

The right hardware for the right door !

In most cases, the type of hardware required on any door is a function of its overall weight and the frequency of its operation. In fact, the hardware is the weight bearing element of the door and thus, must be chosen with strict capacity limitations.

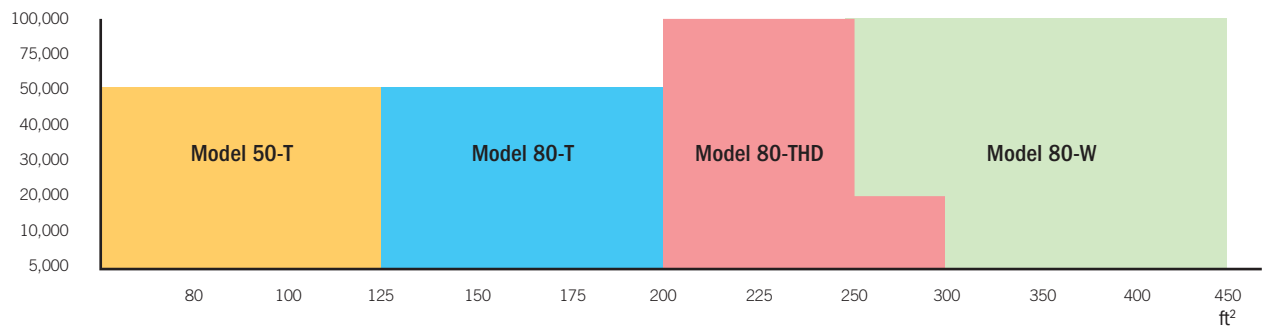
Acceptable safety factors must be kept in mind. Thermostop Inc. has provided you with a chart to simplify this selection task. It must be noted that the following chart corresponds to door weights equivalent to the Thermostop™ doors using standard 26 gauge steel sheeting or the Thermostop™ AL-2000 aluminum doors using standard single glazing, standard double acrylic or polycarbonate.



