President of the Republic of China for Falcon's participation in community service programs and contributions to various charitable causes.
1989	Awarded Best Original Brand at the Taipei International Metalworking Show.
1992	Taiwan's first machine tool maker to receive ISO 9002/CNS 12682 Quality Assurance System certification from the Ministry of Economic Affairs.
1997	FSG-C1224CNC awarded first place for new product development at TIMTOS'97
1998	Listed in the Over-the-Counter stock market. Chuang-Hsing factory completed. Invested in the second factory in Chuang-Hsing Industrial Park.
1999	SMART-H/B818 honored as Taiwan's Outstanding Product in the National Award of Excellence Competition.
2000	Received ISO 14000 certification.
2001	Sub-micron ULTRA high-precision CNC grinder ULTRA-H612 honored for Taiwan Outstanding Products in the National Award of Excellence Competition.
2002	Completed first factory in Shanghai, China. Established sales and technical center in Beijing, Don-Guang, China.
2004	Successfully developed Hydro-H1224, a nano-precision hydrostatic CNC grinder. Introduced the quick performance QP series machining center.
2005	Established partnership with Japanese manufacturer to produce Vertical Turning Lathes.
2007	Introduced new heavy-duty gantry-type grinder series and gantry-type machining center series for automative molds and large workpieces.
2008	Established technical joint venture with Japan's well-known manufacturers to implement a large Vertical Turning Centers.
2010	Developed high-precision linear-guide vertical double-column machining center (DCL).
2011	Introduced large Vertical Grinding Centers (FVG-4040DC).

CHEVALIER
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GRINDING MACHINES

DOUBLE COLUMN GRINDING MACHINE

FPG-60120DC • 60160DC • 60200DC
100160DC • 100240DC • 100400DC
100480DC • 120276DC SERIES
(AVAILABLE IN OTHER SIZES)

- SMART Control and Moving Beam Type
- Table Sizes: up to W2,500mm x L13,000mm(98" x 512")
- Max. Table Load: up to 50,000Kg(110,000 lbs.)
- Spindle Speed: 2,000rpm
- Horizoutal Head 40HP Vertical Head: 20HP
- Total Rated Power: up to 110HP

FSG-4060DC • 4080DC • 40120DC•
5060DC • 5080DC • 50120DC
6060DC • 6080DC • 60120DC SERIES
(Available in other sizes)

- SMART Control and Fixed Beam Type
- Table Sizes: up to 1,500mmW x 3,000mmL (59" to 118")
- Max. Table Loads: 3,500Kg (7,700 lbs.) to 8,000Kg (17,600 lbs.)
- Spindle Speed: 500~2,000rpm
- Spindle Motor: up to 25HP on Horizonal Head optional vertical Head up to 15HP 6080DC and 60120DC grinders) Greater Spindle HP Available
- Total Rated Power: 30HP to 80HP

VERTICAL GRINDING CENTER

FVG-4040DC / FVG-1616DC

- SMART Control
- Table Sizes: Dia. 1,000mm(40")
- Max. Swing: 1,400mm(55")
- Max. Table Loads: 20,00Kg(4,400 lbs.)
- Spindle Speed: 8,000rpm
- Main Spindle: 20HP
- Work Table Axis: 20~100rpm
- ID Grinding Range: 50mm~1,000mm(2" ~ 40")
- OD Grinding Range: 1,200mm(47")
- Max. Grinding Length: OD 700mm (28") / ID 700mm(28")
- X-Axis: -900mm/180mm(-35°/7.1"), Total Travel 2,700mm(106")
- Z-Axis: 900mm(35")
- A-Axis: ±45 Degree (1 degree per indexing)

SURFACE AND PROFILE CNC GRINDER

FSG-B818CNC • C1224CNC
B2440CNC • B2460CNC
B2480CNC SERIES

- 3-Axes CNC
- FANUC CNC Control
- Table Size: up to 600mmW x 2,000mmL(24" x 80")
- Column Sliding
- Capable of Creep Feed
- Spindle Speed: up to 5,000rpm, 200 to 5,000rpm Some Models
- Spindle Power: 15HP(50HP opt.) Greater Spindle HP Available

SMART-B818II • B1224II • B1640II •
B2440II • B2460IIB • B2480II SERIES

- 3-Axes CNC
- Conversational SMART Control
- Table Size: up to 600mmW x 2,000mmL(24" x 80")
- Spindle Power: up to 25HP Greater Spindle HP Available
- Standard Spindle Speed: 1,200rpm to 3,600rpm(higher spindle rpm is availablem on request)

