OPTIMAL SOLUTION

DN Solutions
VIP Customer Newsletter

DN Solutions: the new name for Doosan Machine Tools

Interview with Wonjong Kim, CEO of DN Solutions

New model introduction at SIMTOS 2022

2022 issue no 17.

DN SOLUTIONS

Doosan Machine Tools' new name

The great journey of

DN SOLUTIONS continues

Doosan Machine Tools has earned a reputation as a global leader in the machine tool industry over the past 5 decades with a focus on the value of Machine Greatness.

Now, a new era begins. With the new name of DN Solutions, Doosan Machine Tools will continue its history as a company providing both products and integrated manufacturing Solutions.

Manufacturing Solutions Leader, DN Solutions

Learn more at DN-SOLUTIONS.COM

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FOCUS

Introduction to the new company/brand

DN Solutions, a new name of Doosan Machine Tools

Pioneering a new path by taking on constant challenges with the will of “NOW & NEW”

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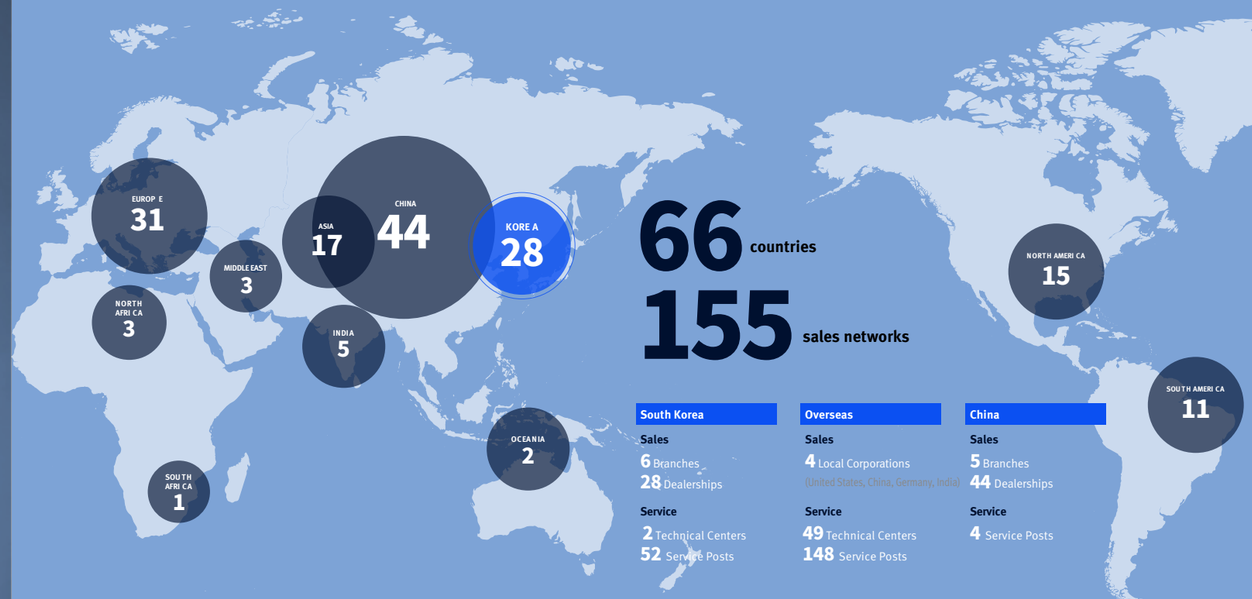
Leading the machine tool industry over the last 50 years and growth and development driven by constant innovation and the spirit of taking on new challenges, Doosan machine tools changes its name to DN Solutions. DN Solutions symbolizes 'NOW & NEW,' the determination of Doosan Machine Tools, formerly known as 'Daewoo' and 'Doosan', to explore new paths through continuous challenges. After changing its name, DN Solutions hopes to provide Integrated Manufacturing Solution fitting individual industry from simply being the machine manufacturer. Standing on a new starting point, we ask for your full support and encouragement.



