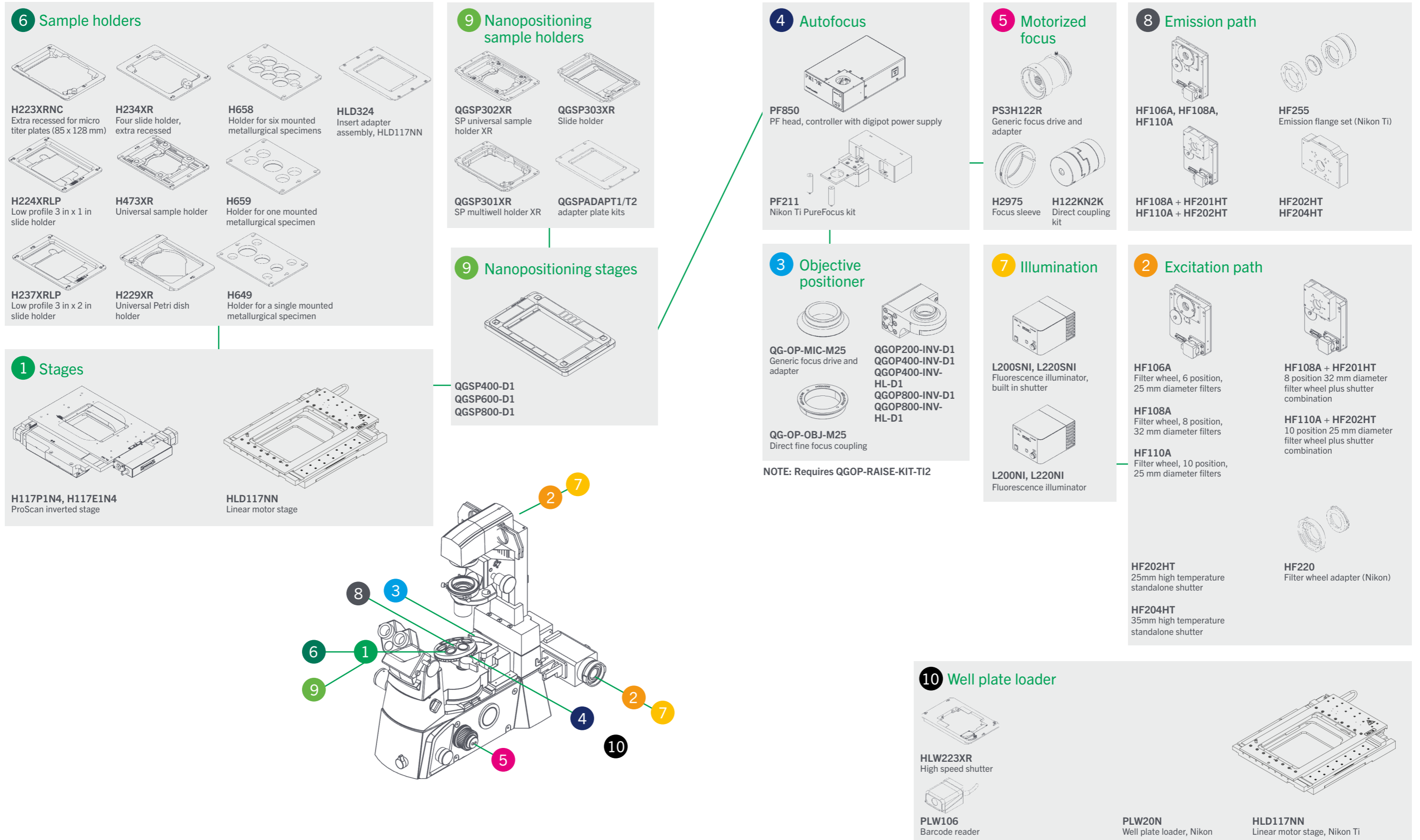


# Nikon Ti configuration chart

See the following pages for more product information.



# Nikon Ti configuration guide

The Nikon Ti has three variants: Ti-U (non-motorized), Ti-S (non-motorized, second imaging port), and Ti-E (fully motorized). Prior Scientific can supply motorized upgrades for all product types to the Ti-U and Ti-S. The Ti-E can be upgraded with Prior Scientific stages, nanopositioning stages, objective positioners, and autofocus, which enhance the capabilities of this fully motorized system.

