DOOSAN

CUFOS

Customized User-friendly Flexible Operation Solutions

MACHINE GREATNESS™

CUFOS

Customized User-friendly Flexible Operation Solutions

CUFOS is a PC based control system created by Doosan Machine Tools. Equipped with intuitive user-friendly functions such as a smart phone screen and easy customization, CUFOS helps to improve operational efficiency and performance for the user.

• Features of CUFOS

User-Friendly

- 19 inch Multi Touch Screen
- Multiple Apps such as –
  - CPS app (Collision Protection System)
  - Turn-cut app
  - Tool management app
  - Status monitoring and alarm guidance app
- Max. program memory : 40GB *option*
- App-based Interface for Smartphones & Tablet PC

Customized

- Simple Customization
- Extend Functionality with Additional apps
- Register for up to 6 individual users

Flexible

- Simple Connectivity with External Software (Cloud, Office etc.)
- SSD data server app
- PC based operating system (Windows®7)

CUFOS Interface

User-Friendly Interface

CUFOS, the PC-based control created by Doosan Machine Tools, is an integrated system solution using an intuitive 19 inch touch screen. The system provides a convenient operator interface, a high level of customization and many useful high technology apps.

Intuitive operation via the touch screen
Simple customization is available for customers' work environment.

Supports various Apps in three fields – Setup/Machining/Utility.
It provides easy configuration by allowing the user to add and edit functions on the Home Screen according to job requirements.

CUFOS Open CNC

CUFOS operation for enhanced productivity

The CUFOS operating system is based upon the integration of all aspects of the manufacturing process, including setting, machining and maintenance. It consolidates up-to-date software technology created by Doosan Machine Tools, to improve overall efficiency and productivity. Using the system's modular construction, each function can be easy integrated with external PC software systems and applications, such as CAM and Tool Data systems.

DOOSAN CUFOS

Programing
Set up
Tool data
Machining
Maintenance

PC software   Applications
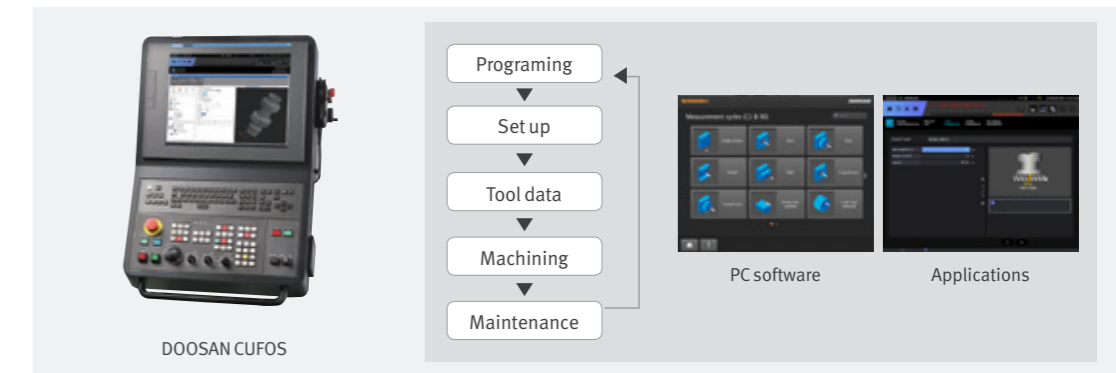
CUFOS Machines

Maximizing efficiency for multi-tasking machining

Applied to those multi-tasking turning center like PUMA SMX series as well as high performance, high productivity horizontal machining center NHP/NHM series, CUFOS maximizes the operational efficiency by adding up-to-date software technology of Doosan Machine Tools including new developed application such as CPS (Collision Protection System), Turn-cut, and the Tool Management function etc.

PUMA SMX series   NHP series   NHM series

TT series   DVF series

Machining

Reduce downtime and improve productivity by providing CPS(Collision Protection System), real-time status monitoring and maintenance guides during operating the machine

CPS (Collision Protection System)

A function to prevent real-time collision in manual mode between the tool and equipment / machine elements inside the working area.