Doosan Machine Tools, which has been a leader in the machine tool industry for half a century, will now stand on 'a new journey' to become ‘DN’ the leader in the global market of the future

Doosan Machine Tools, a leader in the machine tool industry for half a century

Over the past 50 years, Doosan Machine Tools has been a global leader in the machine tool industry, growing and developing through innovation with a spirit ready to face any challenge. Having started with the machine tool factory in 1976, and the R&D center completed in 2008, the company has secured cutting-edge technological competitiveness while working to develop new products, new technology and new applications. In particular, the company used its own software to produce flexible automation and smart machines with digital processing solutions customized for each industry. These reliable, top-quality products met the demands of the global market and increased customer satisfaction.

1976 Completion of machine tool factory

1979 Reached the 1,000 milestones in machine tool production

1980 Development and exportation of its NC lathes (PUMA 10 series)

1994 Establishment of local subsidiaries in the United States and Europe / Surpassed 100 billion won in annual machine tool sales

1997 Held the first Doosan International Machine Tools Fair (DIMF)

2001 CNC turning center and high-speed machining centers selected as 'world-class products of Korea'

2003 Began construction of manufacturing plant in Yantai, China

2007 Achieved annual sales of 1 trillion won

2008 Established the largest machine tool R&D center in South Korea

2009 Vertical Machining Center DNM series selected as one of Korea's best-in-class technologies (the National Academy of Engineering of Korea)

2013 Completion of Seongju factory / expands large-capacity machine tool manufacturing

2014 PUMA SMX series, FM/5AX series won the Red Dot Design Award (main competition)

2016 Renamed as Doosan Machine Tools Co. Ltd.

2018 Launched brand PUMA

2019 Held the 12th DIMF (20th anniversary)

2020 Launched PUMA SMX 5100L

Doosan Machine Tools' global performance seeks real-time, on-site cooperation in development, production, and services. As a result, it has formed a global network of 155 sales networks in 66 countries around the world, including the United States, China, India, and Europe to respond to the diverse needs of industries such as automobile, aviation, healthcare, energy, IT, and construction.

And now, 'a new journey'

Based on its growth, Doosan Machine Tools and DTR Automotive, ranked 3rd in the world for VMS(Vibration Management Systems) for automobiles, created an opportunity to move together toward a better future. On Jan. 28, 2022 Doosan Machine Tools came together with DTR Automotive to create a new family and now we embark on a new start with DTR Automotive.

Now reborn as "DN" to lead the global market of the future

Doosan Machine Tools will change its name to DN Solutions, while major shareholder DTR Automotive will change its name to DN Automotive, to write down a new history as "DN.'

In the DNA of ‘D’, in the name of DN Group, is engraved the rendezvous of DTR Automotive, stemmed from DONG-AH, and Doosan Machine Tools, developed from DAEWOO through DOOSAN. With this common DNA, we are going to build a new ‘D’ Story together. ‘N’ symbolizes Now & New. It signifies DN’s determination to explore new paths through continuous challenges based on its strong present. NOW, realizing the unlimited synergies by merging as one, it will move towards a greater NEW future. After changing its name, DN Solutions hopes to provide Integrated Manufacturing Solution fitting individual industry from simply being the machine manufacturer.

DN Group strives to be a global company that "creates a new future for people; through creative challenges." Such management philosophy is our spirit of challenging ourselves with the goal of greater growth. As a global company, DN Group aims to fulfill its role and responsibility through "creative human resources," "sense of responsibility for customer satisfaction," and "social contribution and ethics," while enhancing the value of humanity's future and building trust for shared growth with the customers.

DN Solutions pledges to work together with DN Group's corporate spirit, solidifying trust with dealers and partners and strengthening the competitiveness of our products and services. Please support DN Solutions in leading the global market under the new name of 'DN.'

Introduction to the new CI and BI of DN Solutions

New CI and BI have the meaning of strength, flexibility, dynamism, and corporate values and identity.