LINEAR MOTOR DRIVE GRINDER

FPG-608LM

- SMART Control / and Siemens Lluear , or FANUC Control and FANUC Linear motor
- 3-Axes Closed Loop Electronic Control
- Table Size: W150mm x L200mm(6" x 8")
- Spindle Speed: up to 20,000rpm
- Max. Table Speed: 100m/min.
- X-Axis with 2.5G Acceleration

FULLY AUTOMATIC GRINDING MACHINE

FSG-2040ADIII • 2060ADIII
2440ADS • 2460ADS
2480ADS SERIES

- Control: Touch Screen
- 3-Axes Fully Automatic
- Table Sizes: up to W600mm x L2,000mm(24" x 80")
- Auto Dressing and Compensation (opt.)
- Elevation is Driven by Servo Motor
- Precisely Scraped Turcite-B on X and Z-Axes
- Max. Grinding Sizes: up to 600mm x 2,000mm(24" x 80")
- Spindle Power: up to 15HP, Greater Spindle HP Available

PRODUCTION CNC GRINDER

FMG-1632CNC-HD

- Table Sizes: W400mm x L810mm(16" x 32")
- Max. Table Load: 1,500Kg(3,326 lbs.)
- Column Travel with Creep Feed Function
- Spindle Speed: 6,000rpm (15,000rpm opt.)
- Rapid On: X-Axis 0.5mm~25mm(0.032" ~88fpm), Z-Axis 0mm~400mm(13 fpm), Y-Axis 0~12.5 fpm
- Spindle Motor: 30HP(25Kw), Greater Spindle HP Available

NANO PRECISIN HYDRO-STATIC CNC GRINDER

HYDRO-H1224

- FANUC or SMART Control
- Table Size: 300mmW x 600mmL(11 3/4" x 23 5/8")
- Max. Grinding Length: 600mm(24")
- Hydro-Static System: 3-Axes
- Lowest Feeding Amount: 0.0001mm(0.00001")
- Surface Roughness: 0.02μm
- Spindle Power: 15HP, Greater Spindle HP Available
- Spindle Speed: 3,500rpm
- Other size available

SURFACE AND PROFILE CNC GRINDER

FSG-H818CNC • H2440CNC H2460CNC • H2480CNC SERIES

- 2-Axis CNC
- FANUC CNC Control
- Table Size: up to W600mm x L2,000mm(24" x 80")
- Hydraulic Driven X-Axis
- Column Sliding
- 2-Axes Simultaneous
- Spindle Power: up to 50HP
- Spindle Speed: up to 5,000rpm Optional Variable Speed Available 200rpm to 5,000rpm

SMART-H818II • H1224II H1640II • H2440II • H2460II H2480II SERIES

- 2-Axis CNC
- Conversational SMART Control (PC Based)
- Table Size: up to W600mm x L2,000mm (24" x 80")
- Hydraulic Driven X-Axis
- Spindle Motor: up to 15HP Greater Spindle HP Available
- Standard Spindle Speed: 1,200rpm to 3,600rpm

SEMI-AUTOMATIC GRINDER

FSG-1224ADIII • 1632DAIII 1640DAIII SERIES

- Control: Touch Screen
- 3-Axes Fully Automatic
- Table Sizes: up to W400mm x L1,000mm(16" x 40")
- Auto Dressing and Compensation(opt.)
- Elevation is Driven by Servo Motor
- 3-Axes Needle Roller Way
- Max. Grinding Sizes: up to 400 x 1,000mm(16" x 40")
- Spindle Power: up to 10HP, Greater Spindle HP Available

FSG-3A818 • 3A1224 SERIES

- 3-Axes Automatic
- Table Size: up to 300mmW x 600mmL(12" x 24")
- Double "V"Turcite-B Saddles Ways
- Hydraulic Drive: 1HP / 2HP
- Crossfeed Drive: 1/6HP
- Elevating Drive: 1/4HP
- Spindle Speed: up to 3,450rpm
- Spindle Power: up to 5HP

