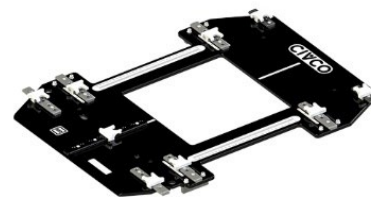



HipFix® Thermoplastic Positioning System

CIVCO RT Technical Data Sheet

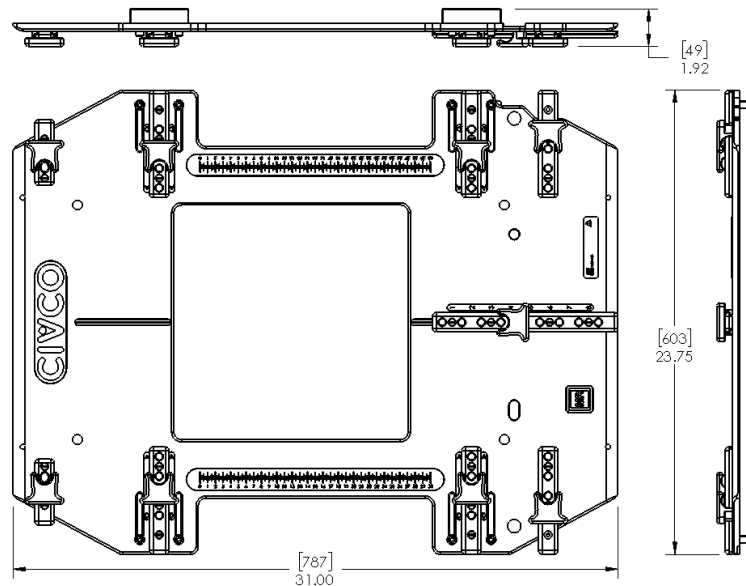


Product Name	HipFix Thermoplastic Positioning System. Includes baseplate and thermoplastic options.
Product Number	MTPLVC04MR HipFix Baseplate, indexable, 2 & 3-Pin Lok-Bar compatible See page 3 for thermoplastics
General Description	The HipFix hip and pelvis immobilization system utilizes a single sheet of thermoplastic over the entire abdomen and pelvis region, providing immobilization to enhance fixed fiducial targeting. The versatile system accommodates both prone and supine patient setups.
Indications for use	Device is intended for patient fixation. Devices are used to aid in the support and positioning of patients during an MRI.
MRI Compatible	MR Safe
Integration	2 or 3-Pin Indexable to couchtop
FDA Clearance	Yes
CE Marked (EU DOC)	Yes
Other Country Registrations	Available upon request
Country of Manufacture	USA

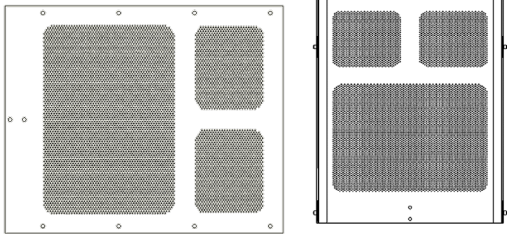
Baseplate Technical Details

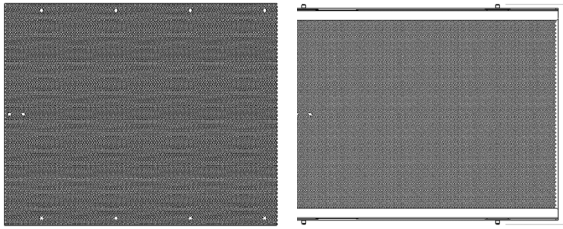
Primary Materials	Black PVC, Gray PVC, White Delrin			
Material Density (approx.)	1.42 g/cm ³			
Weight (approx)	4.6 kg / 10.15 lbs			
Dimensions (mm)	787 L x 603 W x 49 H (min.)			
Dosimetric Properties	Location*	Field Size (cm ²)	Attenuation 6 MV photons	Attenuation 18 MV photons
		6 x 6	5.19%	3.61%
<p>Please note: Imaging distortions and system reported Hounsfield Units variations are possible at the superior or inferior ends of the HipFix based on the CT scanner or imaging settings. While the board is manufactured from the same material in these regions, it is not recommended to treat through these areas without making proper adjustments in the imaging or planning system.</p> <p>Performance Specifications are for reference only, values may vary based on setup and equipment.</p>				

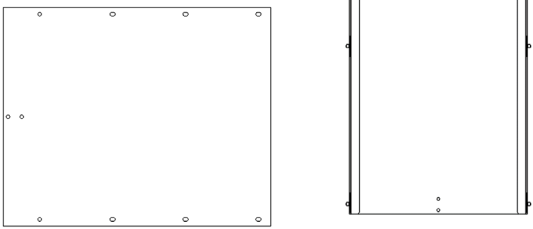
Technical Drawing (MTPLVC04MR)