DN Solutions announced a fresh start by releasing new CI and BI with new corporate branding and identity. “CI” represents the will to actively respond to the metal cutting market, which changes systematically, and to provide greater value to customers “BI” represents the strength and dynamism to further increase the quality competitiveness of Doosan Machine Tools. Using images, the new CI and EI of DN Solutions express the will and passion to go beyond the scope of a simple machine-tool manufacturer and strengthen brand competitiveness as a company that provides all solutions related to metal-cutting

Brand Identity

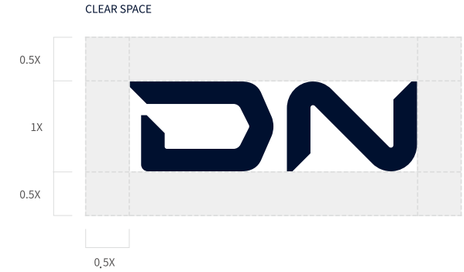
DN Solution's BI symbolizes 'PUMA' but is transformed to express greater tenacity, agility and dynamic. 'PUMA' projects speed, precision, and reliability of its products, which are of excellent quality. The triangular shield surrounding the PUMA signifies the history, tradition, and pride of half a century while embodying its three strategic directions: product group expansion, regional growth, and expansion of industry demand.

Presenting DN Solutions' NEW Corporate Identity and Brand Identity

DN Solution's CI is based on the group's English logo, 'DN,' giving a strong but flexible impression while expressing hope for the change and growth in the future. Moreover, its BI expressed through 'PUMA,' a symbol of tenacity, agility and dynamic, projects the speed, precision, and reliability of its products, which are of excellent quality. The triangular shield surrounding the PUMA signifies the history, tradition, and pride of half a century continued from Doosan machine tools.

Corporate Identity

DN Solutions’ CI expresses its hope for both change and growth aiming for the future, based on the English logo type of the group name “DN,” which gives a strong and flexible impression.



DN SOLUTIONS　DN 솔루션즈　DN 迪恩机床

Slogan

Reliable Partner / Optimal Solutions / Value for Price

“Machine Greatness”, DN Solutions’ slogan, implies its core value and vision of trying to satisfy the needs of customers, who want excellent machining, with differentiated values and products.

MACHINE GREATNESS™

Color

Future/Refinement/Trust

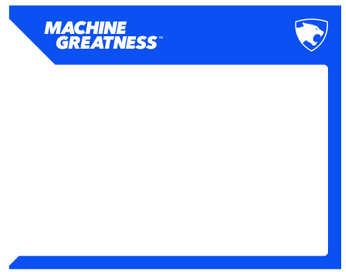
“DN Blue,” DN Solutions' brand color, means a future of growing alongside customers, refinement that leads the times, and an attitude of trust that clearly presents solutions that customers want.

DN Blue
PANTONE® / 2935 C

Graphic Motif

Focus + Frame

The graphic motif of DN Solutions expresses the philosophy of thinking only about customers and products with the concept of 'Focus'. The diagonal line in the slogan box represents dynamism, which is the intrinsic characteristic of cutting machining, and the frame implies the image of a company with innovative and professional competence.



Soon to be renewed as an integrated manufacturing technology solution company,

DN Solutions has begun a leap forward to set a new standard at the forefront of the global market.

Doosan Machine Tools started a new journey with a changed look after changing its name to DN Solutions. “I plan to grow DN Solutions as a manufacturing Solutions leader and set a new standard at the forefront of the global market,” said Wonjong Kim, CEO, at the company name announcement ceremony where the meaning and future vision of DN Solutions was announced. For this issue, we interviewed with CEO Wonjong Kim about the future of DN Solutions, which is strengthening its competitive advantages while also procure a preemptive engine in the future growth fields by changing its name.

What was the background behind the decision to begin this new journey for Doosan Machine Tools?

Doosan Machine Tools was founded in 1973 as part of the Korean government’s third 5-year economic development plan for promoting the heavy chemicals industry. Doosan Machine Tools has also been making strenuous efforts to push forward export and globalization with a sense of national duty to keep pace with the government’s export promotion policy. As a result, Doosan Machine Tools has grown into one of the top three global companies as of 2022, which has 155 sales networks by making inroads into 66 foreign countries.