Applicable models: NHM/NHP/PUMA SMX series
• Supports Sandvik's cloud-based tool library for creation of 3D tool model

Use the Setup Manager with the CPS app to build up the machine model, and add tool, workpiece and workholding equipment details.
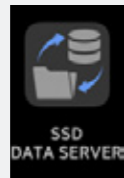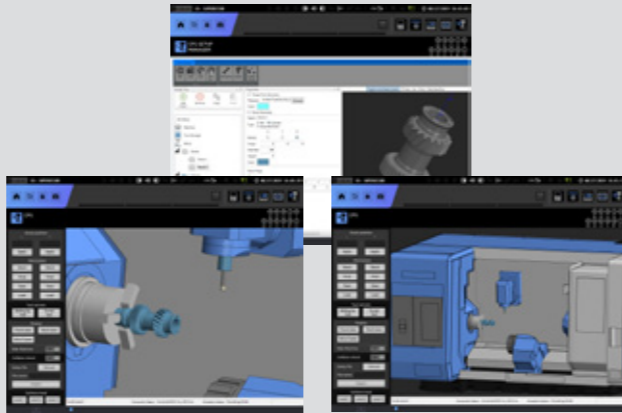
SSD data server

As a PC based NC, it allows the HDD to be used as a storage space for machining program, saving time for program transfer.
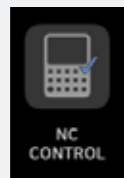
Applicable models: NHM/NHP/PUMA SMX series
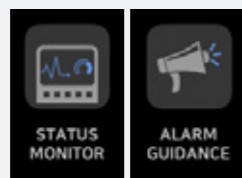
Max. storage size
40GB*

Max. file size
2GB

Max. file number
Up to 1000
(including folder)

✽ Max. storage size is determined by the size of SSD in Panel iHPro. If customer need Max. storage size of 40GB, it is necessary to select SSD129GB(option).

NC control

Easy to convert the screen to standard FANUC format for operator convenience

Status monitoring & Alarm guidance

Displays the cause and necessary action for NC/PMC alarms during machine running time. The system can send an email containing the alarm message if the condition persists for a specified time period.

Applicable models: NHM/NHP/PUMA SMX series

Set up

Make easy & interactive guides to facilitate machining preparations such as setting materials, tool management and warming-up
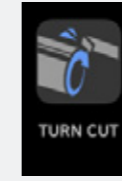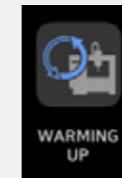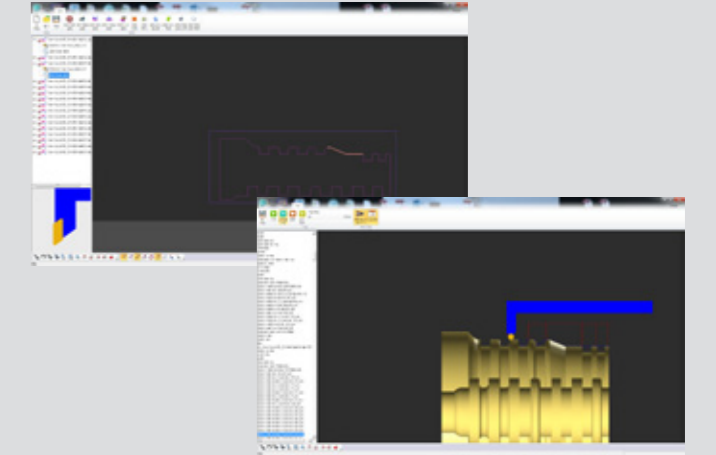
Turn cut

Generate tool path for Turn-cut operation

Applicable models: NHP series
• Linear scales and ballscrew shaft cooling are required on the machine.
• Renishaw NC4 should be included depending on the level of precision required by the customer
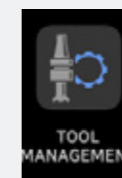
Warming up

Automatically checks if a warm up process is required, and displays the required operator procedure graphically. The requirement is automatically determined by the machine status.
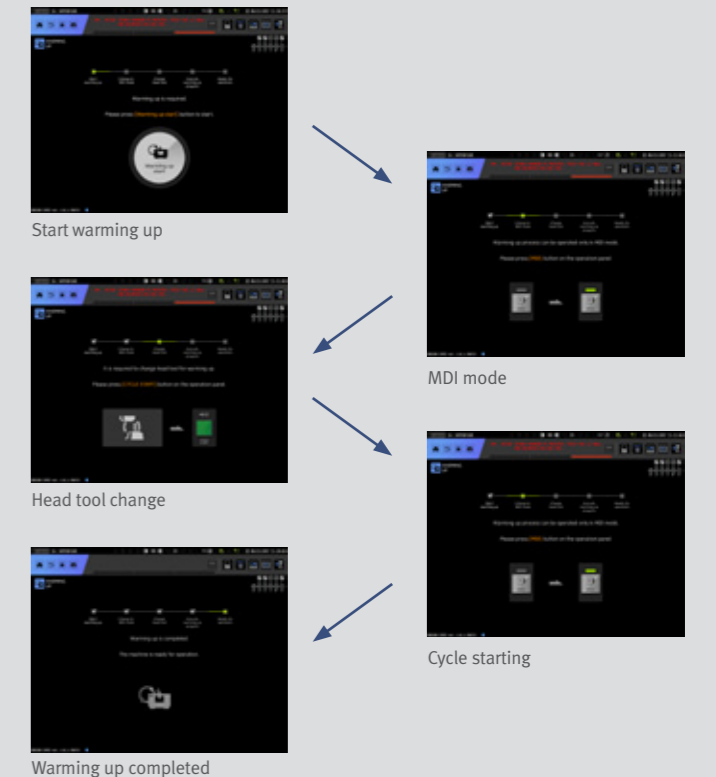
Applicable model: PUMA SMX series

