# US Chemical Engineering Compensation Report 2024 

Thank you to everyone who contributed their data for this report - I am extremely grateful!

## > Methods:

This salary report was based on 1,881 unique data points all of which were collected via a web form on the Sun Recruiting website from December $1^{\text {st }}, 2023$ to January $1^{\text {st }}, 2024$. I used email, LinkedIn, the Chemical Engineering subreddit and word-of-mouth to spread the message that I was looking for data. Respondents answered a series of 17 questions covering topics including base and non-base compensation, work schedules, industry type, degree level, etc. The collected information was analyzed by me and all identifying information was removed prior to analysis. I'm a recruiter not a statistician - l've attempted to provide as much transparency as possible in my comments as to why I chose certain methods over others, or where I think the dataset is weak.

Previous iterations of the salary report are available - please email me if you'd like a copy of the 2023, 2022 or 2020 reports.
Got an offer? Want help negotiating? I have a fee-based service for that - I guarantee results and will work with you to maximize your offer; click the link for more information.

How to Use This Data (Please Read):
Many of the data points in this survey are MEDIAN data points, meaning that $50 \%$ of the responses were higher and $50 \%$ were lower. I've had many people ask about other percentiles and attempted to accommodate that request in this year's report. Having said that, I encourage people not to get lost in the weeds with something like this. This data, while specific, isn't specific to each individual situation. This data should give someone a broad-strokes approximation of where they stand in relation to their peers.
What I envision is that the various data points would be used together - for example, if you are 18 years into your career, you live in the Midwest, you are a manager and you work in the Industrial Gases industry, use the data here as it relates to all four of those categories to determine general comp targets. If you have any questions, please reach out to me via email or Linkedln and we can
talk it over.
Glossary: $\mathrm{N}=$ Number of Respondents, M/F = Male/Female, IC = Individual Contributor, Mgr = Manager

## > Data:

## 1.) COMPARSION BY YEARS OF EXPERIENCE

I think the best apples-to-apples data I have is by years of experience. All the other comparisons lack power because the experience levels of the responses are not identical. Here, they are identical. Towards the end of this report, I provide year-over-year trend insights for this category.

Base Salary Percentiles by Years of Experience


| 2024 | N | M/F | 10th\% | 25th \% | Median Base | 75th \% | 90th \% | Median Bonus | Median Vacation | Median 401K | IC/Mgr | Travel \% | HoursWeek |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-1 YRS | 233 | 177 / 54 | \$70,000 | \$77,000 | \$82,000 | \$90,000 | \$100,000 | 5.0\% | 15 Days | 5\% | 2191C / 12 Mgr | 5\% | 40 |
| 2-5 YRS | 564 | $447 / 114$ | \$80,000 | \$89,000 | \$99,670 | \$112,000 | \$125,000 | 7.0\% | 15 Days | 5\% | $514 \mathrm{C} / 48 \mathrm{Mgr}$ | 9\% | 43 |
| 6-10 YRS | 537 | 456 / 79 | \$100,000 | \$112,500 | \$125,000 | \$142,000 | \$160,000 | 10.0\% | 20 Days | 6\% | 405IC / 134 Mgr | 13\% | 44 |
| 11-15 YRS | 283 | $240 / 41$ | \$115,000 | \$125,000 | \$142,000 | \$161,000 | \$184,200 | 12.5\% | 20 Days | 6\% | 163 IC / 117 Mgr | 8\% | 44 |
| 16-20 YRS | 111 | 89 / 18 | \$132,700 | \$144,250 | \$165,000 | \$188,000 | \$205,600 | 15.0\% | 20 Days | 6\% | $62 \mathrm{IC} \mathrm{/} 47 \mathrm{Mgr}$ | 9\% | 46.5 |
| 21-25 YRS | 77 | $66 / 8$ | \$129,800 | \$145,000 | \$176,000 | \$201,800 | \$238,000 | 15.0\% | 20 Days | 6\% | $31 \mathrm{IC} / 44 \mathrm{Mgr}$ | 10\% | 45 |
| 26+ YRS | 68 | $59 / 7$ | \$137,400 | \$150,000 | \$170,000 | \$201,000 | \$229,500 | 18.5\% | 20 Days | 6\% | $22 \mathrm{IC} / 45 \mathrm{Mgr}$ | 16\% | 46 |

