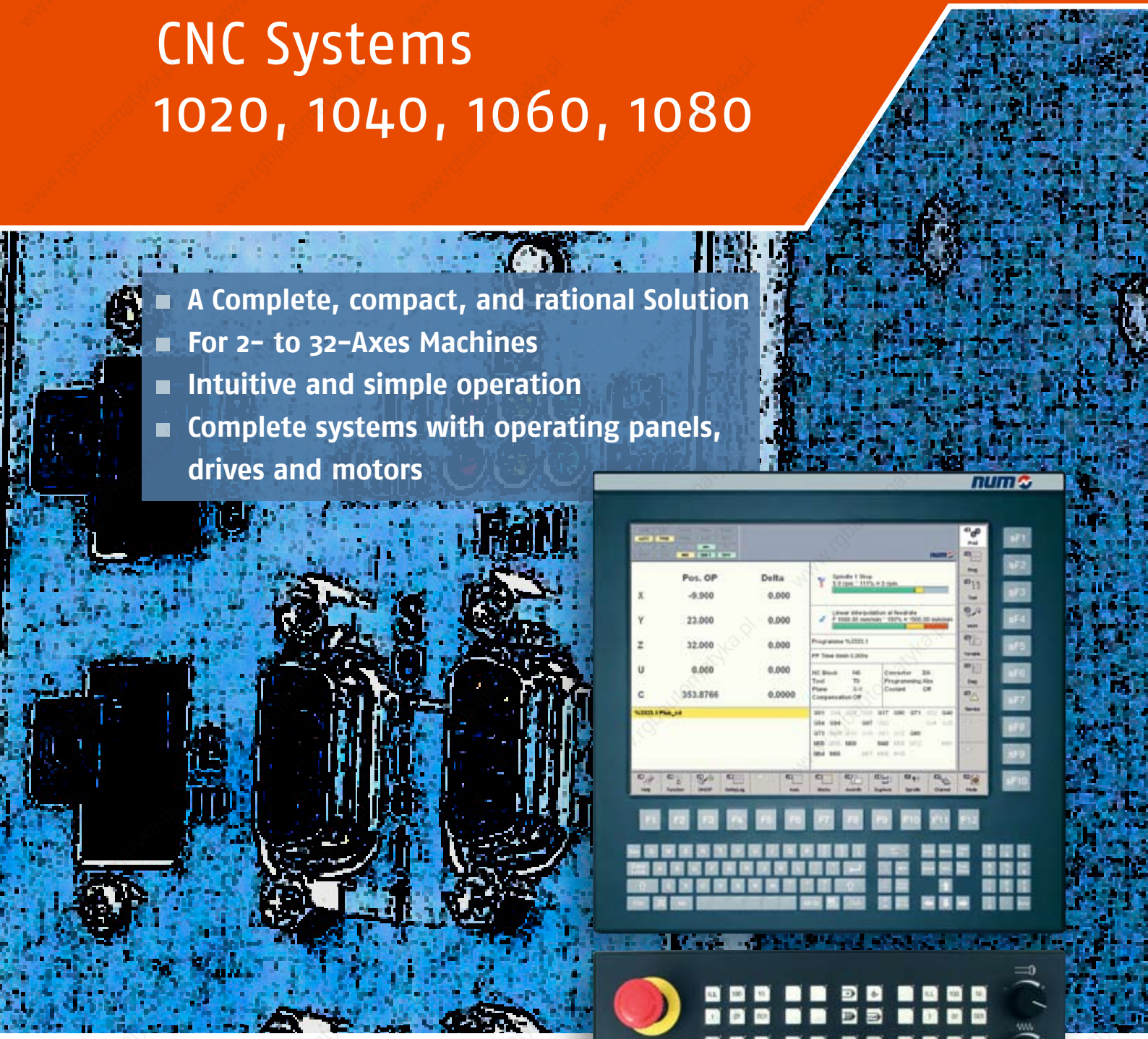
Num Power

CNC Systems

1020, 1040, 1060, 1080



- A Complete, compact, and rational Solution
- For 2- to 32-Axes Machines
- Intuitive and simple operation
- Complete systems with operating panels, drives and motors