Doosan Machine Tools has grown into a national representative company in the field of machine tools and became a new affiliated company of DTR Automotive in January of this year. As a result, Doosan Machine Tools strengthened its competitive advantages in the growth driver and procured a preemptive engine for future growth fields. Based on these achievements, Doosan Machine Tools plans to continuously identify new growth engines together with DTR Automotive and continue its status as a solution provider for the global manufacturing industry.

Please tell us more about DTR Automotive that became a family member.

DTR Automotive has established a strong foundation for manufacturing technology like Doosan Machine Tools since its foundation in 1971. DTR Automotive is a specialized company that manufactures and supplies automotive parts such as tires, batteries, and vibration management system (VMS) to the global market. In particular, DTR Automotive is trading with 30 global renowned complete car manufacturers, such as GM, BMW, and Tesla, by ranking top 3 in the global vibration-proof product market. DTR Automotive has improved its competitiveness and R&D assets by merging with and acquiring hidden strong companies abroad, whereas Doosan Machine Tools achieved a global top three position by taking challenges continuously. In this respect, the two are very similar in many ways.

What is the meaning of the company name DN Solutions, and what is in store for the future?

DN Solutions, the new company name of Doosan Machine Tools, means a merger with the parent company DN Automotive (formerly DTR Automotive) and a new start. The “D” in DN symbolizes the history of “D” that spans more than half a century, beginning with “D” in “Dong-Ah” and continuing to “DTR Automotive”. It also implies that the history of trust accumulated over 45 years, that is, “Doosan” after “Daewoo”, is continued with the “D story”.

In addition, “N” in DN refers to “now and new”, which means the will to develop a new path by taking on constant challenges based on current strengths. In other words, DN expresses our will to open a bigger new era by starting with the strong current synergy of the two companies, which have now become one family, as driving force.

Under the name of DN Solutions, Doosan Machine Tools will grow into a solution provider that can make vehicles safer instead of simply a machine manufacturer that produces automotive parts, a solution provider that makes airplanes safer instead of simply a machine manufacturer that makes airplane engines, and a company that realizes the dream of extending the lives of people instead of simply a manufacturer that makes machine parts for medical services.

What are the mid-to-long term vision and goals of DN Solutions?

As I said earlier, we aim to renew ourselves as an integrated manufacturing technology solution provider. DN Solutions plans to actively practice sustainability management by making bold investments in increasing manufacturing capabilities and fulfills social responsibilities in order to realize these qualitative goals and renew ourselves as a truly global specialized manufacturing company. Our quantitative goal of achieving KRW 4 trillion in sales will be our port of call after 10 years of our journey. In the near future, DN Solutions will set a new standard at the forefront of the global market as a manufacturing Solutions leader. This is the direction and aim that DN Solutions will move toward.

Our goal is to renew ourselves as an integrated manufacturing technology solution provider.

View the brand PR video of DN Solutions
https://youtu.be/9Kw6WQaPcAg

DN Solutions participates in SIMTOS 2022 Metal Cutting and Mold Technology Hall

29 types of products and Solutions to be introduced, from multitasking and 5-axis machining centers to smart technology

DN Solutions (formerly Doosan Machine Tools), a technology leader in the domestic machine tool industry, participated in SIMTOS 2022 and exhibited its new machines and products, including 29 types of multitasking machines, 5-axis machining center, and quartz machining center. In particular, the High Tech Industry Solution introduced by DN Solutions as a machining solution customized for each demanding industry such as automobile, aviation, IT, and energy proved that DN Solutions is a manufacturing solutions leader. With regard to this issue, we would like to review the major machines and Solutions introduced by DN Solutions at the SIMTOS 2022 exhibition once again.

Multi-tasking and 5-axis machining equipment introduced at the DN Solutions exhibition booth

The multi-tasking machine SMX 2100ST and SMX 3100ST are part of a turning center series that integrates the capabilities of several general machines into one machine. These machines enable the machining of complex parts such as milling, turning, and gear machining. The high-productivity horizontal turning center PUMA TT2100SYYB model has an upper and lower two-turret structure. This model adopts two opposing spindles, which are manufactured for the mass production of high-precision automotive parts or medical parts. Since the workpieces produced by each spindle is discharged through an automated device, productivity is very high. Among the DVF Series from DN Solutions, 5-axis vertical machining centers for complex workpieces were exhibited in the theme zone for multi-tasking and 5-axis machining centers, with this exhibition featuring the DVF 5000, DVF 6500 and DVF 8000T-AML models. The DVF Series, a new 5-axis machine center line-up, has significantly improved the reliability and productivity of 5-axis machining and applied grease lubrication to each axis system by default for the eco-friendly operation of the machine.