**Zoom in to expand the data table**

## 2.) COMPARISON BY LEVEL OF EDUCATION

I am excited to share this - l've had many people ask me to compare a BS degree to an MS to a PhD and up until now, I didn't have enough data points to make a valid analysis. In the 2023 report, I compared bachelor's to 'Advanced Degrees' but sensed that the combination of master's and PhD data was tempering the differences, and it turns out that was true. I will issue a sample-size alert for the PhD level; 16-20 data points is not nearly as much as I would like to see.

| 2024 | N | Median Base | 25th \% | 75th \% | Median Bonus | IC/Mgr Breakdown | Avg YOE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-5 YRS BS | 688 | \$92,000 | \$82,000 | \$105,000 | 6\% | 634 IC / 52 Mgr | 2.66 |
| 0-5 YRS MS | 80 | \$100,000 | \$89,500 | \$115,500 | 6\% | $73 \mathrm{IC} \mathrm{/} 7 \mathrm{Mgr}$ | 3.37 |
| 0-5 YRS PhD | 21 | \$121,000 | \$119,000 | \$131,300 | 9\% | 20 IC / 1 Mgr | 2.95 |
| 6-10 YRS BS | 423 | \$125,000 | \$110,500 | \$139,500 | 10\% | 328 IC / 95 Mgr | 7.84 |
| 6-10 YRS MS | 98 | \$131,500 | \$117,000 | \$148,750 | 10\% | 64 IC / 34 Mgr | 8.21 |
| 6-10 YRS PhD | 20 | \$145,250 | \$136,000 | \$156,250 | 12.5\% | 14 IC / 6 Mgr | 8.55 |
| 11-15 YRS BS | 206 | \$140,000 | \$125,000 | \$155,750 | 12\% | 122 IC / 84 Mgr | 12.46 |
| 11-15 YRS MS | 59 | \$146,000 | \$126,300 | \$170,000 | 15\% | $31 \mathrm{IC} / 28 \mathrm{Mgr}$ | 12.58 |
| 11-15 YRS PhD | 16 | \$161,000 | \$149,500 | \$179,250 | 15\% | $9 \mathrm{IC} / 7 \mathrm{Mgr}$ | 13.75 |
| 16+ YRS BS | 136 | \$164,500 | \$144,000 | \$185,000 | 15\% | 73 IC / 63 Mgr | 22.81 |
| 16+ YRS MS | 102 | \$174,500 | \$150,000 | \$200,000 | 16\% | $35 \mathrm{IC} / 67 \mathrm{Mgr}$ | 22.71 |
| 16+ YRS PhD | 16 | \$198,000 | \$186,000 | \$213,250 | 20\% | 7 IC / 9 Mgr | 23.84 |

## Commentary:

In last year's survey, the differences between individual contributors' verses managers were stark (and are again this year), but the differences between bachelor's degrees and 'advanced degrees' was not very significant, and I found that surprising. With this data now separated into three distinct categories, it seems to indicate is a significant difference in base compensation between those with a bachelor's level of education and those with a PhD level of education. Two things I would draw your attention to would be a) this doesn't take into account the differences between whether the role is an individual contributor or manager-level role. Ultimately that is going to matter which is why I invite you to use a few data points, in concert, to determine appropriate ranges for your specific situation. b) my sample size for the PhD level is still fairly small, and that could be affecting the data. It doesn't appear that's the case, because the average years of experience in each set is tight, but still the PhD responses in each category have about a year more experience, on average, than the bachelor's responses in each category.

Next time around, l'd like to split out technical master's degrees from MBAs and see what the differences are.

## 3.) COMPARISON BETWEEN MANAGERS AND NON-MANAGERS

This data was not surprising and is in line with data collected last year. As a point of clarity, I start the data table at the 6-10 years of experience range because prior to that level of experience, the vast majority of respondents were individual contributors.

