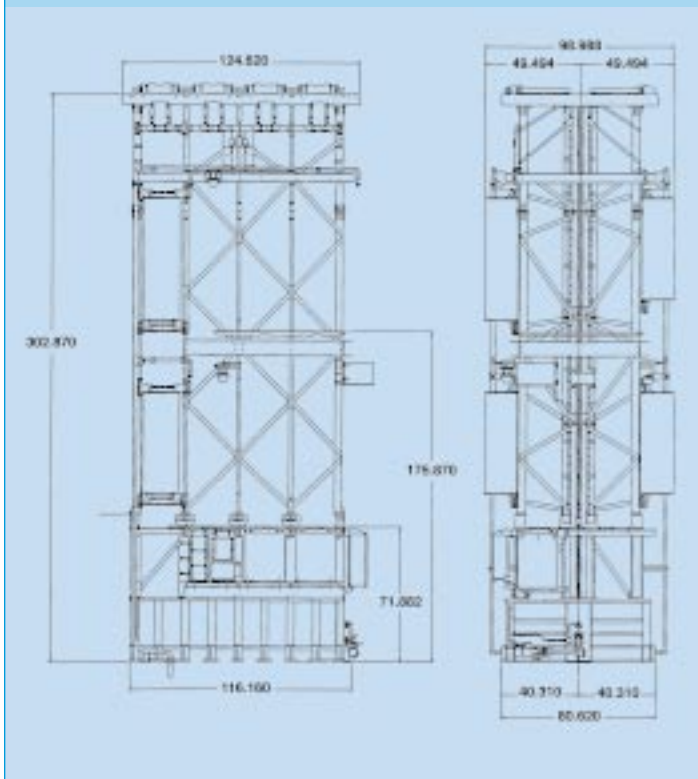


Vertical Launching System (VLS) Mk 41– Strike-Length Module



Missiles

Type	SM-2 BLK II	VLA ASROC	TOMAHAWK AUR	SEASPARROW VL/RIM-7
Maximum weight (lb)	1,560	1,400	4,000	540
Maximum length (in.)	184	200	247	152
Maximum diameter (in.)	14	14	23	8
Quantity per launcher module – 8				

System Size– 61-Cell Launcher

Length	343 inches
Width	249 inches
Height	303 inches

Launcher RM&A– 8-Module Launcher

Mean time between failure	1,936 hours
Mean time to repair	3.2 hours
Average scheduled maintenance time	0.5 hour per day
Intrinsic availability	0.978
Strikedown mean cycle between failures	200 cycles

Power Required by 61-Cell VLS Launcher

440 Vac 60 Hz 3 phase	200 kW
115 Vac 60 Hz 1 phase (lighting)	8 kW
115 Vac 60 Hz 3 phase (backup power for 400 Vac)	10 kW
115 Vac 60 Hz 1 phase (launch control unit)	5 kW
115 Vac 400 Hz 3 phase	45 kW

Ship Services Required

Low-pressure air	225 psi
Freshwater	55 gallons (tank and lines)
Saltwater:	
Deluge	320 gal/min at 105 psi
Sprinkling	1,050 gal/min at 65 psi
Drainage	1,370 gal/min
Cooling	135,000 btu/hour
Heating	65,000 btu/hour

Environmental Conditions

Internal launcher conditions range	56 °F and 95% relative humidity to 85 °F and 55% relative humidity
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System Weights

	Pounds	Light Ton
Launcher empty	262,000	117
Loaded with Mk 13 Canister (empty) and adapter	390,000	178
Loaded with 61 SM-2 Blk II Missiles	485,000	217
Loaded with 48 SM-2 Blk II Missiles and 13 TOMAHAWK Missiles	516,000	230
Loaded with (empty) Mk 22 Canister and adapter	437,400	195
Loaded with VL/RIM-7	470,100	210

Canister Weights

	Pounds
Mk 13 empty	1,490
with SM-2 Blk II missile only	3,050
with PHS&T only (empty canister)	2,670
with SM-2 Blk II missile and adapter	3,670
Mk 14 empty	2,010
with TOMAHAWK AUR	6,010
with PHS&T only (empty canister)	3,140
with TOMAHAWK AUR and sill assembly	6,130
Mk 15 empty	1,670
with VLA weapon only	3,300
with PHS&T only (empty canister)	2,850
with VLA weapon and adapter	3,900
with VLA weapon (max. growth) and PHS&T	4,480
Mk 22 empty	2,130
with VL/RIM-7 only	2,680
with PHS&T only	3,310
with VL/RIM-7 and adapter only	3,300

Launch Control System Sizes and Weights

	Inches (L x W x H)*	Pounds
Status panel	11.5 x 18 x 24	100
Remote launch enable panel	8 x 10 x 13	30
Launch control unit	34 x 44 x 80	1,350

*Length x Width x Height

Strikedown Equipment Weights

	Pounds
Strongback, horizontal transfer assembly	211
Vertical strongback	47
Cell guide assembly	51
Steady rest assembly	54
Pivot fixture	369
Beam weld steady rest	164
Beam weldment locator receiver	301
Lift adapter, truck assembly (4)	284
Chock (4)	133
Other assemblies (13)	243
Total	1,857

Safety

Restrained firing:	Launcher capable of surviving a full motor burn of restrained missile
Warhead deluge:	Deluge provided to prevent warhead explosion (320 gPM at 105 psig)