

Yale

Vertex™

Spring Balance Range

A range of Wind-Up and Pre-Tensioned Spring Balances, complete with a specially engineered helix rod that, thanks to its spiral movement, takes on up to 80 percent of the operational force - ensuring ease of opening for all users

- Wind-Up Balances for sashes weighing from 2.0 to 18.0 kg and in lengths from 200 mm to 1,800 mm
- Pre-Tensioned Balances for sashes weighing from 2.0 to 45.0 kg and in lengths from 200 to 1,500mm
- All spring balances available in Tilt-In and Non-Tilt options
- Outer tube available in a wide range of colours.
- Tested to BS EN 13126-13 : 2012
- Wind-Up Balances are supplied with a 5 year mechanical guarantee
- Pre-Tensioned Balances are supplied with a 10 year mechanical guarantee

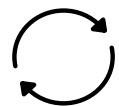
Pre-Tensioned spring balance specifications



10 year Mechanical
guarantee



BS EN 1670:2007
Grade 4
(240 Hours NSST)

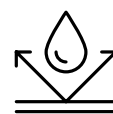


Tested to
20,000 cycles

Wind-Up spring balance specifications



5 year Mechanical
guarantee



BS EN 1670:2007
Grade 4
(240 Hours NSST)



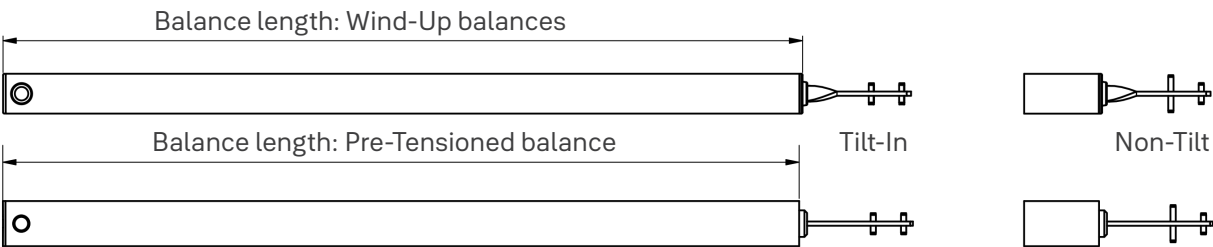
Tested to
5,000 cycles

Trusted every day

Balance ordering requirements



Balance Type	Tilt Option	Balance lengths 25mm increments	Tube colour options		Sash Weight 0.5Kg Increments
Wind- Up	Tilt-In	200-1800 mm	White	Brown	2.0 - 18.0
	Non-Tilt		Black	Grey	
Pre-Tensioned	Tilt-In	200 - 1500 mm	White	Brown	Ø17 mm 2.0 - 31 Ø19 mm 31.5 - 45.0
	Non-Tilt		Black	Grey	



- 1) Not every balance length/ sash weight combination may be possible
- 2) All Wind-Up balances are supplied at Ø15.0 mm tubes
- 3) Pre-Tensioned balances are supplied in either Ø17.0 mm or Ø19.0 mm tube subject to sash weight

Maintenance

Yale Spring balances are designed to require only minimal maintenance. Balances are best protected by being operated at least once a month. Should balances not be operated for long periods, particularly lower sash balances, then apply a light coat of high-quality water-resistant multi-purpose greases to the extended helix rod routinely to ensure optimum balance performance. Tubes can be cleaned with a damp cloth.

