Engine Research Building 005
CE5B Stand #2 Heated 450 PSIG Air System
Control Valve Fabrication Specification (7-18-2013)

CONTROL VALVE DESIGN CRITERIA:

MAXIMUM ALLOWABLE WORKING PRESSURE: 500 PSIG FROM -20 TO 1350 F

MAXIMUM OPERATING INLET PRESSURE: 450 PSIG

MAXIMUM PRESSURE DROP ACROSS VALVE: 45 PSIG AT (5 LB/SEC, 450 PSIG, 1350 F)

OPERATING TEMPERATURE: 70 TO 1350 F

MAXIMUM AIR TEMPERATURE RAMP RATE: 800 F/HR

FLUID: AIR, GAS

FLOW RATE: 0.25 TO 5.25 LB/SEC

INLET SIZE: 3"

OUTLET SIZE: 3"

END CONNECTIONS / SCH / FACT TO FACE: BUTT WELD ENDS. / SCH 80 / ISA S75.08.05

PRESSURE CLASS: ANSI 1500

VALVE FUNCTION: THROTTLING

ACTUATOR TYPE: PNEUMATIC

AVAILABLE AIR SUPPLY: 60 PSIG

FAIL POSITION: CLOSED

INTERFACES: SPTD LIMIT SWITCHES AND 4-20 mA POSITION FEEDBACK.

HANDWHEEL: NO

AIR FILTER: YES

INTERCHANGEABLE TRIM CAPABILITY

VALVE BODY MATERIAL: CAST 316 H STAINLESS STEEL

MAX SHUFOFF / SHUTOFF CLASS: 500 PSI / CLASS V

SEAT LEAKAGE: CLASS V METAL TO METAL SEAT SPECIFICATION

VALVE CYCLES: 1000 CYCLES PER YEAR, PER ASME SECTION VIII GUIDELINES.

ITEMS TO INCLUDE WITH QUOTE:

1. COST / DELIVERY.
2. VALVE WEIGHT.
3. OVERALL DIMENSIONS.
4. CAN THE VALVE BE REFURBISHED WITHOUT REMOVING IT FROM THE PIPING SYSTEM.
5. SATISFY CONSTRUCTION CERTIFICATIONS:
    a. SPECIAL CLASS RADIOGRAPHIC EXAMINATION, PER ANSI B16.34
    b. CERTIFICATE OF CONFORMANCE TO ANSI B31.1
    c. CMTRS FOR BODY AND INTERNAL COMPONENTS.
    d. API 598 - VALVE INSPECTION AND TESTING.
    e. VALVE SEAT LEAKAGE PER API CLASS V OR FLOW CONTROL INSTITUTE FCI-70-2-2003 CONTROL VALVE SEAT LEAKAGE.
    f. WELDING PER ASME SECTION IX.
6. CAD DRAWINGS
7. VALVE DATA / SIZING DETAILS.
8. POSITIONER DOCUMENTATION.
9. VALVE MANUALS / DOCUMENTATION.
10. MAINTENANCE AND INSTRUCTION MANUALS.

THE CONTRACTOR SUBMIT THE FOLLOWING DOCUMENTATION, PRIOR TO SHIPMENT, TO:

NASA GLENN RESEARCH CENTER
ATTN:
21000 BROOKPARK RD.
BROOK PARK, OH 44135
PHONE: (216) 433-
FAX: (216) 433-
EMAIL:

REQUIRED DOCUMENTATION:

- VALVE DATA / SIZING DETAILS
- POSITIONER DOCUMENTATION.

- VALVE MANUALS / DOCUMENTATION.
- MAINTENANCE AND INSTRUCTION MANUALS.
- MATERIAL CERTIFICATES.
- HYDROSTATIC TEST REPORT, IN ACCORDANCE WITH ASME B31.3.
- CONSTRUCTION CERTIFICATIONS FOR:
    - SPECIAL CLASS RADIOGRAPHIC EXAMINATION, PER ANSI B16.34
    - CERTIFICATE OF CONFORMATNCE TO ANSI B31.1
    - CMTRS FOR BODY AND INTERNAL COMPONENTS.
    - AP1598 – VALVE INSPECTION AND TESTING.
    - VALVE SEAT LEAKAGE PER API CLASS V OR FLOW CONTROL INSTITUTE FCI-70-2-2003 CONTROL VALVE SEAT LEAKAGE.
    - WELDING PER ASME SECCTION IX.
- CAD / DIMENSIONAL DRAWINGS