

# Permissionless Pool Creation

The Pool shared object represents a market, such as a SUI/USDC market. That Pool is the only one representing that unique pairing (SUI/USDC) and the pairing is the only member of that particular Pool. See [DeepBook Design](#) to learn more about the structure of pools.

The `create_permissionless_pool()` function creates a Pool

Tick size should be  $10^{(9 - \text{base\_decimals} + \text{quote\_decimals} - \text{decimal\_desired})}$ . For example, if creating a SUI(9 decimals)/USDC(6 decimals) pool, with a desired decimal of 3 for tick size (0.001), tick size should be  $10^{(9 - 9 + 6 - 3)} = 10^3 = 1000$ .

Decimal desired should be at most 1bps, or 0.01%, of the price between base and quote asset. For example, if 3 decimals is the target, 0.001 (three decimals) / price should be less than or equal to 0.0001. Consider a lower tick size for pools where both base and quote assets are stablecoins.

Lot size is in MIST of the base asset, and should be approximately \$0.01 to \$0.10 nominal of the base asset. Lot size must be a power of 10, and less than or equal to min size. Lot size should also be greater than or equal to 1,000.

Min size is in MIST of the base asset, and should be approximately \$0.10 to \$1.00 nominal of the base asset. Min size must be a power of 10, and larger than or equal to lot size.

Creation fee is 500 DEEP tokens.

Pools can only be created if the asset pair has not already been created before.

The `add_deep_price_point()` function allows for the calculation of DEEP price and correct collection of fees in DEEP.

All pools support input token fees. To allow a permissionless pool to pay fees in DEEP, which has a 20% discount compared to input token fees, two conditions must be met:

For a pool with USDC as an asset, use the DEEP/USDC pool at `0xf948981b806057580f91622417534f491da5f61aeaf33d0ed8e69fd5691c95ce` as the reference pool.

For a pool with SUI as an asset, use the DEEP/SUI pool at `0xb663828d6217467c8a1838a03793da896cbe745b150ebd57d82f814ca579fc22` as the reference pool.

## API

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