Torsion spring counterbalancing system

Hardware selection chart

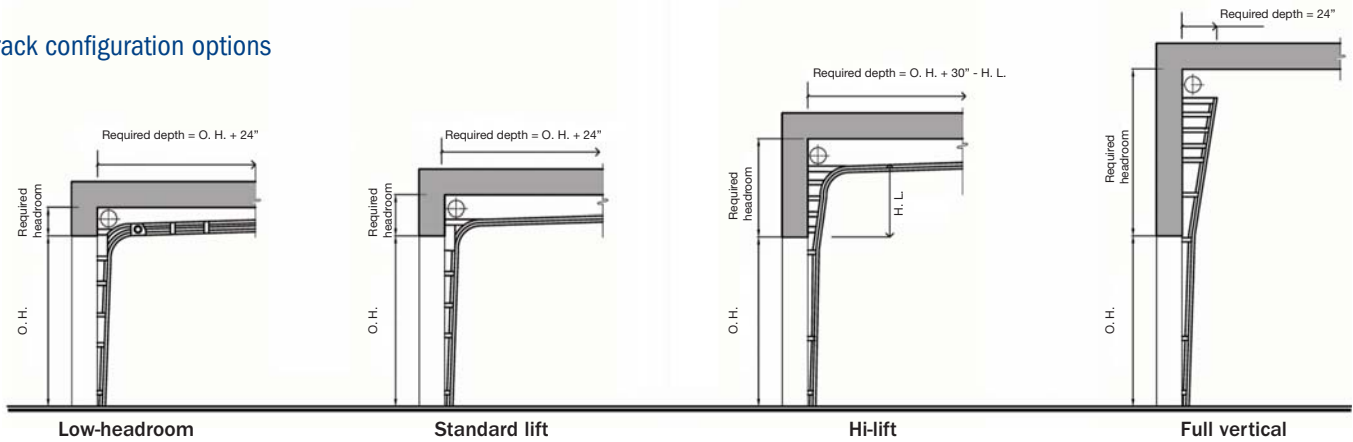
cycles / year



Thermostop hardware models

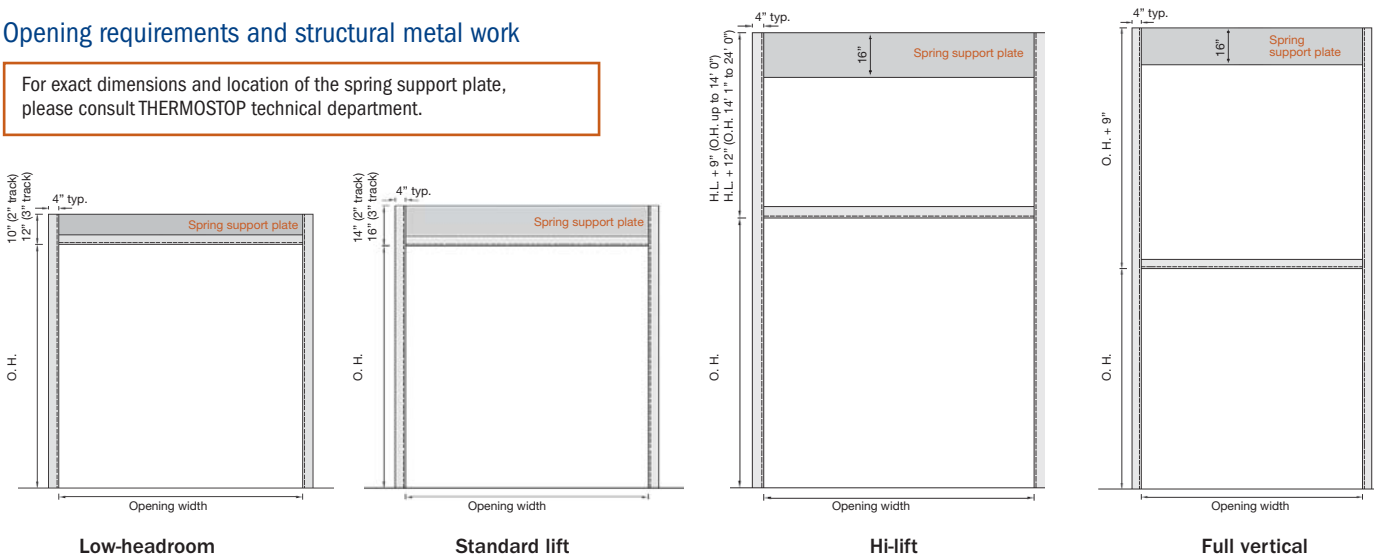
	Model 50-T	Model 80-T	Model 80-THD	Model 80-W
Characteristics	2" (50mm) Torsion spring counterbalancing system	3" (75mm) Torsion spring counterbalancing system	3" (75mm) Heavy duty torsion spring counterbalancing system	3" (75mm) Weight counterbalancing system
Track gauge	14ga. (1.80mm)	12ga. (2.50mm)	12ga. (2.50mm)	12ga. (2.50mm)
Bearing plates	12ga. (2.50mm)	12ga. (2.50mm)	10ga. (3.40mm)	10ga. (3.40mm)
Top roller carriers	13ga. (2.10mm)	13ga. (2.10mm)	13ga. (2.10mm)	13ga. (2.10mm)
Rollers	2" (50mm)	3" (75mm)	3" (75mm)	3" (75mm)
End-hinges	13ga. (2.10mm)	13ga. (2.10mm)	11ga. (2.90mm)	13ga. (2.10mm)
Double end-hinges (on door width of)	14' 0" (4267mm) and greater	14' 0" (4267mm) and greater	always	14' 0" (4267mm) and greater
Corner brackets	12ga. (2.10mm)	12ga. (2.50mm)	cast iron	12ga. (2.50mm)
Counterbalancing	torsion springs	torsion springs	torsion springs	weights
Shaft	tubing or solid	solid	solid	solid
Precision pollar bearings	no	no	yes	yes

Track configuration options



Opening requirements and structural metal work

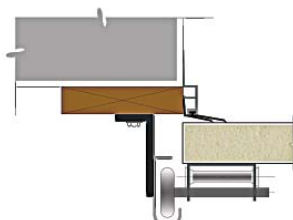
For exact dimensions and location of the spring support plate, please consult THERMOSTOP technical department.



