

5.0 – Compressor Features and Accessories

5.1 Safety Relief Valves

All 06E compressors are equipped with built-in safety relief valves that are factory set to relieve from the discharge to the suction side of the compressor at a pressure differential of 400 psi (27 bar). On the 4-cylinder 06E compressor, the relief valve is located below the discharge service valve in the compressor crankcase. On the 6-cylinder 06E compressors, it is located in the center bank (below the valve plate) of the crankcase. The 06D compressors do not have a relief valve, since they are only required in compressors greater than 50 cfm (1.42 m³/min).

5.2 Suction Strainers

Each 06D and 06E compressor is equipped with a suction strainer located in the suction manifold of the motor end bell (except on 2-cylinder models where it is located on the compressor side of the suction service valve).

5.3 Oil Safety Switch

Carlyle has approved the following oil safety switches for use with all 06D and 06E compressors:

1. Danfoss: (see Table 10 below)
2. Penn: P45-NCA-82(STD) or 45-NCB-14 with alarm circuit.
3. Johnson Controls: P445 (see Table 10 below)

Table 10 below shows the specifications for the Carlyle approved Danfoss Type series oil safety switches that are currently stocked by Carlyle.

The oil safety switch is designed to protect the compressor against loss of lubrication. The switch will close the control circuit at start-up (within the 120 second time delay), when the compressor operating oil pressure is at a maximum of 11 psi (.75 bar) above suction pressure. The switch will open the control circuit and shut the compressor off when the oil pressure drops to a minimum of 4 psi (.27 bar) above suction pressure and remains for the allotted 120 seconds. Carlyle's new higher flow oil pump has been found to improve lubrication during abuse conditions. As a result, for compressors built with the new higher flow oil pump (starting S/N1094J...), the allowable time delay has been increased from 45 to 120 seconds.

Carlyle Part No.	Danfoss Part No.	Time Delay	Connections	Pressure Diff. psi (bar)		Volts	Reset	Remote Alarm Circuit Capability
				Cut-In	Cut-Out			
P529-2430	060B2109	120 sec.	1/4" Male Flares	8-11 (.55-.76)	4-8 (.28-.55)	115/ 230	Manual	Yes
634-2050 OR P529-2100	060B2164		36" Lg. (91 CM) Cap. Tube 1/4" SAE Nuts					

Carlyle Part No.	Johnson Part No.	Time Delay	Connections	Pressure Diff. psi (bar)		Volts	Reset	Remote Alarm Circuit Capability
				Cut-In	Cut-Out			
06DA660115	P445-NCB-826	120 sec.	Electronic	8-11 (.55-.76)	4-8 (.28-.55)	115/ 230	Manual	Yes

Table 10—Oil Safety Switch Specifications