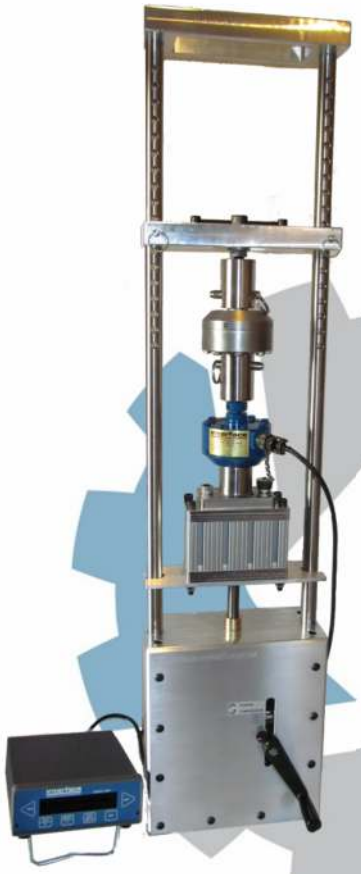
Calibration labs worldwide choose Norton Global Force Calibration Systems to calibrate their load cells and force gages. Each system is engineered to meet rigorous standards for precision and quality. Norton Global Force Calibration Systems are ideal for ASTM E4, ASTM E74, and ISO 376 and ISO 7500-1 calibrations.

Norton Global supplies complete calibration systems, calibration fixtures and attachments, and completely custom engineered solutions to meet each customer's specific needs.