DN solution's 5-axis and multi-task machining center has achieved high productivity alongside high-speed, high-precision and high-strength machining

The DN Solutions booth at SIMTOS 2022 introduced various multi-tasking machines and 5-axis machining center models that not only support high productivity and high-speed, high-precision and high-strength machining, but also ensure stable machining quality during long-hour machining. The multi-tasking and 5-axis machining center introduced at the DN Solutions booth include SMX 2100ST, SMX 3100ST and TT2100SYYB, and DVF 5000, DVF 6500T, and DVF 8000T-AML.

View the DVF 5000-AWC video
https://youtu.be/_gNil2Xy51s

DN Solutions' Solutions for the aerospace industry

VF 8000T-AML is equipped with a hybrid machining system that supports metal additive and cutting machining. It is a premium vertical machining center equipped with a metal additive function that can produce finished products with just one piece of equipment. Since it also includes a turning function, it can be flexibly applied to the machining of parts with complex shapes for the aerospace industry.
In addition, the second-generation NHP 5500, a compact horizontal machining center, has significantly improved productivity with the fast acceleration/deceleration X, Y, and Z-axis feed axis, and short tool-change time, and supports high-precision machining by securing the function of spindle thermal displacement compensation. Finally, NHP 5000 is a high-speed and high-performance horizontal machining center equipped with the powerful high-speed cutting capability and chip handling capability. Its extended unmanned automation solution (LPS, Linear Pallet System), axial center cooling, and three-point support structure allow for greatly improved precision.

DN Solution's machine line-up for the aerospace industry supports the optimal machining of difficult-to-cut materials and high-performance cutting conditions

Various materials such as aluminum, titanium, and Inconel are increasingly used for the parts applied to the aerospace industry, in order to meet high functionality requirements such as high precision, high reliability and high quality. The problem is that most of these materials are difficult to cut (low machinability) and require long machining because the materials evolve into more complex shapes. To meet these needs in the aerospace industry, machine tools are also improving the performance of the machines themselves while developing more customized Solutions for the demanding industry. This machine tool trend could also be seen at the DN Solutions exhibition booth. DVF 8000T-AML, 2nd generation NHP 5500 and NHP 5000 12/LPS are representative machines designed for the aerospace industry.

View the DVF 8000T-AML video
https://youtu.be/xFpiVfjnI6U

DN Solutions' machining Solutions for electric vehicle parts

The quartz grinding horizontal turning center XG 600 has an advantage in grinding machining as it features a high-output motor and a grinding spindle, ensuring high machining accuracy. This model is optimized for quartz and hole machining. In addition, VX 6500C is a model that is specialized for high-quality ceramic processing, which supports high-precision machining by applying a low-noise, high-precision spindle. It is a vertical machining center that provides precision-optimized performance by designing the feed system and peripherals optimally for machining performance and convenience that fit specific machining characteristics. The DN Solutions exhibition booth also exhibited the X-axis 700mm, long-axis tapping machining solution T4000LHS model, which was equipped with air-oil lubrication and 24000 r/min spindle, and the GVX 2430 model: a high-speed, compact, large-size plate part-processing machine.

Machine tools have evolved according to the trends of eco-friendly EV parts machining, such as high precision and high efficiency

The automobile industry is the largest demand market in the domestic production and manufacturing field. It is based around metal machining and affects the market most significantly. DN Solutions has also improved machine performance by keeping pace with the trend of manufacturing eco-friendly electric vehicles, such as high precision, energy saving and high efficiency, ultra-light, and difficult-to-cut materials/composite shape. Major exhibition machines include XG600, VX 6500C, T400LHS, and GVX 2430.

