



MANUAL OPERATED VALVES

Crissair Inc. designs and manufactures several manually operated, rotary-type valves that shut-off or redirect supply pressure and flow.

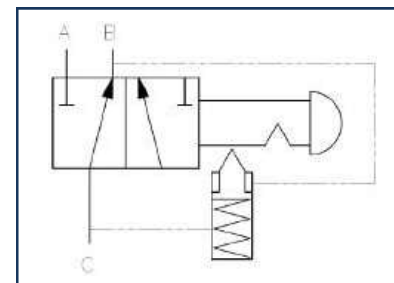
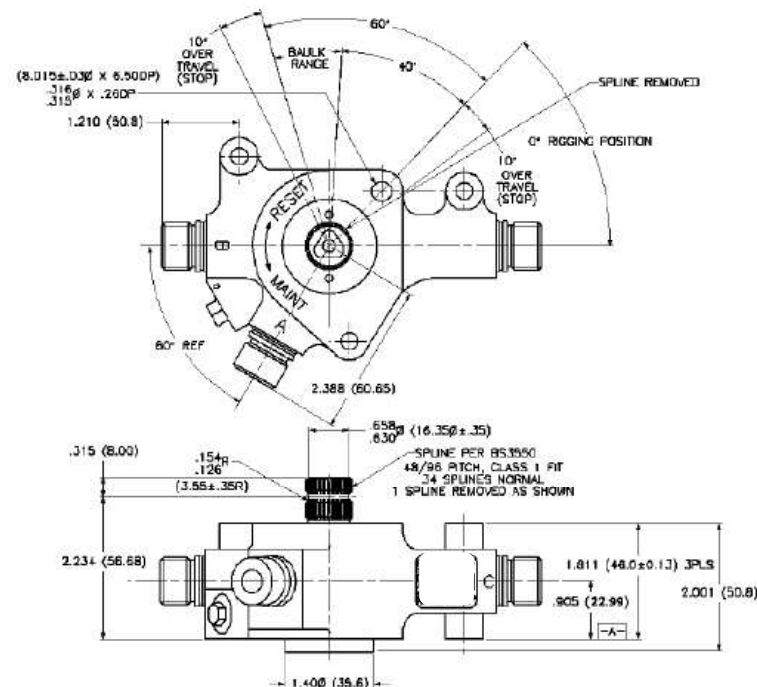
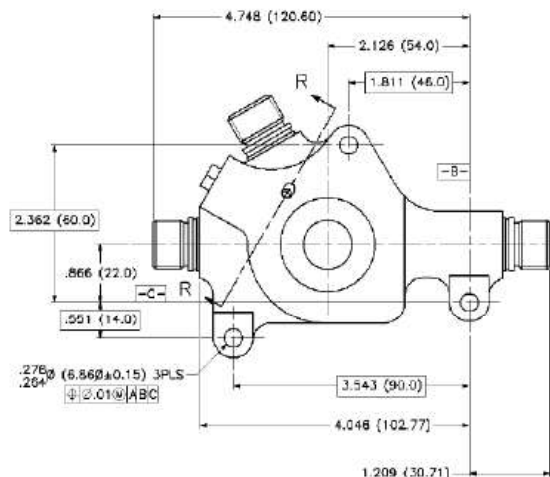
- The manual operation can be achieved via a handle which is ergonomically designed for the human hand. Other designs utilize splines or shafts that connect to different types of linkages or wrenches.
- Many of the manual valves are used on aircraft ground service panels.



This catalog contains a small sample of drawings. Please contact Crissair for additional drawings and/or configurations.



PART NUMBER: 3P1048, NOSE DOOR BYPASS VALVE



HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER PER NSA30711OLD, TYPE IV OR V*

MATERIAL: HOSUING 7075-T73

OPERATING PRESSURE: 2987 PSIG

PROOF PRESSURE: 4538 PSIG

FLOW (0°C): AT 0°(RIGGING) POSITION 6.08 GPM AT 58 PSID MAX, PORT B TO C
AT 60° CW (FULL OPEN) POSITION, 4.23 GPM AT 58 PSID MAX, PORT A TO PORT C

LEAKAGE: EXTERNAL, 1 DROP MAX IN 25 OPERATING CYCLES
AT 0° WITH 2987 PSIG AT PORTS B, 25 CCC/MIN MAX AT PORT A
AT 0° WITH 2987 PSIG AT PORT A, 25 CCC/MIN MAX AT PORTS B
AT 60° WITH 2987 PSIG AT PORTS A, 25 CCC/MIN MAX AT PORT B

BAULK FEATURE: IS ENGAGED OVER 40° ROTATION WITH PORT B LESS THAN 725 PSIG
IS DISENGAGED OVER FULL RANGE WITH PORT B AT GREATER THAN 1015 PSIG

SHAFT OPERATING TORQUE: NOT GREATER THAN 44.4 IN-LBS AT ALL POSITIONS AND PRESSURES
NOT LESS THAN 8.8 IN-LBS FROM 0° POSITION (DETENT FUNCTION)

ULTIMATE TORQUE: SHAFT SHALL WITHSTAND 112 FT-LBS MINIMUM.

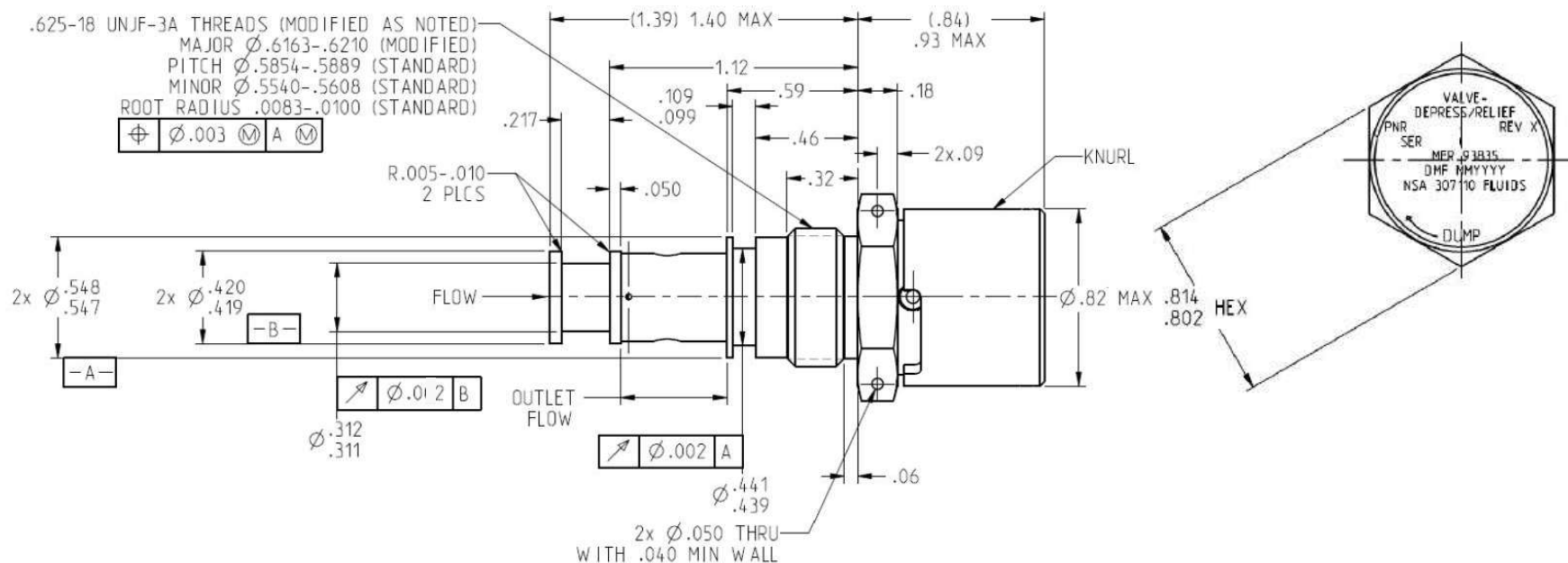
WEIGHT: 1.90 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5606, MANUAL DEPRESSURIZATION AND RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER PER NSA 307110 TYPE IV OR V*