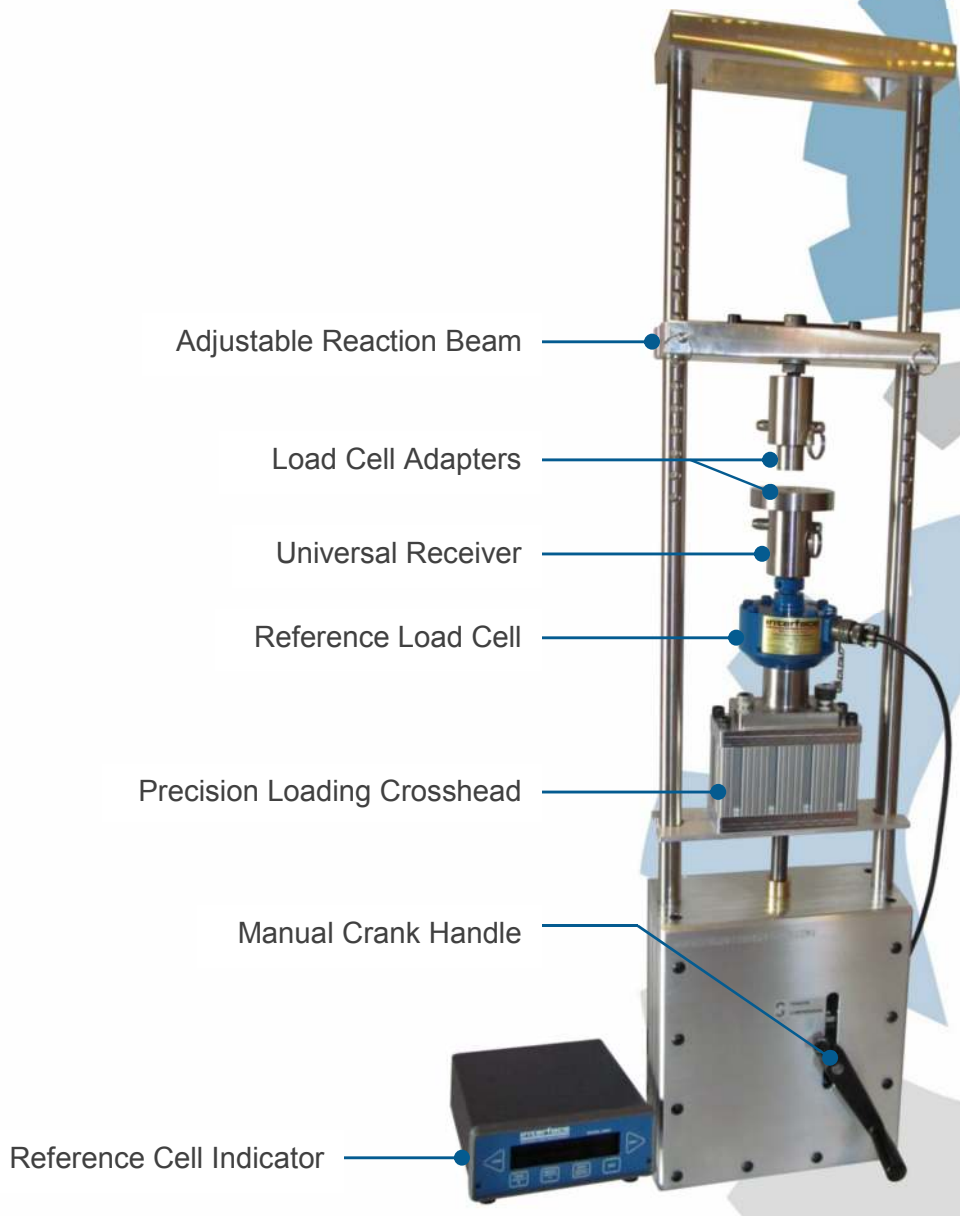


PMLD-5000XLT	FVS-5000XLT	FCS-5000XLT
Manual Load Frame	Force Verification System	ASTM E74 Class A Force Calibration System
PMLD-5000XLT	PMLD-5000XLT 1110 Load Cell 9830 Digital Readout NIST Traceable Certs	PMLD-5000XLT 1610 Load Cell 9840 Digital Readout NIST Traceable Certs
±5,000-lbf (25 KN)	±5,000-lbf (25 KN)	±5,000-lbf (25 KN)
Good for applying controlled forces in tension and compression.	Good for in house quality checks of force gage and machine load cell readouts.	Good for ASTM E74 Class A calibrations.

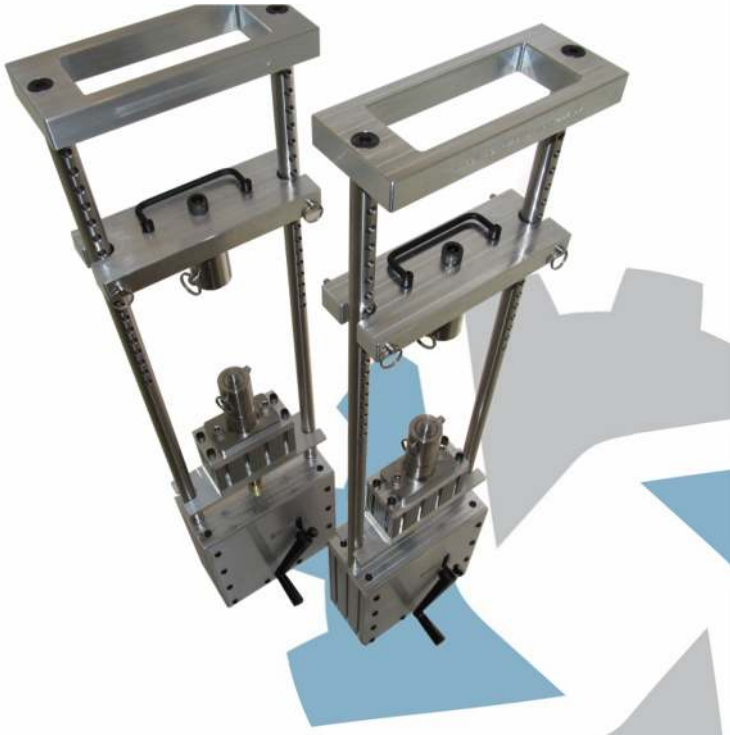
Key Features of the Manual Force Calibration System

Each force calibration requires the following the following four elements:

1. Means of applying precise forces
2. Adapters to connect the unit under test to the reference standard
3. Reference standard (calibration load cell)
4. Indicator to display the reference standard's response



PMLD-5000XLT Manual Load Frame



The PMLD-5000XLT is used to manually apply precise forces when calibrating force gages and load cells. The device was designed to be portable without the need for air, hydraulics, or electricity. It's simple to operate and guaranteed to save time!

Key Features:

- ✓ Simple and fast set-up
- ✓ Accurate, repeatable, stable forces
- ✓ Portable and light weight
- ✓ NO tools required
- ✓ 5,000-lbf (25KN) in tension and compression
- ✓ Easily adapt to any load cell or force gage
- ✓ Self-aligning to cancel bending moments

System Variants:

1. Mating with EN or SI Reference Standards[1]
2. Lower calibration force optimization[2]
   Optimization levels: ±1,000-lbs or ±3,000-lbs

Selection Guidelines:

The PMLD-5000 XLT is an excellent choice when a lab already owns a reference standard and readout but wants a new system for applying stable and repeatable loads.