Vertex Wind-Up balance tensioning turns chart

		BALANCE LENGTH - 200 TO 1,000 MM																																
		200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750	775	800	825	850	875	900	925	950	975	1000
SASH WEIGHT - kg	2	1.0	1.5	1.5	2.0	2.5	2.0	2.5	3.0	3.0	3.0	3.5	4.0	4.0	4.5	4.5	4.5	5.0	5.5	5.5	5.5	6.0	6.5	6.5	6.5	7.0	7.0	7.5	NA	NA	NA	NA	NA	NA
	3	2.0	2.5	3.0	3.5	4.0	4.0	4.5	5.5	5.5	5.5	6.5	7.0	7.0	8.0	8.0	8.5	9.0	9.5	10.0	10.0	10.5	11.0	11.5	11.5	12.0	12.5	13.0	15.5	16.5	17.0	18.0	18.5	NA
	4	3.0	3.5	4.5	5.0	5.5	6.0	6.5	7.5	8.0	8.0	9.0	9.5	10.0	11.0	11.0	12.0	12.5	13.5	14.0	14.0	15.0	15.5	16.0	16.5	17.0	18.0	18.5	20.5	22.0	22.5	23.5	24.0	20.0
	5	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.5	2.5	2.5	3.0	3.0	3.5	3.5	3.5	4.0	4.0	4.5	5.0	4.5	5.0	5.0	5.0	5.5	6.0	6.0	6.0	6.5	7.0	7.0	7.5	8.0	25.0
	6	1.5	1.5	2.0	2.0	3.0	3.0	3.0	3.5	3.5	3.5	4.0	4.5	5.0	5.0	5.0	5.5	5.5	6.5	7.0	6.5	7.0	7.0	7.5	8.5	8.5	8.5	9.0	9.0	9.5	10.0	10.5	11.0	10.0
	7	2.0	2.0	2.5	3.0	3.5	3.5	4.0	4.5	4.5	5.0	5.5	5.5	6.5	6.5	6.5	7.0	7.5	8.0	8.5	8.5	9.0	9.5	10.0	10.5	11.0	11.0	11.5	11.5	12.5	12.5	13.5	14.0	13.0
	8	2.5	2.5	3.5	3.5	4.5	4.5	4.5	5.5	6.0	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.0	10.0	10.5	10.5	11.0	11.5	12.0	13.0	13.0	14.0	14.5	15.0	15.5	16.0	16.5	16.0	
	9	3.0	3.0	4.0	4.5	5.0	5.0	5.5	6.5	7.0	7.5	8.0	8.0	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	14.0	14.5	15.0	15.5	15.5	16.5	17.0	18.0	18.0	19.0	19.5	18.5
	10	3.5	3.5	4.5	5.0	6.0	6.0	6.5	7.5	8.0	8.5	9.0	9.5	10.5	11.0	11.5	12.0	12.5	13.5	14.0	14.5	15.0	16.0	16.5	17.5	18.0	18.0	19.0	19.5	20.5	21.0	22.0	22.5	21.5
	11	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.0	2.5	3.0	3.0	3.0	3.0	3.0	3.5	3.5	4.0	4.0	4.5	4.5	4.5	4.5	5.0	5.0	5.5	5.5	6.0	6.0	6.0	6.0	6.5	6.5
	12	1.0	1.0	1.5	2.0	2.0	2.5	2.5	3.0	2.5	3.0	3.5	3.5	3.5	3.5	4.0	4.0	4.5	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.5	6.5	7.0	7.0	7.0	7.0	7.0	7.5	8.0
	13	1.5	1.5	1.5	2.0	2.0	2.5	2.5	3.5	3.0	3.5	4.0	4.0	4.5	4.5	5.0	5.0	5.5	5.5	6.0	6.0	6.5	6.5	7.0	7.0	7.5	7.5	8.0	8.0	8.0	8.5	8.5	9.0	9.0
	14	1.5	1.5	2.0	2.5	2.5	3.0	3.0	3.5	3.5	4.0	4.5	4.5	5.0	5.0	5.5	5.5	6.0	6.5	7.0	7.0	7.0	7.0	7.5	7.5	8.5	8.5	9.0	9.0	9.0	9.5	9.5	10.0	10.5
	15	NA	NA	2.0	2.5	2.5	3.0	3.0	4.0	4.0	4.5	5.0	5.0	5.5	5.5	6.0	6.0	6.5	7.0	7.5	7.5	8.0	8.0	8.5	8.5	9.5	9.5	10.0	10.0	10.0	10.5	10.5	11.0	11.5
	16	NA	NA	2.5	3.0	3.0	3.5	3.5	4.5	4.5	5.0	5.0	5.5	5.5	6.0	6.0	6.0	6.5	7.0	7.0	7.5	8.0	8.0	8.5	9.0	9.0	9.5	10.0	10.0	10.5	11.0	11.5	11.5	12.0
	17	NA	NA	2.0	2.5	3.0	3.5	3.5	4.0	4.5	5.5	6.0	6.0	6.5	7.0	7.0	7.5	8.0	8.0	8.5	9.0	9.0	9.5	10.0	10.0	10.5	11.0	11.0	11.5	12.0	12.5	12.5	13.0	13.0
	18	NA	NA	2.5	3.0	3.5	4.0	4.0	4.5	5.0	5.0	6.0	6.5	6.5	7.0	7.5	7.5	8.0	8.5	8.5	9.0	9.5	9.5	10.0	10.5	10.5	11.5	12.0	12.0	12.5	13.0	13.5	13.5	14.0