MATERIAL: BODY 17-4 PH

POPPET 440C CRES

OPERATING PRESSURE: 5004 PSIG

PROOF PRESSURE: 7614 PSIG

CRACKING PRESSURE: 5439-5874 PSID

FLOW, RELIEF: 5989 PSID MAX AT 0.7 GPM MIN AND 68±9°F

FLOW, MANUAL DUMP: 3336 PSID MAX AT 0.4 GPM MIN AND 68±9°F

RESEAT PRESSURE: 5352-5787 PSID AT 6 CC/MIN AND 68±9°F

INTERNAL LEAKAGE: 1 DPM MAX AT 5004-5076 PSID

0 DPM AT 3336 PSID

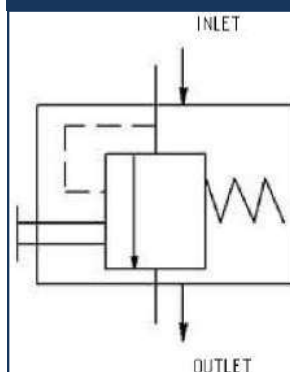
MAX TORQUE OF MANUAL DEPRESSURIZATION VALVE: 1.0-10 IN-LBS

MAX OVERRIDE KNOB ROTATION: 210°

WEIGHT: 0.17 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

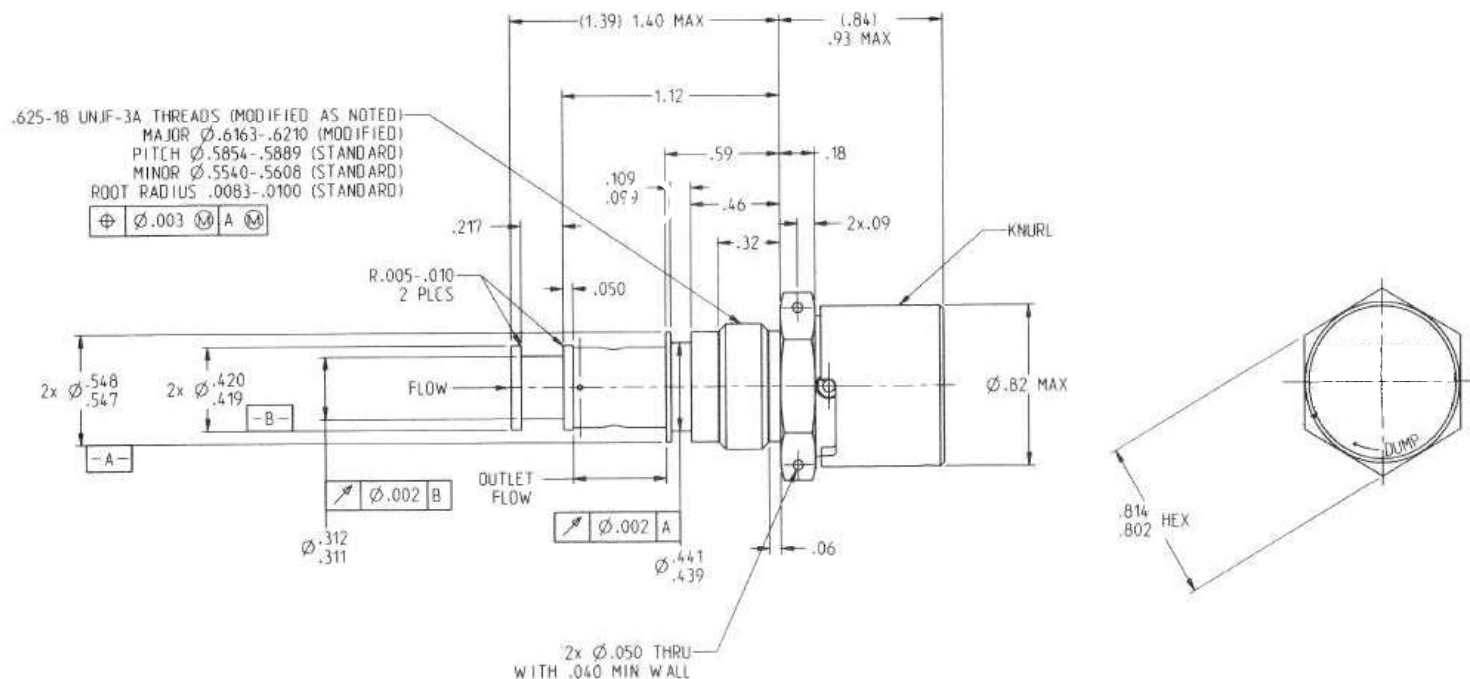
HYDRAULIC SCHEMATIC



CATEGORY 6: MANUAL OPERATED VALVES - MANUAL DUMP WITH THERMAL RELIEF VALVES



PART NUMBER: 2P5620 ,MANUAL DEPRESSURIZATION/RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER TYPE IV AND V*

MATERIAL: BODY 17-4PH

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG (WITH TRANSIENTS UP TO 3750 PSIG)

PROOF PRESSURE: 5400 PSIG

CRACKING PRESSURE: 3600 PSID MAX AT 20 CC/MIN

FLOW: RELIEF: 3600 PSID MAX AT 0.24 GPM MIN AND 100±20°F

MANUAL DEPRESS: 3000 PSID MAX AT 0.17 GPM MIN AND 100±20°F

POPPET FAILURE: 3.0 GPM MAX AT 3000 PSID AND 100±20°F

RESEAT PRESSURE: 3200 PSID MAX AT 20 CC/MIN

INTERNAL LEAKAGE: 1 DPM MAX AT 3000 PSID

ZERO LEAKAGE AT 2000 PSID

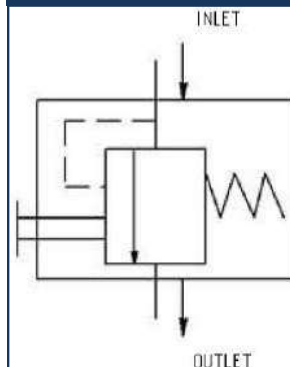
MAX TORQUE OF MANUAL DEPRESSURIZATION VALVE: 1.0—10 IN-LBS

MAX OVERRIDE KNOB ROTATION: 210°

WEIGHT: 0.17 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



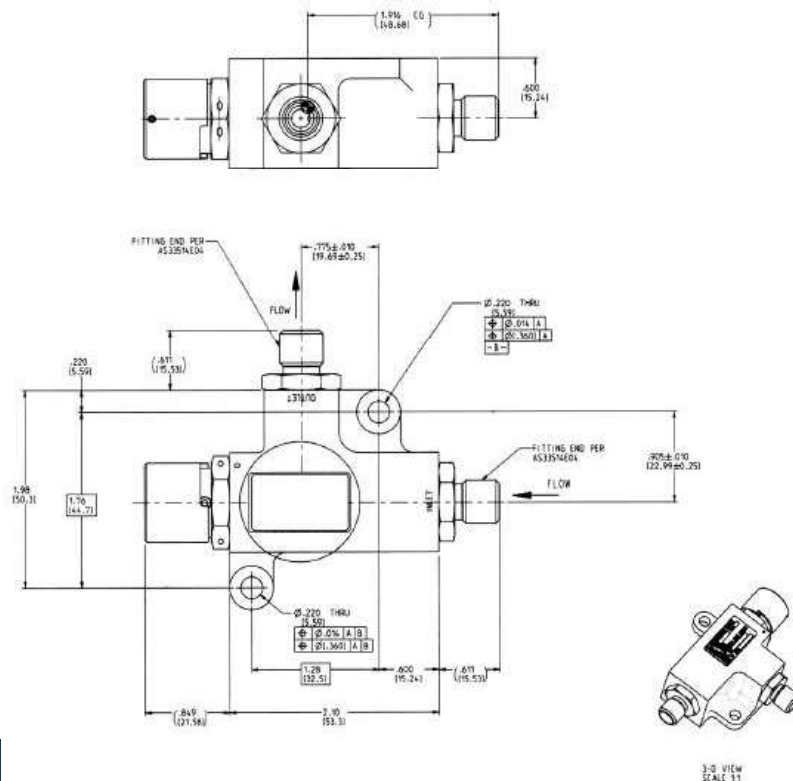
CATEGORY 6: MANUAL OPERATED VALVES - MANUAL DUMP WITH THERMAL RELIEF VALVES



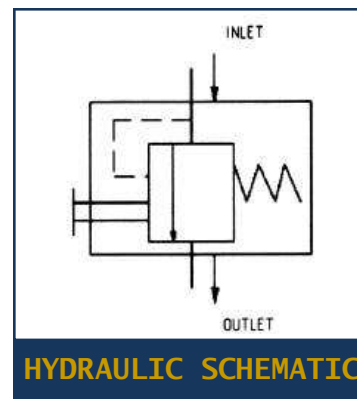
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 6: MANUAL OPERATED VALVES - MANUAL DUMP WITH THERMAL RELIEF VALVES