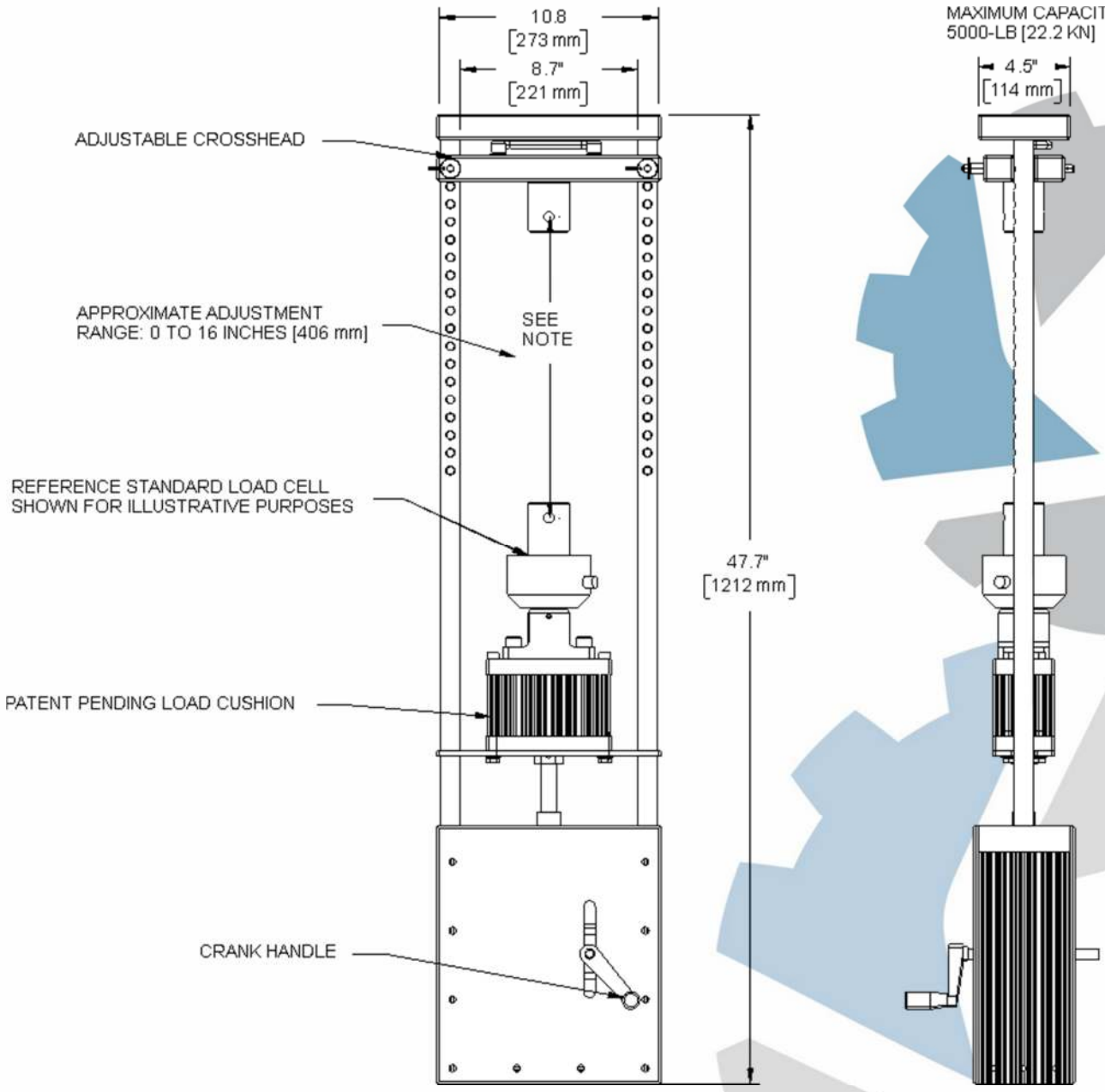
Companion Products:

- Universal Receivers: UR-625-18, UR-M16-2
- Force Gage Adapter System: FGA-500
- Plug and Play Adapters: All

