



The Stokes vacuum pump employed in the OCS's pipeline pre commissioning operation spread is Stokes model 412-11 Microvac Pump with stokes 615M series blower.

The piston of this vacuum pump is driven by an eccentric mounted on the drive shaft and the piston slided is guided by two floating hinge bars that are free to oscillate in the pump housing. Air enters the pump through the intake and then through the piston slide until the piston completes one stroke. As the piston continues to rotate, the air in front of it is compressed and discharged through the exhaust valve and finally out the exhaust outlet. Lubrication of the pump internal parts is automatic when the pump is in operation. This pump also incorporates a solenoid valve which automatically prevents the oil from flooding the pump in the event of a power failure, or when the pump is shutdown without vacuum being broken. This pump is also provided with a manually operated gas ballast valve to overcome adverse affect on vacuum resulting from oil contamination.

The Stokes Vacuum M seal 6 inch blowers are standard with keyless timing, roller bearings, mechanical vacuum seal and large oil level sight glasses. This blower is single stage positive displacement unit. It also incorporates helical gears for quiet operation and maintains proper impeller timing.

| Stokes Vacuum Pump Specifications | |
|-----------------------------------|-------------------------------------|
| Stokes Model | 412-11 |
| Pump Displacement | 510 m ³ /hr (2245USgpm) |
| Booster displacement | 2210 m ³ /hr (9730USgpm) |
| Ultimate Vacuum | 0.5 x 10 ⁻² mbar |
| Cooling capacity | 6000 BTU/hr |
| Flow rate | 33 lit/min @ 3 bar |
| Booster | 33 mbar (25 Torr) |
| Continuous operating limit | 20 mbar (15 Torr) |
| Booster drive | 7.5 hp |
| Pump drive | 15 hp |
| Compressor | 5 hp |
| Water pump | 1 hp |
| Voltage | 415 V/50Hz , 3 Phase |
| DNV Skid frame | 3475 x 2200 x 2300 x 4.5MT |
| No of units | 2 |

OCS has Equipment passports for individual equipments which must be reviewed before each project to assess the status. The equipment passport gives the working history, maintenance and certification history of equipment.

It is important to regularly review the list of critical spare parts of the equipment before each project. Where failures occur during operations Equipment bulletins will be issued to document the problem and the remediation solutions applied. The equipment bulletin will be circulated to all field engineers to be informed about the possible failure that can occur during the operation and thereby avoid future failure.

This equipment file remains a live document and will be constantly updated by the equipment department.

Speed and power curves