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num®
CNC HighEnd Applications

CNC System

Num Power: Powerful Solutions for 2- to 32-Axes Machines

A Consistent Line of CNCs

All the CNCs of the Num Power 1000 line now benefit from the advantages of compact technology:

A significant saving of space in the electical cabinet and fully homogeneous with MDLA axis servodrives, which are the same height and depth,

Simplified connections, internal and remote inputs/outputs bring down wiring costs and speed up commissioning,

Reduced maintenance costs, etc.

Faster CPU and Performance Enhancements

The Num Power 1000 line offers a wide choice of platforms based on up-to-date generation processors. This flexibility allow us to tailor the systems exactly to the needs of our customers.

Cutting-Edge Software

Num Power 1000 CNCs are provided with high-level algorithms which optimize overall productivity by guaranteeing higher accuracy with excellent surface finish: coordinate conversion, high-precision contouring, progressive acceleration with controlled jerk, anti-pitch correction, look-ahead, B-spline and NURBS interpolation, structured programming, dynamic operators, etc.

NUM Power	1020	1040	1060	1080
Total axes, spindles, handwheels, measurements	2 to 5	1 to 6	2 to 12	2 to 32
Interpolated axes	4	6	8	9
Spindles *	0 to 1	0 to 2	0 to 3	0 to 4
Handwheels	0 to 2	0 to 3	0 to 4	0 to 4
Axis groups *	1	1 to 2	1 to 3	1 to 8
Axis groups for General Purpose (GP)	–	1 to 4	–	–
Inputs/Outputs of the built-in PLC	up to 112	up to 256	up to 336	up to 1024
Inputs/Outputs for Wood (W)	up to 112	up to 384	up to 512	up to 1024
Ladder and C language programming	yes	yes	yes	yes
PC panel	yes	yes	yes	yes
Compact panel	yes	yes	yes	yes
Operator panels	–	yes	yes	yes
Machine panels	–	yes	yes	yes
Portable operator panel	yes	yes	yes	yes
Serial links	2 to 3	2 to 3	3	3
Ethernet TCP/IP	yes	yes	yes	yes
Uni-Telway and Fipway network	yes	yes	yes	yes

* = Without General Purpose (GP) appications

PC panel

The PC-based panel, now available on all Num Power 1000 CNCs, makes the numerical control continuously upgradable and able to integrate applications developed by the user (man/machine interfaces, machining application programs, CAD/CAM) and by the manufacturer (maintenance aid tools, machine supervision, etc.) and directly use the software workshop developed under Windows by NUM.

Creative and intelligent solutions

NUM has developed a number of customer and application-specific solutions in many industries. For car makers and their suppliers, these are, for example, CNC systems designed to control tank welding systems, the automation of large metal presses and much more. The entire spectrum ranges from aircraft construction to furniture manufacturing, from turbine construction for power plant construction to complex transfer machines that extend over 120 axes in the clock manufacturing industry. Alternatively, our NUM Retrofits give older machines a new lease on life.

Real-life solutions to real-life problems – always on the right track with NUM.

Partnership

The optimum cooperation with our partners in the machine and production industry is based in three development and project concepts, enabling maximum benefit and efficiency of CNC controllers, drives and NUM services.