| 2024 | N | 10th \% | 25th \% | Median | 75th \% | 90th \% | Median Bonus | Median Vacation | Median 401K Match | Corporate Role? | $\begin{gathered} \text { Avg Travel } \\ \% \end{gathered}$ | Avg Hours/w |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $6-10$ YRS IC | 407 | \$100,000 | \$110,000 | \$123,000 | \$137,000 | \$151,100 | 10\% | 18 | 5\% | 40\% Y | 15\% | 43 |
| $6-10$ YRS Mgr | 135 | \$112,800 | \$123,400 | \$138,000 | \$159,000 | \$180,000 | 15\% | 20 | 6\% | 31\% Y | 8\% | 47 |
| 11-15 YRS IC | 165 | \$110,400 | \$122,000 | \$135,000 | \$150,800 | \$168,250 | 10\% | 20 | 6\% | 45\% Y | 8\% | 42 |
| 11-15 YRS Mgr | 119 | \$120,000 | \$135,000 | \$150,000 | \$176,150 | \$206,600 | 15\% | 20 | 6\% | 35\% Y | 9\% | 46 |
| 16-20 YRS IC | 62 | \$122,100 | \$140,250 | \$160,000 | \$177,750 | \$195,000 | 15\% | 20 | 6\% | 56\% Y | 9\% | 45 |
| 16-20 YRS Mgr | 49 | \$135,800 | \$151,000 | \$170,000 | \$195,000 | \$236,400 | 16\% | 21 | 6\% | 39\% Y | 10\% | 48 |
| 21+ YRS IC | 54 | \$128,500 | \$144,000 | \$159,250 | \$178,375 | \$206,400 | 15\% | 20 | 6\% | 58\% Y | 12\% | 42 |
| 21+ YRS Mgr | 90 | \$139,750 | \$160,250 | \$186,000 | \$208,000 | \$250,600 | 20\% | 22 | 6\% | 47\% Y | 13\% | 47 |

## Commentary:

The differences in base compensation are obvious, but I would call your attention to other areas of the table. For example, bonus targets are also higher - if we use the example of the 6-10 year range, at the median, the individual contributor is taking home $\$ 135,300$ (base + bonus) whereas the manager is taking home $\$ 158,700$, a difference of $\$ 23,400$. That manager is also working, on average, about 200 more hours per year $(4 \times 52)$ so that is something to consider as well. For the visually inclined, here is a graph of the above data:

## Base Salary Comparison between Individual Contributors and Managers



## 4.) COMPARISON BY GEOGRAPHICAL REGION

This is the most generalized data in the report, but I think the trend data will be interesting over time. If you want to see year over year trends and you don't have the 2023 report, email me and l'll send it to you. Spoiler-alert, it's flat. I mentioned this last time around but what would be interesting is either $\mathbf{a}$ ) an even more granular location-based comparison, b) a comparison of comp between urban and rural areas and/or $\mathbf{c}$ ) a breakdown of comp that took into consideration both location AND experience level. I'm working behind the scenes on something that I hope will eventually allow us to do this.

| 2024 Region | N | 10th \% | 25th \% | 50th \% | 75th \% | 90th \% | Median Bonus | Vacation Days | Avg Travel | 9/80? | Hybrid? | WFH? | Years of Experience |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southeast | 304 | \$80,000 | \$94,500 | \$115,000 | \$139,000 | \$169,800 | 9\% | 17 | 7\% | 21\% Y | 41\% Y | 29\% Y | 7 |
| Northeast | 243 | \$80,000 | \$90,250 | \$116,000 | \$140,000 | \$172,600 | 10\% | 19 | 9\% | 10\% Y | 51\% Y | 33\% Y | 6 |
| Midwest | 463 | \$81,500 | \$92,550 | \$112,250 | \$135,200 | \$160,000 | 10\% | 18 | 8\% | 22\% Y | 44\% Y | 27\% Y | 7 |
| Gulf Coast | 423 | \$91,000 | \$108,500 | \$130,000 | \$155,000 | \$185,000 | 11\% | 20 | 11\% | $44 \% \mathrm{Y}$ | 45\% Y | 24\% Y | 7 |
| Coastal West (CA, OR, WA) | 202 | \$82,500 | \$98,000 | \$122,000 | \$150,000 | \$175,000 | 7\% | 15 | 8\% | 27\% Y | 45\% Y | 30\% Y | 6 |
| Mountain West | 138 | \$78,000 | \$90,000 | \$113,500 | \$134,000 | \$162,000 | 8\% | 20 | 10\% | 26\% Y | $42 \% \mathrm{Y}$ | 34\% Y | 5 |
| Mid-Atlantic | 94 | \$85,300 | \$100,000 | \$120,000 | \$140,750 | \$170,000 | 9\% | 18 | 10\% | 30\% Y | 41\% Y | 30\% Y | 9 |



## Commentary:

There is one improvement in this comparison this year - in past years there were some significant differences in the years of experience category between the different regions. This year, apart from the Mid-Atlantic region, those differences have muted. What I think is interesting in the data is the work schedule differences between the various regions. The 9/80 schedule caught on first in the Gulf Coast region and is more common to find there, whereas hybrid schedules are most common in the Northeast.

