

Industrial Vertical Stage

IDL280-Z20



For industrial applications that require a high load capacity vertical axis to carry the work, the IDL280-Z20 is the ideal stage. Based on a customer-proven and modular wedge design, the IDL280-Z20 provides fine MIM, smooth motion for fine positioning and stiff construction for use with high dynamic performance XY systems. The IDL280-Z20 is matched to the IDL280 stages, requiring only a few minutes to bolt the IDL280-Z20 securely onto the IDL280-LM carriage. The IDL280-Z20 is compatible with the XPS controller.

Contact Newport for other travels or sizes.

DESIGN DETAILS

Material	Anodized Aluminum
Bearings	Double row recirculating ball bearings
Drive Mechanism	Precision ball screw 2 mm pitch
Reducer	Belt gear 1:4 + Wedge 1:2
Feedback	Screw mounted rotary encoder 5000 cts/rev, index pulse
Limit switches	Optical
Origin	Optical, at center of travel, including mechanical zero signal
Cable	MMCABLE-3 standard 3-meter cable

LOAD CHARACTERISTICS AND STIFFNESS

C_z , Normal center load capacity on bearings	500 N
k_{xy} , Compliance in pitch	10 $\mu\text{rad}/\text{Nm}$
k_{xz} , Compliance in yaw	10 $\mu\text{rad}/\text{Nm}$

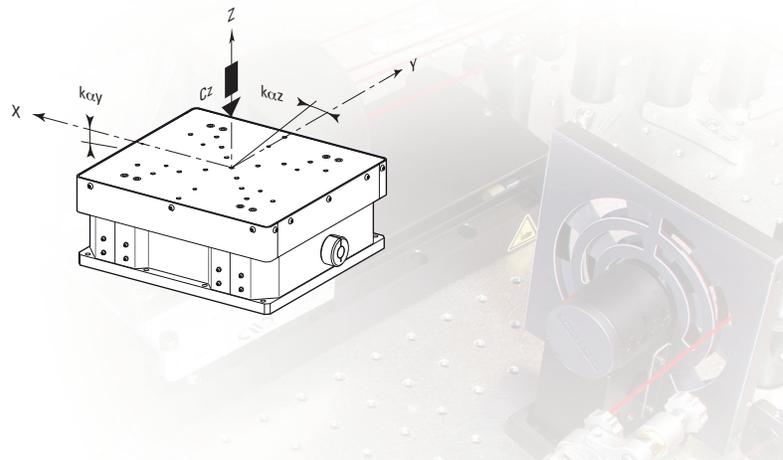
• 20 mm travel range

• Speed of 5 mm/s

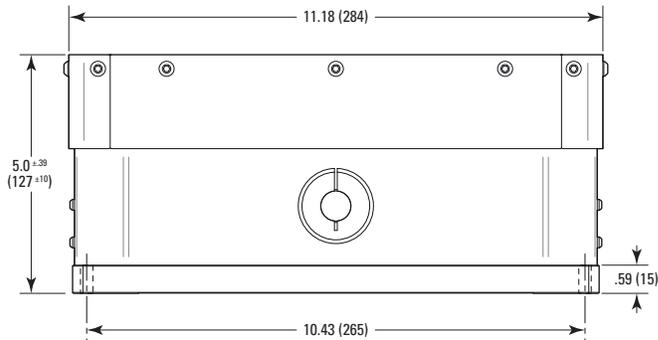
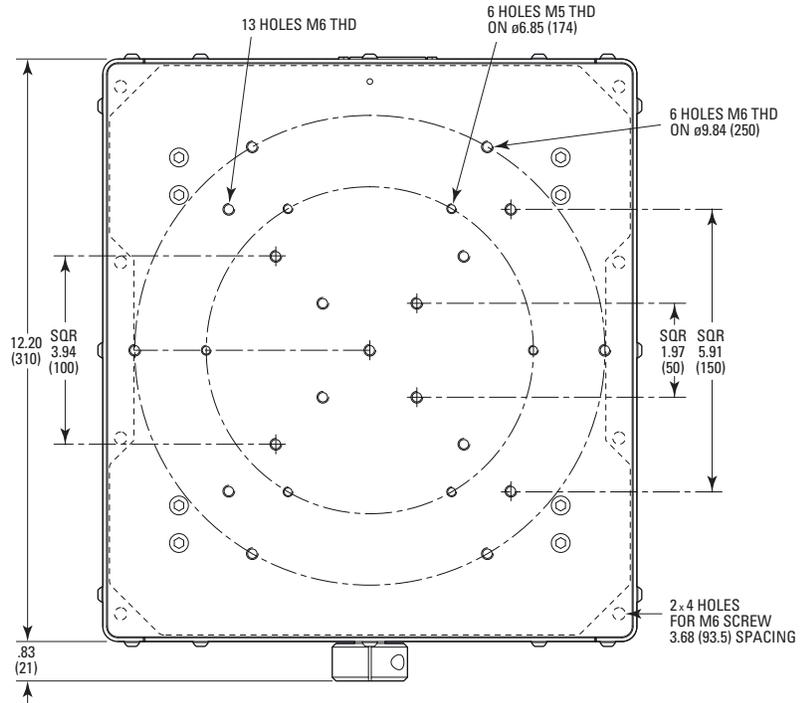
• 500 N load capacity

SPECIFICATIONS

Travel Range	20 mm
Minimum Incremental Motion	0.1 μm
Uni-directional Repeatability, Guaranteed	$\pm 0.1 \mu\text{m}$
Bi-directional Repeatability, Guaranteed	$\pm 0.6 \mu\text{m}$
Accuracy, Guaranteed	$\pm 2 \mu\text{m}$ (over full travel)
Encoder Resolution	50 nm
Max. Speed	5 mm/s
Pitch, Guaranteed	$\pm 50 \mu\text{rad}$
Yaw, Guaranteed	$\pm 50 \mu\text{rad}$
Total mass	32 lb (14.5 kg)



DIMENSIONS



MODEL SHOWN: IDL280-Z20
DIMENSIONS IN INCHES (AND MILLIMETERS)

ORDERING INFORMATION

Model	Description
IDL280-Z20	Industrial Vertical Stage



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