Operation

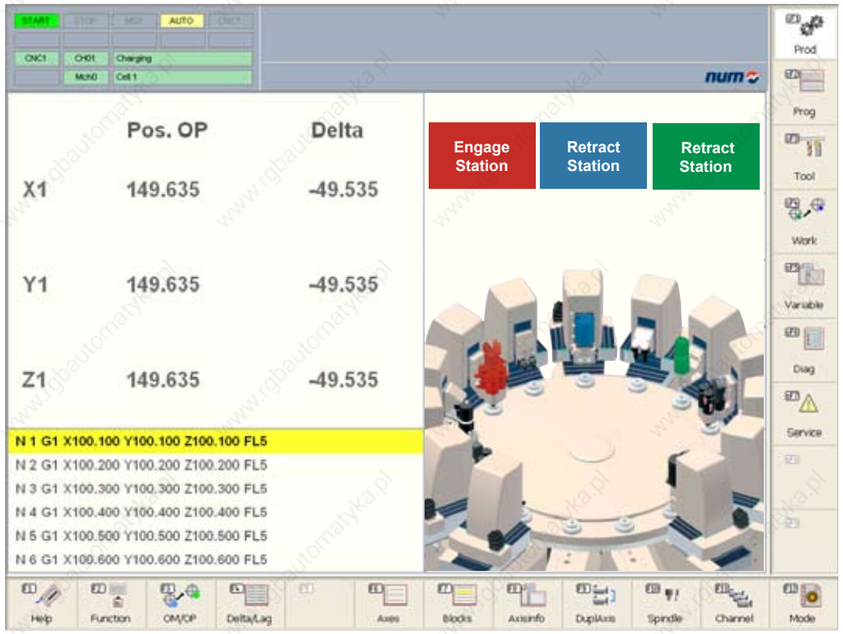
NUMpass HMI: Fully configurable user interface and special functions

The human-machine interface NUMpass HMI and its simple programming is the key to customer- or application-specific machine control.

As a supplement to the standard configuration options, the user interface can be configured, with the NUMpass HMI, to fulfill the needs of specific application requirements. The modular structure of the software and its special tools make it possible to easily develop or modify special or customized functions in a real-time application. This allows you to fully take advantage of the machines strong points, logically model the applications and, consequently, increase the efficiency of the machining processes.

The user interface can be easily customized using standard development tools and editors such as HTML and Java Script – Visual Basic, Delphi, Visual C and C++ are supported as well.

Classifying the MMI operating mode according to contexts allows you to adapt the type of information displayed for each category of users, namely; programmers, set-up technicians, operators, maintenance personnel, etc. The easy-to-use, web-based remote maintenance facility, for the entire system, facilitates and reduces troubleshooting time.



Operating panels for every application

The wide range of NUM operating panels offers just the right concept for each application.

Active operating panels

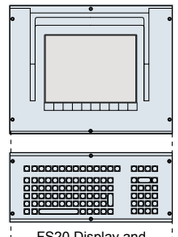
The operating panels of the FS151 family are delivered with an integrated PC or are intended for operation with an external PC. All types are equipped with 22 large function keys. The FS151i/FS151i-KBD with integrated PC are available in two power stages as well as with or without extended Qwerty keyboard. The model FS151 is also available with extended Qwerty keyboard (FS151-KBD).

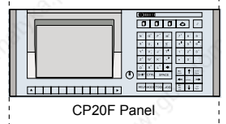
These operating panels make it possible to easily implement demanding, modern systems. The ideal supplement to all models of the FS151 family is the MP03 machine panel (see front cover).

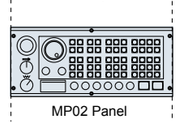
Passive operating panels

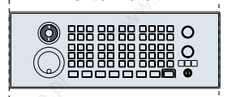
The CP20F is ideal when space is at a premium, whereas the CP30F with Qwerty keyboard offers a high level of user comfort. Both models can be expanded by adding the MP03 machine panel.

CP30F Panel


FS20 Display and KBD30 Keyboard


CP20F Panel


MP02 Panel


MP03 Panel

NUM Drive
NUM Motors

A wide range of servodrives and Motors with a high dynamic range

NUM Drive Servodrives

The drives associated with the motors offer high speed and contour following accuracy:

MDLA modular axis drives

MDLS compact spindle drives

NUM Motors

The extensive number of motors offered by NUM features an excellent performance-to-weight ratio, to meet the needs of virtually any application. In combination with the NUM drives, these motors offer outstanding stability, even at lower speeds, and can be easily integrated into many different types of machines.

