

DIN-KO VERTICAL SPINNING & FLOW FORMING SYSTEMS

MADE FOR WHEEL, BUT MUCH MORE.

MACHINES · PROCESS · AUTOMATION · TURNKEY · PRODUCTION



CONTENTS

00

ABOUT **DIN-KO**



01

VERTICAL FLOW FORMING
SYSTEMS



02

PROCESS ECOSYSTEM



03

AUTOMATION & SYSTEM
INTEGRATION

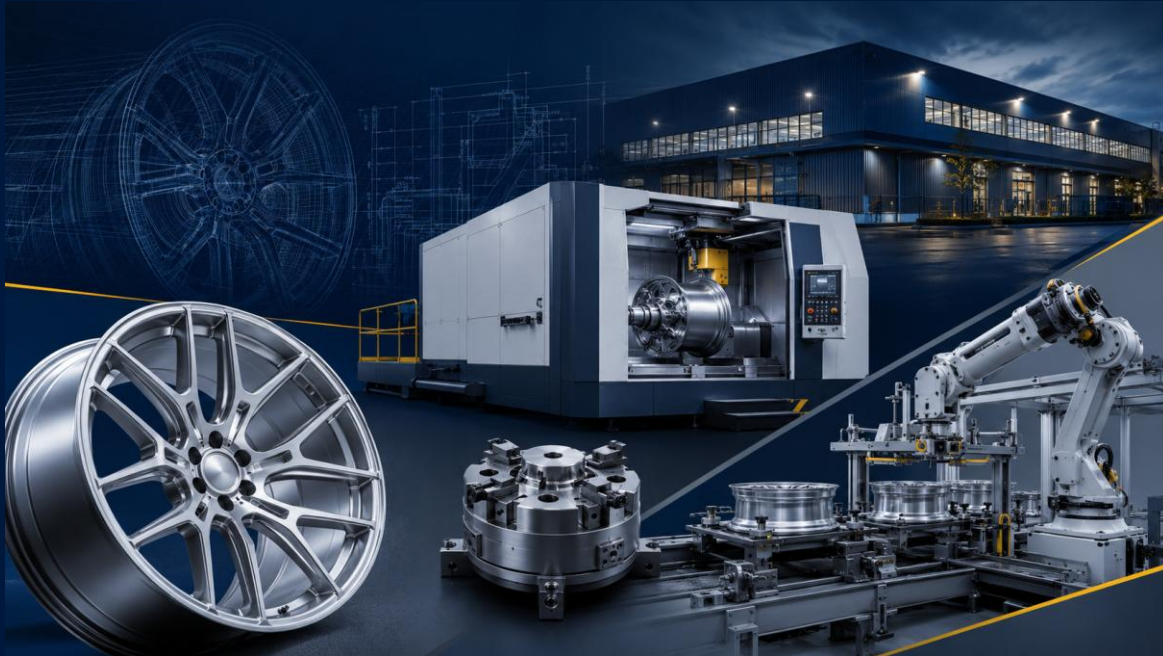


04

AFTER-SALES SERVICE &
GLOBAL SUPPORT

ABOUT DIN-KO

BUILT AROUND WHEEL MANUFACTURING. ENGINEERED FOR PRODUCTION.



DIN-KO specializes in aluminum wheel flow forming systems and related process integration. DIN-KO provides one engineering interface for complete forming capability.

Machine Engineering

Product & Process

Automation with turn key

Quality Validation

WHY DIN-KO

BEYOND PRICE. BUILT AROUND PRODUCTION.

DIN-KO offers an important alternative through complete peripherals, process transfer, rapid production ramp-up and responsive production-oriented support.

COMPLETE

Complete Equipment &
Process Ecosystem

3 WEEKS

From Installation to Initial
Production

RESPONSIVE

On-Site Support



Subject to confirmed site readiness.

VERTICAL FLOW FORMING SYSTEMS

VARIETY OF MACHINE PLATFORMS. ONE DIN-KO PROCESS ECOSYSTEM.



TAIWAN-BUILT PREMIUM SYSTEMS

VFFM700H-4AXIS
VFFM700H-6AXIS
VFFM700C-4AXIS/ 6AXIS
VFFM300SAR

STANDALONE MACHINE SERIES

VFFM700E-4AXIS
Standalone Machine Supply Only

CUSTOM Tooling

Forming Rollers

Peripheral Systems

EASY FLOW FORMER

FORMING PROCESSES

SELECT THE APPROPRIATE SPINNING PROCESS BASED ON THE MATERIAL AND WORKPIECE.

DIN-KO selects the appropriate machine configuration, roller setup, and process modules based on the material, blank type, forming temperature, workpiece geometry, and production requirements, rather than applying a single machine model to all products.