Start warming up

Head tool change

Warming up completed

MDI mode

Cycle starting

Tool management

Doosan EOP (Easy Operation Package) tool management

Applicable model: NHM / NHP / PUMA SMX series
• Works with TMT8 or TMT8 Random

Includes a summary monitoring screen and gives the operator easy access to Doosan's own tool management system which provides comprehensive real time data on each tool, such as remaining tool life and status of tool groups.

Support user convenience functions and additional software modules handling various peripheral devices like measurement
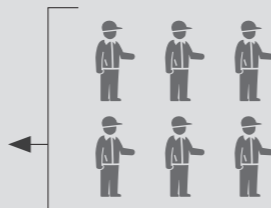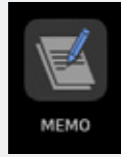
Setting

CUFOS Provides management and setting functions such as HMI parameter / User setting / Setup manager /e-mail

User setting
Allows the user to register and delete up to six persons from the user account. CUFOS apps and NC functions can be user-restricted as necessary.

Register user account up to six users

Memo

Users can generate memos, either with a high level of detail via screen capture, or entered by keyboard/ touchscreen. The user can add data to existing memos if required
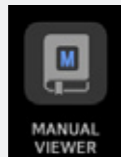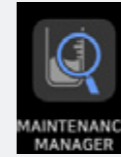
Maximum 120 memos can be saved

메모

Screen capture

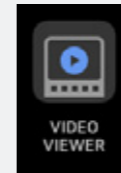Memo through touch screen or key board or using a captured screen

Manual viewer

Users can store and view manuals on the 19 inch screen.

Maintenance manager

Monitors the status of machine and control elements, and confirms the alarm condition and maintenance schedule for preventative maintenance.

Video viewer

Video transfer and viewer functions make clearer communication possible between operators and helpful for training new workers, complex job arrangement

CNC memory
Video list
USB drive
Video screen

* Video format : .wmv, .avi, .mpg, .mpeg, .mp2, mp3, .wav, .mov, .mp4 (same as Window media open files)

Go back
Play/Stop
Go forward

Sketch cycle

Easy and Quick, but Powerful programming for complex machining

Sketch cycle is easy-to-use conversational programming software that make a support to code complex shapes and machining processes such as gear skiving, hobbing and polygon turning.

Advangages

- **Easy to use even for beginners with conversational programming by advising workpiece shapes, tool information and machining conditions**
- **Expensive CAM software is not required**
- **Reduce coding time by up to 70% while minimizing trial and errors**
- **Enable to utilize the recent high productivity processing program such as gear skiving**

[Use to an individual machining program]
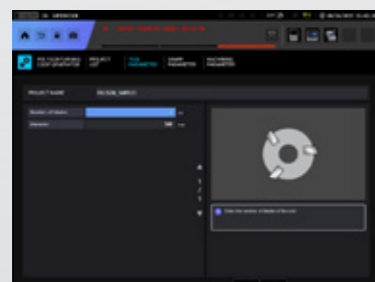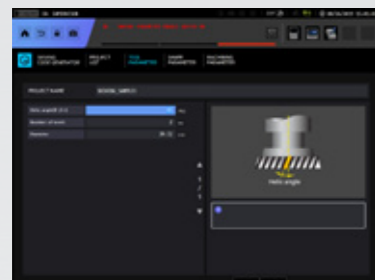
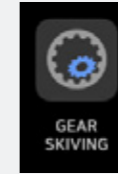**Create a machining program**

or
[Insert programming codes into the whole program]

* Please contact to DOOSAN on further information
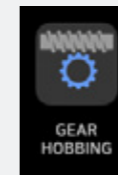

Sketch Cycle

Gear skiving

Gear skiving is carried out in 5 axis machines for more flexible and productive gear machining. The complete component can be finished in one machine, which shorten production time and reduce handling and logistics cost.