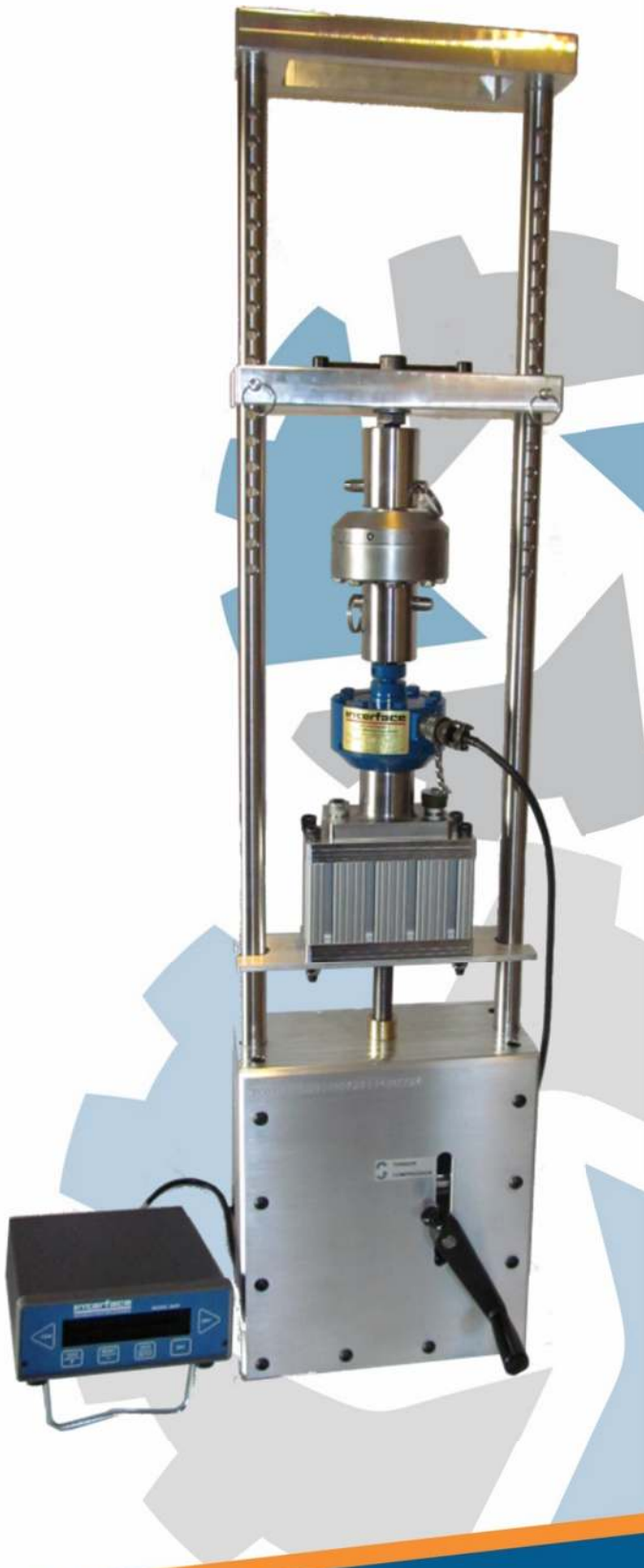
Notes:

1. Depending on the model, reference standards typically come with either 5/8-18 or M16x2 threads. The customer is encouraged to supply the model number of the existing reference standard prior to ordering to ensure the PMLD-5000XLT is built with the correct mating thread.
2. The PMLD-5000XLT can be fine-tuned to provide the most accurate and stable load applications. The default configuration is optimized for a loading range of ±5,000-lbs. However, some systems will never be used in the higher end of the range and can be optimized for lower loading levels.

PMLD-5000XLT Dimensional Specifications



The force calibration system is a turnkey load cell and force gage calibration system for performing ASTM E74 Class A calibrations.



Key Features:

- ✓ Simple and fast set-up
- ✓ Accurate, repeatable, stable forces
- ✓ Portable and light weight
- ✓ NO tools required
- ✓ 5,000-lbf (25KN) in tension and compression
- ✓ Easily adapt to any load cell or force gage
- ✓ Self-aligning to cancel bending moments

System Contents:

(1) PMLD-5000XLT
(1) 1610 Interface Gold Standard Reference Cell
(1) 9840 Interface Digital Display
(1) Interconnect Cable
(1) Power cord
(1) NIST Traceable calibration certificate

System Variants:

1. EN or SI Reference Standards
2. System may be optimized for calibrating lower loading levels.
   Optimization Levels: ±1,000-lbs or ±3,000-lbs

Companion Products:

- Universal Receivers: UR-625-18, UR-M16-2
- Force Gage Adapter System: FGA-500
- Plug and Play Adapters: All

FVS-5000XLT Force Verification System

The FVS-5000XLT is a turnkey system used to easily and quickly verify the readings of other force gages and load cells. This system is an ideal and cost effective choice for in-house, quality checks of load cells and force gages.

Key Features:

- ✓ Simple and fast set-up
- ✓ Accurate, repeatable, stable forces
- ✓ Portable and light weight
- ✓ NO tools required
- ✓ 5,000-lbf (25KN) in tension and compression
- ✓ Easily adapt to any load cell or force gage
- ✓ Self-aligning to cancel bending moments

System Contents:

(1) PMLD-5000XLT
(1) 1110 Interface Ultra Precision Load Cell
(1) 9830 Interface Digital Display
(1) Interconnect Cable
(1) Power cord
(1) NIST Traceable calibration certificate

Limitations:

Not suitable for Class A calibrations per ASTM E74. Choose the FCS-5000XLT when ASTM E74 Class A calibrations are required.

