

OTHER AEROSPACE VALVES

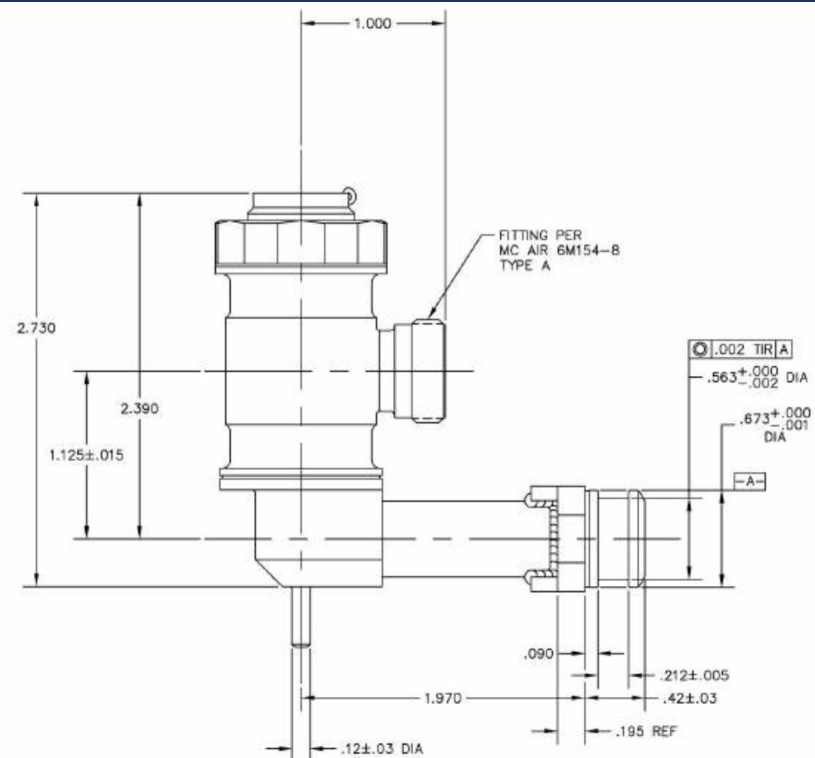
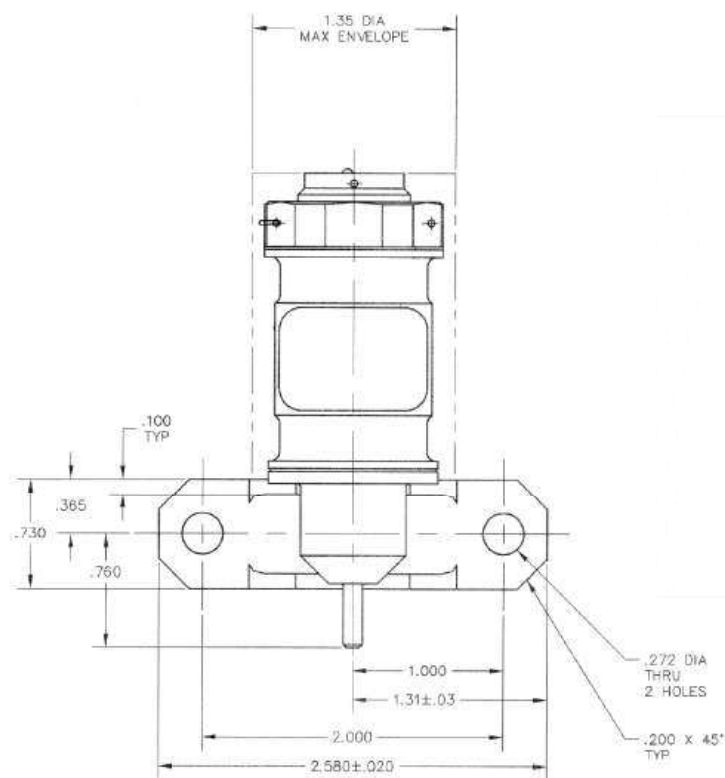
In addition to the standard valves previously listed in this catalog, Crissair Inc. designs and manufactures various other components, valves, and assemblies that fall outside of the previous categories.

