

PORTFOLIO OPTIMIZATION PORTFOLIOS

Available through Pacific Life Variable Annuities



PORTFOLIO INFORMATION AS OF 12/31/24

Why Portfolio Optimization Portfolios

The Portfolio Optimization Portfolios are designed to make investment diversification easier for you by offering:

- **One-Step Diversification:** Each Portfolio Optimization Portfolio is a fund-of-funds diversified among multiple asset classes, providing you with a core asset-allocation solution to help meet your financial goals.
- **A Dedicated Team that Manages Multi-Asset-Class Solutions:** The portfolio management team's investment approach uses three fundamental disciplines:
 - Asset allocation
 - Manager research
 - Investment risk management
- **Target-Risk Portfolios to Fit Your Needs:** The Portfolio Optimization Portfolios range in investment style from conservative to aggressive-growth to help match your risk tolerance and investment goals.

Why A Pacific Life Variable Annuity

A variable annuity is a long-term contract between you and an insurance company that helps you grow, protect, and manage retirement savings in a tax-advantaged way. Variable annuities can provide:

- **Protected monthly lifetime income** so that you have money for as long as you live.
- **Protection against market loss** through optional benefits that help minimize downside risk.
- **Tax-deferred growth** so that your money grows faster through the power of compounding.
- **Flexible access to your money** should you need it for the unexpected.
- **Protection for your loved ones** if you pass away.

Our variable annuities also offer features such as asset allocation and optional principal protection. Optional benefits are available for an additional cost.

Annuity withdrawals and other distributions of taxable amounts, including death benefit payouts, will be subject to ordinary income tax. For nonqualified contracts, an additional 3.8% federal tax may apply on net investment income. If withdrawals and other distributions are taken prior to age 59½, an additional 10% federal tax may apply. A withdrawal charge also may apply. Withdrawals will reduce the contract value and the value of the death benefits, and also may reduce the value of any optional benefits.

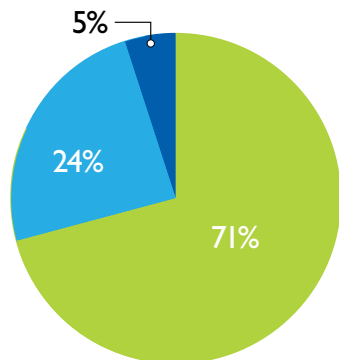
Insurance products can be issued in all states, except New York, by Pacific Life Insurance Company and in all states by Pacific Life & Annuity Company.. Product/material availability and features may vary by state.

PORTFOLIO OPTIMIZATION PORTFOLIOS

PORTFOLIO INFORMATION AS OF 12/31/24

CONSERVATIVE ✓

Broad Asset-Class Allocations



- Fixed Income
- Domestic Equity
- International Equity

Each underlying fund may include exposure to multiple broad asset classes. Total allocation percentages may not equal 100% due to rounding.

Although some portfolios may have names or investment goals that resemble retail mutual funds managed by the same money manager, these portfolios may not have the same underlying holdings or performance as the retail mutual funds. Investment results may be higher or lower. Morningstar Category classifications represent asset-class categories provided by a third party, Morningstar, Inc. Categories listed within a range of equity exposure indicate the potential equity range for all the investments within the respective category and may not reflect the exact allocation makeup of a variable annuity investment option offered by Pacific Life.