System Variants:

1. EN or SI Reference Standards
2. System may be optimized for calibrating lower loading levels.
   Optimization Levels: ±1,000-lbs or ±3,000-lbs

Companion Products:

- Universal Receivers: UR-625-18, UR-M16-2
- Force Gage Adapter System: FGA-500
- Plug and Play Adapters: All

The FGA-500 adapter system is designed to easily and quickly connect dozens of common force gages to Norton Global force calibration and verification systems. See the list of pre-verified force gages.

Key Features:

- ✓ Mates with many standard force gages
- ✓ 500-lbf (2.2KN) in tension and compression
- ✓ Plug and play with the PMLD-5000XLT
- ✓ No tools required for installation or adjustment
- ✓ Self-aligning slider mechanism automatically corrects offsets
- ✓ Height adjustable adapter plate for a variety of force gage heights
- ✓ Aircraft grade aluminum and stainless steel construction

Companion Products:

- Universal Receivers: UR-625-18, UR-M16-2
- FCS-5000XLT, FVS-5000XLT, PMLD-5000XLT
- Plug and Play Adapters: All

FGA-500 Key Features

Universal Receiver
UR-625-18 or UR-M16-2

No Tools Required

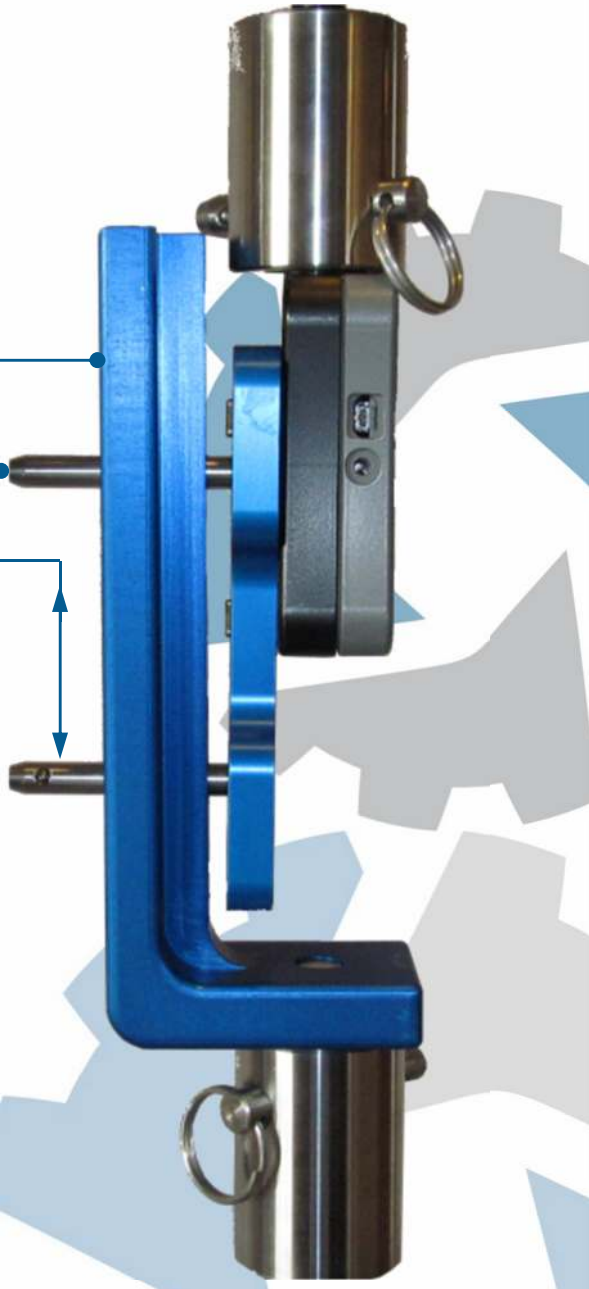
Aircraft Grade Aluminum

Sliding Alignment Mechanism

Height Adjustable

Standard Mount Hole Patterns

5/8-18 Female Connection
Mated with UA-625-18

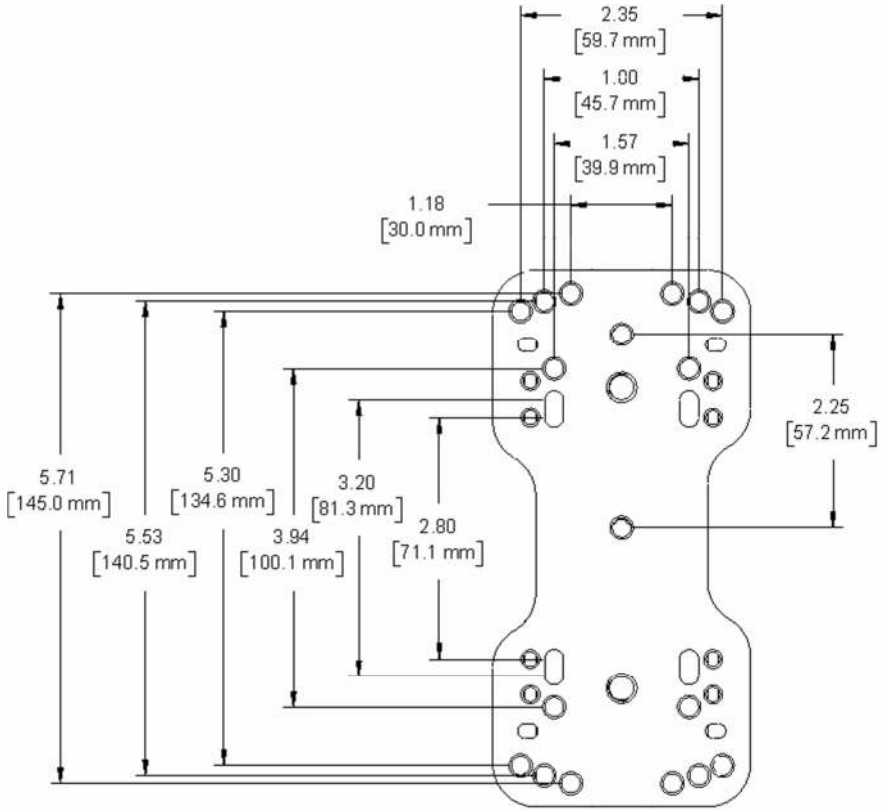


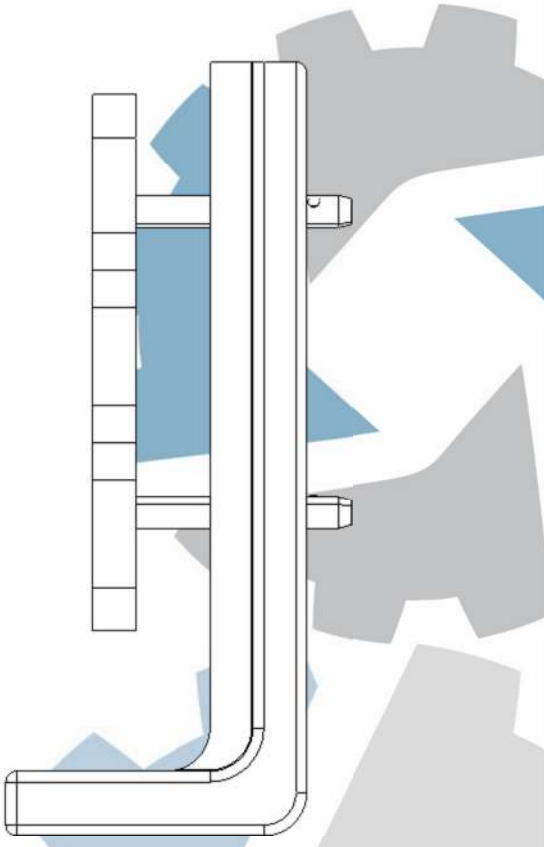
FGA-500 Mounting Configurations

UPRIGHT orientation in PMLD-5000XLT

INVERTED orientation in PMLD-5000XLT

FGA-500 Adapter Plate Dimensional Specifications



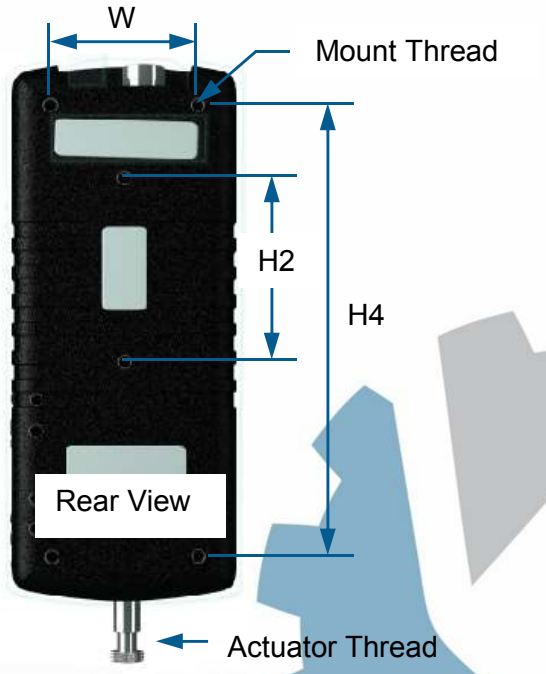


Typical Force Gage Mount Hole Patterns

A typical force gage is specified with dimensions shown to the right.