*models available : PUMA SMX series

Gear hobbing

Gear hobbing make it easy to proceed gear machining with general turning centers. Gear machining programs can be created by the simple conversational programming so program coding and set-up time can be saved dramatically.

*models available : PUMA SMX series
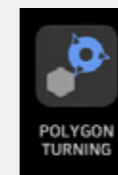
Polygon turning

Polygon turning is a machining process which allows non-circular forms(polygons) to be machine turned without interrupting the rotation of workpieces. It allows rapid production and clean machining of advanced geometries.

*models available : PUMA SMX series

Standard / Optional Specifications

A diverse range of functions and apps are available to meet specific customer requirements.
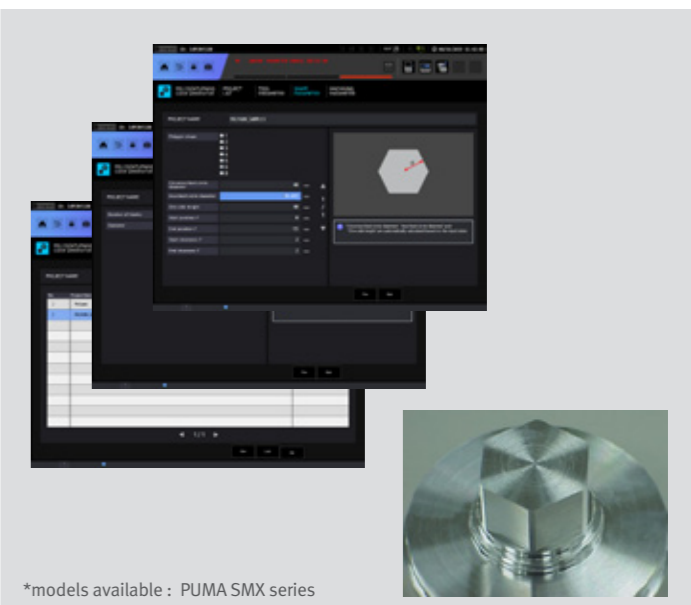
● Standard ○ Optional X Not applicable

NO.	Description	Features		PUMA SMX series	NHP/NHM series	DVF series	PUMA TT series
1	Hardware	Display Unit	19" Color LCD Screen	●	●	●	●
2		Main RAM Memory	4GB	●	●	●	●
3		Program Storage Memory	5GB	●	●	●	●
4			20GB	○	○	○	○
5			40GB	○	○	○	○
6		2 point-touch panel port		●	●	●	●
7		Windows 7 operating system		●	●	●	●
8	Applications	Doosan Tool Management		○	○	X	X
9		CPS(Collision Protection System)		○	○	○	X
10		SSD Data server application		○	○	○	○
11		Set and Inspection Application(Renishaw)		○	○	X	X
12		Manager's Message Notification application		●	●	●	●
13		FTP Server service		●	●	●	●
14		Smart key access control application		○	○	○	○
15		Memo Application		●	●	●	●
16		Machine status Monitor application		●	●	●	●
17		Alarm guidance application		●	●	●	●
18		Sketch Cycle		○	X	X	X
19		Sketch Turn for CUFOS		X	X	X	○
20		CS Turncut		X	○	X	X
21		BLUM Contour Scan(BLUM)		O	X	X	X
22		Alarm Notification via email		●	●	●	●
23	iHMI Basic Application	Manual viwer application		●	●	●	●
24		Calendar application		●	●	●	●
25		Browser application		●	●	●	●
26		Periodic Maintenance Application		●	●	●	●
27		Data Logger application		●	●	●	●
28		Servo viewer application		●	●	●	●

* Please contact your Doosan machine tool representative for detailed solution information.

CUFOS

User-friendly interface

The integrated system solution uses an intuitive 19 inch touch screen, and maximizes user convenience through easy customization in the work environment.

CUFOS operation for enhanced productivity

The operation system consolidates up-to-date software technology of Doosan Machine Tools to improve efficiency and productivity of the machine tool.

Maximizing efficiency in multi-tasking machining

Applied to PUMA SMX series and NHM/NHP series, CUFOS maximizes operational efficiency by using Doosan Machine Tools" up-to-date software Apps, such as CPS (Collision Protection System), Turn-Cut and Tool Management.

Doosan Machine Tools

www.doosanmachinetools.com
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www.youtube.com/c/DoosanMachineToolsCorporation

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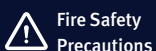Bangalore-560064

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⚠ **Fire Safety Precautions** | There is a high risk or fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting use coolants and modifying the machine without the consent of the manufacturer. Please check the SAFETY GUIDANCE carefully before using the machine.

ver. EN 190903 SU