Using the tensioning tool extend the balance by pulling on the lower pin downwards as shown before applying the correct number of turns. Install the upper pin into the Pivot Shoe or Sash Bracket before releasing the tension and removing the tensioning tool.

To remove the tension and remove the balance from the Pivot Shoe or Sash Bracket reverse the process shown above and apply clockwise turns when viewed from below.

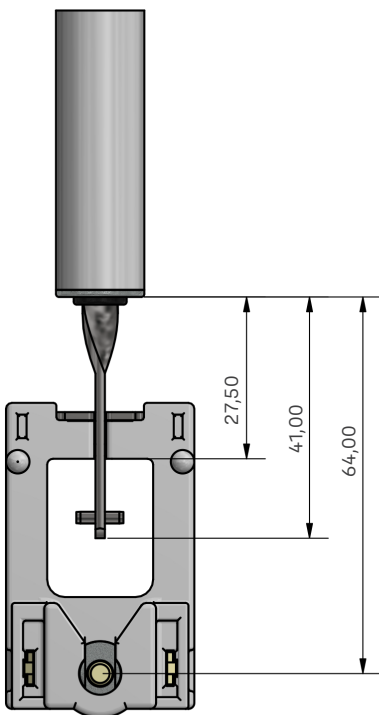
Care should be taken when adding and/or removing tension.

Apply turns
Anti-clockwise
(When viewed from below)