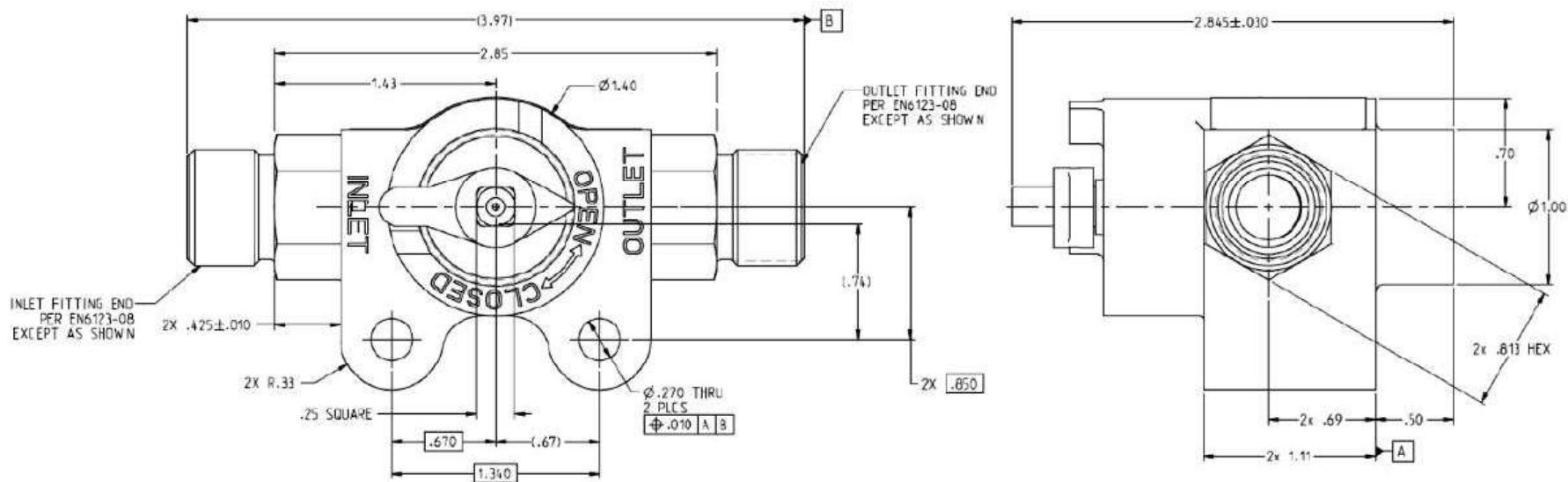


FLUIDS: SKYDROL*
 MATERIAL: HOUSING 7075-T73 AL
 TEMPERATURE RANGE: -65°F TO 225°F
 OPERATING PRESSURE: 3000 PSIG
 TRANSIENT PRESSURE (DURING NORMAL OPERATION: 3750 PSIG
 PROOF PRESSURE: 4500 PSIG
 CRACKING PRESSURE: 3600 PSID MIN
 FLOW: RELIEF: 0.24 GPM MIN AT 3750 PSID
 MANUAL DUMP: 0.6 GPM MINIMUM AT 3000 PSID
 RESEAT PRESSURE: 3250 PSID MIN
 INTERNAL LEAKAGE: FOR INCREASING AND DECREASING PRESSURES, 0-3000 PSID
 AND 3000-0 PSID SHALL BE 0.05 CC/MIN MAX (1 DPM MAX)
 MAX TORQUE OF MANUAL DEPRESSURIZATION VALVE: 10 IN-LBS
 WEIGHT: 0.50 LBS MAX
 *OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE





PART NUMBER: 3P1052 ,RUDDER ISOLATION VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER TYPE IV AND V*

MATERIAL: HOUSING 6AL-4V TI

TEMPERATURE RANGE: -58°F TO 158°F

OPERATING PRESSURE: 5076 PSIG

PROOF PRESSURE: 7614 PSIG

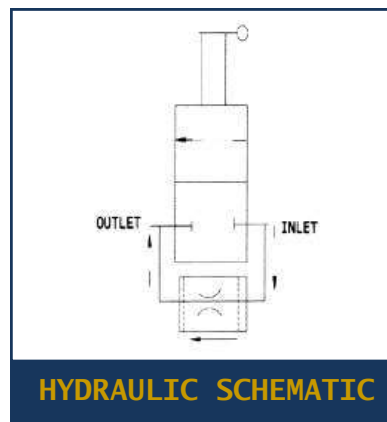
FLOW: 7.92 GPM AT 7.25 PSID MAX

INLET TO OUTLET CONTROLLED LEAKAGE: 50—100 CC/MIN AT 5004 PSID

OPERATING TORQUE (1/4 TURN TO OPEN OR CLOSE): 62 IN-LBS MAX AT 145 PSID

WEIGHT: 1.050 LBS MAX

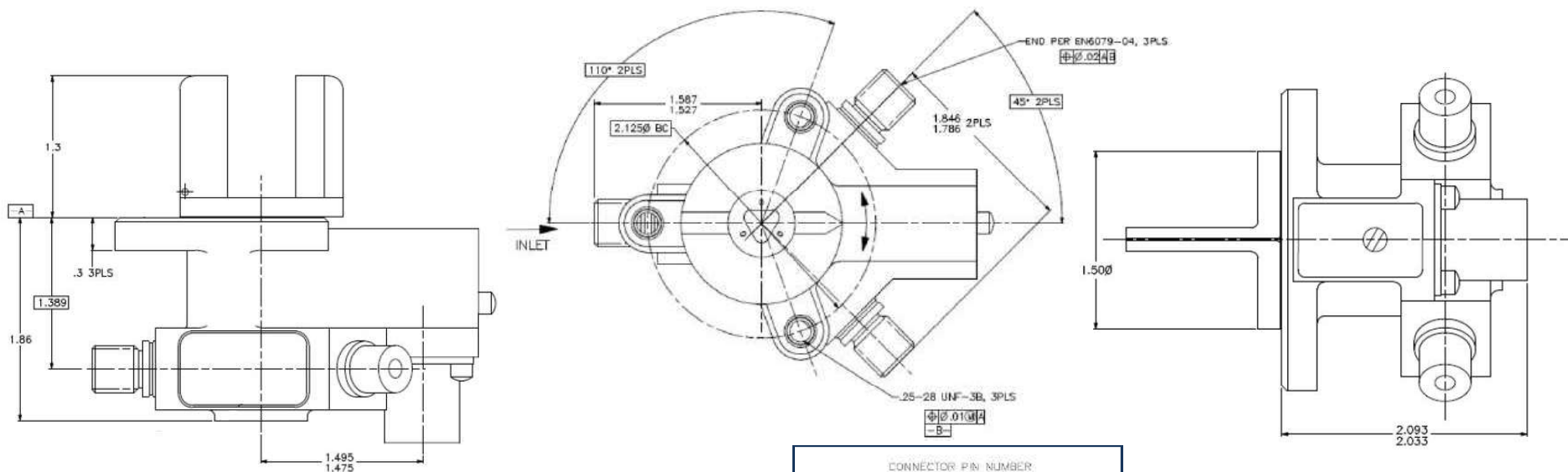
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 3P1050 ,FILL SELECTOR VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL*

MATERIAL: HOUSING 6061-T6

TEMPERATURE RANGE: -58°F TO 158°F

OPERATING PRESSURE: 1015 PSIG

PROOF PRESSURE: 1530 PSIG

FLOW: 1.58 GPM MINIMUM AT 22 PSID

LEAKAGE: 4 DPM MAX AT CLOSED PORTS WITH 290 PSIG AT INLET PORT

ELECTRICAL: ELECTRICAL CONNECTOR PER EN2997YE01006M7

DIELECTRIC STRENGTH: 0.5 MILLIAMPS MAX @ 500VAC

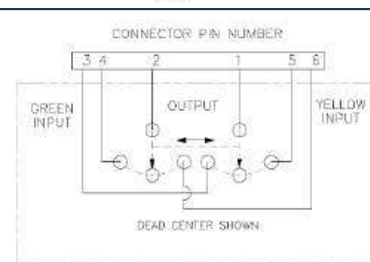
CURRENT: 1.0 AMPS MAX CARRY UP TO 125VAC