## 5.) INDUSTRY COMPARISON

This chart doesn't look at compensation so much as other things like schedule and alternative forms of compensation. I will give the 'samplesize alert' here...I presented the data in two ways - first I give you the percentage of respondents that responded "Yes, my company offers
." Second, I color coded the numbers. Green means that sub-industry is above the overall industry average in that category and red means that they are below the overall industry average. Within each category, I highlighted the above and below average outliers. I welcome feedback on how to improve this section - it is a bear to analyze and well, it looks like a wall of text.

| Industry | N |  | Median Salary | Median Bonus | Do You Have a 9/80 Schedule? | Hybrid Schedule? | $\begin{aligned} & \text { Work } \\ & \text { From } \\ & \text { Home? } \end{aligned}$ | Employer Sponsored Pension? | Profit Share? | $\begin{aligned} & \text { LTI (Long } \\ & \text { Term } \\ & \text { Incentive)? } \end{aligned}$ |  | Employer Offer Stock <br> Purchase? | Signing Bonus for New Hires? | Education Reimbursement? | Can you purchase vacation time? | Average Hours Worked Per Week |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Overall (all respondents) | 1881 | 8.44 | \$120,000 | 10\% | 29\% Y | 44\% Y | 29\% Y | 15.6\% Y | 14.2\% Y | 13.2\% Y | 16.7\% Y | 21.5\% Y | 39.5\% Y | 51.5\% Y | 13.7\% Y | 43.9 |
| Aerospace | 37 | 6 | \$108,000 | 2\% | 56.7\% Y | 40.5\% Y | 29.7\% Y | 24.3\% Y | 8.1\% Y | 2.7\% Y | 5.4\% Y | 13.5\% Y | 45.9\% Y | 70.2\% Y | $16.2 \% \mathrm{Y}$ | 43 |
| Agriculture Industry (not fertilizer) | 51 | 10 | \$124,000 | 12\% | $35.4 \% \mathrm{Y}$ | 52\% Y | 18.3\% Y | 5.9\% Y | 21.6\% Y | 17.6\% Y | 11.8\% Y | 25.5\% Y | 54.9\% Y | 64.7\% Y | 9.8\% Y | 44.5 |
| Automotive | 16 | 2.75 | \$96,000 | 6\% | 6.3\% Y | 43.8\% Y | $12.5 \% \mathrm{Y}$ | 0\% Y | $31.3 \% \mathrm{Y}$ | $12.5 \%$ Y | 37.5\% Y | 43.8\% Y | 43.8\% Y | 68.8\% Y | 0\% Y | 45.5 |
| Biotechnology/Biochemicals | 77 | 6 | \$117,000 | 8\% | 4\% Y | 54\% Y | $43.2 \% \mathrm{Y}$ | 9\% Y | 10.4\% Y | 26\% Y | 41.6\% Y | $33.8 \%$ Y | 26\% Y | $42.9 \% \mathrm{Y}$ | 11.7\% Y | 43.3 |
| Building Materials | 36 | 6 | \$111,000 | 10\% | 11.7\% Y | 17.1\% Y | $30.3 \% \mathrm{Y}$ | 5.6\% Y | 30.5\% Y | 8.3\% Y | 19.4\% Y | 11.1\% Y | $47.2 \% \mathrm{Y}$ | 66.7\% Y | 25\% Y | 45.4 |
| Consulting/Self Employed | 56 | 6 | \$121,000 | 4\% | 11.1\% Y | $46.2 \% \mathrm{Y}$ | 56.3\% Y | 7.1\% Y | 21.4\% Y | 1.7\% Y | $12.5 \%$ Y | $16.1 \% \mathrm{Y}$ | 26.8\% Y | 30.3\% Y | 16.1\% Y | 43.3 |
| Consumer Products | 40 | 5 | \$113,250 | 9\% | 7.6\% Y | $47.5 \%$ Y | $34.2 \% \mathrm{Y}$ | 12.2\% Y | 39\% Y | 17\% Y | 22\% Y | 24.4\% Y | 41.4\% Y | $46.3 \% \mathrm{Y}$ | 22\% Y | 43.4 |