FSG-2A818 • 2A1224 SERIES

- 2A 2-Axes and X-Axis Driven by Hydraulic System
- Table Size: up to 300mmW x 600mmL(12" x 24")
- Z-Axis with Double "V" Ways and Electric Motor
- Hand scrapped Turcite-B used on X-and Z-Axes
- Spindle Speed: 3,500/1,750rpm
- Spindle Power: 2HP / 5HP, Greater Spindle HP Available
- Hydraulic Drive: 1HP / 2HP
- Crossfeed Drive: 1/6HP
- Elevating Drive: 1/4HP

MANUAL GRINDER

FSG-618M SERIES

- Ball Table Ways
- Double "V"+Turcite-B on Z-Axis
- Table Travel: 175mm x 480mm(7" x 19")
- Chuck Size:150mm x 450mm(6" x 18")
- Table Sureface to Spindle Center: 450mm(18")
- Spindle Speed: 3,450rpm
- Spindle Power: 2HP FSG-2A618 SERIES
- 2-Axes Automatic

ACCUGRIND-612SP 618SP • 818SP SERIES

- Double "V"+Turcite-B on Z-Axis
- Table Size: up to 200mmW x 450mmL(8" x 18")
- Ballscrew on Crossfeed
- Spindle Speed: 3,450rpm
- Spindle Power: 2HP
- Table Sarface to Spindle Center: 500mm(20")

MILLING MACHINES

DC HEAVY-DUTY BRIDGE MACHINE

FVM-DC BRIDGE-TYPE SERIES

- Table Size: up to W7,000mm x L3,000mm(280" x 118 ")
- Table Load: up to 22,200Kg(49,000 lbs.)
- XYZ Travel: up to 6,000mm(236")(X) x 3,400mm(135") (Y) x 10,00mm(40")(Z)
- Spindle Speed: up to 6,000rpm Gear/ Optional 8,000rpm Belt Drive
- Spindle Motor: 35HP
- Spindle Taper: BT/CT 50
- Box Way Design

DCL BRIDGE MACHINE

FVM-3016 • 4016DCL SERIES

- Table Size: up to W1,450mm x L4,100mm (57" x 161")
- Table Load: up to 8,000mm(17,600 lbs.)
- XYZ Travel: up to 4,100mm(161")(X) x 1,550mm(61")(Y) x 780mm(30.7")(Z)
- Spindle Speed: 6,000rpm Gear/ Optional 8,000rpm Belt
- Spindle Motor: up to 35HP
- Spindle Taper: BT/CT 50

DCL BRIDGE MACHINE

FVM-DCL SERIES

- Z-Axis with 400 x 400mm(16" x 16") Box RAM Design
- Table Size: up to W6,000mm x L3,000mm(240" x 118")
- Table Load: up to 20,000Kg(44,000 lbs.)
- XYZ Travel: up to 6,000mm(240")(X)x 3,400mm(133")(Y)x1,000mm(39")(Z)
- Spindle Taper: BT/CT 50
- Automatic Head Change (opt.)
- Horizontal and Vertical Tool Change Magazine (opt.)

HORIZONTAL BORING MACHINE

FBB-2220RQ SERIES

- Bed Type with Rotary Table
- W-Axis Included
- Table Size: up to W1,400mm L1,600mmx (55" x 63")
- Table Load: up to 7,000Kg(15,400 lbs.)
- Spindle Speed with Gear Box 2,500rpm
- Spindle Taper: BT/CT 50
- Full C-Axis Rotary Table
- 110mm(4") Quill with Optional 130mm(5")

TURNING MACHINES

VERTICAL TURNING LATHES

FVL-1250 •1600 • 2000VTC SERIES

- FANUC or Siemens Control
- Box Way Structure
- Spindle Motor: up to 100HP
- Max. Swing Dia.: up to 2,500mm(98")
- Table Diameter: up to 2,000mm(78")
- Max. W ight: up to 13,600Kg (30,000 lbs.)
- Transmission: 2-Speed Gearbox
- Live Tooling ,C-Axis and Y-Axis Available
- Grinding attachment available

FVL-8 • 12 • 20 • 24 SERIES

- FANUC Control
- Box Way
- Spindle Servo Motor: up to 40HP
- Max. Swing Dia.: up to 858mm(34")
- Max. Spindle Speed: 50~2,000rpm
- Chuck Size: up to 600mm(24")
- Turret No.: up to 2 sets
- Live Tooling and C-Axis available
- Tailstock Version Available