| Manager/ Fund Name | Morningstar Category™ | Allocation (%) |
|---|-----------------------------|----------------|
| Fixed Income | | |
| Aristotle Pacific Capital Core Income | Intermediate Core-Plus Bond | 4.0 |
| Aristotle Pacific Capital Floating Rate Income | Bank Loan | 1.0 |
| Aristotle Pacific Capital High Yield Bond | High-Yield Bond | 4.6 |
| JPMorgan Intermediate Term Bond | Intermediate Core Bond | 9.2 |
| Loomis Diversified Bond | Intermediate Core Bond | 19.4 |
| PIMCO Inflation Managed | Inflation-Protected Bond | 2.0 |
| PIMCO Managed Bond | Intermediate Core Bond | 16.6 |
| PLFA Bond Plus | Intermediate Core Bond | 2.6 |
| Principal Emerging Markets Debt | Emerging-Markets Bond | 2.0 |
| T. Rowe Price Short Duration Bond | Short-Term Bond | 9.7 |
| Domestic Equity | | |
| Avantis Small-Cap Value | Small Value | 0.7 |
| BlackRock Equity Index | Large Blend | 0.1 |
| Boston Partners Mid-Cap Value | Mid-Cap Value | 1.0 |
| ClearBridge Large-Cap Value | Large Value | 2.1 |
| Delaware Mid-Cap Growth | Mid-Cap Growth | 2.0 |
| FIAM LLC Large-Cap Growth | Large Growth | 2.8 |
| Franklin/BlackRock Small-Cap Equity | Small Value | 1.1 |
| Janus Focused Growth | Large Growth | 0.5 |
| JPMorgan Large-Cap Core | Large Blend | 4.2 |
| JPMorgan Value Advantage | Large Value | 1.6 |
| MFS® Growth | Large Growth | 1.5 |
| MFS® Small-Cap Growth | Small Growth | 0.4 |
| PLFA Large-Cap Plus Bond Alpha | Large Blend | 1.9 |
| PLFA Mid-Cap Plus Bond Alpha | Mid-Cap Blend | 0.9 |
| PLFA QQQ Plus Bond Alpha | Large Growth | 0.5 |
| PLFA Small-Cap Plus Bond Alpha | Small Blend | 0.2 |
| Principal Real Estate | Real Estate | 0.5 |
| Putnam Value | Large Value | 2.0 |
| International Equity | | |
| ClearBridge International Growth | Foreign Large Growth | 0.7 |
| FIAM LLC International Small-Cap | Foreign Small/Mid Blend | 1.0 |
| MFS® International Large-Cap | Foreign Large Blend | 1.1 |
| PLFA International Equity Plus Bond Alpha | Foreign Large Blend | 0.5 |
| Wellington International Value | Foreign Large Value | 1.7 |

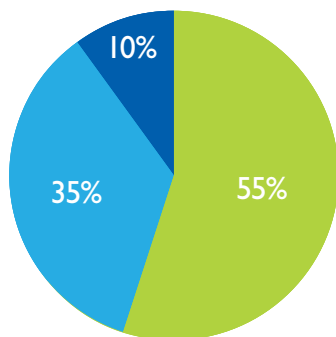
✓ Eligible for an optional living benefit.

PORTFOLIO OPTIMIZATION PORTFOLIOS

PORTFOLIO INFORMATION AS OF 12/31/24

MODERATE-CONSERVATIVE ✓

Broad Asset-Class Allocations



- Fixed Income
- Domestic Equity
- International Equity

Each underlying fund may include exposure to multiple broad asset classes. Total allocation percentages may not equal 100% due to rounding.

Although some portfolios may have names or investment goals that resemble retail mutual funds managed by the same money manager, these portfolios may not have the same underlying holdings or performance as the retail mutual funds. Investment results may be higher or lower. Morningstar Category classifications represent asset-class categories provided by a third party, Morningstar, Inc. Categories listed within a range of equity exposure indicate the potential equity range for all the investments within the respective category and may not reflect the exact allocation makeup of a variable annuity investment option offered by Pacific Life.