HOT FORMING

VFFM700H-4AXIS / H-6AXIS

WARM FORMING

VFFM700H-6AXIS + Heating torch

COLD FORMING

VFFM700C-6AXIS

STEEL DISC FORMING

VFFM700C-4AXIS

MULTI-PROCESS SPINNING

VFFM300SAR

STANDALONE WHEEL FORMING

VFFM700E-4AXIS



ENGINEERED BY GERAMN, TAIWAN-BUILT PREMIUM VERTICAL SYSTEMS

MACHINE · PROCESS · AUTOMATION · TURNKEY · PRODUCTION

DIN-KO's advanced vertical flow forming systems feature a servo-hydraulic forming architecture, with rigid mechanical structure, electromechanical integration, automation, and process validation all carried out by our German-lead engineering team. Depending on wheel design and process requirements, the system can be configured with dual rollers, triple rollers, or an dual-spindle drive configuration.

VFFM700H-4AXIS	Dual Rollers Hot Forming of Cast Aluminum Wheels
VFFM700H-6AXIS	Triple Rollers High-Efficiency Forming, Complex Profiles & Warm Forming for suitable alloy materials
VFFM700C-6AXIS	Triple Rollers + Upper & Main Spindle drive Cold Forming of Forged Aluminum Wheels & Steel Wheels
VFFM300SAR	1 + 2 Roller Multi-Process Configuration Small to Medium-Sized Axisymmetric Workpieces



Tooling

Software

Automation

Turnkey

VFFM700H-4AXIS

TWO-ROLLER VERTICAL FLOW FORMING SYSTEM



VFFM700H-4AXIS is the base model of DIN-KO's premium vertical flow forming system. Featuring a dual-roller configuration and servo-hydraulic forming architecture, it is primarily designed for the hot forming of cast aluminum wheels. The machine can be integrated with DIN-KO's tooling, forming rollers, preheating furnace, cooling, and automation systems to provide a complete flow forming solution.

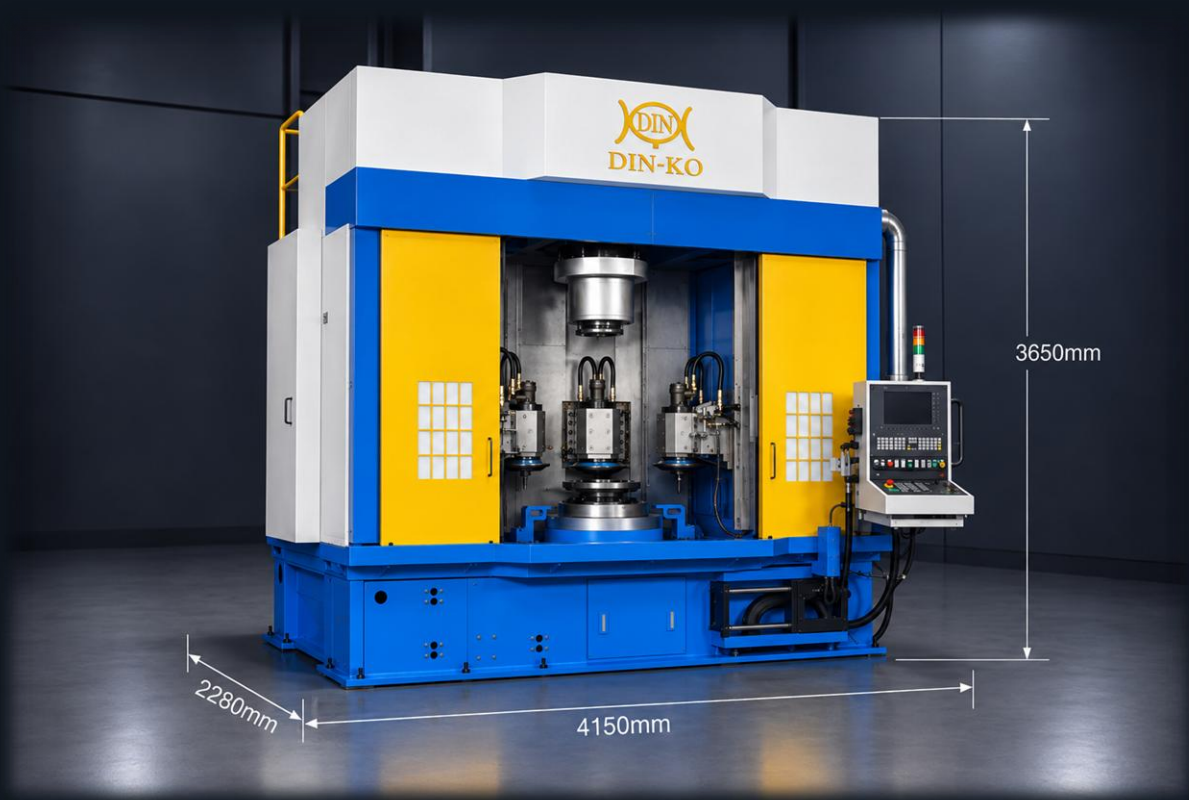
Wheel Size	16"-22"	Control	Siemens / Rexroth
Forming Rollers	2	Spindle Speed	50-850 rpm
Spindle Drive	110 kW	Application	Cast Aluminum Wheels

