Item 19: VRU Electric Drive STD HB QSG225-75-18BV

COMPRESSOR AND ASSOCIATED EQUIPMENT

F. Compressor: Quincy Model QSG225 single stage, rotary screw compressor – including 127.5 mm rotor compressor element. Compressor complete with the following:
    a. Lubricating Oil Filter
    b. Thermostatic by-pass valve.
    c. Gas-Oil separator, ASME Code stamped for 175 PSIG working pressure, separator complete with the following:
        i. 1/2" NPT Kenco Model K9900 gauge cocks with tubular type gauge column.
        ii. Low Level Switch – Murphy Model LS200, SS trim, explosion proof, rated for 1500 PSIG working pressure,
        iii. 2" NPT connections.

G. Check Valves: Wheatley (or equal), carbon steel body and stainless steel trim, sizes as follows:
    a. Compressor Suction: 3"
    b. Compressor Discharge: 2"

H. Drive Assembly: Compressor to be belt driven via jackshaft, complete with coupling guard.

I. Compressor By-Pass: 1" Kimray Model 130-SMT-D single acting motor valve, ductile iron body w/high temperature trim and Teflon seat.

ELECTRIC MOTOR

A. Marathon (or equal) 75 HP electric motor, 1800 RPM, 460/3/60 with 1.15 SF, Class F insulation, TEFC enclosure and adjustable motor slide base, suitable for use with variable frequency drive.

SCRUBBER

A. Suction Scrubber: 16" OD x 36" seam-to-seam, vertical single compartment standard scrubber. ASME Code stamped for 150 PSIG working pressure with 4" flanged inlet and outlet, 1" FNPT drain with 1" NPT ball valve with stainless trim. No mist extractor is provided in vessel. ASME Code stamped.
    a. High Liquid Level Switch: Murphy Model LS200 liquid level switch, SS trim, explosion proof, rated for 1500 PSIG working pressure, 2" NPT connections.
    b. Liquid Level Control: Murphy Model LS200 liquid level switch, SS trim, explosion proof, rated for 1500 PSIG working pressure, 2" NPT connection.
    c. Liquid Transfer Pump: Tuthill Model 2LE liquid transfer pump to automatically evacuate free liquids from the suction scrubber. Pump to be direct driven by ¾ HP, 1800 RPM, 460 V / 3 PHASE / 60 Hz, TEFC electric motor w/ guard over coupling.
    d. Sight Glass: 1/2" Penberthy Model N7 gauge cocks with tubular sight glass and guard.

HEAT EXCHANGER

A. Single section compressor oil cooler. Radiator design, non-ASME Code. Fan driven by a 1 HP, TEFC electric motor, 460 V / 3 PHASE/ 60 Hz.

ELECTRIC CONTROLS

A. Motor Starter: NEMA 3R weatherproof panel, shipped loose for remote mounting in an unclassified area by others, complete with the following:
    a. Fused disconnect, with external safety handle.
    b. VFD Drive for compressor motor
    c. Dry type transformer, 250 VA, 460/120 volt.

B. Control Panel: Unit controlled by an Allen Bradley Micrologix 1400 Programmable Logic Controller, mounted on skid. Control Panel is rated for Class 1 Div 2 and is complete with the following:

a. Alphanumeric interface to indicate status of the unit.
b. On/Off Switch on panel exterior.
c. Shutdown Indicators as follows:
    i. High Discharge Temperature
    ii. High Discharge Pressure
    iii. High Liquid Level – Suction Scrubber
    iv. Low Suction Pressure
    v. Low Compressor Oil Pressure
    vi. Motor Overload

Enhanced EPA Quad O compliance reporting and data logging are standard with the HY-BON/EDI AB 1400 panel.

d. Controls housed in a local panel with hand switches and pilot light indicators as follows:
    i. Off/Standby/Auto - Main Unit Operation
    ii. PB – Reset Pushbutton to clear shutdown latch and reset alarms.
e. Skid and panel prewired and tested. All wiring, conduit and fittings on skid are compliant with NEC latest edition (Class I, Division 2, Group D).

C. Electrical controls, local mounted except as noted:
a. Suction Pressure Transmitter: Rosemount 2088 (or equal), 4–20 mA, explosion proof enclosure, SS trim. Range as required for service on atmospheric tanks or VRT.
b. Pressure Transmitters: Pressure Systems (or equal), 4-20 mA, range as required for service. One each, furnished for High Discharge Pressure and Low Oil Pressure.
c. Discharge Temperature Transmitter: Reotemp (or equal) temperature transmitter, explosion proof enclosure, 4-20 mA, SS thermowell.

INSTRUMENTS & VALVES

E. Thermometers: S.S. case, with S.S. thermowell, range as required for service.
F. Pressure Gauges: S.S. trim, range as required for service.

FABRICATED STEEL SKID

A. One shop fabricated, heavy-duty oilfield type skid, welded up from steel channel sections. Approximate size is 5' x 10'.

DOCUMENTATION

A. Two electronic parts and operations manuals will be provided. Additional hard copy manuals available at US $1,000.00 each.

GENERAL CONSTRUCTION

A. All 2" and larger piping is 150# ANSI ASA flanged and welded per the requirements of the methods described by HY-BON/EDI's standard shop welding procedure, as qualified per ASME, Section IX.
    a. Piping is air leak tested, hydrostatic tested and x-rayed per ASME B31.3.
B. Scrubber and suction piping internally plastic-coated with Corvel 1660 for protection against corrosion caused by CO2 and H2S.
C. Components assembled and unitized per all applicable codes, on skid and shop tested with air.
D. HY-BON/EDI standard equipment may contain parts from different manufacturers than called out above. Any alternate parts will be of equal or greater scope.
E. Unit to be cleaned, primed, and painted, final color Desert Tan.