- Swivel Joints
- Attenuators
- Flow Controls
- Thermal Controls
- Pressure Regulators
- Priority Valves
- Flow Dividers
- Float Valves





PART NUMBER: 2E2292-3, SWIVEL JOINT, HYDRAULIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC OIL PER MIL-H-83282*

MATERIAL: BODY 17-4PH CRES

TEMPERATURE RANGE: -40°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 6000 PSIG

PRESSURE DROP: 35 PSID MAX AT 15 GPM AND 100°F AT ANY SWIVEL POSITION

SWIVEL TORQUE: 45 IN/LBS MAX AT 3000 PSIG WITH ECCENTRIC LOAD OF

4.0 ± 0.4 LBS AT 1.70 ± 0.05 FROM C OF SHAFT

LEAKAGE: EXTERNAL AT STATIC SEALS OR BOSSES—NONE

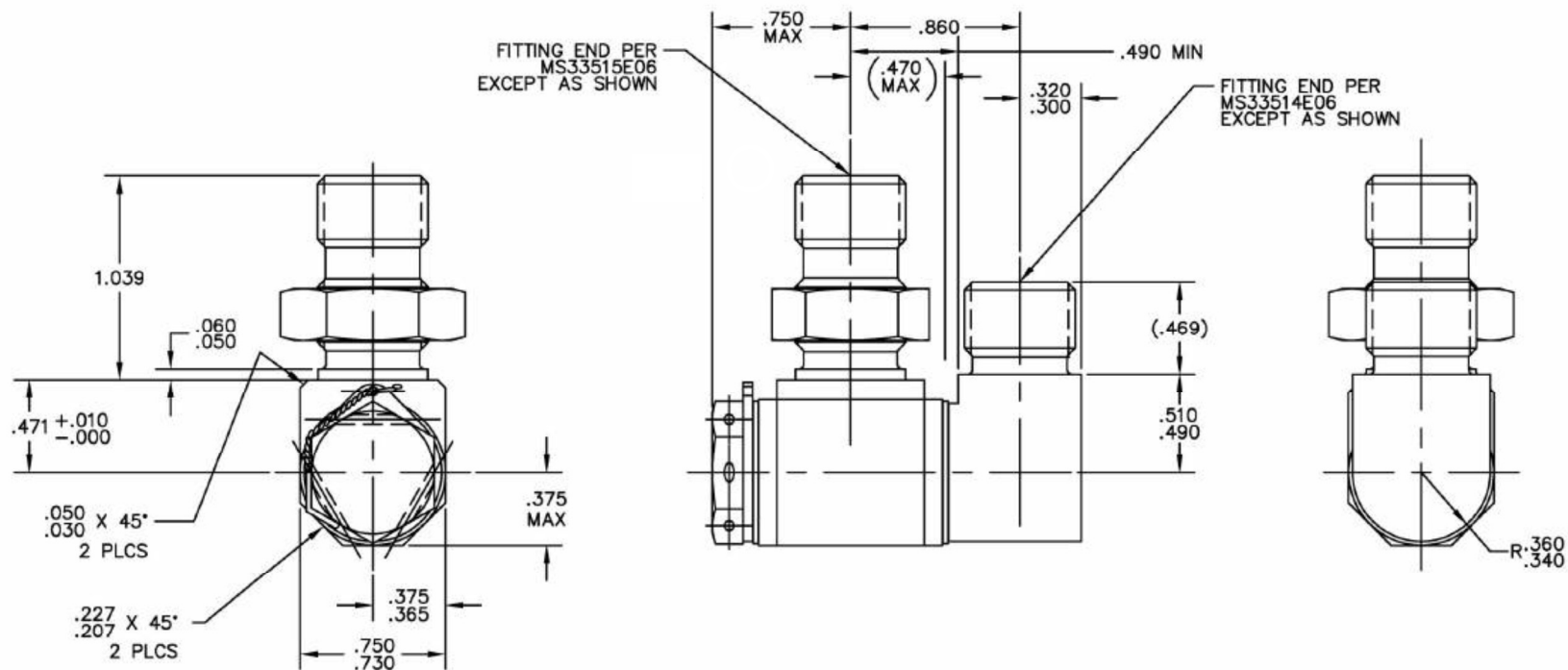
EXTERNAL AT DYNAMIC SEALS—ONE DROP MAX PER 100 REV