Detailed specifications are provided with the technical proposal.

VFFM700H-6AXIS

THREE-ROLLER VERTICAL FLOW FORMING SYSTEM

Balancing production efficiency with flexibility for specialized processes.



VFFM700H-6AXIS features a three-roller forming configuration with an dual cylinder tailstock system. The three forming rollers can be assigned different forming tasks according to product requirements, making the machine ideal for high-efficiency hot forming of cast aluminum wheels, complex profile forming, upward flow forming and warm forming of forged aluminum wheels when integrated with a heating system.

Wheel Size	17"-24"	Optional Spindle	165 kW
Forming Rollers	3	Control	Siemens / Rexroth
Standard Spindle	135 kW	Application	High-productivity/ Special profiles



PROCESS EXTENSIONS

EXTENDED APPLICATIONS WITH DIN-KO CUSTOMIZED MODULES

ONE-PIECE FRONT FACE REVERSE WHEEL

One-Piece Reverse-Mount Wheel. Customized tooling, forming rollers, and forming paths create specialized profiles during the forming stage, reducing the need for extensive subsequent machining.



REVERSE FLOW FORMING

Tube Reverse Forming. The mandrel, forming rollers, and process passes are configured based on tube diameter, length, material, and wall thickness variation.



SEMICONDUCTOR SHIELDING

Shielding Components for Semiconductor Equipment. Three forming rollers perform preforming, profile forming, and dimensional control.



Powering Industries with **DIN-KO** Solutions

VFFM700C-6AXIS

THREE-ROLLER DUAL-SPINDLE FLOW FORMING SYSTEM



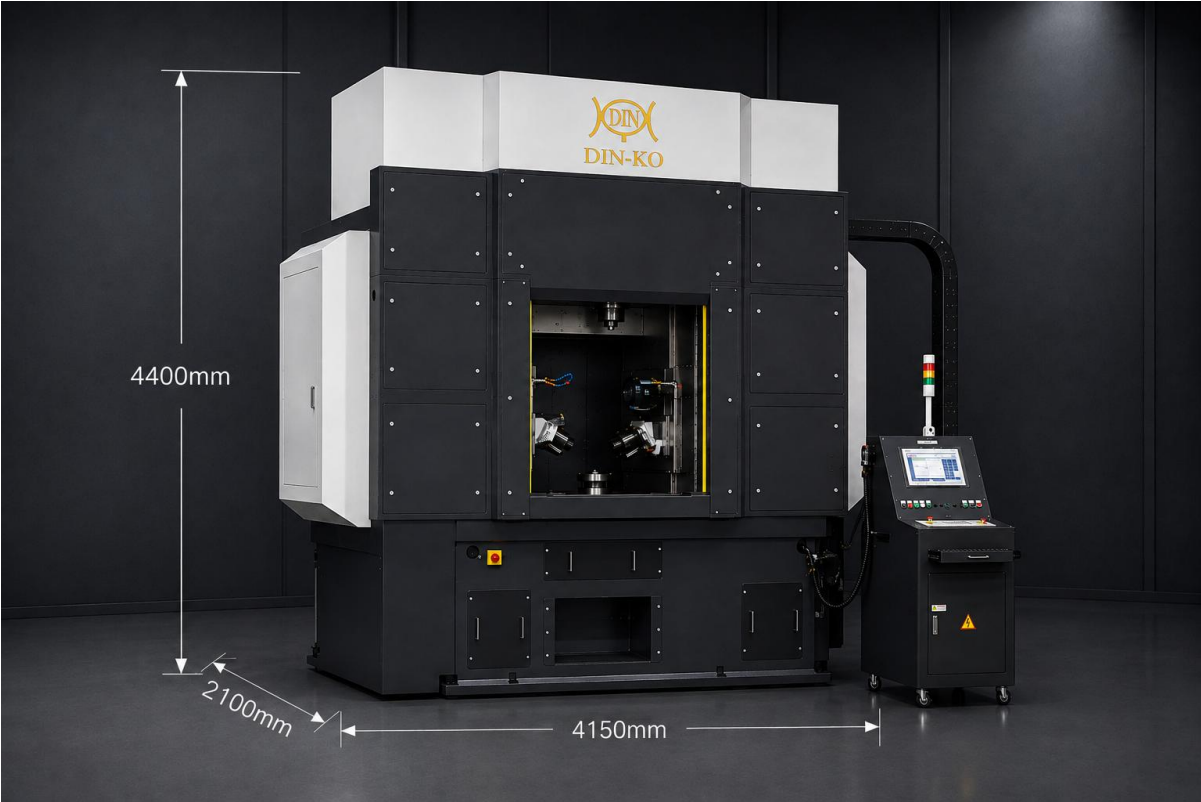
VFFM700C-6AXIS combines a three-roller forming configuration with upper and lower spindle drives. Each spindle is equipped with a 110 kW drive, providing a combined spindle output of 220 kW. The machine is primarily designed for cold forming of 17"–26" forged aluminum wheels, one-piece steel wheels, and other high-load forming applications.