| EPC/A\&E/Design Firm | 116 | 7 | \$102,500 | 2\% | 26.9\% Y | 66.7\% Y | 50.9\% Y | 2.6\% Y | 13.8\% Y | 2.6\% Y | 11.2\% Y | 16.3\% Y | 26.7\% Y | $41.3 \% \mathrm{Y}$ | 17.2\% Y | 41.9 |
| Equipment Manufacturing | 40 | 5 | \$100,000 | 5\% | 7.9\% Y | 44.7\% Y | 27\% Y | 7.5\% Y | 15\% Y | 7.5\% Y | 10\% Y | 15\% Y | 30\% Y | 52.5\% Y | 10\% Y | 42.4 |
| Fertilizer Manufacturing | 13 | 7 | \$120,000 | 9\% | 92.3\% Y | $46.1 \% \mathrm{Y}$ | $46.1 \% \mathrm{Y}$ | 7.7\% Y | 0\% Y | 7.7\% Y | 23\% Y | $23 \% \mathrm{Y}$ | 21.7\% Y | $69.2 \% \mathrm{Y}$ | $23 \% \mathrm{Y}$ | 42.7 |
| Foods/Beverages Industry | 111 | 9 | \$107,000 | 10\% | 8.1\% Y | 27\% Y | 20.7\% Y | 5.4\% Y | 12.6\% Y | 14.4\% Y | 15.3\% Y | $13.5 \%$ Y | 39.6\% Y | 57.7\% Y | 18.9\% Y | 45.7 |
| Industrial Chemicals | 122 | 7 | \$122,500 | 10\% | $52.5 \% \mathrm{Y}$ | 36\% Y | 25.6\% Y | 13\% Y | 19.5\% Y | 9.8\% Y | 7.3\% Y | 23.6\% Y | $37.4 \% \mathrm{Y}$ | $42.3 \% \mathrm{Y}$ | 8.1\% Y | 43.5 |
| Industrial Gases | 34 | 8 | \$127,450 | 9\% | 5.7\% Y | 40\% Y | 45.7\% Y | $11.4 \% \mathrm{Y}$ | 2.9\% Y | 8.6\% Y | 20\% Y | 20\% Y | $42.9 \% \mathrm{Y}$ | 40\% Y | 17.1\% Y | 43.1 |
| Industrial/Wastewater Treatment | 32 | 7 | \$107,500 | 6\% | 21.2\% Y | 54.5\% Y | 45.4\% Y | 24.2\% Y | 3\% Y | 3\% Y | 9\% Y | 24.2\% Y | 15.1\% Y | 51.5\% Y | 0\% Y | 42.4 |
| Oil \& Energy | 286 | 7 | \$130,000 | 11\% | $41.8 \% \mathrm{Y}$ | 47.6\% Y | 22.8\% Y | 46.9\% Y | 11.9\% Y | 18.1\% Y | 20.6\% Y | 15\% Y | $43 \% \mathrm{Y}$ | 53.5\% Y | 14\% Y | 44 |
| Paints/Coatings/Adhesives | 45 | 7 | \$110,000 | 9\% | 10.9\% Y | 30.4\% Y | $21.7 \% \mathrm{Y}$ | $15.2 \%$ Y | $15.2 \%$ Y | 10.9\% Y | 13\% Y | 19.6\% Y | 28.2\% Y | 65.2\% Y | $13 \% \mathrm{Y}$ | 43.8 |
| Petrochemicals/Plastics | 124 | 8.5 | \$139,000 | 11\% | $64.2 \% \mathrm{Y}$ | 50.8\% Y | 20.2\% Y | $34.7 \%$ Y | $12.9 \%$ Y | 25\% Y | 11.3\% Y | 26.6\% Y | 49.2\% Y | 64.5\% Y | $12.9 \%$ Y | 45.1 |
| Pharmaceuticals | 114 | 6 | \$106,500 | 10\% | 5.2\% Y | 50\% Y | 24.1\% Y | 12.9\% Y | 14.7\% Y | 22.4\% Y | 24.1\% Y | 22.4\% Y | 32.8\% Y | 52.6\% Y | $13.8 \%$ Y | 43 |
| Pulp/Paper | 34 | 3 | \$105,000 | 10\% | 14.7\% Y | 8.8\% Y | 18.1\% Y | 2.9\% Y | 8.8\% Y | 11.8\% Y | 5.9\% Y | 11.8\% Y | 64.7\% Y | 50\% Y | 2.9\% Y | 44.5 |
| Resins/Polymers Manufacturing | 91 | 8 | \$123,000 | 10\% | 30\% Y | $35.6 \%$ Y | 20\% Y | 6.5\% Y | 20.7\% Y | 9.8\% Y | 7.6\% Y | $14.1 \%$ Y | 30.4\% Y | 54.3\% Y | 15.2\% Y | 43.9 |
| Semiconductors/Electronic Materials | 129 | 5 | \$100,000 | 8\% | 10.7\% Y | 39.5\% Y | 27.1\% Y | 2.3\% Y | $12.3 \% \mathrm{Y}$ | 10\% Y | 36.9\% Y | $40 \%$ Y | 43.8\% Y | 43.8\% Y | 8.5\% Y | 43.5 |
| Specialty Chemicals | 260 | 7.25 | \$120,000 | 10\% | $39.9 \% \mathrm{Y}$ | $44 \% \mathrm{Y}$ | 29\% Y | 5.4\% Y | $10.4 \% \mathrm{Y}$ | 10.8\% Y | 10\% Y | 24.2\% Y | $44.6 \% \mathrm{Y}$ | 51.9\% Y | $16.2 \%$ Y | 44.6 |

