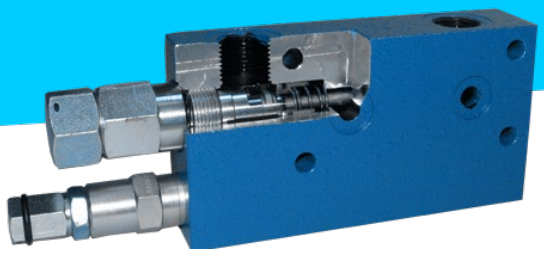
rexroth
A Bosch Company

VBSO-P
Re-shaping counterbalance technology



Patented

BOSCH REXROTH OIL CONTROL'S ADVANCED POPPET DESIGNS ENHANCE STABILITY AND MINIMIZE ENERGY DEMAND IN LOAD-HOLDING APPLICATIONS.
VBSO-P SERIES COUNTERBALANCE VALVES ARE CHANGING THE LOAD-HOLDING TECHNOLOGY USING A NEWLY DEVELOPED POPPET PROFILE. BY SLIGHTLY MODIFYING THE GEOMETRY OF THE LOAD-HOLDING POPPET, VBSO-P VALVES PROVIDE STABLE LOAD LOWERING WHILE MINIMIZING THE ENERGY NECESSARY TO PILOT THE COUNTERBALANCE VALVE.

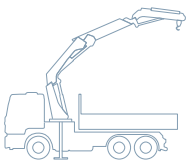
CUSTOMER BENEFITS

- Enhance the load control.
- Optimized for movements and load stability.

TECHNICAL DATA

- Flow rate: up to 350 l/min
- Pressure up to 350 bar

APPLICATIONS



Manufacturers of lifting equipment are too often forced into a difficult compromise to achieve good performance when lowering a boom structure. All types of cranes, telehandlers or aerial work platforms can experience instability, or "chattering," at various points in their lowering operations.
To solve this problem, designers frequently must choose to reduce pilot ratios or throttle pilot signals resulting in increased pressure to open the valve or potentially hazardous delays in opening or closing the device.

A new solution to face instability problems is found among Bosch Rexroth Oil Control's wide range of load-holding solutions. VBSO-P series counterbalance valves employ a newly designed load-holding element which provides a non-linear flow gain to avoid the conditions which trigger instability.

Instead of increasing the resistance to opening like low-pilot ratio counterbalance solutions, the opening characteristic of the valve is regulated through the shape of the poppet.
Low ratios and high resistance means higher pump pressures and therefore more energy consumption during lowering processes. By preserving the ability to use higher pilot ratios, VBSO-P series valves ensure optimized energy consumption and smooth lowering in tandem.

Through advance machining techniques developed over 40 years of load-holding valve manufacturing, Rexroth has refined the ability to control the shape and flow gain characteristic of counterbalance valve control elements. Machine-specific, customized solutions, as well as the line of cartridge valves, are available with this new technology – literally re-shaping mobile equipment load-holding performance.

Contact: **compact-hydraulics-pib@boschrexroth.com**