CALCULATOR METHOD

RESIDENCES AND MOTELS

REFINEMENTS

On this page and the next are means of making adjustments to the base costs given in this section in addition to those given on the cost pages. The component parts which are not defined, such as the roof or foundation, are considered to be commensurate with the general quality of the building. If further refinements are required or the construction is unusual, either price entirely, or adjust the base costs by the Segregated Cost System, Section 42, or the Unit-in-Place Cost Sections.

HEATING AND COOLING

These costs are averages of the total installed costs of the entire heating or cooling installation including the prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being appraised is different from that indicated for the base being used, take the difference between the costs of the two and add to or subtract from the base square foot cost. If a cubic foot cost is used, use one-eighth the difference shown to adjust the base cubic foot cost (one-ninth for Multiples and Motels, one-tenth for Lodges and High-Value Residences). All of the heating costs included in the base costs are those listed under "Moderate Climate". For specific system costs not found below, see Section 42 or 53.

HEATING ONLY

TYPE	SQUARE METER COSTS			SQUARE FOOT COSTS		
	Mild Climate	Moderate Climate	Extreme Climate	Mild Climate	Moderate Climate	Extreme Climate
Electric, cable or baseboard	$20.99	$31.22	$46.29	$1.95	$2.90	$4.30
radiant panels	19.91	27.99	38.75	1.85	2.60	3.60
Electric wall heaters (inc. FWA)	10.76	14.53	19.91	1.00	1.35	1.85
Forced air furnace	23.14	35.52	53.82	2.15	3.30	5.00
Hot water, baseboard/converter	40.37	60.82	90.96	3.75	5.65	8.45
radiant floor or ceiling	39.29	62.43	99.03	3.65	5.80	9.20
Space heaters, w/fan	8.61	15.07	25.83	.80	1.40	2.40
radiant	11.30	18.30	29.06	1.05	1.70	2.70
Steam (including boiler)	36.60	52.74	75.89	3.40	4.90	7.05
(without boiler)	29.06	43.59	65.66	2.70	4.05	6.10
Wall or floor furnace	12.38	16.15	21.53	1.15	1.50	2.00
Add for wood-burning furnace	9.15	12.92	18.30	.85	1.20	1.70
supplemental exterior source, add 55%						

HEATING AND COOLING EXCEPT HIGH-VALUE RESIDENCES

Package A.C. (short ductwork)	$38.21	$ 60.28	$ 94.72	$3.55	$ 5.60	$ 8.80
Warm and cool air (zoned)	56.51	82.34	119.48	5.25	7.65	11.10
Hot and chilled water (zoned)	93.65	128.09	174.92	8.70	11.90	16.25
Heat pump system	41.98	66.20	104.41	3.90	6.15	9.70
add for ground-loop heat source	12.92	19.38	28.52	1.20	1.80	2.65
Individual thru-wall heat pumps	19.91	33.37	56.51	1.85	3.10	5.25

Small individual heat pumps cost $1,235 to $1,690 per ton of rated capacity.

COOLING ONLY

Cooling costs vary greatly but, in general, the following figures will serve as a guide:

Central refrigeration with ducts and zone controls	$39.29	$57.05	$83.42	$3.65	$5.30	$7.75
Package refrig. (short ductwork)	27.99	39.29	55.43	2.60	3.65	5.15
Central evaporative (with ducts)	20.45	26.37	34.44	1.90	2.45	3.20
Package refrigeration	$1,390 – $1,785 per ton of rated capacity					
Evaporative coolers	$180 – $270 per thousand CFM of rated capacity					

VENTILATION ONLY

Ventilation (blowers & ducts)	$7.53	$10.23	$13.99	$.70	$ .95	$1.30
simple exh. fan & air inlets only	4.31	5.92	8.61	.40	.55	.80
Air-to-air heat exchange system (utilizing heating ducts)	9.15	12.38	17.22	.85	1.15	1.60

SPRINKLERS

Sprinkler costs include all costs for the system and supply lines, but not tanks, towers or high-pressure pumps. The square foot costs listed are based on the total area of sprinkler system installation on a single main connection including its prorated share of contractors' overhead and profit and architects' fees. For a more specific cost, see Section 42 or 53. Sprinklers should not be modified for size or shape. Simple residential installations will cost $2.35 to $3.65 per square foot ($25.30 to $39.29 per square meter).

COVERAGE	WET SYSTEMS		DRY SYSTEMS	
Square Feet (Sq. M.)	Sq. M.	Sq. Ft.	Sq. M.	Sq. Ft.
under 10,000 (929)	$26.29 – $42.24	$2.44 – $3.92	$33.33 – $53.57	$3.10 – $4.98
10,000 to 50,000	21.23 – 33.11	1.97 – 3.08	26.51 – 41.36	2.46 – 3.84
over 50,000 (4,645)	16.61 – 25.08	1.54 – 2.33	20.46 – 30.80	1.90 – 2.86

ELEVATORS

Lump sum cost per apartment type elevator, plus the cost per stop or landing including the ground level. Use the cost per stop for basement stops. For small residential elevators, decrease cost by 60%. See Section 58 for more detailed costs and for inclinators and dumbwaiters.

TYPE	COST RANGE
Base cost, passenger, two to three stories	$34,200 – $55,050
add, cost per stop	4,700 – 7,550
Vertical wheelchair lifts, each	8,200 – 17,500

FIREPLACES

Cost per fireplace. For each additional opening using the same chimney, add 30% to 50% (custom, 20% to 40%). Buildings with basements, add 40% (custom, 25%) to extend the foundation to the basement level. Steel with flue is the prefabricated hanging or free-standing type fireplace or stove.

TYPE	LOW	AVG.	GOOD	EXCL.	
One-story	$2,150	$3,175	$ 4,675	$ 6,925	up
add per additional story of chimney flue	575	775	1,025	1,375	
Steel, with flue	1,150	1,625	2,300	3,250	
pellet or corn cob stoves	2,250	2,775	3,475	4,325	
add per additional story of chimney stack	255	385	575	865	
direct vent	855	1,515	2,495	3,965	
Custom or oversized, one-story	8,025	10,475	13,700	17,875	up
masonry heaters, soapstone, etc.	7,400	12,100	19,125	29,650	up
add per additional story of chimney flue	1,500	1,700	1,975	2,250	
steel, direct vent	3,300	4,225	5,425	6,925	
Add for Heatilator type	320	430	570	765	
Add for raised hearth	195	300	460	705	
Add for log lighter	100	140	190	255	
Mantels, special designs or antique reproductions, add: (See note at bottom of Page 39).					
Cast stone (bonded limestone)	$3,725	$ 5,375	$ 7,725	$11,125	
Custom marble, granite or onyx	6,825	10,750	16,650	25,475	
Ornate wood, carved	3,725	4,225	4,725	5,350	
Precast plaster	1,925	2,575	3,475	4,675	

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