## Commentary:

Only $17 \%$ of respondents said that their company offers none of the alternative comp perks listed and only $31 \%$ of respondents said that their company offered none of the schedule-accommodations listed. Put another way, $83 \%$ of respondents said that their company offers some kind of non-base compensation perk and $69 \%$ said their company offers some kind of schedule perk. So - while the numbers might look low for any given category, it is important to keep that in mind. Another thing I would bring your attention to is that over $51 \%$ of everyone who responded said that their company has some kind of education reimbursement program. This is an underrated perk and in the last survey, only $46 \%$ of respondents said their company offered this, so it is getting more popular. If you're in school and thinking about getting a master's degree, consider waiting, working for a couple of years, and finding an employer who will help you with some or all of those costs.

## 6.) COMPARISON BETWEEN MALE AND FEMALE ENGINEERS

This is, by far, the thing l've been asked about the most, so l'm glad to be able to deliver on it. In full transparency, I didn't ask for gender on the salary survey (for several reasons). For each response, I went down the list and based on name, I marked M or F. If I couldn't tell based on name, I left it blank. My methods will improve as time goes on, please give me the benefit of the doubt here. One last note, I didn't provide data above the $16-20$ years range because the data became too sparse past that point.

| 2024 | N | IC or Mgr | 10th\% | 25th\% | Median Base | 75th\% | 90th\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-1 YRS F | 53 | $52 \mathrm{IC} / 1 \mathrm{Mgr}$ | \$71,400 | \$77,000 | \$81,500 | \$87,000 | \$94,400 |
| 0-1 YRS M | 172 | $161 \mathrm{IC} / 11 \mathrm{Mgr}$ | \$70,550 | \$78,000 | \$82,840 | \$91,500 | \$100,000 |
| 2-5 YRS F | 115 | 109 IC / 6 Mgr | \$78,400 | \$86,350 | \$97,000 | \$110,000 | \$126,200 |
| 2-5 YRS M | 448 | 406 IC / 42 Mgr | \$80,000 | \$89,200 | \$100,000 | \$112,500 | \$125,000 |
| 6-10 YRS F | 80 | 60 IC / 20 Mgr | \$103,300 | \$114,300 | \$129,000 | \$140,625 | \$160,000 |
| 6-10 YRS M | 462 | 347 IC / 115 Mgr | \$100,000 | \$112,000 | \$125,000 | \$142,000 | \$159,800 |
| 11-15 YRS F | 41 | 26 IC / 15 Mgr | \$115,000 | \$125,000 | \$135,000 | \$160,000 | \$189,000 |
| 11-15 YRS M | 242 | 139 IC / 103 Mgr | \$115,000 | \$125,000 | \$142,750 | \$162,250 | \$180,000 |
| 16-20 YRS F | 18 | 10 IC / 8 Mgr | \$139,750 | \$145,500 | \$165,000 | \$186,100 | \$210,500 |
| 16-20 YRS M | 93 | $52 \mathrm{IC} / 41 \mathrm{Mgr}$ | \$123,150 | \$140,250 | \$164,500 | \$186,850 | \$202,100 |