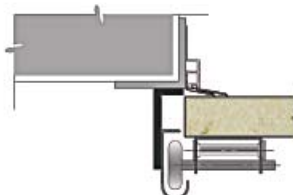
Legend:
H. L. = Hi-Lift
O. H. = Opening Height

- Notes:**
- For fastening tracks and spring counterbalancing system, frames, jamb extensions and support plates can be built with steel channels, angles or plates. All metal works to be capable of carrying the weight of the door and its hardware.
 - All frames, jamb extensions and support plates to be supplied (by other suppliers), installed plumb and square, and properly supported.
 - All inside faces must be flush and boltheads countersunk. All clearances as sideroom, headroom and depth to be unobstructed.

Jamb details



Angle on wood jambs



Angle on steel jambs

Required clearances

Lift type	Door height	Required headroom		Accessories	Required clearances
		2" track	3" track		
Low-headroom	up to 13' 0"	10"	12"	Jackshaft operator	24" on one side
Standard	up to 14' 0"	16"	18"	Trolley operator	add 4" on headroom add 36" on depth
	14' 1" to 24' 0"	n/a	24"		
Hi-lift	up to 14' 0"	H. L. + 9"	H. L. + 9"	Chain hoist	9" on one side
	14' 1" to 24' 0"	n/a	H. L. + 12"		
Full vertical	up to 14' 0"	O. H. + 9"	O. H. + 9"	Fender guards	8" on both sides
	14' 1" to 24' 0"	n/a	O. H. + 9"		
				Pusher springs	add 18" on depth

Notes: The required side room clearance is 4" on both sides, except for the low-headroom tracks which require 7" clearance.

Hardware and accessories



Standard and low-headroom drum



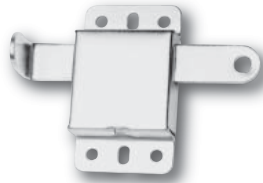
Pusher spring



Track guard



Hi-lift drum



Side lock

Manual operation accessories



Handle



Step plate

The door can be operated manually with:

- Handle and sash cord
- Handle and pull chain
- Chain hoist

Recommended for doors over 12' 0" W. x 12' 0" H. (3658mm W. x 3658mm H.)

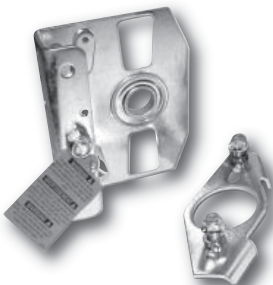


Pull chain



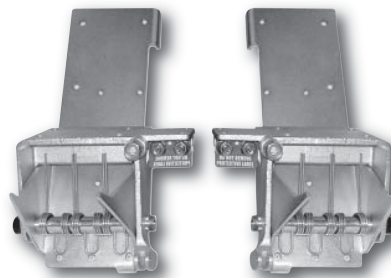
Chain hoist

Fail safety devices (optional)



Fail safety spring device

Allows to brake and stop the fall of the door in case the spring fails.



Fail safety corner bracket

Allows to brake and stop the fall of the door in case the cable fails.

Tracks:

- 2" (50mm) (50-T)
- 3" (75mm) (80-T, 80-THD, 80-W)

Vertical and horizontal tracks formed from 12ga. (2.50mm) thick galvanized steel. To select track configuration type (lift), please consult *Track configuration options and Required clearances*, page 2.

Rollers:

- 2" (50mm) (50-T)
 - 3" (75mm) (80-T, 80-THD, 80-W)
- 10-ball bearings, hardened steel.

Hinges:

- 13ga. (2.10mm) (50-T, 80-T, 80-W)
- 11ga. (2.90mm) (80-THD)

Galvanized steel, graduated to ensure weather tight closing at the jambs. Doors with width greater than 14' 0" (4267mm) are equipped with double end-hinges.

Top roller carriers:

13ga. (2.10mm) thick galvanized steel, adjustable type, to allow the door to be butted against the lintel, for maximum weather seal.