Wheel Size	17"-26"	Combined Power	220 kW/270kW
Configuration	3 Rollers + Dual Spindles	Forming Force	Up to 300 kN
Spindle Power	110 + 110 kW/ 135+135kW	Control	Siemens / Rexroth

Upper Spindle + Main Spindle Drives architecture

VFFM300SAR

COMPACT MULTI-PROCESS SPINNING PLATFORM



VFFM300SAR is specifically designed for small to medium-sized axisymmetric workpieces and multi-process applications. Its 1 + 2 roller configuration allows the primary forming mechanism to be switched according to process requirements. Combined with DIN-KO's forming module, and software, the machine can perform conventional spinning, shear spinning, hub forming, and custom forming processes.

Max Workpiece Width	300 mm	Spindle Drive	110 kW
Max Workpiece Height	250 mm	Maximum Speed	650 rpm
Spindle Interface	A2-11	Processes	Spinning / Shear Forming / Hub Forming / Teeth forming

Spinning

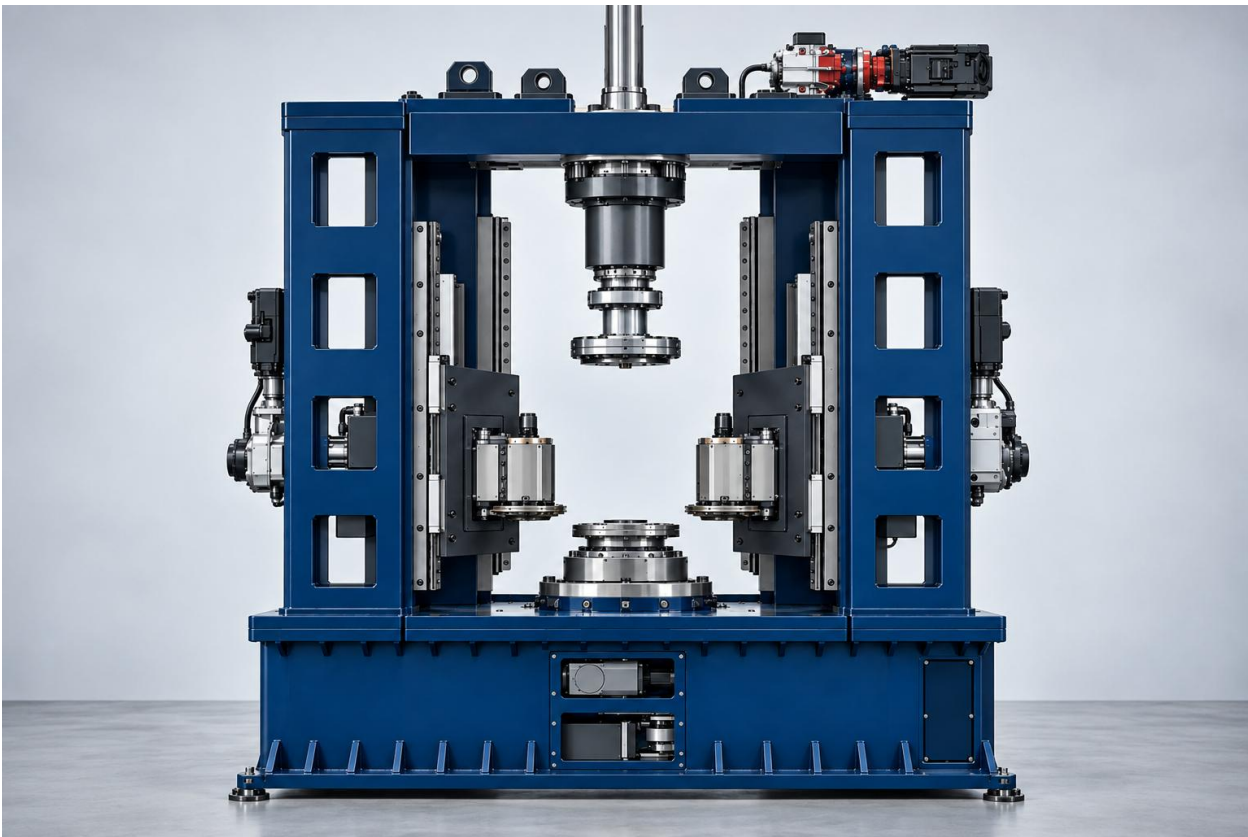
