

Capacity Control Solenoid Valve Type BSV -1



INTRODUCTION

'SANLAN' Solenoid Valve Type BSV-1 is a specially designed 3-way capacity control solenoid valve for compressor. It is applicable for working media of refrigerant oil and fluorinated refrigerants.

TECHNICAL INFORMATION

The valve has three ports, at the base of the valve body. These are OIL IN, UNL and SUMP ports respectively. (Refer Figure 1)

1. OIL IN - Oil Inlet port, is connected to the compressor oil pump discharge. This is normally open port.
2. UNL - UNL is the common and middle port. Unloader power element is connected to this port. When the valve gets de-energized, oil pressure coming through the OIL IN port, is given to the power element through this port, which in turn loads the cylinder.
3. SUMP - Sump port is connected to the oil sump. This normally closed port. When the valve gets energized to unload the cylinder, remaining oil from the unloader power element will be pushed back into the oil sump through this port.

SPECIFICATIONS

Standard Coil Ratings: - 11W molded coil type AP100-1 with cable connection. Coil can be supplied with a wide choice for a.c. or d.c.

Maximum Opening Pressure Differential MOPD: - 21bar/300psig.

Safe Working Pressure SWP: - 35bar/500psig.

Net Weight: - 625gm.

PRINCIPLES OF OPERATION

In addition to supplying oil pressure to the compressor lubrication system, the compressor oil pump also provides oil pressure to operate the compressor capacity control system, which is controlled automatically. Externally mounted solenoid valves, controlled by a signal from a remote device provide reliable response to system load.

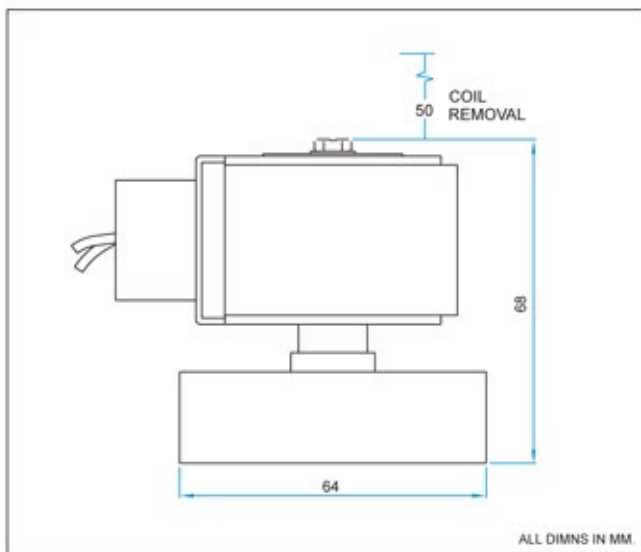
Loading the cylinders one by one as required, increase compressor capacity. Similarly, unloading one or more cylinders, as and when required, can reduce the compressor capacity.

An internal oil passage in the oil pump end bearing housing of the compressor is connected to an internal passage in the compressor solenoid valve plate. Capacity control solenoid valves BSV-1 are mounted on this plate.

During de-energized condition of the solenoid valve BSV-1, oil flows to unloader power element to load the compressor. During the energized state, due to release of this oil pressure, compressor gets unloaded and the oil backed up in unloader power element flows back to oil sump.

Thus, solenoid valve type BSV-1 is de-energized to load the compressor and energized to unload the compressor.

IMPORTANT - As it is recommended to start the compressor in unloaded condition, the solenoid valve type BSV-1 should be energized before the compressor motor is switched from star to delta connection, and should be wired accordingly.



TOTAL VALVE ASSEMBLY BSV -1