View XG 600 video
https://youtu.be/XyJtOAZ-6yY

Automation solution presented at the DN Solutions exhibition booth

DN Solutions exhibited the DVF 5000 model, a 5-axis machining vertical machining center equipped with AWC (Automatic Workpiece Changer), which is an automatic workpiece change solution for implementing an unmanned machining system, and the DNM 5700L model: a high-productivity, compact vertical machining center.
DN Solutions also exhibited DST20Y, which is equipped with a bar feeder that maximizes the convenience of loading machining workpieces, and PUMA TW2100M-GL, a multi-axis turret horizontal turning center that achieves excellent productivity by minimizing non-cutting time based on the simultaneous machining of two horizontal spindles. In particular, the Lynx 2600SY/COBOSOL was the smart factory solution that was highlighted at the exhibition. This solution integrates collaborative robot automation with the 2-axis horizontal turning center Lynx 2600.

Playing the role of smart machine tools by adding an automation solution in addition to the intelligent function of the machine itself

Machine tools are at the forefront of automation, smart and unmanned operation at the machining production site. Machine tools are also improving user convenience by advancing both hardware and control programs and software, which reduce set-up time, optimize high-speed feeding and thermal displacement, high-speed/high-accuracy contour control, create an optimal tool path, and smart monitoring. DN Solutions introduced automation Solutions based on machine tools at the SIMTOS 2022 exhibition booth, which resolves many difficulties such as delivery date reduction through high-speed production, growth of production, and shortage of workers and engineers.

View the DVF 2600SY-COBOSOL video
https://youtu.be/yI4f3FaNihQ

INSIDE

Hetraco (Netherlands)

DN Solutions' PUMA 700XLY, newly introduced by Hetraco, has a machining length of 5m and 6 steady rests.

Hetraco innovates its production with an unprecedented six steady rests

Took a big step forward with the turning center PUMA 700XLY and an unprecedented 6 steady rests (3 dual steady rests)

Hundreds of thousands of parts are used in the fields of aerospace, ships, power plant turbines, and offshore plants. Although bolts and nuts are the most basic parts among them, their sizes are diverse and special machining technologies are required depending on the required characteristics and materials. Hetraco, a Dutch company, is a company that specializes in manufacturing quality special bolts and nuts, as well as studs and shafts. Hetraco is machining their special parts by introducing a new turning center from DN Solutions equipped with six steady rests that can be individually controlled. These 6 steady rests enable a stable production process by completely supporting long workpieces.

Six cradles prevent vibration by supporting a long shaft. Hetraco plans to introduce more PUMA 700XLY.

Challenge of

Satisfying the need for high quality, reliability, and a short lead time

DN Solutions achieves an output increase and large-part machining with mid-to-large turning centers

Hetraco, located in Apeldoorn, Netherlands, manufactures bolts, nuts and studs made of various materials, such as steel, stainless steel, composite steel and nickel alloy. Hetraco also has specialized competitiveness in producing high-quality rolled fasteners. The technological prowess of Hetraco has been already highly regarded in this market, and Hetraco's products demonstrate excellent performance in the trickiest industries such as parts manufacturing, petrochemicals, marine and offshore industries. Said Rob Meilig, sales manager of Hetraco, “Our customers work in an industry that values high quality, reliability, and short lead times. Our factories are accepting more orders than our capacity to meet these requirements. The new turning center from DN Solutions has increased our production and enabled us to produce larger parts than before.

> “With this new lathe, we are preparing to meet a requirement that we have not yet created.”

The solution is:

Procuring surface quality and dimensional accuracy of long thread shafts

The answer has been found in the turning center PUMA 700XLY and 6 steady rests

Hetraco increased its output in all of its machined products. In particular, Hetraco invested in PUMA 700XLY, a new turning center from DN Solutions, to stably produce shafts (M100 to M200) that are increasingly in demand. Said Marco van Schoonhoven, production manager at Hetraco, “Since we had to quickly satisfy customers’ requirements from the perspective of surface and dimensional precision, we made a comprehensive list of machine tools that could resolve those requirements and specify the minimum requirements. Based on that list, we found that the PUMA 700XLY met all our requirement items.”