The following information is needed to determine if the force gage will work with the standard FGA-500:

1. Mount holes pattern and dimensions. Some force gages have a 2-hole pattern, a 4-hole pattern, or both.
2. Mount thread diameter and pitch.
3. Actuator thread type (male or female), diameter, and pitch.

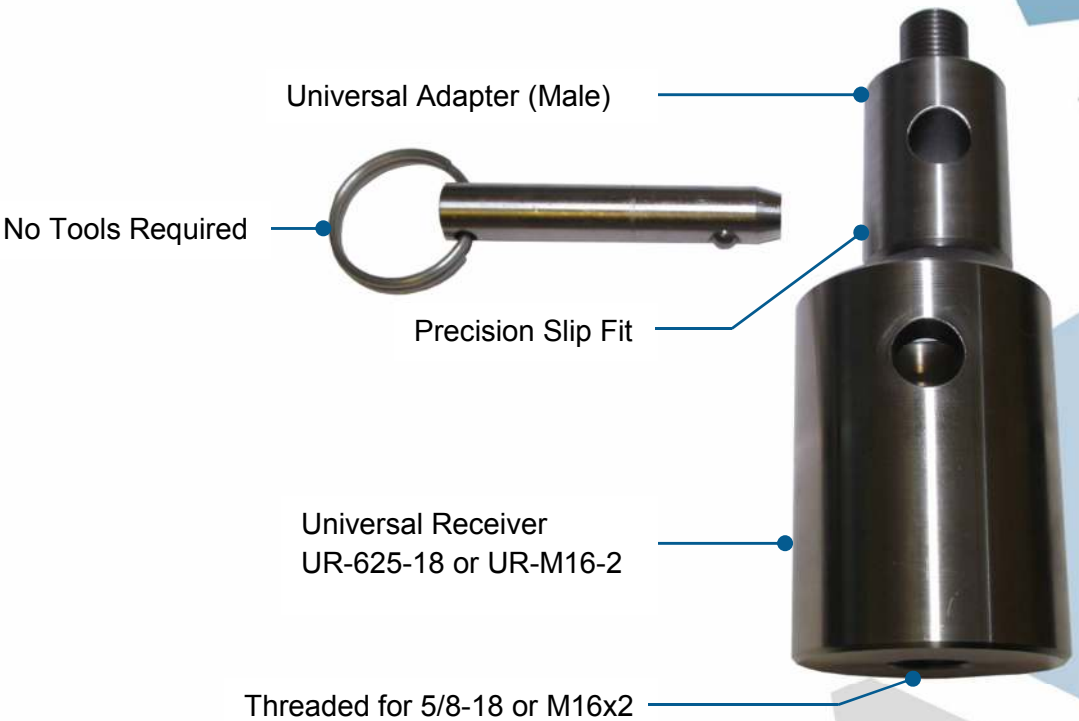


Force gages that are verified to fit with the FGA-500. Many more models are possible. Dimensions are in inches unless otherwise specified.

Mfg.	Model(s)	Thread Type	Actuator Thread	Rear Offset	Mount Thread	Hole Pattern W	Hole Pattern H4	Hole Pattern H2
Chatillon	DFE, DFE II	M	#10-32	0.69	10-32	1.8	5.53	2.25
Chatillon	DFE II	M	5/16-18	0.69	10-32	1.8	5.53	2.25
Chatillon	LG, DPP	M	#10-32	0.67	#10-32	NA	NA	2.25
Dillon	GL	M	M6x1	0.52	M4x0.7	1.57	3.15	NA
Dillon	GS, GTX ≤ 1000N	M	M6x1	0.6	10-32	NA	NA	2.25
Dillon	GS, GTX > 1000N	F	5/16-18	0.6	M5	NA	NA	2.25
Imada	Z2, ZP	M	M6x1	0.47	M4x0.7	1.57	3.94	NA
Imada	Z2, ZP	M	#10-32	0.47	M4x0.7	1.57	3.94	NA
Imada	DS2	M	#10-32	0.47	M4x0.7	1.57	3.94	NA
Imada	FB, MF, PS	M	#10-32	0.68	M4x0.7	1.57	3.93	NA
Imada	FB, MF, PS	M	M6x1	0.68	M4x0.7	1.57	3.93	NA
MARK-10	CG	F	1/2-20	0.65	10-32	2.35	5.3	NA
MARK-10	MG-200	M	#10-32	0.42	#6-32	2.13	2.8	NA
MARK-10	M4-20	M	#10-32	0.42	#6-32	2.13	4.50	NA
Omega	DFG ≤ 110 lb	M	#10-32	0.47	M4x0.7	1.57	3.94	NA
Omega	DFG >220 lb	M	M6	0.47	M4x0.7	1.57	3.94	NA
Shimpo	FGE	M	M4X0.7	0.51	M4x0.7	1.57	2.95	NA
Shimpo	FGE	M	M6x1	0.51	M4x0.7	1.57	2.95	NA
Shimpo	MF	M	M6x1	0.71	M3	1.18	5.71	NA
Wagner	FDIX - All	M	#10-32		#6-32	2.13	3.65	NA

Plug and Play Adapter System

Any load cell or force gage can be easily connected through a standardized precision interface to the PMLD-5000XLT without tools! Choose from the standard set of universal adapters or send the specifications of your device to Norton Global for a custom engineered adapter!