## Commentary:

There are some differences, but on balance (and within statistical error) there is equitable pay, in the industry overall, between males and females. One thing l'm curious about - l've been collecting a higher amount of data for two years now; for this survey, just north of $17 \%$ were female ( $16 \%$ in 2023) ...is that a reflection of the overall industry itself, or is there an issue with the way l'm collecting data?
One area where there does appear to be discrepancy is in promotion in the earlier years - it evens out by about the 6-10 year mark.
7.) COMPARISON BETWEEN YEARS 2023-2024

I've included two tables below, one comparing 2022 to 2023 (from last year's report) and one comparing 2023 to 2024. Median salaries at all levels of experience are still on the rise, but at a less dramatic pace.

| 2022-2023 | $\mathbf{N}$ | Median Base |  | $\mathbf{2 5 t h} \%$ | $\mathbf{7 5 t h} \%$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| 2023-2024 | N | Median Base | 25th \% | 75th \% | Difference '23 to '24 | IC/Mgr Breakdown |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-5 YRS '23 | 278 | \$90,000 | \$80,000 | \$105,000 |  | 264 IC / 14 Mgr |
| 0-5 YRS '24 | 798 | \$93,750 | \$83,000 | \$108,000 | +4.17\% | $738 \mathrm{IC} / 60 \mathrm{Mgr}$ |
| 6-10 YRS '23 | 279 | \$123,000 | \$108,000 | \$138,000 |  | $215 \mathrm{IC} / 64 \mathrm{Mgr}$ |
| 6-10 YRS '24 | 541 | \$125,000 | \$112,500 | \$142,000 | + 1.63\% | $406 \mathrm{IC} / 135 \mathrm{Mgr}$ |
| 11-15 YRS '23 | 127 | \$135,000 | \$125,000 | \$155,000 |  | $83 \mathrm{IC} / 44 \mathrm{Mgr}$ |
| 11-15 YRS '24 | 283 | \$142,000 | \$125,000 | \$161,000 | + 5.19\% | $165 \mathrm{IC} / 118 \mathrm{Mgr}$ |
| 16-20 YRS '23 | 53 | \$160,000 | \$137,000 | \$174,500 |  | $26 \mathrm{IC} / 27 \mathrm{Mgr}$ |
| 16-20 YRS ' 24 | 110 | \$165,000 | \$144,250 | \$188,000 | + 3.13\% | $62 \mathrm{IC} / 48 \mathrm{Mgr}$ |
| 21+ YRS '23 | 79 | \$163,000 | \$138,750 | \$181,000 |  | $32 \mathrm{IC} / 47 \mathrm{Mgr}$ |
| 21+ YRS '24 | 145 | \$174,000 | \$150,000 | \$202,350 | +6.75\% | $55 \mathrm{IC} / 90 \mathrm{Mgr}$ |

## > Discussion/General Comments:

It's been a wonderful experience to interact with many ChemEs over the past few years on this - l've gotten a lot of good feedback and been able to incorporate new and better ideas into the execution of the report itself. l'm also grateful for the trust people have placed in me to handle their data. In 2015, when I started doing this, my salary report had just 100 unique data points. Now it's approaching 2,000 and that is humbling. I've alluded to it already, but l'm working on building a tool that will hopefully eliminate the need to update this every year...something that will be more of a real-time reflection of the market, but it would never have even gotten to that point without the participation and engagement from so many of you. Your colleagues and I thank you!

My overall impression is that 2023 was a year of slower compensation increases for all engineers, with engineers at lower levels seeing the slowest rate of increase. The 2023 to 2024 comparison chart above shows that, but l also see it from my desk. The industry is starving for mid and senior level ChemE talent. The most common thing I saw last year was a senior level role coming open, remaining open, and then being filled by a more junior-level candidate simply because there were no senior-level candidates interested or available. Oftentimes it was because the company couldn't afford to pay for someone more senior. Taking one data point as an example of what l'm talking about - in January 2022, an engineer with $16-20$ years of experience had a median salary rate of $\$ 135,000$ and as of January 2024, that same engineer has a median salary rate of $\$ 165,000$, an increase of $22.2 \%$ in just two years. My sense is that a good number of companies out there have stuck to typical 2-4\% increases year-over-year and have fallen behind the overall market.