Shear Forming

Hub Forming

Project based

VFFM700E-4AXIS

STANDALONE ELECTRIC-SERVO WHEEL FLOW FORMING MACHINE



VFFM700E-4AXIS is designed for the wheel aftermarket, expansion of existing production lines, and customers with in-house system integration capabilities. The machine features a dual-roller configuration, electric servo forming drives, a Siemens 828D control system, and up to 185 kW spindle drive. It can be compatible along with DIN-KO standard tooling, forming rollers, and EASY FLOW FORMER.

Wheel Size	17"-24"	Spindle Speed	50-850 rpm
Spindle Drive	160/185 kW	Forming Force	130 kN
Control	Siemens 828D	Supply Model	Standalone Machine Only

STANDALONE MACHINE SUPPLY ONLY

MANUFACTURED IN CHINA TO DIN-KO SPECIFICATIONS

MACHINE SUPPLY OR COMPLETE PRODUCTION SOLUTION

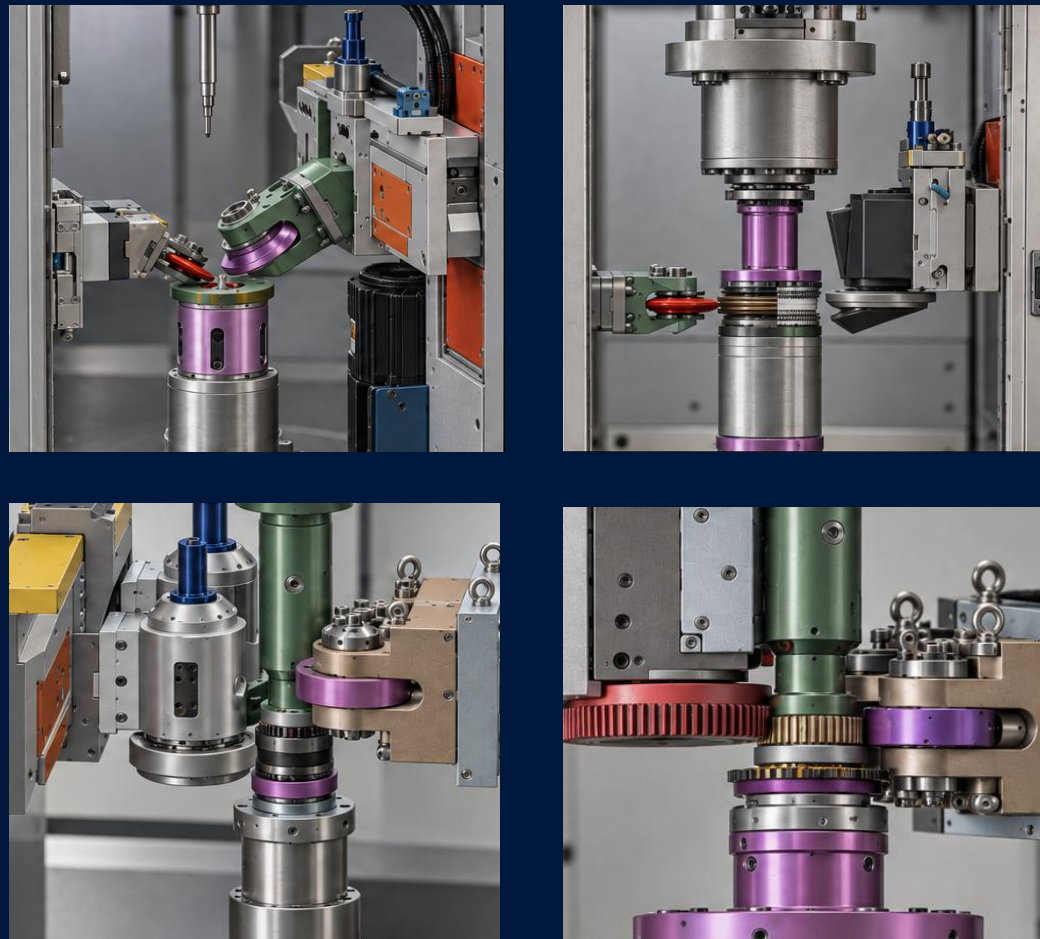
VFFM700E PROVIDES MACHINE CAPABILITY. DIN-KO PREMIUM SYSTEMS DELIVER PRODUCTION CAPABILITY.