HANDLE TORQUE: OPERATING 10 IN-LBS MAX AT 100 PSID,

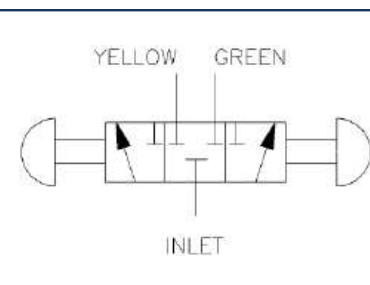
STOPS 110 IN-LBS MAX

WEIGHT: 0.71 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



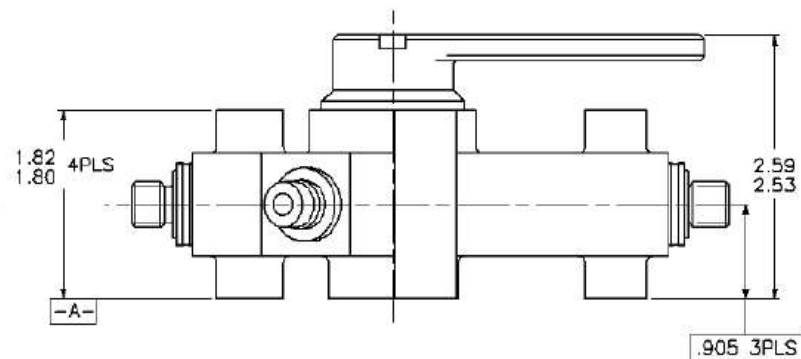
ELECTRICAL SCHEMATIC



HYDRAULIC SCHEMATIC



CATEGORY 6: MANUAL OPERATED VALVES

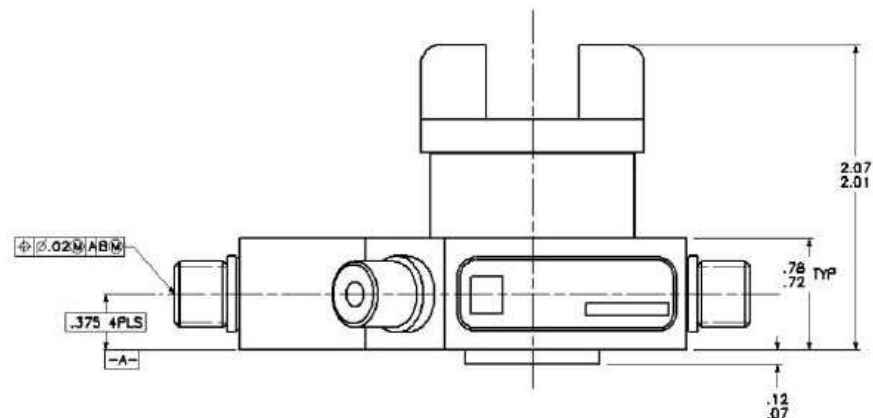
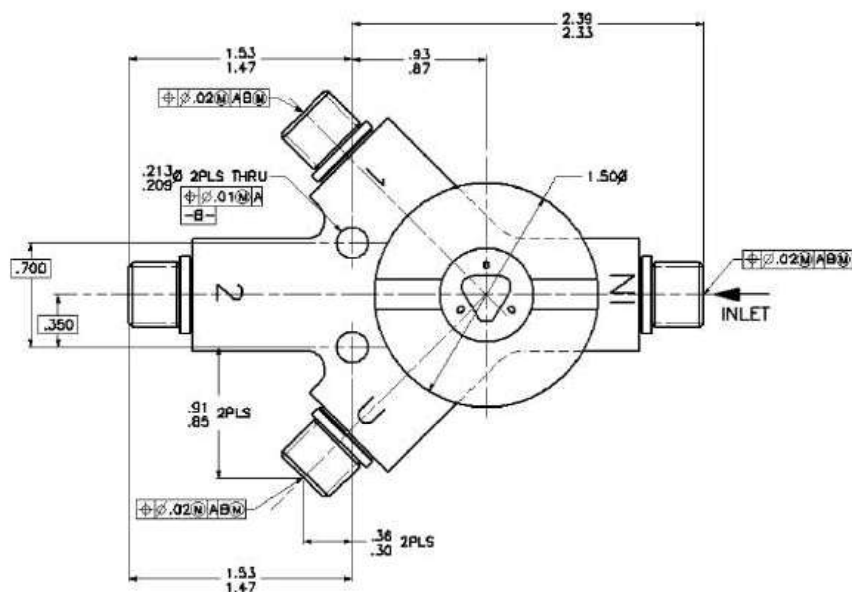


HYDRAULIC SCHEMATIC

CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 3P1056 ,SELECT VALVE, LOW PRESSURE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282*

MATERIAL: HOUSING 6061-T6

TEMPERATURE RANGE: -40°F TO 275°F

OPERATING PRESSURE: 300 PSIG

PROOF PRESSURE: 450 PSIG

FLOW: 1.5 GPM MINIMUM @ 30 PSID

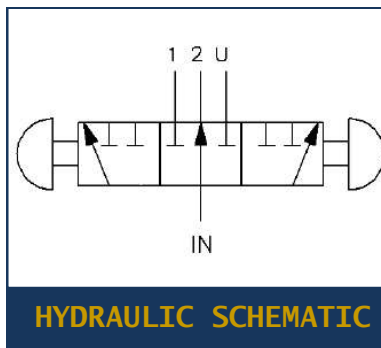
LEAKAGE: EXTERNAL: TO BE 1 DROP MAX IN 25 CYCLES AND ZERO DROPS IN 12 HOURS WITH 7.5 ± 2.5 PSIG APPLIED AT INLET PORT

INTERNAL: TO BE 10 CC/MIN MAX AT CLOSED PORTS WITH 300 PSIG AT INLET PORT

TORQUE: 20 IN-LBS MAX TO ANY PORT WITH 300 PSIG AT INLET
6 IN-LBS MINIMUM WITH ZERO PRESSURE ON ALL PORTS

WEIGHT: 0.44 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 6: MANUAL OPERATED VALVES



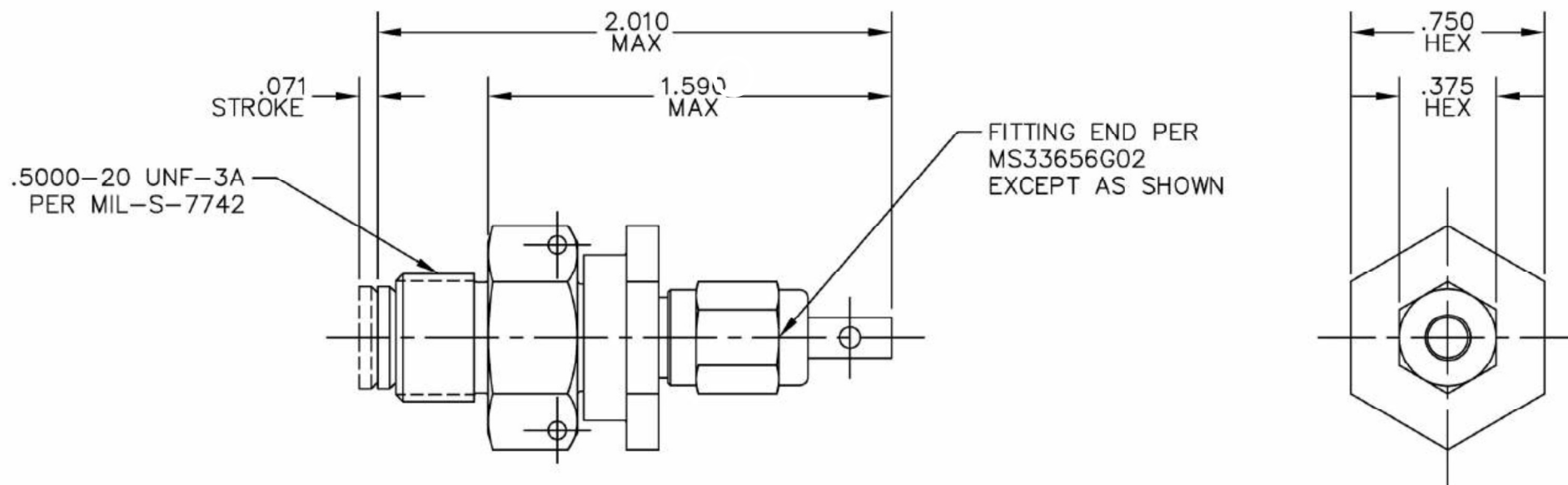
WEIGHT: 1.80 LBS MAX



CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5608, FILL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAZINE BLEND