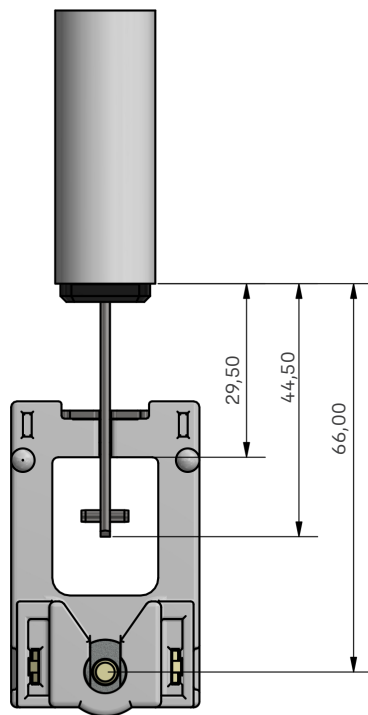


		BALANCE LENGTH - 1,025 TO 1,800 mm																																	
		1025	1050	1075	1100	1125	1150	1175	1200	1225	1250	1275	1300	1325	1350	1375	1400	1425	1450	1475	1500	1525	1550	1575	1600	1625	1650	1675	1700	1725	1750	1775	1800		
SASH WEIGHT - kg	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	4	20.5	21.0	22.0	22.5	23.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	5	25.5	26.5	27.5	28.0	29.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	6	10.0	10.0	10.5	11.0	11.0	11.5	11.5	12.0	12.0	12.5	13.0	13.0	12.5	13.0	13.5	14.0	14.0	14.5	15.0	17.0	17.5	17.5	18.0	18.5	18.5	18.5	18.0	18.5	18.5	19.0	19.5	19.5		
	7	13.0	13.0	13.5	14.0	14.5	15.0	15.0	15.5	15.5	16.0	16.5	16.5	16.5	17.0	17.5	18.0	18.0	18.5	19.0	21.5	22.0	22.0	22.5	23.0	23.5	23.5	23.5	24.0	24.0	24.5	25.0	25.0		
	8	16.0	16.0	17.0	17.5	17.5	18.5	18.5	19.0	19.5	20.0	20.5	20.5	20.5	21.0	21.5	22.0	22.0	22.5	23.0	26.0	26.5	27.0	27.5	28.0	28.0	28.0	28.5	29.0	29.0	29.5	30.0	30.0		
	9	18.5	19.0	20.0	20.5	21.0	21.5	21.5	22.0	23.0	23.5	24.0	24.0	24.5	25.0	25.5	26.0	26.0	26.5	27.0	30.5	31.0	31.5	32.0	32.5	33.0	33.0	34.0	34.5	34.5	35.0	35.5	35.5		
	10	21.5	22.0	23.0	23.5	24.0	25.0	25.0	25.5	26.5	27.0	27.5	27.5	28.5	29.0	29.5	30.0	30.0	30.5	31.0	11.0	11.5	11.5	11.5	12.0	12.5	12.5	13.0	13.0	13.0	13.5	14.0	14.5		
	11	7.0	7.0	7.5	7.5	8.0	8.5	8.5	9.0	9.5	9.5	9.5	10.0	10.5	10.5	11.0	11.5	11.5	11.5	13.0	13.5	13.5	13.5	14.0	14.5	14.5	14.5	15.5	15.5	15.5	16.0	16.5	17.0		
	12	8.5	8.5	9.0	9.0	9.0	9.5	10.0	10.0	10.5	11.0	11.0	11.0	12.0	12.5	12.5	13.0	13.5	13.5	15.0	15.5	15.5	16.0	16.5	17.0	17.0	17.5	18.0	18.0	18.5	19.0	19.5	19.5		
	13	9.5	9.5	10.0	10.5	10.5	11.0	11.5	11.5	12.0	12.5	12.5	13.0	13.5	14.0	14.0	14.5	15.0	15.5	17.0	17.5	17.5	18.0	18.5	19.0	19.0	20.0	20.0	20.5	21.0	22.0	22.0	22.0		
	14	11.0	11.0	11.5	11.5	11.5	12.5	13.0	13.0	13.5	14.0	14.5	15.5	16.0	16.0	16.5	17.0	17.0	17.5	19.0	19.5	19.5	20.5	21.0	21.5	21.5	22.0	22.5	22.5	23.0	23.5	24.5	24.5		
	15	12.0	12.0	12.5	13.0	13.0	14.0	14.5	14.5	15.0	15.5	15.5	16.0	17.0	17.5	17.5	18.0	18.5	18.5	19.5	21.0	21.5	21.5	22.5	23.0	23.5	23.5	24.5	25.0	25.0	25.5	26.0	27.0		
	16	12.5	12.0	12.5	13.0	13.0	13.5	14.0	14.0	14.5	15.0	15.5	15.5	16.0	16.5	16.5	17.0	17.5	17.5	18.0	18.5	18.5	18.5	19.0	19.5	20.0	20.5	20.5	20.5	21.0	21.5	22.0	22.0		
	17	13.5	13.5	14.0	14.5	14.5	15.0	15.5	15.5	16.0	16.5	17.0	17.0	17.5	18.0	18.0	18.5	19.0	19.0	19.5	20.0	20.0	20.5	21.0	21.0	21.5	22.0	22.5	22.5	23.0	23.5	24.5	24.5		
	18	14.5	14.5	15.0	15.5	15.5	16.0	17.0	17.0	17.5	18.0	18.5	18.5	19.0	19.5	19.5	20.0	20.5	20.5	21.0	21.5	21.5	22.5	23.0	23.0	23.5	24.0	24.5	24.5	25.0	25.5	25.5	26.0		

