

Hardware Comparison for NAFS Casement Window Hardware Load Test

North American Fenestration Standard (AAMA/WDMA/CSA 101/I.S. 2/A440-08)

CAUTION: There are many factors in addition to the hardware which influence the maximum size casement window that should be produced. These include sash and frame stiffness and strength, screw holding strength, sash sag, weather tightness, and weatherstrip drag. For this reason, Truth recommends careful evaluation of the entire window before producing units as large as this matrix suggests.

Performance Class R: The Maximum Frame Size and Sash Weight are Listed in the Table.

Performance Classes LC, C, HC, AW: The Maximum Frame Area (Width x Height) Listed in the Table Must be Reduced by 20%.

Maximum Frame Size & Sash Weight for Operator & Hinge Combination Shown									
Operator		Hinge							Approx. Minimum Frame Width to Fit Operator
		Maxim Washable 14.97 14.92	Heavy Duty 14.10 Washable	10" Standard 14.75 14.80 14.05 14.19	10" Washable 14.76 14.91 14.06	Maxim Egress 14.12 14.13	10" Egress 14.77	Contour Butt Hinge 29.30	
Encore HD Dual Arm	50.19	48"W X 96"H 103*(96) lbs†	48"W X 96"H 140*(96) lbs	32"W x 84"H; 85 lbs	32"W x 72"H; 73 lbs	Not Recommended	Not Recommended	Not Recommended	25"
Encore Dual Arm	50.10	40"W x 84"H; 108*(96) lbs	38"W x 84"H; 103 lbs*(140)^	32"W x 84"H; 85 lbs	32"W x 72"H; 73 lbs	32"W x 68"H; 69 lbs	32"W x 68"H; 69 lbs	Not Recommended	24"
Encore Short Dual Arm	50.14	Not Recommended	Not Recommended	32"W x 84"H; 85 lbs	32"W x 84"H; 85 lbs	28"W x 78"H; 69 lbs	32"W x 68"H; 69 lbs	Not Recommended	21"
Encore Dyad	50.60	32"W x 72"H; 73*(55) lbs	32"W x 76"H; 77 lbs*(132)	24"W x 64"H; 47 lbs	24"W x 60"H; 45 lbs	Not Recommended	Not Recommended	Not Recommended	16"
Encore Reverse Dyad	50.80	24"W x 72"H; 53 lbs**	24"W x 72"H; 83 lbs**	24"W x 72"H; 53 lbs**	24"W x 72"H; 53 lbs**	24"W x 72"H; 53 lbs**	24"W x 72"H; 53 lbs**	24"W x 72"H; 53 lbs**	12"
Encore HD Single Arm	52.15	48"W X 96"H 140*(96) lbs†	48"W X 96"H 140*(96) lbs†	32"W x 70"H; 71*(36) lbs	32"W x 70"H; 71*(29) lbs	48"W X 96"H 140*(96) lbs†	48"W X 96"H 140*(96) lbs†	48"W X 96"H 140*(96) lbs†	24"
Encore Single Arm	52.11	Not Recommended	Not Recommended	32"W x 70"H; 71*(36) lbs	32"W x 70"H; 71*(29) lbs	32"W x 72"H; 73 lbs	32"W x 72"H; 73 lbs	30"W x 69"H; 65 lbs	20"
Encore Short Single Arm	52.16	Not Recommended	Not Recommended	Not Recommended	Not Recommended	22"W x 63"H; 42 lbs	22"W x 63"H; 42 lbs	20"W x 60"H; 36 lbs	15"
Pegasus <4" opening	57.00	24"W x 72"H; 53 lbs	24"W x 72"H; 83 lbs	24"W x 72"H; 53 lbs	24"W x 72"H; 53 lbs	24"W x 72"H; 53 lbs	24"W x 72"H; 53 lbs	24"W x 72"H; 53 lbs	12"
Contemporary Lever 10.5"	65.00	Not Recommended	Not Recommended	32"W x 70"H; 71*(36) lbs	32"W x 70"H; 71*(29) lbs	32"W x 72"H; 73 lbs	32"W x 72"H; 73 lbs	30"W x 69"H; 65 lbs	20"
Contemporary Lever 8.5"	65.01	Not Recommended	Not Recommended	Not Recommended	Not Recommended	22"W x 63"H; 42 lbs	22"W x 63"H; 42 lbs	20"W x 60"H; 36 lbs	15"
Contemporary Lever 4.5"	65.02	Not Recommended	Not Recommended	Not Recommended	Not Recommended	22"W x 63"H; 42 lbs	22"W x 63"H; 42 lbs	20"W x 60"H; 36 lbs	15"
Contour 14" Single Arm	55.00	48"W X 96"H 140*(96) lbs†	48"W X 96"H 140*(96) lbs†	32"W x 70"H; 71*(36) lbs	32"W x 70"H; 71*(29) lbs	48"W X 96"H 140*(96) lbs†	48"W X 96"H 140*(96) lbs†	48"W X 96"H 140*(96) lbs†	24"
Contour 8" Single Arm	55.02	Not Recommended	Not Recommended	Not Recommended	Not Recommended	24"W x 69"H; 51 lbs	24"W x 69"H; 51 lbs	24"W x 69"H; 50 lbs	18"
Contour Dyad	55.01	32"W x 72"H; 100*(55) lbs†	32"W x 76"H; 77 lbs*(132)†	24"W x 64"H; 47 lbs	24"W x 60"H; 45 lbs	Not Recommended	Not Recommended	Not Recommended	16"

The maximum window size, ease of operation, and service life are strongly influenced by hardware mounting positions (Review by AT applications group is recommended).

Applications with smaller dimensions may be able to support a larger window. Contact AT applications group for recommendations specific to your application.

* The first sash weight shown in the table is the maximum permitted for the AAMA Hardware Load Test. The sash weight shown in parenthesis is the maximum recommended by Truth to assure ease of operation.

† If the sash weight in parenthesis exceeds the maximum permitted for the AAMA Hardware Load Test, a counteracting upward force must be applied to the sash during the test to reduce the load to the level specified by AAMA.

** The Encore Reverse Dyad Operator has been limited to use in windows 24" wide and narrower in order to ensure good performance near the closed position. In its full open position, it can support windows larger than those shown in the table.

^ This is the maximum rating of the hinge. Ease of operation is provided up to this weight.

† Limited opening may be required, review by AT applications group recommended.