MATERIAL: BODY 347 CRES

NUT 303SE CRES

TEMPERATURE RANGE: -65°F TO 250°F

OPERATING PRESSURE MINIMUM: -15 PSIG

OPERATING PRESSURE MAXIMUM: 400 PSIG

PROOF PRESSURE: 800 PSIG

FLOW: 5 LB/MIN H₂O AT 4 PSID MAX AT 70°F ± 20°F

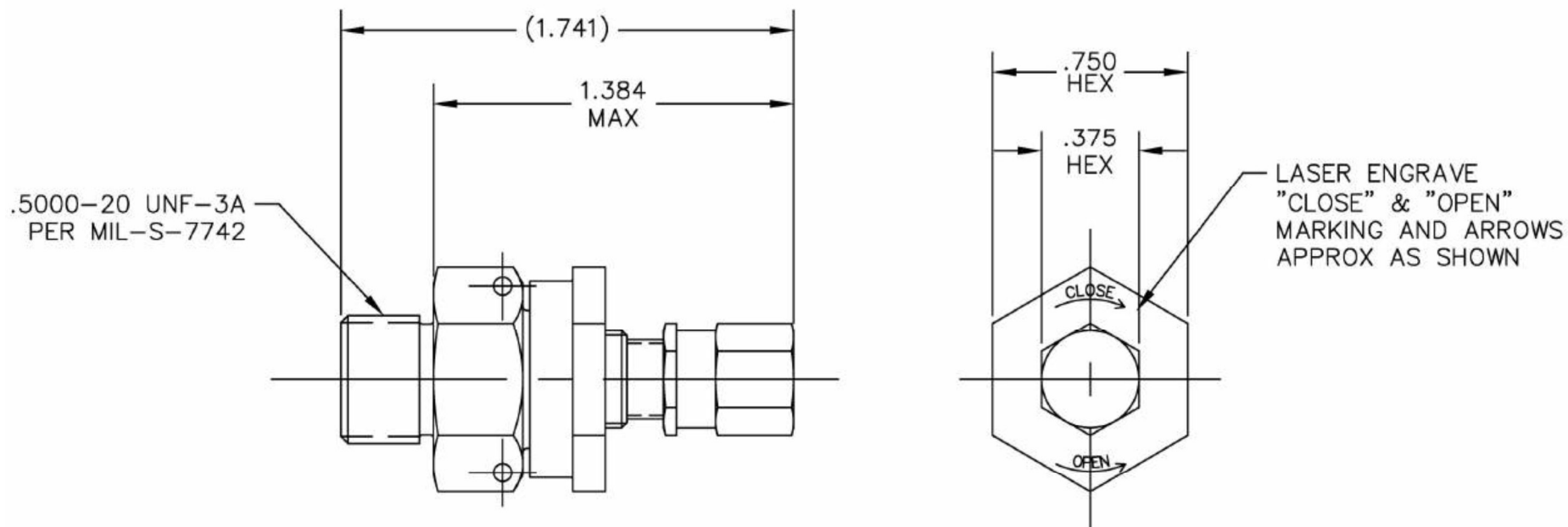
INTERNAL LEAKAGE: ZERO FROM CAP AT 40 IN—LBS WITH VALVE UNSEATED AND 400 PSIG

WEIGHT: 0.12 LBS MAX

CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5610, AIR, HIGH PRESSURE CHARGING VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR AND GN₂

MATERIAL: BODY 304 CRES

NUT 303SE CRES

TEMPERATURE RANGE: -65°F TO 250°F

OPERATING PRESSURE MINIMUM: 5000 PSIG

PROOF PRESSURE: 7500 PSIG

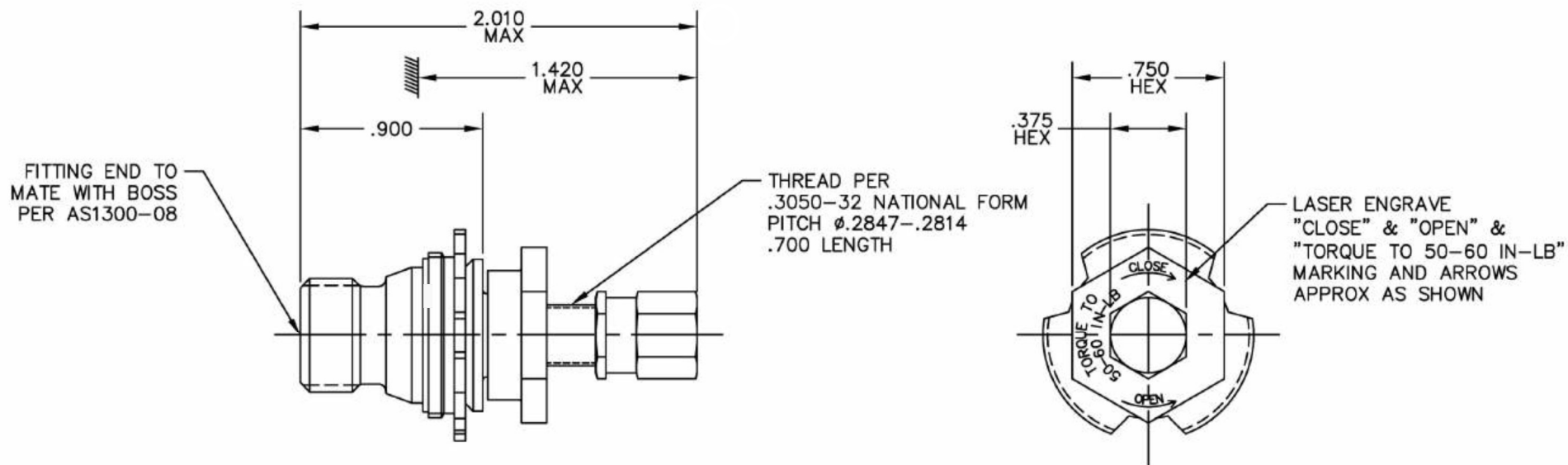
INTERNAL LEAKAGE: ZERO FROM CAP (TORQUED TO 40 IN—LBS)
WITH VALVE UNSEATED AT 5000 PSIG

WEIGHT: 0.12 LBS MAX

CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5184, CHARGING VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR AND NITROGEN

MATERIAL: BODY 17-4PH CRES

NUT 303SE CRES

TEMPERATURE RANGE: -65°F TO 250°F

OPERATING PRESSURE: 5400 PSIG

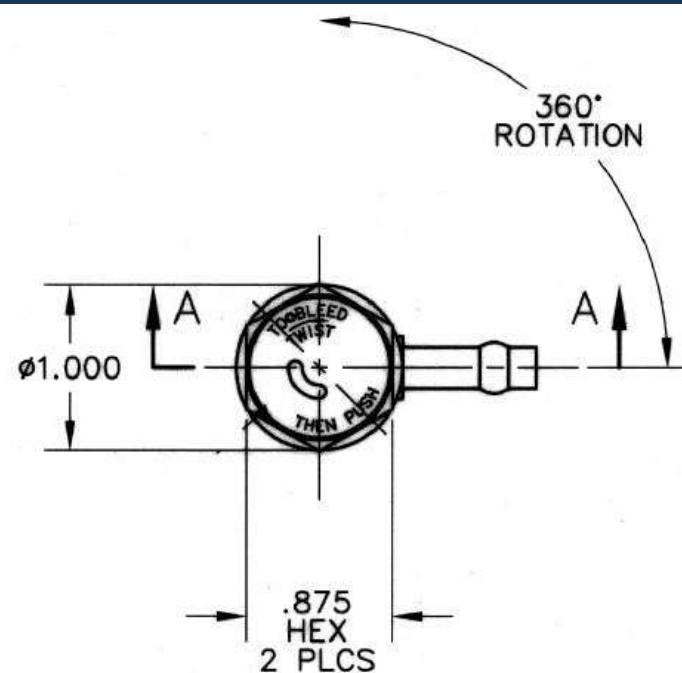
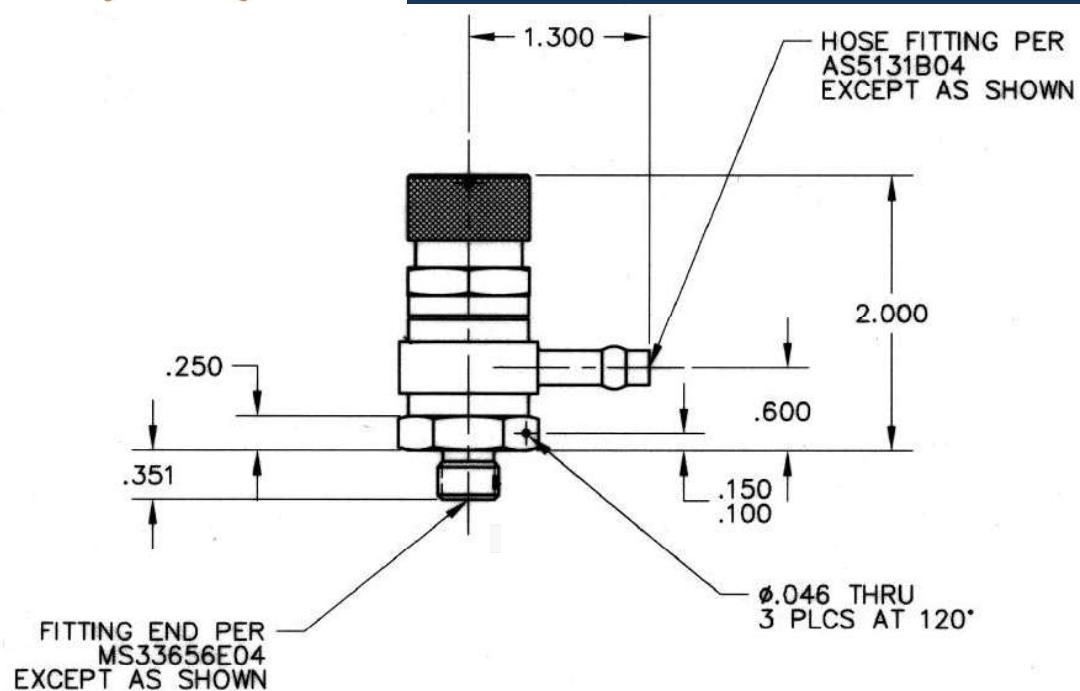
PROOF PRESSURE: 10800 PSIG