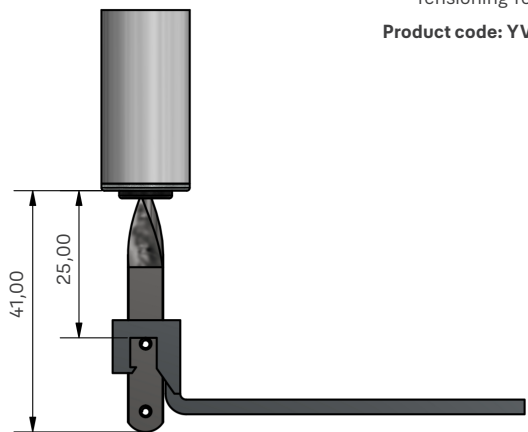
Wind-Up Tilt-In
Balance set up dimensions



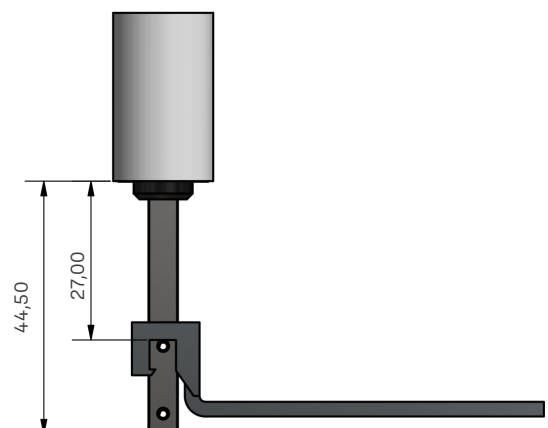
Pre-Tensioned Tilt-In
Balance set up dimensions



Wind-Up Non-Tilt
Balance bracket set up dimensions



Pre-Tensioned Non-Tilt Balance
Sash bracket set up dimensions



Pivot Shoes
Product code: YVSPS135
Product code: YVSPS155

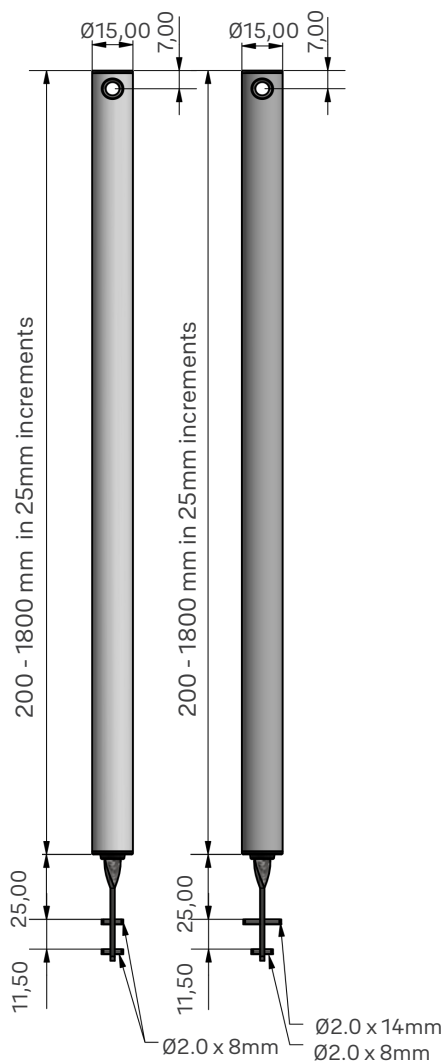
Tensioning Tool
Product code: YVSTEN

Spring Balance Options

Wind-Up Balances

Tilt-In

Non-Tilt



- Single spring balances for Tilt-In and Non-Tilt applications
- Providing sash lift assistance and ensuring sashes remain in position at all times
- Minimum installed length (top of balance of uppermost cross-pin) = Balance Length + 25.00mm
- Maximum installed length (top of balance to top of uppermost cross pin) = (Balance length X 2) - 20.00mm
- Please refer to installation details and balance turns chart on page 3