| Manager/ Fund Name | Morningstar Category™ | Allocation (%) |
|---|------------------------------|----------------|
| Fixed Income | | |
| Aristotle Pacific Capital Core Income | Intermediate Core-Plus Bond | 3.4 |
| Aristotle Pacific Capital Floating Rate Income | Bank Loan | 1.0 |
| Aristotle Pacific Capital High Yield Bond | High-Yield Bond | 4.1 |
| JPMorgan Intermediate Term Bond | Intermediate Core Bond | 7.9 |
| Loomis Diversified Bond | Intermediate Core Bond | 16.0 |
| PIMCO Inflation Managed | Inflation-Protected Bond | 1.5 |
| PIMCO Managed Bond | Intermediate Core Bond | 13.9 |
| PLFA Bond Plus | Intermediate Core Bond | 2.2 |
| Principal Emerging Markets Debt | Emerging-Markets Bond | 0.5 |
| T. Rowe Price Short Duration Bond | Short-Term Bond | 4.1 |
| Domestic Equity | | |
| Avantis Small-Cap Value | Small Value | 0.3 |
| BlackRock Equity Index | Large Blend | 0.3 |
| BlackRock Small-Cap Index | Small Blend | 0.1 |
| Boston Partners Mid-Cap Value | Mid-Cap Value | 0.2 |
| ClearBridge Large-Cap Value | Large Value | 2.8 |
| Delaware Mid-Cap Growth | Mid-Cap Growth | 2.1 |
| FIAM LLC Large-Cap Growth | Large Growth | 4.9 |
| Franklin/BlackRock Small-Cap Equity | Small Value | 1.3 |
| Janus Focused Growth | Large Growth | 0.9 |
| JPMorgan Large-Cap Core | Large Blend | 7.3 |
| JPMorgan Value Advantage | Large Value | 2.5 |
| MFS® Growth | Large Growth | 2.9 |
| MFS® Small-Cap Growth | Small Growth | 0.7 |
| PLFA Large-Cap Plus Bond Alpha | Large Blend | 3.1 |
| PLFA Mid-Cap Plus Bond Alpha | Mid-Cap Blend | 0.6 |
| PLFA QQQ Plus Bond Alpha | Large Growth | 0.8 |
| PLFA Small-Cap Plus Bond Alpha | Small Blend | 0.4 |
| Principal Real Estate | Real Estate | 1.0 |
| Putnam Value | Large Value | 3.1 |
| International Equity | | |
| ClearBridge International Growth | Foreign Large Growth | 1.9 |
| FIAM LLC International Small-Cap | Foreign Small/Mid Blend | 1.0 |
| Invesco Emerging Markets | Diversified Emerging Markets | 1.0 |
| MFS® International Large-Cap | Foreign Large Blend | 2.1 |
| PLFA International Equity Plus Bond Alpha | Foreign Large Blend | 0.9 |
| Wellington International Value | Foreign Large Value | 2.9 |

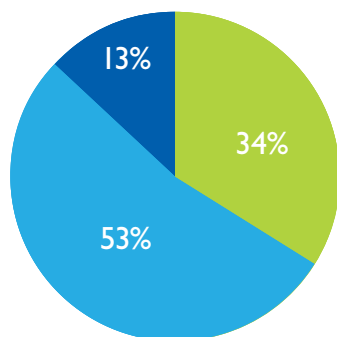
✓ Eligible for an optional living benefit.

PORTFOLIO OPTIMIZATION PORTFOLIOS

PORTFOLIO INFORMATION AS OF 12/31/24

MODERATE ✓

Broad Asset-Class Allocations



- Fixed Income
- Domestic Equity
- International Equity

Each underlying fund may include exposure to multiple broad asset classes. Total allocation percentages may not equal 100% due to rounding.

Although some portfolios may have names or investment goals that resemble retail mutual funds managed by the same money manager, these portfolios may not have the same underlying holdings or performance as the retail mutual funds. Investment results may be higher or lower. Morningstar Category classifications represent asset-class categories provided by a third party, Morningstar, Inc. Categories listed within a range of equity exposure indicate the potential equity range for all the investments within the respective category and may not reflect the exact allocation makeup of a variable annuity investment option offered by Pacific Life.

| Manager/ Fund Name | Morningstar Category | Allocation (%) |
|---|------------------------------|----------------|
| Fixed Income | | |
| Aristotle Pacific Capital Core Income | Intermediate Core-Plus Bond | 2.1 |
| Aristotle Pacific Capital Floating Rate Income | Bank Loan | 0.5 |
| Aristotle Pacific Capital High Yield Bond | High-Yield Bond | 3.1 |
| JPMorgan Intermediate Term Bond | Intermediate Core Bond | 4.1 |
| Loomis Diversified Bond | Intermediate Core Bond | 9.9 |
| PIMCO Inflation Managed | Inflation-Protected Bond | 0.5 |
| PIMCO Managed Bond | Intermediate Core Bond | 8.0 |
| PLFA Bond Plus | Intermediate Core Bond | 1.3 |
| Principal Emerging Markets Debt | Emerging-Markets Bond | 0.5 |
| T. Rowe Price Short Duration Bond | Short-Term Bond | 3.6 |
| Domestic Equity | | |
| Avantis Small-Cap Value | Small Value | 0.8 |
| BlackRock Equity Index | Large Blend | 0.4 |
| BlackRock Small-Cap Index | Small Blend | 0.3 |
| Boston Partners Mid-Cap Value | Mid-Cap Value | 0.9 |
| ClearBridge Large-Cap Value | Large Value | 3.8 |
| Delaware Mid-Cap Growth | Mid-Cap Growth | 3.3 |
| FIAM LLC Large-Cap Growth | Large Growth | 7.4 |
| Franklin/BlackRock Small-Cap Equity | Small Value | 1.7 |
| Janus Focused Growth | Large Growth | 2.1 |
| JPMorgan Large-Cap Core | Large Blend | 10.9 |
| JPMorgan Value Advantage | Large Value | 3.8 |
| MFS® Growth | Large Growth | 3.8 |
| MFS® Small-Cap Growth | Small Growth | 1.1 |
| PLFA Large-Cap Plus Bond Alpha | Large Blend | 4.7 |
| PLFA Mid-Cap Plus Bond Alpha | Mid-Cap Blend | 1.1 |
| PLFA QQQ Plus Bond Alpha | Large Growth | 1.2 |
| PLFA Small-Cap Plus Bond Alpha | Small Blend | 0.5 |
| Principal Real Estate | Real Estate | 0.5 |
| Putnam Value | Large Value | 4.6 |
| International Equity | | |
| ClearBridge International Growth | Foreign Large Growth | 3.4 |
| FIAM LLC International Small-Cap | Foreign Small/Mid Blend | 1.5 |
| Invesco Emerging Markets | Diversified Emerging Markets | 1.0 |
| MFS® International Large-Cap | Foreign Large Blend | 2.8 |
| PLFA International Equity Plus Bond Alpha | Foreign Large Blend | 1.2 |
| Wellington International Value | Foreign Large Value | 3.5 |

