The `auto_arima` function is a convenient tool in the `statsmodels` library for automatically selecting the optimal parameters for an ARIMA model. It uses a stepwise algorithm to search through various combinations of the order (p, d, q) to find the best-fit model for the given time series data.

Here are the main arguments of the `auto_arima` function:

- **`y`**: This argument represents the time series data that you want to model and forecast. It can be a one-dimensional array, a pandas Series, or a similar object.
- **`exogenous`**: This optional argument allows you to include exogenous variables if you have any. Exogenous variables are external factors that may influence the time series, but are not affected by it. The `exogenous` parameter should be a two-dimensional array or DataFrame that corresponds to the same time periods as the `y` data.
- **`start_p`**, **`d`**, **`start_q`**: These arguments specify the range of values to search for the order of the AR, I, and MA components, respectively. You can set these arguments to integers or tuples to define a range of values.
- **`max_p`**, **`max_d`**, **`max_q`**: These arguments set the maximum order of the AR, I, and MA components. They can be used to limit the search space and reduce computation time.
- **`seasonal`**: This argument specifies whether the time series exhibits seasonality. By default, it is set to `False`. If your data has a seasonal pattern, you can set it to `True` and adjust other seasonal arguments accordingly.
- **`m`**: This argument specifies the number of periods in a season if the data is seasonal. It is relevant only when `seasonal` is set to `True`.
- **`stepwise`**: This argument determines whether the stepwise algorithm should be used to find the best-fit model. By default, it is set to `True`. If set to `False`, the function will search through all possible combinations of parameters, which can be computationally expensive.

These are some of the key arguments of the `auto_arima` function. There are additional arguments available to control the model selection process, such as `information_criterion`, `trace`, `suppress_warnings`, and more. You can refer to the `statsmodels` documentation for a complete list of arguments and their details.