Hetraco can also perform milling work thanks to the 5m turning radius of PUMA 700XLY and a turret with 12 tools in the Y-axis. For optimal cooling and chip removal, the PUMA 700XLY is also equipped with a high-pressure system (70 bar). In addition, an automatic switch is installed in the rotating machine considering an ergonomic point of view, and six steady rests are available. These steady rests ensure stable processing, optimal surface quality, and dimensional accuracy by preventing the vibration generated by workpieces and the sagging of the relatively thin and long shaft. In particular, these 6 steady rests are composed of three dual vibration rests that can be individually controlled, which is another advantage. In addition, more stable machining is possible as they are designed to always support the shaft.

Optimal use of space

In general, one or two steady rests are installed in one machine tool. Since there was no company in Netherlands that produces a machine tool with so many steady rests, it was a difficult challenge for Dormac (Netherlands dealer of DN Solutions) to install 6 steady rests (3 dual steady rests). “We were looking for a machine with the extraordinary capacity of installing six steady rests, and we finally found it,” said Arthur Hoogland, rayon manager at Dormac CNC Solutions.

Dormac has finally found a method of combining all the conduits and accessories in a small size part, together with Staalmach that provide provided SMW Autoblok's tool cradle for this project.

The plan is continual productivity improvement

A step forward in the growth of productivity using of 6 steady rests stably

“We’re already very positive about the overall installation results after using PUMA 700XLY over the last few months,” said Marco van Schoonhoven, production manager at Hetraco. He added, ”although six steady rests made programs installed in the machine more complex, we expect that we can increase our productivity further with minute adjustment in the future.”

Hetraco

DBM 1525s

PV 9300 series

SMX 2100

3-axis door-type machining center with high machining stability and reliability

DBM 1525s

A symmetrical door-type structure for medium and large parts machining and high-quality mold machining
Z-axis box guideway applied to maintain high stiffness and improve machining precision

It is important to maintain high stiffness and implement stable machining by distributing heat, vibration, and load, which are generated during machining when machining medium and large parts and high-quality molds. DN Solutions launched a new product, a-axis door-type machining center (product name: DBM 1525s), which is optimized for medium and large mold processing to respond to these needs.

The DBM-s series adopts a symmetrical door structure and a highly reliable double column structure. DBM 1525s has a stable and symmetrical door-type structure. A bridge-type structure has been applied to this product, and this is able to provide stable durability and the highest precision by checking and verifying possible problems during machining in advance using the finite element method. As a result, errors on thermal equilibrium are minimized.

By default, the DBM 1525s is equipped with a RAM-type spindle suitable for powerful cutting and high-quality mold machining and a thermal displacement control function. In addition to the spindle thermal displacement compensation system and the spindle cooling system, the axis system housing cooling system is also installed by default, and this is able to prevent deteriorations in machining quality due to thermal deformation in advance. This enables workpiece precision and high stability of surface quality, and high precision can be maintained even for long-term machining.

In addition, Z-axis box guideway (spindle feed shaft) and double ball screws have been applied for high stiffness and powerful cutting, and other feed shafts satisfy both stiffness and speed by applying high-stiffness roller guides. The Z-axis for vertical spindle feed adopts a large-area, square-type, high-stiffness ram structure that supports all outer perimeter surfaces. Thanks to this structure, powerful cutting can be performed in every machining direction and at every depth without output loss even in the state of maximum protrusion of the ram, which significantly reduces the machining time of large workpieces and realizes high-quality machining surfaces. DBM 1525s provides a wide machining area for multi-purpose machining. With its maximum passing width and height of 1550mm and 1000mm respectively, DBM 1525s scan machine various products ranging from IT products such as thin films and LED to medium and large-sized industrial machine components. In particular, the table can load up to 10000kg, which is the largest specification in its class, providing customers with a wide range of machining options.