Bottom corner brackets:

- 12ga. (2.50mm) galvanized steel (50-T, 80-T, 80-W)
- Extra heavy duty cast-iron (80-THD)

Counterbalancing:

- By torsion spring: oil tempered, helically wound and designed to withstand a minimum number of cycles (opening/closing) over its life time (50-T, 80-T, 80-THD)
- By weight: cast iron link belt weight system with one or two sides weight box (80-W)

Drums:

Die cast aluminum alloy. Each drum has a guarded cable entry. Cable adjustment is controlled with set screws from the free side of the drums.

Cables:

Galvanized steel, 7 x 19 construction aircraft type.

Shaft:

- 1" (25mm) (50-T, 80-T, 80-W)
- 1-1/4" (32mm) (80-THD)

Solid cold rolled cross header shaft keyed to receive drums, coupling and drive sprockets as required.

Precision pollard bearings (optional): (80-THD, 80-W)

Greased packed, for heavy duty doors, required at track and shaft coupling bearing plates and for weight balancing system.

Track guards (optional):

Z-shaped 3/16" (5mm) thick steel plate, 5' 0" (1524mm) high.

Pusher springs (optional):

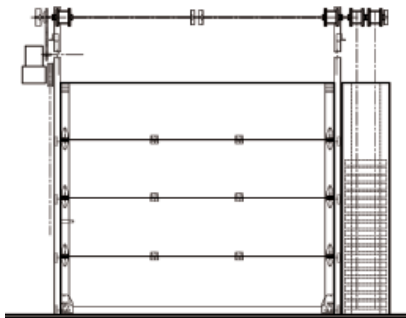
Allow to keep the cable continually under tension by pushing down on the top panel.

Fail safety devices (optional):

- Fail safety spring device:
 - Fail safety corner bracket:
- Allows to brake and stop the fall of the door in case the spring or cable fails.

In view of our expertise to manufacture very large industrial doors, up to 30' 0" W. x 30' 0" H. (9144mm W. x 9144mm H.), many special hardware systems have been designed and engineered by THERMOSTOP to meet these demanding requirements in terms of operation and durability.

Counterweight balancing system



Weight counterbalancing system



High cycle 3" (75mm) rollers

100,000 cycles
 200lbs (91kg) load per roller

Solid steel roller

Sealed precision bearing
 Solid steel tire
 Entirely zinc plated



Nylon roller

Sealed precision bearing
 Nylon tire
 Stainless steel stem

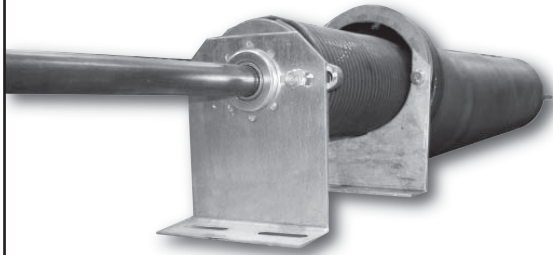


U.H.M.W. roller

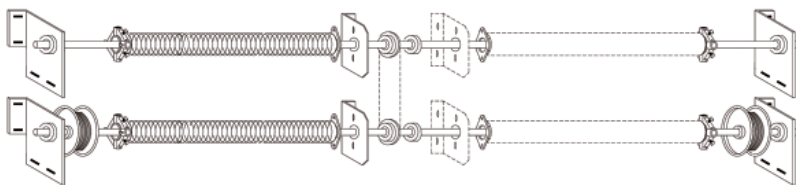
Sealed precision bearing
 U.H.M.W. covered with rubber



Duplex torsion spring system



Double row torsion spring system



Precision pollard bearing



(Hardware model 80-THD, 80-W)

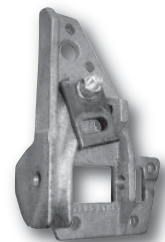
Recommended for doors weighing more than 1210lbs (550kg).

Required for all counterweight balancing systems.

Cast iron corner bracket

(Hardware model 80-THD, 80-W)

Extra heavy duty cast iron corner bracket for doors weighing more than 1210lbs (550kg).



Tradition of quality

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Warranty

Thermostop doors and hardware carry a warranty of one (1) year against any defects or faulty workmanship. The door panels carry a ten (10) year limited warranty against perforation due to rusting, and a five (5) year limited warranty on delamination, under normal operational conditions.