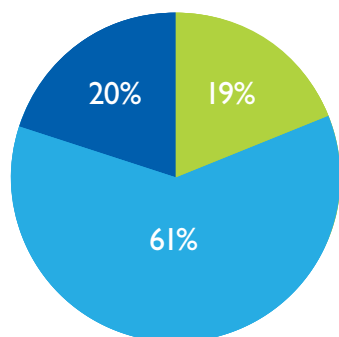
✓ Eligible for an optional living benefit.

PORTFOLIO OPTIMIZATION PORTFOLIOS

PORTFOLIO INFORMATION AS OF 12/31/24

GROWTH ▼◆

Broad Asset-Class Allocations



- Fixed Income
- Domestic Equity
- International Equity

Each underlying fund may include exposure to multiple broad asset classes. Total allocation percentages may not equal 100% due to rounding.

Although some portfolios may have names or investment goals that resemble retail mutual funds managed by the same money manager, these portfolios may not have the same underlying holdings or performance as the retail mutual funds. Investment results may be higher or lower. Morningstar Category classifications represent asset-class categories provided by a third party, Morningstar, Inc. Categories listed within a range of equity exposure indicate the potential equity range for all the investments within the respective category and may not reflect the exact allocation makeup of a variable annuity investment option offered by Pacific Life.

| Manager/ Fund Name | Morningstar Category | Allocation (%) |
|---|------------------------------|----------------|
| Fixed Income | | |
| Aristotle Pacific Capital Core Income | Intermediate Core-Plus Bond | 0.3 |
| Aristotle Pacific Capital Floating Rate Income | Bank Loan | 0.5 |
| Aristotle Pacific Capital High Yield Bond | High-Yield Bond | 3.1 |
| JPMorgan Intermediate Term Bond | Intermediate Core Bond | 2.4 |
| Loomis Diversified Bond | Intermediate Core Bond | 5.0 |
| PIMCO Inflation Managed | Inflation-Protected Bond | 0.5 |
| PIMCO Managed Bond | Intermediate Core Bond | 3.8 |
| PLFA Bond Plus | Intermediate Core Bond | 0.7 |
| Principal Emerging Markets Debt | Emerging-Markets Bond | 0.5 |
| T. Rowe Price Short Duration Bond | Short-Term Bond | 2.6 |
| Domestic Equity | | |
| Avantis Small-Cap Value | Small Value | 1.0 |
| BlackRock Small-Cap Index | Small Blend | 0.1 |
| Boston Partners Mid-Cap Value | Mid-Cap Value | 0.9 |
| ClearBridge Large-Cap Value | Large Value | 4.6 |
| Delaware Mid-Cap Growth | Mid-Cap Growth | 3.3 |
| FIAM LLC Large-Cap Growth | Large Growth | 8.9 |
| Franklin/BlackRock Small-Cap Equity | Small Value | 2.0 |
| Janus Focused Growth | Large Growth | 1.0 |
| JPMorgan Large-Cap Core | Large Blend | 12.6 |
| JPMorgan Value Advantage | Large Value | 4.1 |
| MFS® Growth | Large Growth | 5.0 |
| MFS® Small-Cap Growth | Small Growth | 2.0 |
| PLFA Large-Cap Plus Bond Alpha | Large Blend | 5.2 |
| PLFA Mid-Cap Plus Bond Alpha | Mid-Cap Blend | 1.2 |
| PLFA QQQ Plus Bond Alpha | Large Growth | 1.3 |
| PLFA Small-Cap Plus Bond Alpha | Small Blend | 0.6 |
| Principal Real Estate | Real Estate | 1.5 |
| Putnam Value | Large Value | 5.2 |
| International Equity | | |
| ClearBridge International Growth | Foreign Large Growth | 4.9 |
| FIAM LLC International Small-Cap | Foreign Small/Mid Blend | 2.0 |
| Invesco Emerging Markets | Diversified Emerging Markets | 2.5 |
| MFS® International Large-Cap | Foreign Large Blend | 4.3 |
| PLFA International Equity Plus Bond Alpha | Foreign Large Blend | 1.7 |
| Wellington International Value | Foreign Large Value | 4.5 |