INTERNAL LEAKAGE: NONE FROM 0 TO 5400 PSID WITH NUT TORQUED
TO 55 ± 5 INCH/LBS

CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5352, RELIEF VALVE WITH MANUAL BLEED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-PRF-83282 AND MIL-PRF-87257*

MATERIAL: BODY 6061-T651 AL

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 45 PSIG

PROOF PRESSURE: 75 PSIG

RELIEF PRESSURE: 40 PSID MIN

RESEAT PRESSURE: 36 PSID MIN

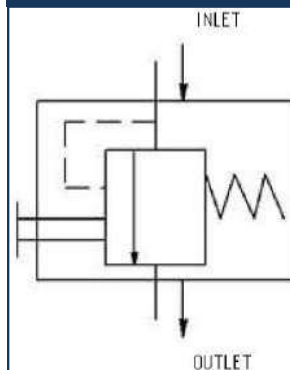
FLOW: 8.0 GPM AT 300 PSID MAX AT 77°F (RELIEF MODE)
1.8 GPM MIN AT 50 PSID MAX AT 77°F (BLEED MODE)

INTERNAL LEAKAGE: ZERO AT 0 TO CRACK ON INCREASING PRESSURE
ZERO AT RESEAT ON DECREASING PRESSURE

WEIGHT: 0.18 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

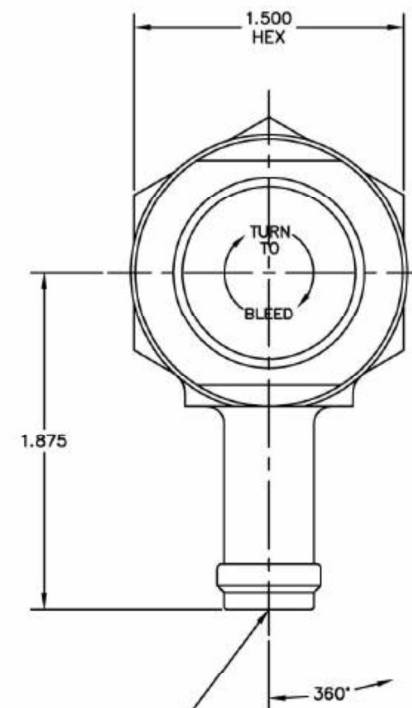
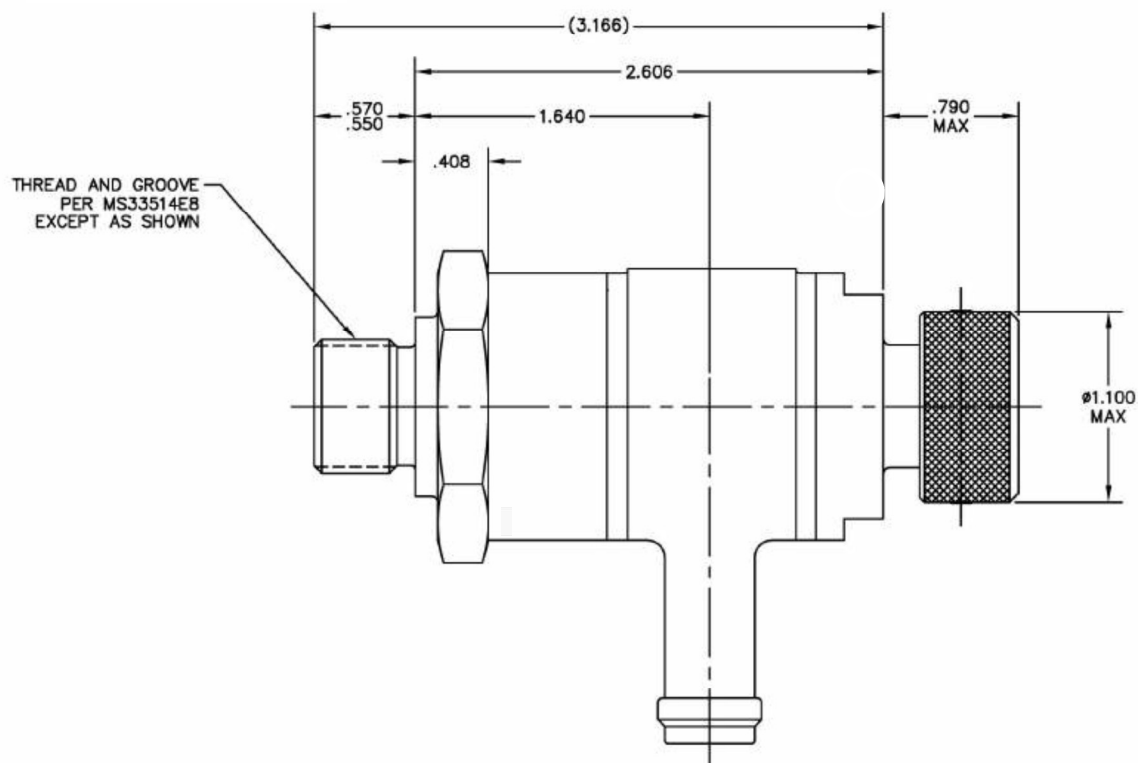
HYDRAULIC SCHEMATIC



CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5396, RELIEF VALVE WITH MANUAL BLEED



FITTING END PER
AS5132-08
EXCEPT AS SHOWN

PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-83282 AND MIL-PRF-87257*

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 150 PSIG

PROOF PRESSURE: 225 PSIG

RELIEF PRESSURE: 100 PSID REF

RESEAT PRESSURE: 80 PSID MIN

FLOW: FULL FLOW OF 7 GPM AT 125 PSID MAX (RELIEF MODE)

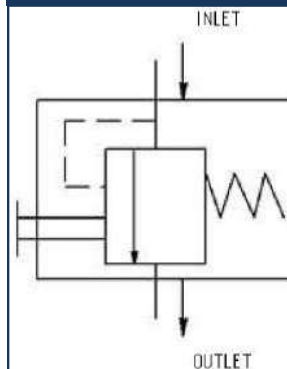
3 GPM AT 30 PSID MAX AT 24 LBS FORCE MAX (BLEED MODE)

INTERNAL LEAKAGE: ZERO AT 0 TO 55 PSID IN RELIEF DIRECTION

WEIGHT: 0.48 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



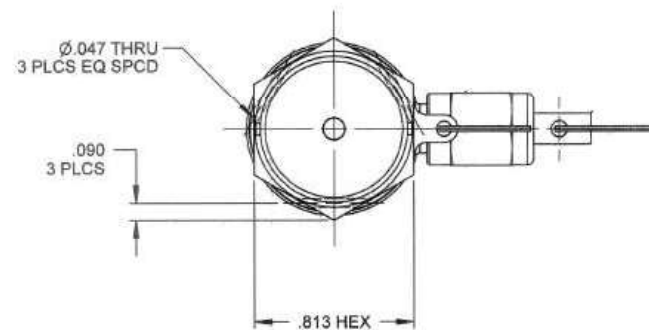
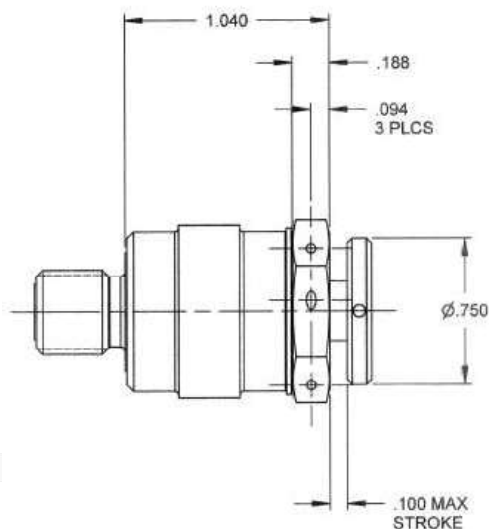
CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5612, BLEED VALVE



ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL*

MATERIAL: BODY 303 CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 1550 PSIG

