## CLAIMS

What is claimed is:

1. An isolation vacuum circuit breaker with zero-crossing opening and closing, comprising a bracket (1), a transmission cross beam (2), a three-phase solid-sealed polar pole (3), a functional conversion group (4), two permanent magnet operating mechanisms (5) and an isolating switch operating device (6), wherein two ends of the transmission cross beam (2) are respectively hinged to two sides of the bracket (1); the three-phase solid-sealed polar poles (3) are respectively installed on the transmission cross beam (2), wherein the functional conversion group (4) includes a flange (43), a bearing (44), an AB-phase output shaft (41) and a C-phase output shaft (42), wherein the isolating switch operating device (6) is in transmission connection with the bearing (44), and the isolating switch operating device (6) drives the bearing (44) to rotate; the C-phase output shaft (42) is sleeved on the AB-phase output shaft (41), the flange (43) and the bearing (44) are respectively sleeved on the C-phase output shaft (42), and the flange (43) is rigidly connected to the transmission cross beam (2); each phase of the solid-sealed polar pole(3) is preset with a vacuum arc extinguishing chamber and an operating rod (31) for controlling opening or closing of the vacuum arc extinguishing chamber, wherein the operating rod (31) of the A-phase and B-phase solid-sealed polar poles is in transmission connection with the AB-phase output shaft (41), the operating rod (31) of the C-phase solid-sealed polar poleis in transmission connection with the C-phase output shaft (42); and the two permanent magnet operating mechanisms (5) are used for respectively driving the AB-phase output shaft (41) and the C-phase output shaft (42) to move transversely, and the AB-phase output shaft (41) and the C-phase output shaft (42) which move transversely drive the operating rod (31) of the three-phase solid-sealed polar pole (3) to move longitudinally to control opening or closing of the vacuum arc extinguishing chamber.

2. The isolation vacuum circuit breaker with zero-crossing opening and closing according to claim 1, wherein each permanent magnet operating mechanism (5) includes a permanent magnet mechanism controller (51) and a driving crank arm (52), wherein each permanent magnet mechanism controller (51) is in transmission connection with the AB-phase output shaft (41) or the C-phase output shaft (42) by means of the driving crank arm (52).

3. The isolation vacuum circuit breaker with zero-crossing opening and closing according to claim 1, further comprising a three-phase reversing head (32), wherein the three-phase reversing head (32) is rotatably connected to the transmission cross beam (2) respectively, the three-phase reversing head (32) is respectively matched with the operating rod (31) of the three-phase solid-sealed polar pole (3), and the operating rod (31) of each phase of the solid-sealed polar pole (3) is in transmission connection with the AB-phase output shaft (41) or the C-phase output shaft (42) by means of the reversing head (32).

4. The isolation vacuum circuit breaker with zero-crossing opening and closing

according to claim 1, wherein the flange (43) and the bearing (44) are fixedly connected by means of screws.