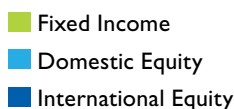
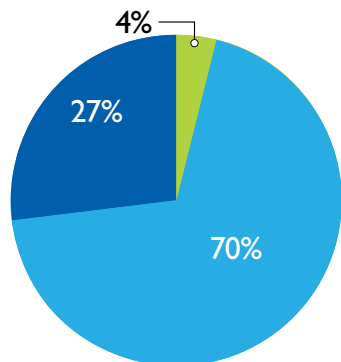
- ▼ Eligible with Investment Guard and Future Income Generator, optional living benefits.
- ◆ Additional eligible investment option available with Protected Investment Benefit.

PORTFOLIO OPTIMIZATION PORTFOLIOS

PORTFOLIO INFORMATION AS OF 12/31/24

AGGRESSIVE-GROWTH ▾

Broad Asset-Class Allocations



Each underlying fund may include exposure to multiple broad asset classes. Total allocation percentages may not equal 100% due to rounding.

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| Manager/ Fund Name | Morningstar Category | Allocation (%) |
|--|------------------------------|----------------|
| Fixed Income | | |
| Aristotle Pacific Capital Floating Rate Income | Bank Loan | 0.5 |
| Aristotle Pacific Capital High Yield Bond | High-Yield Bond | 1.0 |
| JPMorgan Intermediate Term Bond | Intermediate Core Bond | 0.1 |
| Loomis Diversified Bond | Intermediate Core Bond | 0.9 |
| PIMCO Managed Bond | Intermediate Core Bond | 0.4 |
| PLFA Bond Plus | Intermediate Core Bond | 0.2 |
| T. Rowe Price Short Duration Bond | Emerging-Markets Bond | 0.5 |
| Domestic Equity | | |
| Avantis Small-Cap Value | Small Value | 1.7 |
| BlackRock Small-Cap Index | Small Blend | 0.3 |
| Boston Partners Mid-Cap Value | Mid-Cap Value | 1.3 |
| ClearBridge Large-Cap Value | Large Value | 5.3 |
| Delaware Mid-Cap Growth | Mid-Cap Growth | 4.7 |
| FIAM LLC Large-Cap Growth | Large Growth | 10.4 |
| Franklin/BlackRock Small-Cap Equity | Small Value | 1.7 |
| Janus Focused Growth | Large Growth | 1.1 |
| JPMorgan Large-Cap Core | Large Blend | 13.8 |
| JPMorgan Value Advantage | Large Value | 4.8 |
| MFS® Growth | Large Growth | 5.9 |
| MFS® Small-Cap Growth | Small Growth | 1.9 |
| PLFA Large-Cap Plus Bond Alpha | Large Blend | 6.0 |
| PLFA Mid-Cap Plus Bond Alpha | Mid-Cap Blend | 1.3 |
| PLFA QQQ Plus Bond Alpha | Large Growth | 1.4 |
| PLFA Small-Cap Plus Bond Alpha | Small Blend | 0.7 |
| Principal Real Estate | Real Estate | 1.5 |
| Putnam Value | Large Value | 5.9 |
| International Equity | | |
| ClearBridge International Growth | Foreign Large Growth | 5.9 |
| FIAM LLC International Small-Cap | Foreign Small/Mid Blend | 3.5 |
| Invesco Emerging Markets | Diversified Emerging Markets | 3.5 |
| MFS® International Large-Cap | Foreign Large Blend | 5.9 |
| PLFA International Equity Plus Bond Alpha | Foreign Large Blend | 2.1 |
| Wellington International Value | Foreign Large Value | 5.6 |

▾ Eligible with Investment Guard and Future Income Generator, optional living benefits.