Universal Receivers - UR-625-18, UR-M16-2

The universal receiver is the standardized platform that enables quick installation and changeover for all adapters.

Key Features:

- ✓ Stainless steel construction
- ✓ Plug and play with the PMLD-5000XLT
- ✓ Rated for ±10,000-lbs or 50kN
- ✓ No tools required for installation or adjustment
- ✓ Threaded with 5/8-18 or M16x2

Universal Adapters

The universal adapters are made to mate with the force gage or load cell that is intended to be calibrated.

Key Features:

- ✓ Stainless steel construction
- ✓ Plug and play with UR-625-18 and UR-M16-2
- ✓ No tools required
- ✓ Many standard thread sizes available

Female Male

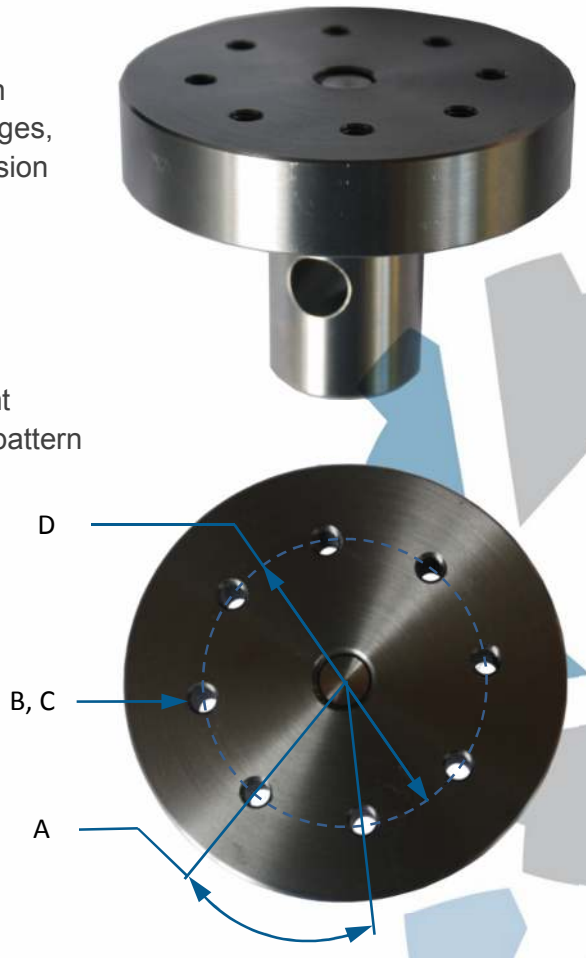
Part Number	Style	Thread
UA-625-18	Male	5/8-18
UA-500-13	Male	1/2-13
UA-500-20	Male	1/2-20
UA-M16-2	Male	M16X2
UA-010-32	Female	#10-32
UA-313-18	Female	5/16-18
UA-M06-1	Female	M6x1

Compression Platens

The compression platens are used for calibrations on button style load cells, low profile load cells, force gages, and Omega load cells that are not equipped with tension adapters.

Key Features:

- ✓ Stainless steel construction
- ✓ Plug and play with the PMLD-5000XLT
- ✓ No tools required for installation or adjustment
- ✓ Available as a flat plat or with a circular hole pattern
- ✓ Custom size and hole patterns available



Part Number	Style	Disk ∅ In [mm]	Hole Pattern A	B Holes	C Thd	D in [mm]	Adapter Required
CP-3500-500-13	Flat	3.5 [89]			NONE		UA-500-13
CP-3500-625-18	Flat	3.5 [89]			NONE		UA-625-18
CP-3500-500-13-01	Circular Hole Pat.	3.5 [89]	45º	8	¼-20	2.25 [57]	UA-500-13
CP-M16-625-18-01	Circular Hole Pat.	3.5 [89]	45º	8	¼-20	2.25 [57]	UA-625-18

Blunt Compression Tip – BCT-1250-625-18

The blunt compression tip is used for compression only calibrations on button style load cells, force gages, and pancake style load cells that are not equipped with a tension adapter.

Key Features:

- ✓ Stainless steel construction
- ✓ Plug and play with the PMLD-5000XLT
- ✓ No tools required for installation or adjustment
- ✓ Requires one UA-625-18