Last year I did a Linkedln poll and asked people if in the past year, they had received a non-merit-based salary increase. Put another way had they received a raise to keep their pay industry-competitive? Last year $29 \%$ of people who responded said yes, they had received such a raise. Just this past week (early January 2024) I did the same poll again. 18\% of people who responded said that yes, they had received such a raise. So - the industry is responding and recognizing the situation, but there are many left who haven't responded.

Another thing I am asked a lot about is do I have jobs that allow for work-remote or some kind of hybrid schedule. Hybrid seems like the thing that is going to stick around and the data bears that out; $44 \%$ of all engineers who responded to the survey this year said that their company offers some kind of hybrid arrangement, though based on the comments I received, how that looks varies WILDLY from company to company. Another one of my poll questions that I ran this past week had to do with commute time. While $29 \%$ of survey respondents said that their employer offers a work-from-home option, only $13 \%$ of people who responded to the Linkedln poll said that they had either no commute or a work-remote arrangement. I'm not sure what to make of that discrepancy. It could be that my question in the survey is not specific enough, and some people are categorizing hybrid as work-from-home. Not sure - I need to work on the language of the question. $80 \%$ of people who responded to that poll said they had a commute of 60 minutes or less; not that surprising I guess. To the $8 \%$ of you who are commuting longer than an hour each way...I need some podcast/audio book recommendations.

I think by the next time I do this (end of 2024, for 2025), I will be able to start seeing some trends in the data. I can go back to my 2022 report, but compared to what I'm doing now, the data is very limited.
> Moving Forward - what is coming in 2024:
This time last year, the tech sector was in the dumps. Most of the layoff news you heard was coming out that sector and as I wrote at the beginning of 2023, it was difficult to know how the year was going to unfold. Personally, I feel the same way in 2024. My sense is that overall manufacturing has been in a mild recession for about a year now. Some of that is simply coming down from some unsustainable post-COVID highs, but from what I can tell, some of it is also related to the overall economy. High prices have affected consumers in real ways and they have already started changing their habits. Hiring in the chemical industry definitely pulled back some in 2023 - there were still plenty of jobs open, but the frothiness (love that word) that the job market saw in 2021-2022 wasn't there in 2023...the pace was much more reasonable. What made things difficult in terms of hiring was the candidate market which was significantly affected by high interest rates and high rental prices. The cost of moving caused many would-be job seekers to hold off on looking (or to look only locally) which shrank candidate pools considerably. If you wanted to make a change in 2021 and you had some geographical flexibility, moving wasn't much of a shock. Now, if you own a home and have a rate in the 2 s or 3 s , the cost of a new mortgage alone, assuming you find a new house at a similar price point, is over $\$ 10,000$ more per year. I could go on, but suffice to say, there are many factors at play right now, and the fact that we're entering an election year only creates further murkiness and uncertainty.

Another of my poll questions this week was about the general sentiment people have about where the economy (broadly speaking) is headed. $56 \%$ of people said they either feel optimistic or uncertain but lean optimistic. l'd say l'm uncertain but lean negative. Of the three economists I regularly read (Thomas Kevin Swift, Scott Grannis and Brian Wesbury) two out of three are uncertain but lean optimistic. All that to say, I don't really know, and it doesn't sound like anyone else really has a strong sense of it either.

One thing l've noticed over the years is how there is seemingly a cycle in terms of the TYPES of positions the chemical industry has demand for. About 12-18 months ago it was mid-and-upper-level managers. Then for awhile it was process, production and project engineers, currently it is process control and maintenance/reliability engineers. I think that can tell you a lot about where things are at - the fact that a lot of other hiring has dropped off but that process control and maintenance/reliability remains active tells me that companies are willing to hire for positions that help the bottom-line. Another way of saying it would be that growth is not the current focus... which tells me we're at a low point in the business cycle.

## > The Only Sales Pitch You'll Get From Me:

I enjoy putting together this resource because I know it helps people and because this industry has literally provided for me and my family, Having said that, while I don't ask for money directly in exchange for this information, I do ask for your consideration in using our firm to help fill open roles. In 30 days' time, I was able to get $1,800+$ chemical engineers to respond to a salary survey; let me bring my network to bear on the role you're having trouble filling. Our firm specializes in placing engineering and operations professionals at every level within the greater chemical processing industry, from startups to Fortune 500s.

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