## Motorized XY stages and sample holders

All the sample holders listed are compatible with the H117P1N4, H117E1N4, and HLD117NN. The HLD324 is required for Prior sample holders when using the HLD117NN. Nikon sample holders can be fitted to the HLD117NN only. At least one sample holder is required.

Part	Description
HLD117NN	Linear motor stage, Nikon Ti
H117P1N4	ProScan inverted stage, part encoded, 1 mm pitch, 400 step, Nikon Ti
H117E1N4	ProScan inverted stage, encoded, 1 mm pitch, 400 step, Nikon Ti
HLD324	Insert adapter assembly, HLD117NN
H473XR	Universal sample holder (slides, Petri dishes, small flasks), extra recessed
H224XRLP	Low profile 3 in x 1 in slide holder, extra recessed
H229XR	Universal Petri dish holder, extra recessed
H234XR	Four 3 in x 1 in slide holder, extra recessed
H23X200	200 ml flask holder (Greiner)
H237XRLP	Low profile 3 in x 2 in slide holder, extra recessed
H229D35XR-6	Holder for 6 x 35 mm Petri dishes
H649	Holder for a single 1 in, 1.25 in and 1.5 in mounted metallurgical specimen
H657	Holder for one mounted metallurgical specimen, 2 in diameter
H658	Holder for six mounted metallurgical specimens, 1.25 in diameter
H659	Holder for one mounted metallurgical specimen, 15 in diameter with 1, 2, 4, or 8 chambers

## Motorized focus

The PS3H122R plus H2975 combination is required to drive the fine focus knob of the microscope. The coarse focus will not be motorized. The H122KN2K direct coupling can be added for more precise motorized control.

Part	Description
PS3H122R	Generic focus drive and adapter with rotating cable system preventing cable twisting
H2975	Nikon Ti, Ti2 & Ts2R focus sleeve
H122KN2K	Direct coupling kit, focus drive assembly

## Nanopositioning stages and sample holders

Nanopositioning stages require a suitable motorized stage for mounting. They can be directly mounted to the H117P1N4 and H117E1N4. They can be mounted on the HLD117NN via the QGSPADAPT2 adapter. They can be mounted on Nikon motorized stages via the QGSPADAPT1 adapter; please contact Prior to verify your stage model is compatible. Other motorized stage models are not compatible. Note that a sample holder from the nanopositioning stage section is required for use and replaces the sample holder fitted to the motorized stage. Prior nanopositioning stages can be controlled via NIS Elements by serial port connection. Alternative Prior/Queensgate manufactured nanopositioning stages can also be purchased exclusively from Nikon.

Part	Description
QGSP400-D1	System SP400, 400 µm travel, and NPC-D-6110 controller
QGSP600-D1	System SP600, 600 µm travel, and NPC-D-6110 controller
QGSP800-D1	System SP800, 800 µm travel, and NPC-D-6110 controller
QGSP301XR	SP multiwell holder XR
QGSP302XR	SP universal sample holder XR
QGSP303XR	SP single slide holder suitable for 1 in x3 in and 2 in x3 in slides
QGSPADAPT1	SP400 to Nikon Ti2 motorized stage adapter plate kit
QGSPADAPT2	SP400 to HLD117NN adapter plate kit

## Objective positioners and adapters

When ordering, ensure the correct part number is used to specify inverted calibration. Objective positioners require a threaded adapter to fit the microscope nosepiece and the microscope objective. Nikon microscopes typically use M25 threads; don't hesitate to contact Prior Scientific if the nosepiece uses an alternative thread size. Some Ti nosepieces have a raised lip surrounding the objective positions, which may clash with the objective positioner; a 15 mm spacer can be added to clear the lip. These spacers are also used to ensure any other objectives are parfocal. When using objective spacers the QG-OP RAISE-KIT-M5-12 is recommended to maintain the travel range of the inherent microscope Z-axis. Please note that the two objective positions adjacent to the objective positioner will not be usable due to space constraints. A high load calibration is available for specialist heavy objectives. Prior objective positioners can be controlled via NIS Elements by serial port connection. Alternative Prior/Queensgate manufactured objective positioners can also be purchased exclusively from Nikon.