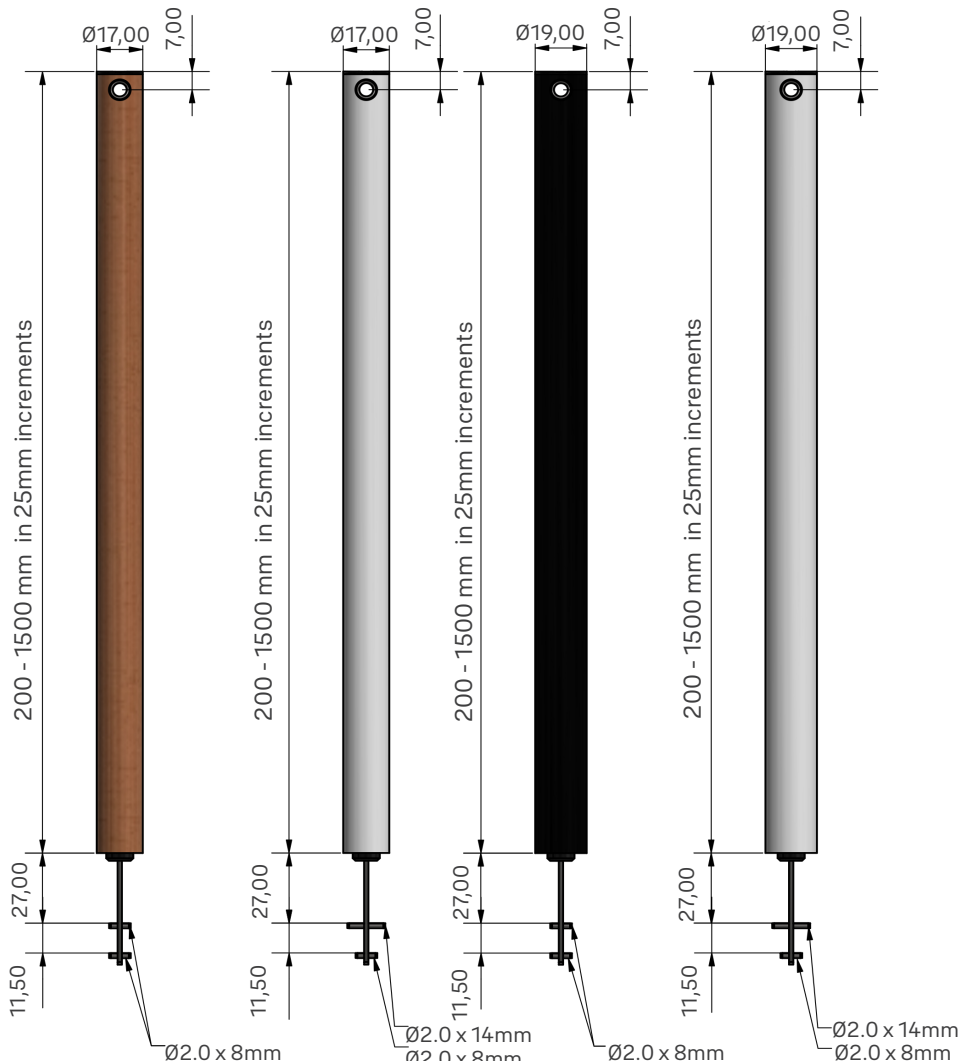
Pre-Tensioned Balances

Ø17 Tilt-In

Ø17 Non-Tilt

Ø19 Tilt-In

Ø19 Non-Tilt



- Double spring balances generating greater slide assistance
- Reduces operational force by up to 80% on sash movement
- Ø17.00 balances for sashes weighing 2.00 kg to 31.00 kg
- Ø19.00 balances for sashes weighing 31.50 kg to 45.00 kg
- Minimum installed length (top of balance to uppermost cross pin) = Balance length + 27.00 mm
- Maximum installed length (top of balance to top of uppermost cross pin) = Balance length + X 2) - 38.00 mm
- Please refer to installation details on Page 3

Outer Tube Colour Range

White
Brown
Grey
Black

Material Specification

Reinforced Nylon

CS70 Steel

Music Wire

PVC (unplasticized)

Aluminium 6063

ST 304

Steel

Acetal

Due to a continuous programme of development the company reserves the right to make alterations without notice. (Products which are not a stocked item will be subject to a longer lead time which needs to be agreed with your Yale representative)

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