SCE SCOOP

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Inside the SECOP SCE Hermetic Compressor: A Complete Exploded View and Parts Identification Guide

For technicians, engineers, and procurement specialists in the commercial refrigeration industry, understanding the internal anatomy of a compressor is not just academic—it’s essential for efficient maintenance, accurate troubleshooting, and reliable sourcing of spare parts. The **SECOP SCE series hermetic compressor** is a cornerstone in many refrigeration systems, known for its durability and performance. This article provides a comprehensive, **journalistic breakdown** of its internal components using a detailed exploded view, serving as your definitive visual and technical guide.

Decoding the Exploded View: A Systematic Walkthrough

An exploded view diagram is more than just a parts list; it’s a roadmap to the machine’s soul. It shows how individual components interact within the sealed “hermetic” shell, where the motor and compressor are welded shut to protect against refrigerant and moisture. Let’s navigate the key assemblies revealed in the SCE compressor diagram.

1. The Core Compression Assembly

This is the heart of the compressor, where mechanical motion translates into refrigerant compression.

- **Piston (11) & Cylinder (Part of Crankcase 15):** The piston moves within the cylinder bore, creating the vacuum and pressure cycles.
- **Crankshaft (8):** Driven by the motor, its rotational motion is converted into the piston's reciprocating motion via the **connecting rod (9)** and **wrist pin (10)**.
- **Valve System:** This critical assembly manages refrigerant flow. The **suction valve (17)** opens to draw in low-pressure gas. The **discharge valve (18)**, held by its **stopper (19)**, opens to release high-pressure gas into the **discharge muffler**.

2. The Electrical & Drive Assembly

Nestled beneath the compressor, this assembly powers the entire system.

- **Stator (27):** The stationary part of the electric motor, containing copper windings, housed inside the **stator case (28)**.
- **Rotor (25):** Pressed onto the **crankshaft (8)**, it rotates within the stator's magnetic field.
- **Hermetic Terminal (31):** The vital electrical pass-through that allows power cables to enter the sealed compressor housing without leaking refrigerant.

3. Structural & Ancillary Components

These parts provide support, balance, and necessary functionalities.

- **Compressor Housing (30):** The iconic welded steel shell that contains all components.
- **Suspension Springs (29):** Isolate vibrations, preventing noise and wear from transmitting to the refrigeration cabinet.
- **Oil Pump (26):** Often a centrifugal type on the crankshaft, it ensures critical lubrication reaches the **upper bearing (7)** and other moving parts.
- **Counterweight (6):** Balances the rotating assembly to minimize vibration, secured by a **screw (4)** and sometimes accompanied by a **slinger (5)**.

Complete SECOP SCE Compressor Parts Reference Table

For quick reference and cross-referencing with part numbers, here is a complete table of the components identified in the exploded view:

Item No.	Part Name	Primary Function
01	Compressor Cover	Protects internal parts, forms suction chamber
02	Suction Connector	Inlet for low-pressure refrigerant gas
03	Discharge Connector	Outlet for high-pressure refrigerant gas
04	Counterweight Screw	Secures the counterweight to the crankshaft

Item No.	Part Name	Primary Function
05	Slinger	Assists in oil distribution
06	Counterweight	Balances rotating assembly to reduce vibration
07	Upper Bearing	Supports the top of the rotating crankshaft
08	Crankshaft	Converts motor rotation into piston movement
09	Connecting Rod	Links the crankshaft to the piston
10	Wrist Pin	Pivot point connecting piston and connecting rod
11	Piston	Compresses refrigerant within the cylinder
12	Internal Discharge Tube	Channels compressed gas to the muffler
13	Screw	Fastens various components (e.g., muffler)
14	Discharge Muffler Gasket	Seals the discharge muffler connection
15	Crankcase	Main body housing cylinders and crankshaft
16	Valve Plate Gasket	Seals between crankcase and valve plate
17	Suction Valve	One-way valve for refrigerant intake

Item No.	Part Name	Primary Function
18	Discharge Valve	One-way valve for refrigerant outlet
19	Discharge Valve Stopper	Limits discharge valve movement
21	Cylinder Head Gasket	Seals the cylinder head
22	Suction Muffler	Reduces noise from suction gas pulsation
23	Cylinder Head	Covers the cylinder, part of compression chamber
24	Cylinder Head Screw	Secures the cylinder head
25	Rotor	Rotating part of the electric motor
26	Oil Pump	Circulates oil for lubrication
27	Stator	Stationary electromagnetic part of the motor
28	Stator Case	Holds and positions the stator
29	Suspension Spring	Vibration isolation mounting
30	Compressor Housing	Main hermetic (sealed) outer shell
31	Hermetic Terminal	Electrical connection into sealed housing
32	Base Plate	Foundation for internal assembly mounts

Why This Knowledge Matters for Your Business

Whether you're a technician diagnosing a faulty **discharge valve** or a sourcing manager looking for a genuine **SECOP crankshaft**, this visual guide empowers you with precision. Correct part identification:

- **Reduces Downtime:** Enables faster, accurate diagnosis.
- **Ensures Compatibility:** Guarantees replacement parts match the exact SCE model specifications.
- **Promotes Effective Communication:** Allows clear reference between teams, suppliers, and clients.

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