View the DBM 1525s video
https://youtu.be/n1QvOWx8dlc

High-productivity 24-inch vertical turning center

PV 9300 series

Released 6 lineups with increased machining capacity, productivity, and precision
A high-productivity turning center that offers a wide machining area and supports ATC options

DN Solutions is responding to productivity and precision improvement requirements by releasing a 24-inch vertical turning center that offers a wide machining area and supports ATC options. The PV 9300 series is a high-productivity vertical turning center equipped with a 24-inch chuck and is set to replace the existing PUMA VT900 series. PV 9300 series has a total of 6 lineup types and increased machining capacity, productivity, and machining accuracy compared to existing models. In addition, work convenience and user convenience have been increased through the improvement of the chip handling method.

The PV 9300 series adopts a 45kW high-power spindle motor. It has a column-integrated box guide structure that supports powerful cutting and demonstrates stable and reliable machining performance. In addition, its high-reliability servo-driven turret maintains accuracy even for long-term machining, and the X-axis scale option ensures high-precision machining. The PV 9300 series also uses a 12-angle turret by default, increases the speed of rotational tools to 4000r/min, and further increases productivity by diversifying the number of turret angle options and installing servo straddle tool as an option. The maximum spindle speed of this machine is 1800r/min, and the maximum torque is 4443N.m.

Machining capacity is increased compared to the existing PUMA VT900. Its maximum machining diameter is Ø930mm, and X-axis feed distance is 485mm and Z-axis feed distance is 890mm, providing a wide machining area. In particular, the automatic tool changer (ATC) is provided as an option for the aerospace market and demand market requiring machining of material that is difficult to cut and for customers who need interference avoidance such as a long boring bar to be able to install more tools. The number of ATC tool holders is 12 for C6 type and 8 for C8 size. In addition, the maximum tool size is Ø90x410L, and tools of up to 10kg can be applied. Furthermore, chip handling has been improved in the PV 9300 series by increasing the base chip outlet slope and the chip outlet size, and user operational convenience has also been improved through the use of the ergonomically designed operation panel. The side coolant tank and side chip conveyor can also be selected to increase space efficiency, and the user can customize the OP box, which has an adjustable height and can be moved and rotated easily. The operator can prevent erroneous operation because the tool numbers are displayed on the information display device in real time, allowing the operator to focus on the machining area during manual operation.

View PV 9300 series video
https://youtu.be/0mXiiWAZtJg

Process-integration-type multi-function mill turn center

SMX 2100ST

A next-generation multi-tasking machine equipped with high productivity and precise machining capabilities
Minimizes working time and manpower with convenient manipulability

DN Solutions has released the SMX 2100 series, a next-generation multi-tasking machine equipped with both high productivity and precise machining capabilities alongside convenient manipulability.
SMX 2100 series is a multi-tasking turning center that integrates the capabilities of several general machines into one machine using nine axes and provides high productivity by minimizing working time and manpower. SMX 2100 series also provides the maximum machining capability in its class based on the multi-tasking machining capability of the first and second spindle, B-axis, milling, and lower turret. It demonstrates excellent performance in machining parts that require more complex machining.

In particular, the SMX 2100 series' orthogonal structure maximizes the machining area and maintains high precision even during long-hour machining by minimizing the thermal displacement of the spindle and feed axis using the high-speed cooling device and using the smart thermal displacement compensation function. In addition, the SMX 2100 series can enable higher productivity since the 12-angle high-stiffness servo turret can be selected, which supports powerful cutting. The maximum spindle speed of this machine's first and second spindle is 5000 r/min, and that of the milling spindle is 12000 r/min. This machine has 40 (80 and 120 are also available) C6 type ATC tool holders.

The SMX 2100 series is based on an ergonomic design, and its operation panel is easy and convenient to use. In particular, tools can be maintained easily as the tool magazine is positioned in the front and a separate ATC touch screen is provided. In addition, the user-friendly user guide function is added to the operation panel that supports height adjustment, rotation, and movement to the left and right.

View SMX 2100 video
https://youtu.be/aLiHh0ud8wY

DN SOLUTIONS

Doosan Machine Tools' new name

DN SOLUTIONS

opens a new beginning

D story for N ow & new

We’re looking for next-generation competent individuals ready to build a new future by taking on creative challenges.

www.dn-solutions.com

DN Solutions is a member of DN Group.