The 700E adopts the same proven architecture as DIN-KO’s Flow Forming machine series, while utilizing a high-quality servo motor system. Manufactured in collaboration with DIN-KO-certified partners in China, it provides a reliable and cost-effective solution.

ITEM	High-end Series Made in Taiwan	VFFM700E
Manufacturing & Integration	VFFM700E: Not Available	Manufactured in China to DIN-KO Specifications
Forming Drive	Servo-Hydraulic	Electric Servo
Tooling & Forming Rollers	Complete Development & Validation	Available as Optional Equipment
Peripheral Equipment	Fully Integrated by DIN-KO	Customer Integration
Automation	Designed & Manufactured by DIN-KO	Customer or Third-Party Responsibility
Process Know-How Transfer	Complete Support	Defined Scope
Complete-System FAT/SAT	Available on a Project Basis	Not Included
Production Ramp-Up	Full Support by DIN-KO	Customer-Led
After-Sales Responsibility	Equipment, Process & Complete Production Line	Standalone Machine Only

PROCESS ECOSYSTEM: Flow forming modules

TOOLING, ROLLERS AND PROCESS PATHS - DEVELOPED AS ONE SYSTEM.



DIN-KO develops the tooling, forming rollers, and forming paths as an integrated manner based on workpiece geometry, material, blank condition, forming temperature, and machine platform. Tooling and forming rollers are not merely machine accessories; they are core elements that determine forming quality, cycle time, and process stability.

- Flow Forming Tooling
- Common Tooling Design
- Flow Forming Rollers
- Spinning and Shear Forming Rollers
- Roller Holders and Interfaces
- Production Trials and Validation



PERIPHERAL SYSTEMS

BUILT AROUND THE FORMING PROCESS.

LF429

Linear Preheating Furnace
Max. Workpiece Outer Diameter: 700 mm; target workpiece temp. up to approx. $400 \pm 20^\circ\text{C}$
Suitable for facilities with ample floor space, offering easy maintenance access and requiring only one robotic arm.



RPO410

Rotary Preheating Furnace
Applicable Wheel Sizes: 17"–26"; capacity approx. 60 pcs/hour
Compact footprint, equipped with two robotic arms for fast loading and unloading.



HT19D

Tooling Preheater
Maxi. Load Capacity: 650 kg; tooling heating temp. approx. $180\text{--}220^\circ\text{C}$
Provides a fast hot die change solution with overhead crane loading for seamless production changeovers.



Peripheral Equipment

- On Site Tooling Heating Cart
- Product Cooling tank
- Central Lubrication System
- Auto Release Spraying
- Dust Collection and Exhaust
- Robot system