About Risk

Asset allocation, although intended to provide diversification, does not guarantee future results, ensure a profit, or protect against loss. Better returns could be achieved by investing in an individual fund or funds representing a single asset class rather than using asset allocation. A fund-of-funds is subject to its own expenses along with the expenses of the underlying funds. It is typically exposed to the same risks as the underlying funds in which it invests in proportion to the allocation of assets among those underlying funds. Each underlying fund has its own investment goal, strategy, and risks, and many are available for individual purchase. The prospectuses for the underlying funds are available at PacificLife.com.

Pacific Life is a product provider. It is not a fiduciary and therefore does not give advice or make recommendations regarding insurance or investment products.

This material is for informational purposes only and does not constitute investment advice or a recommendation.

You should carefully consider a variable annuity's risks, charges, limitations, and expenses, as well as the risks, charges, expenses, and investment goals of the underlying investment options. This and other information about Pacific Life are provided in the product and underlying fund prospectuses. These prospectuses are available from your financial professional or at PacificLife.com. Read them carefully before investing.

Pacific Life Fund Advisors LLC (PLFA), a wholly owned subsidiary of Pacific Life Insurance Company, is the investment adviser to the Portfolio Optimization portfolios and is responsible for determining the asset allocation mix for each portfolio.

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Under current law, a nonqualified annuity that is owned by an individual is generally entitled to tax deferral. IRAs and qualified plans—such as 401(k)s and 403(b)s—are already tax-deferred. Therefore, a deferred annuity should be used only to fund an IRA or qualified plan to benefit from the annuity's features other than tax deferral. These include lifetime income, death benefit options, and the ability to transfer among investment options without sales or withdrawal charges.

Pacific Life refers to Pacific Life Insurance Company and its subsidiary Pacific Life & Annuity Company. Insurance products can be issued in all states, except New York, by Pacific Life Insurance Company and in all states by Pacific Life & Annuity Company. Product/material availability and features may vary by state. Each insurance company is solely responsible for the financial obligations accruing under the products it issues. Insurance product and rider guarantees, including optional benefits and any fixed subaccount crediting rates or annuity payout rates, are backed by the financial strength and claims-paying ability of the issuing insurance company and do not protect the value of the variable investment options. They are not backed by the broker/dealer from which this annuity is purchased, by the insurance agency from which this annuity is purchased, or any affiliates of those entities, and none makes any representations or guarantees regarding the claims-paying ability of the issuing insurance company.

Protected Investment Benefit is named "Guaranteed Minimum Accumulation Benefit" in the contract rider.

The Russell 2000 Index and Russell 2000 Value Index (together, the "Indexes") are calculated by Russell or its agent, are trademarks of Frank Russell Company ("Russell"), and have been licensed for use by Pacific Select Fund ("PSF"). Neither Russell nor the London Stock Exchange Group companies (together the "Licensor Parties") sponsor, endorse, sell or promote any portfolios of PSF, the content of this communication, or make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to (i) the results to be obtained from the use of the Indexes, or (ii) the suitability of the Indexes for the purpose to which they are being put. The Licensor Parties do not and will not provide any financial or investment advice or recommendation in relation to the Index to Pacific Select Fund or its clients. The Licensor Parties do not accept any liability to any person for any errors or omissions in the Russell Indexes and are under no obligation to advise any person of any error therein.

Variable insurance products are distributed by **Pacific Select Distributors, LLC** (member FINRA & SIPC), a subsidiary of Pacific Life Insurance Company and an affiliate of Pacific Life & Annuity Company.

The home office for Pacific Life & Annuity Company is located in Phoenix, Arizona. The home office for Pacific Life Insurance Company is located in Omaha, Nebraska.

Contract Form Series: 10-17800, ICC12:10-1252, 10-178OR, 10-2352

Rider Series: 20:1354, 20:1355

State variations to contract form series and rider series may apply.

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