Thermoplastic Technical Details

IMRT Reinforced™				
	Thickness	Weight	Dimensions	
MTHFI1822 (reloadable)	3.2 mm	1 lb (0.45 kg)	559 L x 457 W	
MTHFI18222.4 (reloadable)	2.4 mm	1 lb (0.45 kg)	559 L x 457 W	
MTPLHAI0203 (no groin piece, disposable)	3.2 mm	1.2 lb (0.54 kg)	559 L x 445 W	

Perforated				
	Thickness	Weight	Dimensions	
MTHFX1822 (reloadable)	3.2 mm	1 lb (0.45 kg)	559 L x 457 W	
MTHFX18222.4 (reloadable)	2.4 mm	1 lb (0.45 kg)	559 L x 457 W	
MTPLHA0202 (no groin piece, disposable)	3.2 mm	1.76 lb (0.80 kg)	559 L x 461 W	

Solid				
	Thickness	Weight	Dimensions	
MTHFX1822S (reloadable)	3.2 mm	1 lb (0.45 kg)	559 L x 457 W	
MTHFX18222.4S (reloadable)	2.4 mm	1 lb (0.45 kg)	559 L x 457 W	
MTPLHA0201 (no groin piece, disposable)	3.2 mm	1.2 lb (0.54 kg)	559 L x 445 W	

Thermoplastic Technical Details

2.4 Standard Perforation

3.2 Standard Perforation

2.4 IMRT Reinforced

3.2 IMRT Reinforced

Primary Materials	Polycaprolactone, White ABS							
Attenuation (Unstretched Mask)**	6MV: 0.53% 18MV: 0.03%		6MV: 0.72% 18MV: 0.12%		6MV: 0.81% (solid region) 18MV: 0.21% (solid region)		6MV: 1.09% (solid region) 18MV: 0.21% (solid region)	
Thickness	2.4 mm (.094")		3.2 mm (.125")		2.4 mm (.094")		3.2 mm (.125")	
Perforation (surface)	38% (Standard)		38% (Standard)		Varies (IMRT Pattern)		Varies (IMRT Pattern)	
Density	1.145 g/cm ³							
Surface feeling	Smooth							
Color	White							
Odor	None							
Biocompatible	Yes							
Transparent when activated	Yes							
	Waterbath	Dry Heat Oven	Waterbath	Dry Heat Oven	Waterbath	Dry Heat Oven	Waterbath	Dry Heat Oven
Activation temperature	75° C / 165° F							
Activation time	6 min	4–8 min	6 min	4–8 min	7–9 min	8–11 min	7–9 min	8–11 min
Molding time (maximum) ^a	1 min 15 sec	N/A	1 min 30 sec	N/A	1 min 30 sec	N/A	1 min 30 sec	N/A
Hardening time ^b	8 min 45 sec	N/A	8 min 30 sec	N/A	8 min 30 sec	N/A	8 min 30 sec	N/A
Time to completion (minimum) ^c	10 min	10 min	10 min	10 min	10 min	10 min	10 min	10 min

Definitions*

- Molding Time:** the time frame available from when the mask is removed from the waterbath to the time that the mask can no longer be molded or formed.
- Hardening Time:** the time between the molding and completion time where the mask should be cooling and hardening on its own without being manipulated or molded.
- Time to Completion:** the total time from when the mask is taken out of the waterbath or dry heat oven to when the mask can be removed from the patient.

Attenuation Test Conditions**

- 100 cm SAD
- 10 x 10 cm Field Size
- 6 MV D_{max} = 1.5 cm
- 18 MV D_{max} = 3.0 cm

Packaging

Unit Pack	Each
Units / Box	Baseplate: One device – may have several component parts in box Thermoplastic: Qty 5
Shelf Life	n/a
Warranty	See CIVCO RT website for Product Warranty Statement
Sterilization	Non-Sterile
Launch Date	July 2019

Accessories

System Customization	Baseplate Compatible with:	
	MTHFI1822	IMRT Reinforced Thermoplastic, reloadable, 3.2 mm
	MTHFI18222.4	IMRT Reinforced Thermoplastic, reloadable, 2.4 mm
	MTHFX1822	Perforated Thermoplastic, reloadable, 3.2 mm
	MTHFX18222.4	Perforated Thermoplastic, reloadable, 2.4 mm
	MTHFX1822S	Solid Thermoplastic, reloadable, 3.2 mm
	MTHFX18222.4S	Solid Thermoplastic, reloadable, 2.4 mm
	MTPLHA0201	Solid Thermoplastic, disposable (no groin piece), 3.2 mm
	MTPLHA0202	Perforated Thermoplastic, disposable (no groin piece), 3.2 mm
	MTPLHAI0203	IMRT Reinforced Thermoplastic, disposable (no groin piece), 3.2 mm
	MTPLVCSUB8	HipFix disposable thermoplastic groin piece
MTPLHA01	HipFix Reloadable Handles (x2) and Groin Piece	