DIN-KO FLANGING MACHINE



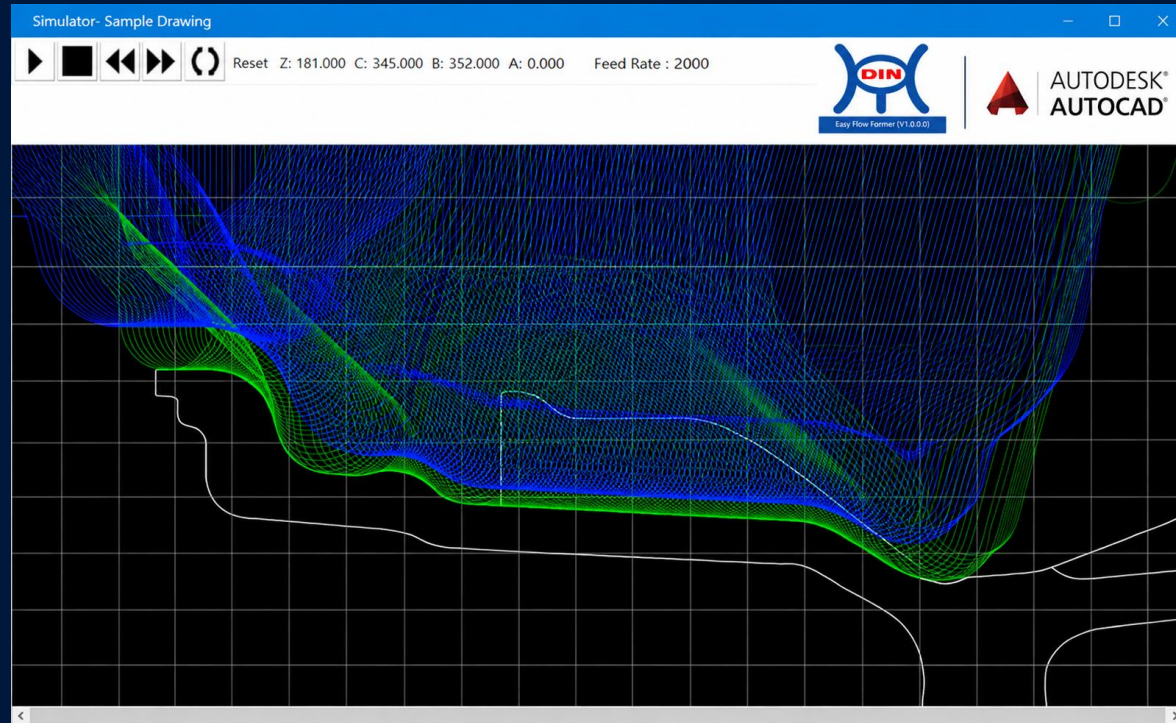
Preheating

Forming

Cooling

EASY FLOW FORMER

DIN-KO Flow forming/ Spinning Process Software
FROM MACHINE CONTROL TO PROCESS KNOWLEDGE.



EASY FLOW FORMER supports **product programs, process parameters, roller paths, and multi-pass spinning settings**, enabling operators to manage the spinning process in a more intuitive and production-oriented manner.

- Product Recipe Management
- Roller Path Programming
- Multi-Pass Process Setup
- Process Parameter Management
- Tooling and Roller Data
- Program and Version Management
- Alarm and Process Records

AUTOMATION

FROM MACHINE AUTOMATION TO COMPLETE PRODUCTION CELLS.



DIN-KO can integrate robot system, workpiece handling, conveyor buffering, measurement stations, safety systems, and upstream and downstream process equipment based on the customer's products, production cycle time, manpower, and factory conditions, creating **automated production cells with stable cycle times and consistent production performance**.