Part	Description
QGOP200-INV-D1	OP200 Objective Scanner with NPC-D-6110 controller Inverted 0-500g load
QGOP400-INV-D1	OP400 objective scanner system incl. NPC-D-6110 controller for inverted microscopes (0–500 g load)
QGOP400-INV-HL-D1	OP400 objective scanner system incl. NPC-D-6110 controller for inverted microscopes (500–1000 g load)
QGOP800-INV-D1	OP800 objective scanner system incl. NPC-D-6110 controller for inverted microscopes (0-500 g load)
QGOP800-INV-HL-D1	OP800 objective scanner system incl. NPC-D-6110 controller for inverted microscopes (500-1000 g load)
QG-OP-MIC-M25	OP microscope adapter M25 x 0.75
QG-OP-OBJ-M25	OP objective adapter M32 x 0.75 to M25 x 0.75
QG-OP-SPACE-M25	M25 x 0.75 static objective spacer to align with OP400 objective
QG-OP-RAISE-KIT-M5-12	XY stage raiser kit for inverted setup of OP400/OP800 M5 12mm
QGOP-RAISE-KIT-TI2	OP Raiser kit for install on Nikon Ti2 Microscope

## Autofocus

The PF850 is standalone hardware autofocus. The PF211 kit is required for mounting. The PF200, PF209 and PF300 are required for setup and maintenance. The PF404 is required for use with piezo nanopositioning systems. When used with the Nikon Ti-E, the PF850 can only be used with piezo nanopositioning systems.

Part	Description
PF850	PF head, controller with digipot power supply, cables
PF211	Nikon Ti PureFocus kit
PF209	PureFocus setup sample slide
PF201	PureFocus setup camera alignment target type 1, RMS.DIA 0.8 x 36
PF300	PureFocus setup camera jig
PF404	Piezo cable for PF850 15D to BNC

## Illumination

The L200NI and L200SNI are recommended for fluorescence microscopy, [see datasheet for details](#). The L200SNI has a built-in shutter mechanism that can be controlled via a ProScan III controller, so a standalone shutter is not required.

Part	Description
L200SNI	L200 standard box, lamp, light guide, shutter and Nikon collimator
L200NI	L220 standard box, lamp, light guide and Nikon collimator
L220SNI	L220 standard box, lamp, light guide, shutter and Nikon collimator
L220NI	L220 standard box, lamp, light guide and Nikon collimator

## Excitation path

Filter wheels are not supplied with filters. Contact Prior Scientific if you wish to purchase a filter wheel stand that can be fixed to an optical table. For systems requiring a shutter and filter wheel, buying one of the combinations listed above is recommended. The HF220 adapter is required for filter wheels and shutters in the main episcopic illumination pathway.

Part	Description
HF220	Filter wheel adapter (Nikon)
HF202HT	25 mm high temperature standalone shutter
HF204HT	35 mm high temperature standalone shutter
HF110A	Filter wheel, 10 position, 25 mm diameter filters without stand
HF106A	Filter wheel, 6 position, 25 mm diameter filters without stand
HF108A	Filter wheel, 8 position, 32 mm diameter filters without stand
HF110A + HF200HT	10 position 25 mm diameter filter wheel plus shutter combination
HF108A + HF201HT	8 position 32 mm diameter filter wheel plus shutter combination

## Emission path

The HF255 adapter is required for fitting shutter and filter wheels to the emission port of the microscope. 32 mm shutters and filter wheels are recommended for widefield applications.

Part	Description
HF255	Emission flange set (Nikon Ti)
HF202HT	25mm high temperature standalone shutter
HF204HT	High speed shutter (high temperature), 32 mm aperture, for stand alone use
HF110A	Filter wheel, 10 position, 25 mm diameter filters without stand
HF106A	Filter wheel, 6 position, 25 mm diameter filters without stand
HF108A	Filter wheel, 8 position, 32 mm diameter filters without stand
HF110A + HF200HT	10 position 25 mm diameter filter wheel plus shutter combination
HF108A + HF201HT	8 position 32 mm diameter filter wheel plus shutter combination

## Well plate loader

The PLW20N can be controlled by NIS elements combined with the HLD117NN stage. No other stages are compatible. The HLW223XR is required and fits directly into the HLD117NN without an adapter. The PLW106 barcode reader is an optional extra but must be specified at the point of purchase for calibration.

Part	Description
PLW20N	Well plate loader, Nikon
HLD117NN	Linear motor stage, Nikon Ti
HLW223XR	High speed shutter (high temperature), 32 mm aperture, for stand alone use
PLW106	Barcode reader well-plate loader