

Maintenance Assistance Kit Model SA-6

In the workshop we find that compressor condition can be evaluated more quickly and accurately with the installation of a 2nd stage pressure gauge. Variation of the interstage pressure (2nd stage) indicates a problem condition such as worn piston rings, sticky valves, or air leaks starving the 3rd stage inlet of pressure, resulting in a higher than normal inlet gas temperature that can reduce the life of the 3rd stage pistons rings and head 0-rings. The following items are recommended for the installation of a pressure gauge on the 2nd stage.

MMN-04 Stainless steel male male nipple. ¼ NPT

MMM-04 Brass ¼ NPT Female branch Tee.

715-140 Stainless 6000PSI ¼ NPT female Hand Valve.

60-401-2 Stainless liquid filed dampened Gauge, 0-1000 PSI (70bar)

Remove the 2nd stage relief valve and install the branch tee with the centre leg of the tee pointing in a horizontal direction. Refit the relief valve to the centre leg horizontal port of the tee. Install the male male nipple to the top outlet of the tee then the hand valve to isolate the gauge during compressor running. (**NOTE:** due to compressor vibration it is a good idea to keep the gauge off the unit and install only when pressure check is required)

Normal 2nd stage pressure readings are as follows:

FINAL PRESSURE	2ND STAGE @ SEA LEVEL	2ND STAGE @ 1500 M 5000 FT ELAVATION
137 barg / 2000 psig	29.3-32.7 barg /425-475 psig	26.8-30.3 barg /390-440 psig
172 barg / 2500 psig	31.0-34.4 barg /450-500 psig	28.9-32.4 barg /420-470 psig
207 barg / 3000 psig	32.7-36.2 barg /475-525 psig	31.0-34.4 barg /450-500 psig
241 barg / 3500 psig	34.4-37.9 barg /500-550 psig	33.1-36.5 barg /480-530 psig
275 barg / 4000 psig	37.2-41.3 barg /540-600 psig	35.8-39.3 barg /520-570 psig
344 barg / 5000 psig	40.0-44.8 barg /580-650 psig	37.9-42.7 barg /550-620 psig

Low pressure will be caused by one or more of the following:

Worn 1st or 2nd stage piston rings.

Leaking 1st stage valves.

Broken 1st stage head gasket.

Leaks in piping or 0-rings.

High 1st stage piston clearances.

Restricted inlet hose or filter.

High pressure will be caused by one or more of the following:

Leaking 3rd stage valves.

Worn 3rd stage rings.

Warning: Running the compressor for long periods with low interstage pressure may cause overheating of the 3rd stage resulting in reduced ring life and possible 0-ring failure.