HEAVY-DUTY HORIZONTAL TURNING LATHES

FBL-200 • 300 • 360 SERIES

- FANUC Control
- 45-Degree Slant Bed Lathe with Highly Rigid Box Way
- Swing Over Bed: up to 770mm(30")
- Spindle Motor: up to 35HP
- Transmission: 2-Speed Gearbox (360)
- Chuck Size: up to 381mm(15")
- Bar Capacity: up to 115mm(4.5")
- Turning Length: up to 2,000mm(80")
- Live Tooling and C-Axis Available (300/360)
- Programmable Tailstock (360)

FBL-500 SERIES

- Slant Bed Heavy-Duty Large Bore Lathe with FANUC Control
- Dual Chucks Capability
- Swing Over Bed: up to 1,030mm(41")
- Spindle Motor Speed: up to 60HP
- Transmission: 3-4-Speed Gear Box
- Chuck Size: up to 800mm(32")
- Bar Capacity: up to 318mm(13")
- Turning Length: up to 4,000mm(160")
- Live Tooling and C-Axis Available
- Programmable Tailstock




HEAVY-DUTY PRODUCTION VMC

QP-2033 • 2040 • 2443 • 2855 • 3560 • 3572• 4088 SERIES

FANUC Control
Box Way Structure other controlarailable
Table Size: up to W1,000mm x L2,200mm(39" x 95")
Table Load: 3,500Kg(7,700 lbs.)
XYZ Travel: up to 2,200mm(88")(X), 1,000mm(40")(Y), and 1,000mm(40")(Z)
Spindle Speed: up to 40-6,000rpm
Spindle Motor: up to 35HP
Spindle Taper: BT/CT- 40 or 50
Beltdrive or 2-Speed Gearbox
Tool Change: Arm Type

HIGH-SPEED VMC

QP-1620L • 2033L • 2040L • 2440L • 2560L SERIES

- FANUC Control
- Linear Guide Way
- Table Size: up to W635mm x L1,500mm(25" x 60")
- Table Load: 1,500Kg(3,300 lbs.)
- Spindle Speed: up to 15,000rpm
- Spindle Motor: up to 25HP
- Spindle Taper: BT/CT- 30-40-50
- Big Plus Spindle
- Tool Change: Arm Type

FTC-1320V WITH PALLET CHANGE

- FANUC Control
- Column Travel Type
- Table Size: W360mmx L640mm(14" x 26")
- Table Load: 120Kg(264 lbs.)
- Spindle Speed: 150 – 15,000rpm
- Spindle Motor: 5HP/Spindle Taper: BT-30
- Automatic Pallet Change
- Maximum 6,000rpm Rigid Tapping
- Rapid Speed: 36m/min.(1,417 ipm)
- Tool Change: 0.8 sec.
- Pallet Change: 2.0 sec.

MULTI-AXIS TURNING/MILLING LATHES

FNL-250Y/SY • 320Y/SY SERIES

- FANUC Control
- Multi-Tasking Lathe with Y-Axis Milling and Sub Spindle
- Spindle Motor: 20HP
- Spindle Speed: up to 4,500rpm
- Maximum Swing: 600mm(24")
- Maximum Turning Diameter: 460mm(18")
- Maximum Turning Length: 560mm(22")
- Bar Capacity: up to 75mm(3")
- BMT Live Turret
- Servo Tailstock

HIGH-SPEED TURNING LATHES

FCL-120 • 140 • 200 • 300 SERIES

- FANUC Control
- Slant Bed Lathe with Linear Guide Way
- Swing over Bed/Cover: up to 600mm(24")
- Spindle Speed: up to 6,000rpm
- Spindle Motor: up to 20HP
- Chuck Size: up to 250mm(10")
- Bar Capacity: up to 75mm(3")
- Turning Length: up to 700mm(28")
- Live Tooling and C-Axis Available(200/300)

TOOL ROOM TEACH LATHES

FCL-18 • 21 • 25 • 26 • 32 • 40 SERIES

- FAGOR, Siemens and FANUC Controls
- Flat Bed Lathe
- Manual, Conversation and CNC Operation
- Heavy-Duty Headstock
- Hardened and Ground Guideways
- Swing Over Bed: up to1,000mm(40")
- Spindle Motor: up to 40HP
- Transmission: 2-Speed Gearbox
- Chuck Size: up to 800mm(32")
- Bar Capacity: up to 150mm(6")
- Turning Length: up to 4,000mm(160")

GLOBAL SALES AND SERVICE:

Taiwan Headquarters, Chang Hua

U.S.A. Headquarters, Los Angeles

China Headquarters, Shanghai

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