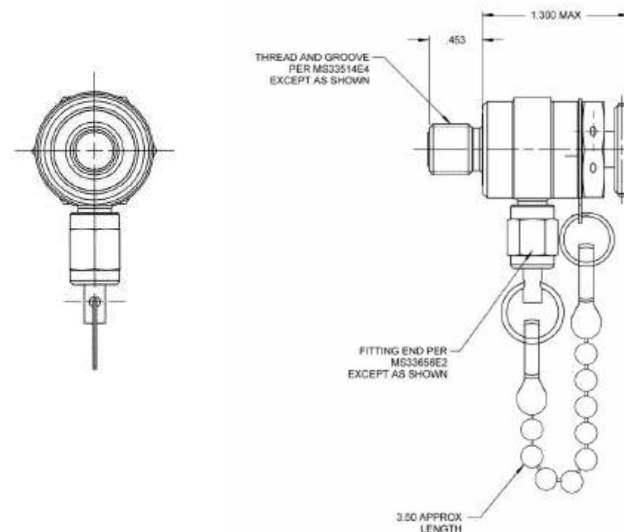
PROOF PRESSURE: 3100 PSIG

INTERNAL LEAKAGE: 1 DPM MAX AT 5 PSID
NONE AT 100 TO 1550 PSID

ACTUATION FORCE: 30 LBS MAX AT 500 PSI SYSTEM PRESSURE
94 LBS MAX AT 1550 PSI SYSTEM PRESSURE

WEIGHT: 0.19 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



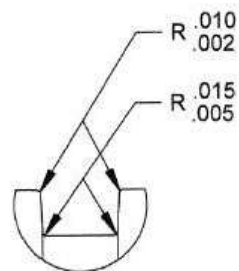
CATEGORY 6: MANUAL OPERATED VALVES



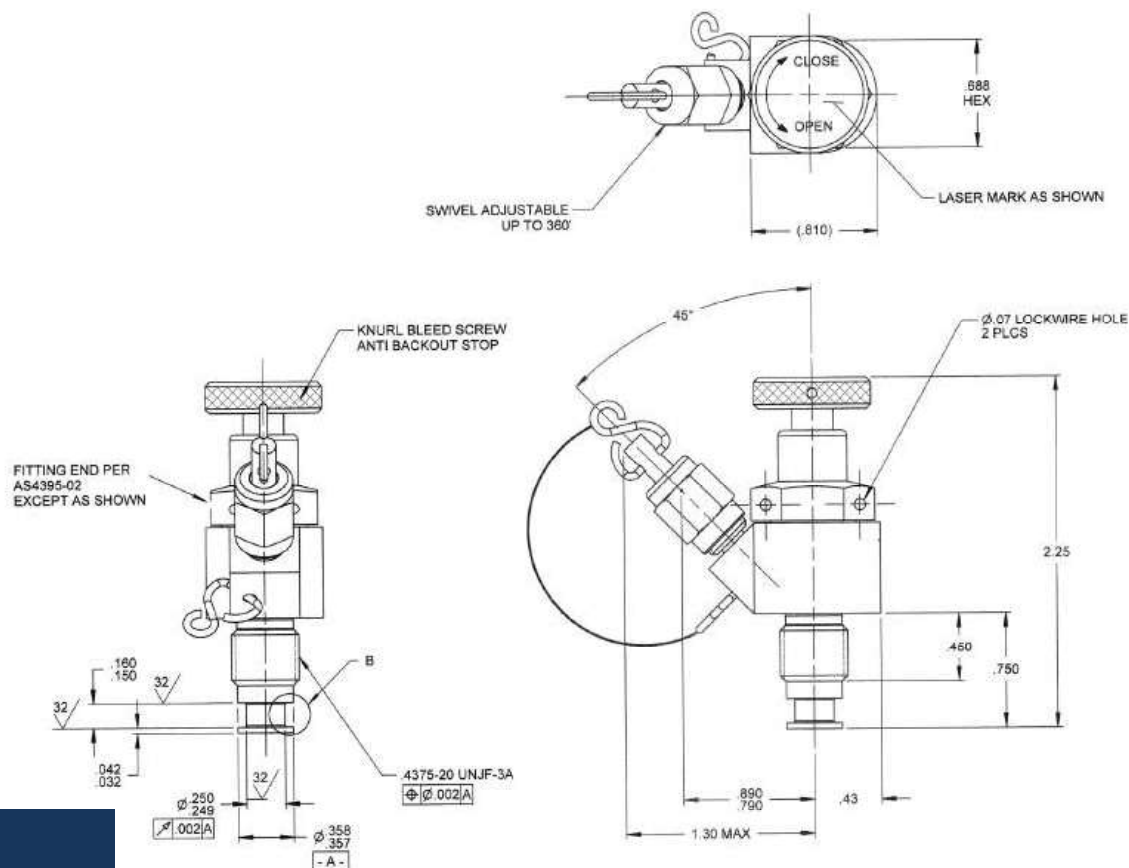
PART NUMBER: 2P5406, SAMPLING VALVE



ISOMETRIC VIEW
FOR REFERENCE ONLY



DETAIL B
SCALE: NONE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER BASE FLUID PER NSA 307110 TYPE IV OR V*

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -40°F TO 200°F

OPERATING PRESSURE: 5076 PSIG

PROOF PRESSURE: 7614 PSIG

FLOW: 200 CC/MIN AT 35 PSID MAX AT 68°F

INTERNAL LEAKAGE: NONE IN CLOSED POSITION FROM 0 TO 5076 PSID

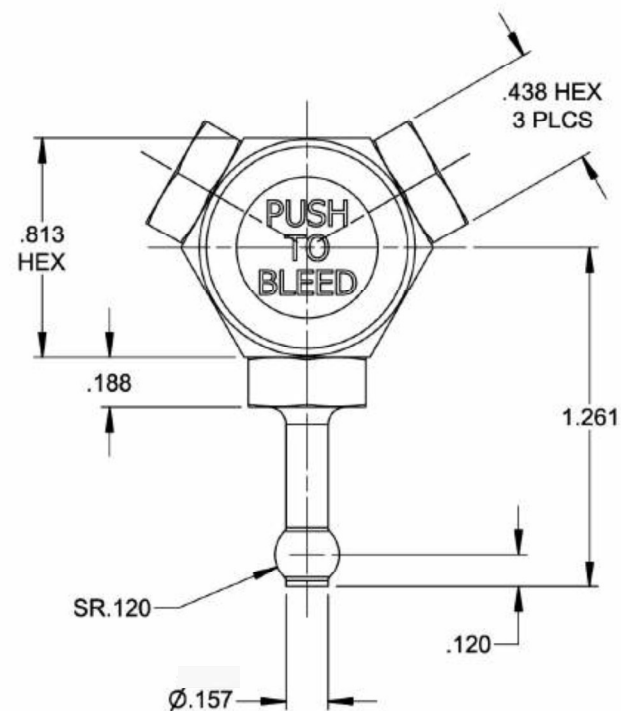
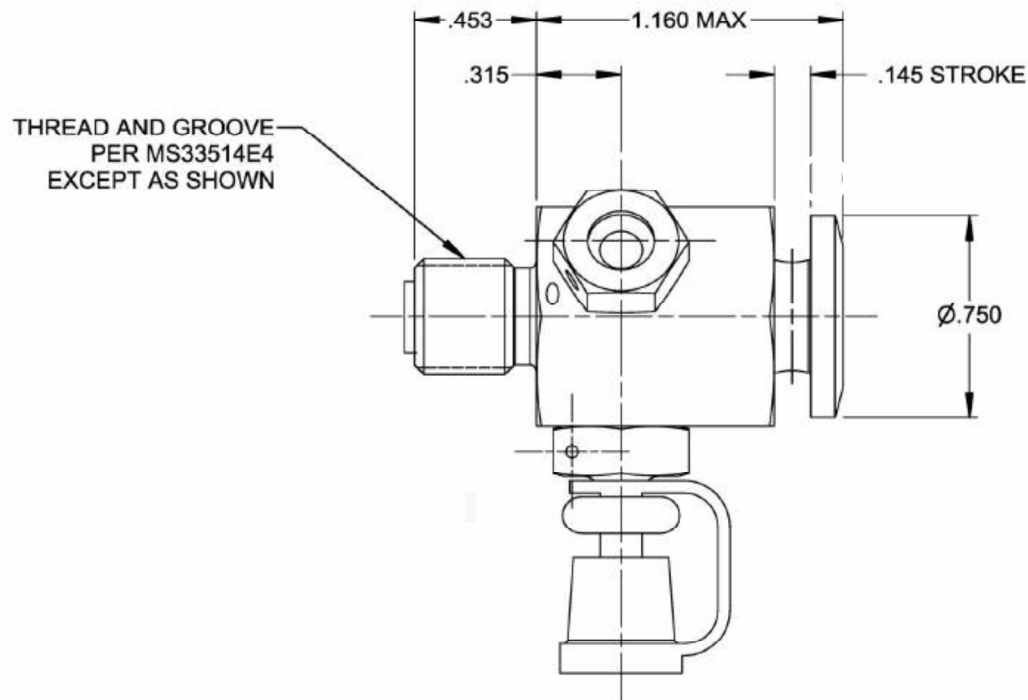
WEIGHT: 0.22 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5418, BLEED VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL*

