SEW Industrial Gearboxes

X2 Series: X2F, X2FA, X2FH, X2K, X2KA, X2KH

X3 Series: X3F, X3FA, X3FH, X3K, X3KA, X3KH, X3T, X3TA, X3TH

X4 Series: X4F, X4FA, X4FH, X4K, X4KA, X4KH, X4T, X4TA, X4TH

The core differences between SEW's X2, X3 and X4 series industrial gearboxes lie in **size specifications, torque range, power rating, installation adaptability and optional configurations**. The product line scales up progressively from X2 to X3 to X4 in terms of size and power output. In addition, compared with X2, X3 and X4 series add helical-bevel gear models with torque arm mounting (T/TA/TH), making them suitable for more complex working conditions.

I. Core Positioning and Specification Differences

Comparison Item	X2 Series	X3 Series	X4 Series
Power & Torque	Low power and torque, suitable for light-load applications	Medium power and torque, suitable for general-purpose applications	High power and torque, suitable for heavy-duty applications
Size Coverage	Small size range, requiring compact installation space	Medium size range, balancing space occupation and performance	Large size range, meeting the installation requirements of high-load equipment
Model Completeness	Only available in two types: F (parallel-shaft helical gear) and K (right-angle	Includes F, K models plus newly added T (right-angle helical-bevel gear with torque	Includes F, K models plus T (right-angle helical-bevel gear with torque arm

	helical-bevel gear)	arm mounting) models	mounting) models
Application Scenarios	Small conveyors, packaging machinery, small mixing equipment	General-purpose conveyors, auxiliary metallurgical equipment, papermaking machinery	Large mining machinery, heavy-duty mixing devices, port hoisting equipment

II. Meaning of Model Suffixes (Common to All Series, Determining Output Shaft Type and Mounting Method)

- F: Parallel-shaft helical gearbox, 2-4 stages of transmission, speed ratio ranging from 6.3 to 450, torque coverage from 6.8 to 475 kNm
- K: Right-angle helical-bevel gearbox, 2-4 stages of transmission, speed ratio ranging from 6.3 to 450, torque coverage from 6.8 to 475 kNm
- T: Right-angle helical-bevel gearbox with torque arm mounting, 3-4 stages of transmission, speed ratio ranging from 12.5 to 450, torque coverage from 6.8 to 175 kNm (only available for X3/X4 series)
- A: Hollow shaft with keyway
- H: Hollow shaft with shrink disk
- Note: T-type models are not available for X2 series; X3 and X4 series offer more comprehensive options for mounting and shaft configurations.

III. Key Performance and Design Differences

1. **Load Capacity**
    - X2: Features the smallest size and torque, designed for low-power, low-heat input scenarios with a compact structure and lower cost.
    - X3: Delivers medium load capacity, balancing strength and space requirements, and serves as the mainstream model for general industrial applications.
    - X4: Boasts the largest size and torque, adopting thicker gearbox housing, reinforced gears and bearings to handle continuous heavy-duty and shock load conditions.
2. **Installation Flexibility**
    - All three series support foot mounting and flange mounting (for F/K models of X2/X3/X4). X3 and X4 series additionally support torque arm mounting (for T series), making them suitable for space-constrained or elastic mounting

scenarios.

- The reversible housing design allows for left or right shaft output by flipping the housing, reducing the number of stock models and improving delivery efficiency.

3. **Heat Dissipation and Maintenance Design**
   - X2: Equipped with a basic heat dissipation structure, suitable for low-power, low-heat working conditions and easy to maintain.
   - X3: Features enhanced cooling fins, with an optional shaft-mounted pump for continuous operation under medium-power conditions.
   - X4: Comes with a high-efficiency cooling system (fan and cooling coil optional), ensuring stable oil temperature under heavy-duty conditions. The upgraded sealing and bearing specifications extend maintenance intervals.
4. **Customization Capability**
   - X2: Offers limited optional configurations, focusing on standardized light-load requirements.
   - X3: Available with optional motor adapters, backstops and various sealing systems, suitable for most industrial scenarios.
   - X4: Provides a full range of optional configurations, including explosion-proof (ATEX compliant) options, heavy-duty shaft systems and special lubrication systems, meeting the customization needs of extreme working conditions.

IV. Core Selection Recommendations

- For light load, limited space and cost-sensitive applications: Choose X2 series, preferably X2F/X2K models. Select A (hollow shaft with keyway) or H (hollow shaft with shrink disk) according to the shaft type requirements.
- For general-purpose applications requiring a balance between performance and cost: Choose X3 series. F/K models are suitable for conventional mounting, while T series is ideal for torque arm mounting scenarios.
- For heavy-duty, shock load and large-scale equipment applications: Choose X4 series, preferably X4K/X4T models. Pair with H (shrink disk) shaft type to enhance transmission reliability.