Robotic Handling

Infeed Position

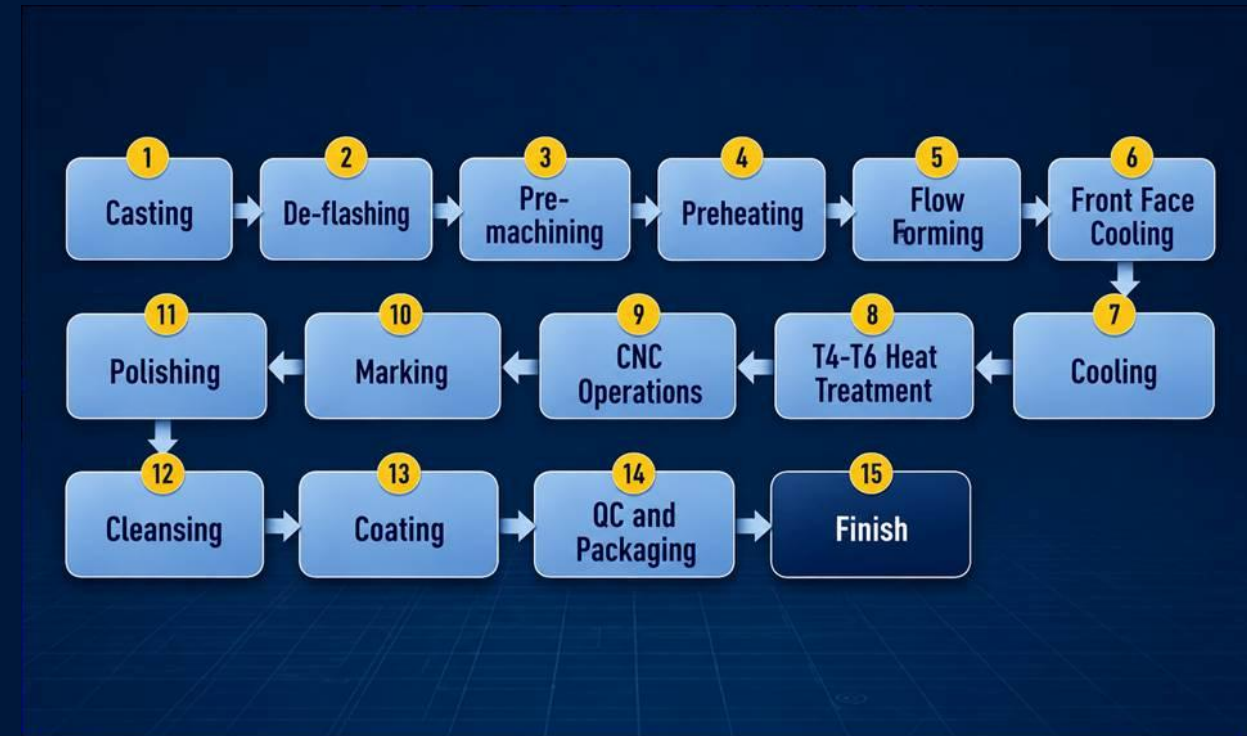
Measurement
Station

Dual Gripper /
EOAT

- Robot Loading and Unloading
- Modular Transfer and Buffer Systems
- Vision and Measurement Peripherals
- Safety-Oriented Cell Integration

SYSTEM INTEGRATION

MORE THAN A MACHINE. A COMPLETE PATH TO PRODUCTION.



DIN-KO takes the manufacturing process as the core and integrates machine tools, fixtures and tooling, special-purpose machines, auxiliary production equipment, automation, and safety control systems. All modules are engineered around the same workpiece, quality requirements, and production capacity targets, minimizing interface issues and responsibility risks among multiple suppliers.

PROCESS ENGINEERING

PERIPHERAL
COORDINATION

ONE PROJECT INTERFACE

Machine

Tooling

Heating

Cooling

Software

Safety Control

TURNKEY SOLUTION & TECHNOLOGY TRANSFER

DIN-KO DELIVERS MORE THAN EQUIPMENT — WE DELIVER THE CAPABILITY TO PRODUCE.

EQUIPMENT TRANSFER

Main machine, peripheral equipment, automation systems, tooling, and forming rollers.

PROCESS TRANSFER

Preform preparation, heating, roller paths, forming passes, cooling, and lubrication conditions.

KNOWLEDGE TRANSFER

Software operation, tooling changeover, maintenance, troubleshooting, and program adjustment.

PRODUCTION TRANSFER

Trial production, quality verification, cycle time optimization, and production ramp-up.



Detailed project configurations are provided with the technical proposal.

TARGETED PRODUCTION START WITHIN THREE WEEKS

TARGET COMPLETION OF INSTALLATION AND START OF INITIAL PRODUCTION WITHIN THREE WEEKS.

3 WEEKS

Subject to confirmed readiness of the foundation, utilities, materials, tooling and site conditions.

WEEK 1

- Installation & Connection
- Equipment positioning
- Utility connection
- Leveling and initial checks
- Peripheral installation

WEEK 2

- Commissioning & Training
- Machine commissioning
- Automation interlock
- Operator training
- Process program preparation

WEEK 3

- Trial Production & Ramp-Up
- Trial forming
- Parameter optimization
- Quality confirmation
- Initial production start

DIN-KO ONE ROLLER
SPINNING MACHINE



LIFECYCLE SERVICE & PRODUCTION SUPPORT

EQUIPMENT LIFECYCLE SERVICES & PRODUCTION SUPPORT

Responsive, Practical And Production-oriented.

DIN-KO's after-sales service is supported by a cross-functional team covering mechanical engineering, electrical control, software, tooling, automation, and spinning process expertise. Customers do not need to identify the source of a problem themselves. DIN-KO provides a single point of contact, with each issue analyzed and handled by the appropriate specialists within our team.

1 INSTALLATION SUPPORT



2 PRODUCTION RAMP- UP



3 MAINTENANCE SUPPORT



4 LIFECYCLE IMPROVEMENT



GLOBAL SUPPORT. CLEAR RESPONSIBILITY.

Global support, clear accountability.



HEADQUARTERS

DIN-KO MACHINERY TAIWAN

Global Headquarters
Engineering · Manufacturing
Process Development

VULCAN INDUSTRIAL THAILAND

DIN-KO Majority-Owned
Subsidiary
Regional Sales · After-Sales
Spare Parts

HONGJU INTELLIGENT TECHNOLOGY CHINA

DIN-KO Majority-Owned
Subsidiary
China Sales · Integration
After-Sales

DNR TECHNO SERVICE INDIA

India Sales · After-Sales ·
Spare Parts

Tell us what you need to form. **DIN-KO** will help define the path to production.

- Finished Part Drawing
- Preform Drawing
- Material
- Size and Wall Thickness
- Production Volume
- Forming Temperature
- Automation Requirements
- Machine or Turnkey Requirement

YOUR PARTNER FROM MACHINE TO PRODUCTION.



DIN-KO MACHINERY CO., LTD.
www.dinko.co | info@dinko.co

Strength in Simplicity.