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 1500 PSIG

PROOF PRESSURE: 2250 PSIG

INTERNAL LEAKAGE: NONE AT 5 TO 1500 PSID

WEIGHT: 0.079 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

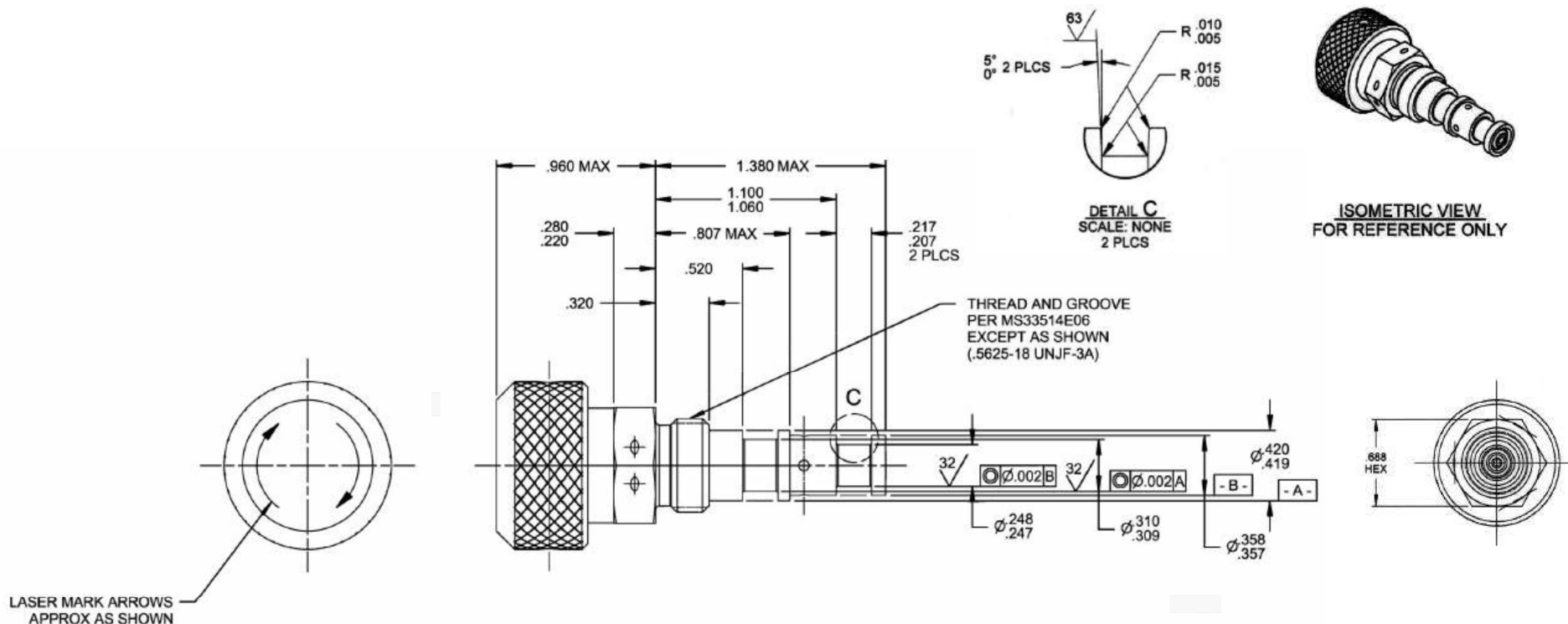


ISOMETRIC VIEW
FOR REFERENCE ONLY

CATEGORY 6: MANUAL OPERATED VALVES



PART NUMBER: 2P5472, ACCUMULATOR FILL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-83282*

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3100 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW: 0.6 IN³ IN 2 SECONDS

INTERNAL LEAKAGE: 1 DPH MAX AT 3100 PSIG

WEIGHT: 0.40 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CATEGORY 6: MANUAL OPERATED VALVES



*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

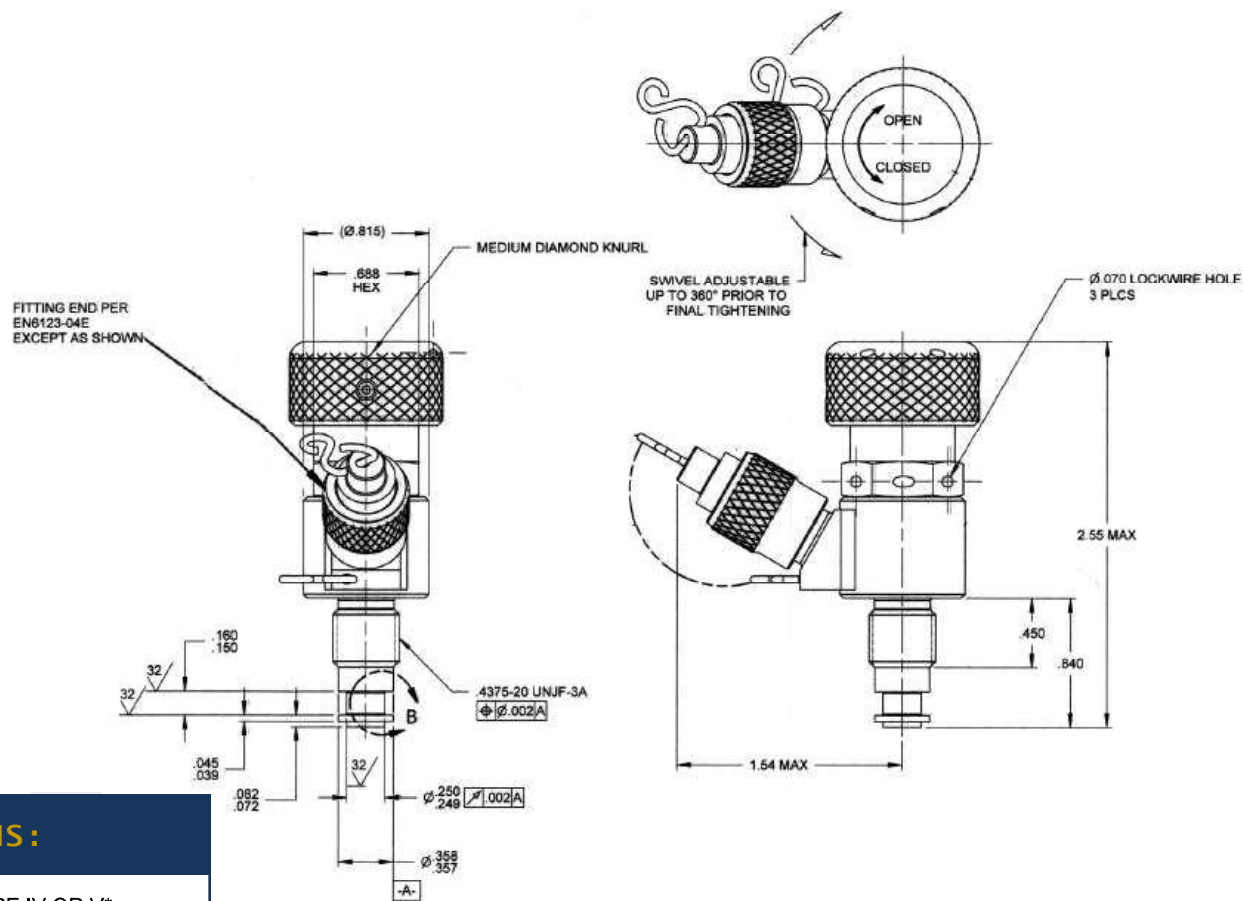




PART NUMBER: 2P5616, SAMPLING VALVE



ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER BASE FLUID PER NSA 307110 TYPE IV OR V*

MATERIAL: BODY 15-5PH CRES

POPPET VESPEL SP-1

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 5076 PSIG

PROOF PRESSURE: 7614 PSIG

FLOW: 150 TO 400 CC/MIN AT 5076 PSID MAX AT 68°F

INTERNAL LEAKAGE: NONE IN CLOSED POSITION FROM 0 TO 5076 PSID

WEIGHT: 0.31 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CATEGORY 6: MANUAL OPERATED VALVES



CRISSAIR HAS VARIOUS OTHER MANUAL/ROTARY SHUTOFF VALVES NOT LISTED IN THE CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT

(661) 367-3300 OR SALES@CRISSAIR.COM.

YOU CAN ALSO VISIT WWW.CRISSAIR.COM.