

# Occupational Profile: Heating, Air Conditioning, and Refrigeration Mechanics and Installers

## GENERAL OCCUPATION DESCRIPTION

Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.

Source: O\*NET online. <http://online.onetcenter.org>

## REQUIRED EDUCATION

As shown in the table to right, over 71% of interviewed employers reportedly require a two-year degree or the equivalent.

Required Education	
Percent of Employers Requiring HS Diploma or Less	21.44%
Percent of Employers Requiring 2-Year Degree or Equiv	71.05%
Percent of Employers Requiring BS Diploma or More	7.52%

Source: Bureau of Labor Statistics

## WAGES

Heating, Air Conditioning, and Refrigeration Mechanic and Installer is considered a medium to high-wage occupation, with moderate possibility for wage advancement with experience. Employers in the State of Arizona generally pay comparably as compared with the overall United States, except for experienced workers, who are paid higher on average in the United States as a whole.

Location	Pay Period	2005				
		10%	25%	Median	75%	90%
United States	Hourly	\$11.04	\$13.79	\$17.81	\$22.73	\$27.46
	Yearly	\$23,000	\$28,700	\$37,000	\$47,300	\$57,100
Greater Phoenix	Hourly	\$9.20	\$11.89	\$17.66	\$20.66	\$24.18
	Yearly	\$19,145	\$24,743	\$36,750	\$42,993	\$50,319
Arizona	Hourly	\$10.04	\$12.77	\$17.80	\$21.12	\$25.41
	Yearly	\$20,900	\$26,600	\$37,000	\$43,900	\$52,900

Source: Bureau of Labor Statistics

As shown in the table to right, a national comparison of wages for this occupation reveals Arizona ranks 23<sup>rd</sup> in terms of median wages.

RANK	Location	Median Wage 2005	
		Hourly	Annual
1	Alaska	\$25.58	\$53,200
2	District of Columbia	\$24.01	\$49,900
3	Hawaii	\$23.55	\$49,000
4	Connecticut	\$22.54	\$46,900
5	Massachusetts	\$22.13	\$46,000
23	ARIZONA	\$17.80	\$37,000

Source: Bureau of Labor Statistics

The table below provides a comparison of wages by sub-industry for the Greater Phoenix region (2005). As shown, the main employment sector, "Specialty Trade Contractors" pays slightly more on average than the other main employment sector "Educational Services."

Wages by Industry: Greater Phoenix MSA (2005)	Rounded Employment	Mean Wage	10th Percentile Wage	25th Percentile Wage	Median Wage	75th Percentile Wage	90th Percentile Wage
Specialty Trade Contractors	3,700	\$16.82	\$9.20	\$11.89	\$17.66	\$20.66	\$24.18
Educational Services	110	\$17.37	\$12.69	\$14.66	\$16.56	\$20.04	\$23.75

## EMPLOYMENT

As shown in the table below, this occupation has a projected 50% growth rate over 10 years (between 2003 and 2013) for the Greater Phoenix region. There are an average projected 254 job openings each year, comprised of 197 new jobs and 57 positions vacated by individuals leaving the field (due to retirement, death, career changes, or other reasons).

	10-YEAR CHANGE			AVERAGE ANNUAL		
	Employment		Percent Change	Job Openings	Growth	Separations
United States	2004	2014				
Heating, air conditioning, and refrigeration mechanics and installers	269,700	321,100	19%	8,710	n/a	n/a
Arizona	Employment		Percent Change	Job Openings	Growth	Separations
	2004	2014				
Heating, air conditioning, and refrigeration mechanics and installers	7,220	10,900	51%	460	n/a	n/a
Greater Phoenix	Employment		Percent Change	Job Openings	Growth	Separations
	2003	2013				
Heating, air conditioning, and refrigeration mechanics and installers	4,313	6,280	50%	254	197	57

Source: Bureau of Labor Statistics

\*Job Openings refers to the average annual job openings due to growth and net replacement.

Source: Bureau of Labor Statistics

\*\*N/A is displayed in cases where data is not available or cannot be published because of federal data privacy standards.

An additional source of information regarding this occupation can be provided by analysis of employer survey data collected for the Maricopa County Community Colleges by the ERISS Corporation in 2004. As shown, the ERISS survey data shows a projected 1-year growth rate of 16%, which is higher than the average of 5% per year reflected by the BLS data above.

Additionally, the ERISS data provides an indicator of yearly turnover for this occupation, which is reported to be high at 17%.

ERISS Occupational Survey Data (2004)			
Greater Phoenix	Growth	Turnover	Demand
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	16%	17%	33%

### Comparison of employment projections for top five regions for Heating, Air Conditioning, and Refrigeration Mechanic and Installer

As shown in the table to right, a national comparison reveals the State of Arizona ranks 2nd in terms of projected 10-year growth for this occupation (51%).

RANK	Location	Employment		Percent
		2004	2014	Change
1	Nevada	1,810	2,790	55%
2	<b>ARIZONA</b>	7,220	10,900	51%
3	Colorado	3,670	5,470	49%
4	Wyoming	270	410	48%
5	Idaho	1,500	2,130	41%

Source: Bureau of Labor Statistics

### Employment by Industry

The table below shows the industries that most commonly employ Heating, Air Conditioning, and Refrigeration Mechanic and Installer, and the proportion of employment accounted for at the national level. As shown, "Plumbing, heating, and air-conditioning contractors" is the largest employer for this occupation (47.3%).

Percent of Employment Nationally by Industry	
Percent	Industry
47.3%	Plumbing, heating, and air-conditioning contractors
14%	Self-employed workers, primary job
4.8%	Electrical contractors
4.5%	Direct selling establishments
3%	Hardware, and plumbing and heating equipment and supplies merchant wholesalers
2.8%	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance

Source: Bureau of Labor Statistics

### Geo-Location Overlay of Employers with 10 or More Employees that Potentially Employ Occupation (n = 126)

