

MOTOMAN NEX20

Handling robot for adaptive,
AI-based automation



With a payload of 20 kg and a reach of 1,550 mm, the NEX20 manipulator is the right fit for a wide range of adaptive handling and assembly tasks. As part of the MOTOMAN NEXT platform, it is suitable for automation in which robots use sensors (e.g., cameras, force sensors) to detect, understand, evaluate, and autonomously respond to new situations and workpiece variants.

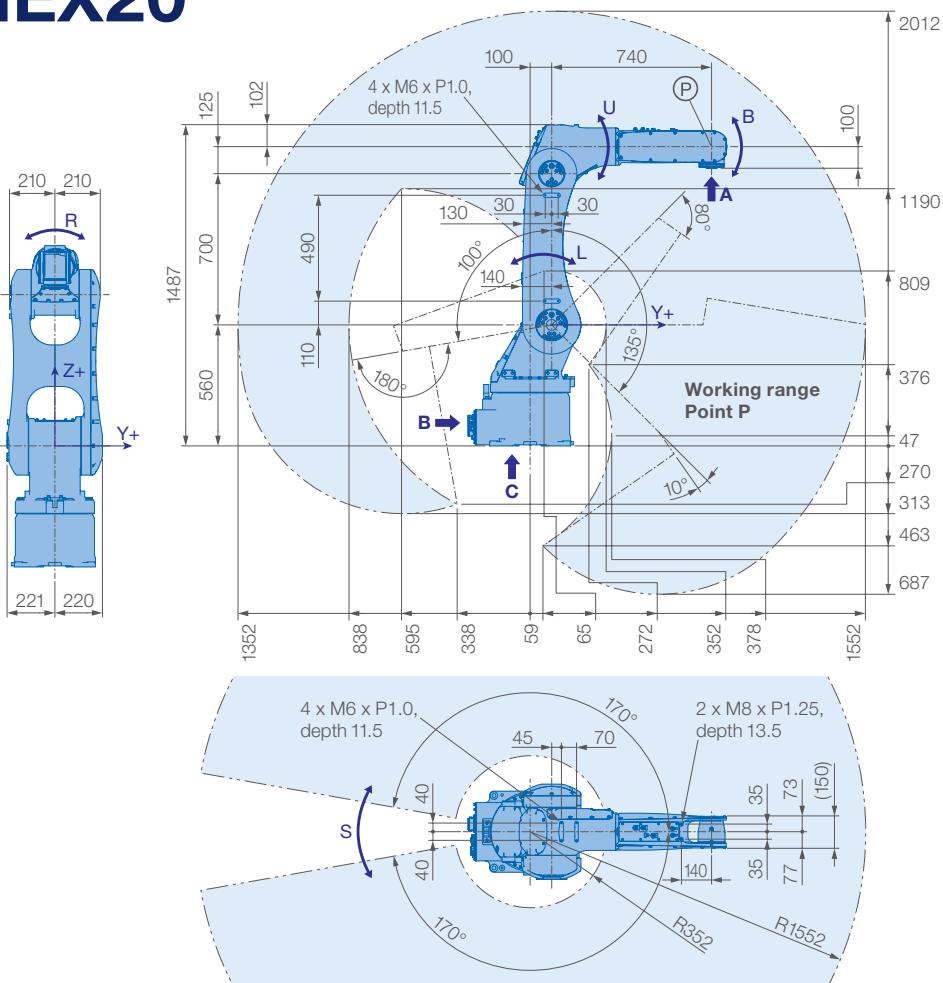
MOTOMAN NEXT integrates classic robot control with an NVIDIA-based control module (ACU), offering all the possibilities of the classic signal-based automation world (OT) and the data-based IT world on one single platform. Modern software engineering tools (by Yaskawa, NVIDIA, ROS 2 community), an open LINUX Docker environment, and services provided by Yaskawa give programmers complete freedom to efficiently and successfully deploy AI robotics applications in the field. The NEX20 manipulator features newly designed high-inertia robot servo drives from Yaskawa's Σ 10 generation, which combine high drive dynamics with outstanding absolute accuracy – for exact correspondence between the real and virtually planned worlds including automatic path planning or precise sensor guidance.

Integrated media and Ethernet cables (Cat6) in the robot arm supply intelligent plug-and-play actuators or cameras on the robot flange, for example, without the need of external media packages along the robot arm.

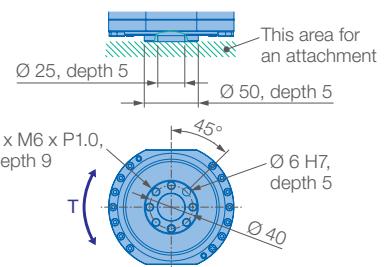
KEY FEATURES

- Universal load capacity and working range (up to 20 kg / 1,550 mm)
- High motion performance and agile servo control (new high inertia servo drives)
- Outstanding positioning / absolute accuracy
- Low weight, slim design with small installation area
- Integrated Ethernet and media cables, options for cable routing
- IP67-protected housing

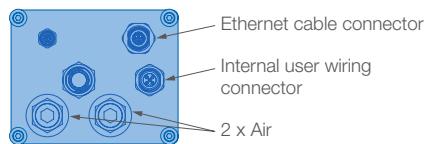
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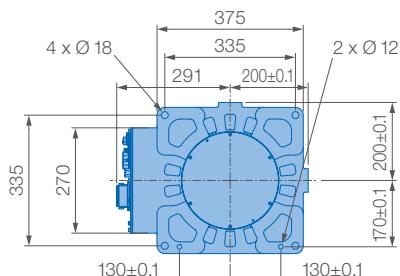
View A



View B



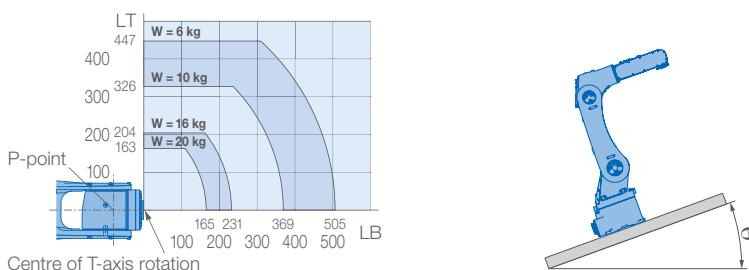
View C



Mounting options: Floor

IP Protection: IP67 (all axes)

Allowable wrist load



Robot inclination angle θ [deg.]	S-axis operating range [deg.]
$0 \leq \theta \leq 30$	± 170 max.
$30 < \theta \leq 35$	± 60 max.
$35 < \theta \leq 45$	± 45 max.
$45 < \theta$	± 30 max.

Specifications NEX20

Axes	Maximum motion range [°]	Maximum speed [°/s]	Allowable moment [Nm]	Allowable moment of inertia [kg · m²]	Controlled axes	6
S	± 170	240	–	–	Max. payload [kg]	20
L	$+135/-100$	240	–	–	Repeatability [mm]	$\pm 0,02$
U	$+180/-80$	300	–	–	Max. working range R [mm]	1552
R	± 200	430	52	2.2	Temperature [°C]	0 to +45
B	$+225/-45$	430	52	2.2	Humidity [%]	20 – 80
T	± 360	900	32	1.2	Weight [kg]	225
					Power supply, average [kVA]	2

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All drawing dimensions in mm. Technical data may be subject to change without previous notice. Please request detailed drawings at robotics@yaskawa.eu.

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