NUM Drive MDLA	Rated Current (S1) Arms	Maximum Current Arms	Weight kg	Overall Dimensions mm
MDLA2007...	2	7	4.6	50 x 355 x 285
MDLA2014...	4	14	4.6	50 x 355 x 285
MDLA2021...	7	21	4.6	50 x 355 x 285
MDLA2034...	14	34	6.9	80 x 355 x 285
MDLA2050...	20	50	6.9	80 x 355 x 285
MDLA2075...	35	75	9.2	110 x 355 x 285
MDLA2100...	45	100	10.5	140 x 355 x 285
MDLA2150...	60	150	11	140 x 355 x 285
NUM Drive MDLS	**Rated Current (S1) Arms**	**Maximum Current Arms**	**Weight kg**	**Overall Dimensions mm**
MDLS1050...	26	50	27	250 x 480 x 285
MDLS1075...	40	75	27	250 x 480 x 285
MDLS1100...	52	100	57	400 x 600 x 285
MDLS1150...	72	150	57	400 x 600 x 285
MDLS1200...	100	200	63	400 x 600 x 285
Power Supply	**Rated Power (S1) kW**	**Overload Power kW**	**Input Voltage Vrms**	**Overall Dimensions mm**
MDLL3015...	15	50	400VACrms -10% to 480VACrms+6% 50/60Hz ± 5% 3 phases	100 x 355 x 206
MDLL3030...	30	50		100 x 355 x 206
MDLL3025... *	25	40		200 x 355 x 206
MDLL3050... *	50	80		200 x 355 x 206
MDLQ3	(Auxiliary)	0.25		50 x 355 x 206

* = Re-injection into the mains

Brushless Axis Motors

BPH Motors: axes of machine tools, grinding machines, robotics and special machines.

BPG Motors: the same as the BPH motors but with increased inertia and rotor stiffness; for axes with high inertia at the motor shaft.

BPL Motors: the same as the BPH motors but for applications requiring very compact motors.

BHL Motors: the same as the BPH motors, but specifically designed for large machines. A version with forced convection is available for optimization of size and performance.

AMS asynchronous compact spindle motors with a wide range of constant power; IM motors for high power; AMR liquid/air cooled; Motorspindle® asynchronous and synchronous for optimal integration. NUM also develops motors on request.

BPH Motors	Stall Cont. torque Nm	Rated speed max. rpm
BPH0751...	1.3	6'000
BPH0752...	2.3	6'000
BPH0754...	4	3'000
BPH0952...	4.3	6'000
BPH0953...	6	6'000
BPH0955...	9.2	3'000
BPH1152...	7.4	6'000
BPH1153...	10.5	6'000
BPH1154...	13.3	6'000
BPH1156...	18.7	3'000
BPH1422...	12	4'250
BPH1423...	17	4'250
BPH1424...	22	4'250
BPH1427...	35	3'000
BPH1902...	25	4'250
BPH1903...	36	3'000
BPH1904...	46	3'000
BPH1905...	56	2'500
BPH1907...	75	3'000
BPH190A...	100	2'000
BPG Motors	**Stall Cont. Torque Nm**	**Rated speed max. rpm**
BPG0751...	1.3	3'000
BPG0752...	2.3	3'000
BPG0952...	4.3	3'000
BPG0953...	6	3'000
BPG1152...	7.4	3'000
BPG1153...	10.5	6'000
BPG1422...	12	3'000
BPG1423...	17	3'000
BPG1424...	22	4'250
BPG1427...	35	3'000
BPG1902...	25	3'000
BPG1903...	36	3'000
BPG1904...	46	3'000
BPG1905...	56	2'500
BPL Motors	**Stall Cont. Torque Nm**	**Rated speed max. rpm**
BPL0751...	1.1	6'000
BPL0753...	2.8	3'000
BPL0951...	2	6'000
BPL0953...	5.4	3'000
BHL Motors	**Stall Cont. torque Nm**	**Rated speed max. rpm**
BHL2601...	85, 120	3'000
BHL2602...	120, 160	2'000

CNC Power Engineering
Worlwide

Num Power 2005 (07/07) en
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- Tool grinding: NUMROTO
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- Special machines for the car industry
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