WEIGHT: 0.60 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



PART NUMBER: 2E2294 , SWIVEL JOINT, SIZE 6



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER BMS 311 (SKYDROL)*

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 6000 PSIG

FLOW: 3.5 GPM AT 20 PSID MAX AT 70°F TO 110°F FLUID TEMPERATURE

LEAKAGE: EXTERNAL: 1 DROP MAX PER 100 REVOLUTIONS

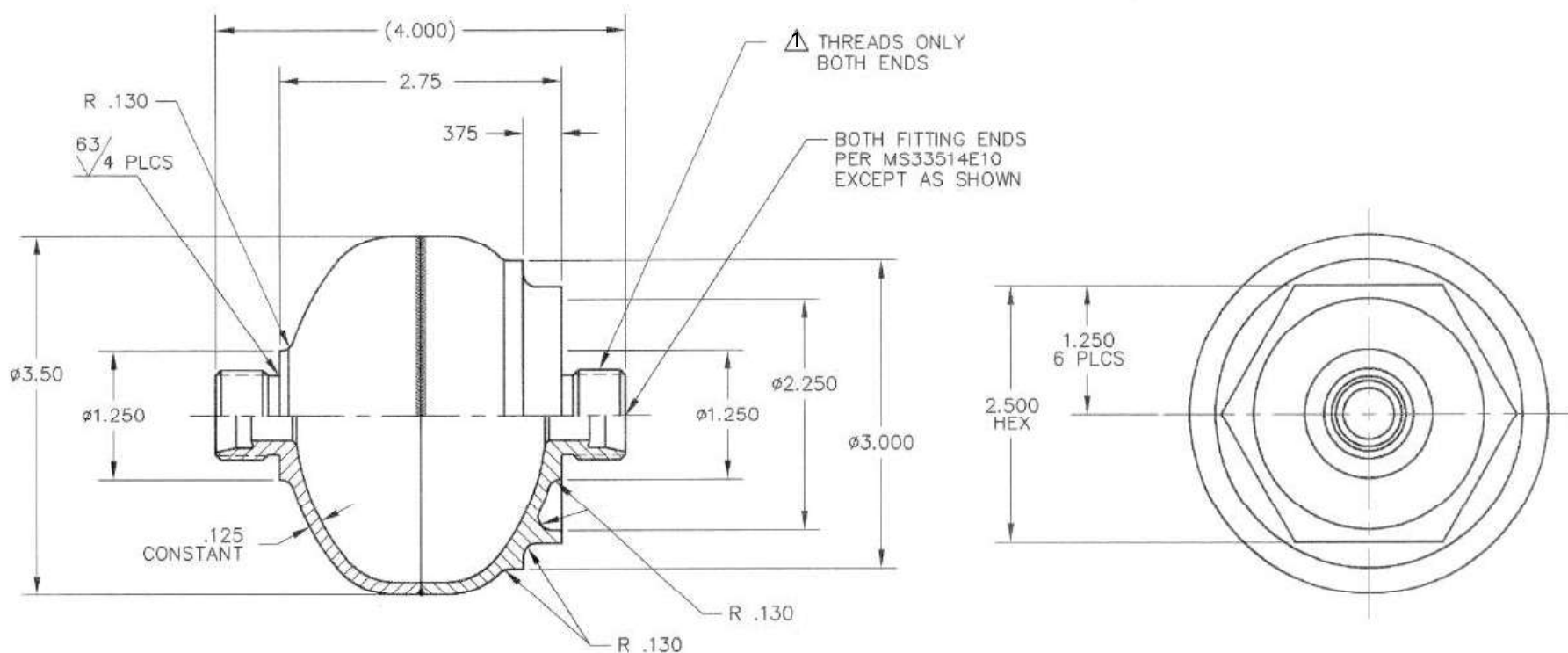
INTERNAL: NOT APPLICABLE

WEIGHT: 0.41 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



PART NUMBER: 3A1158 , ATTENUATOR, HYDRAULIC PUMP



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

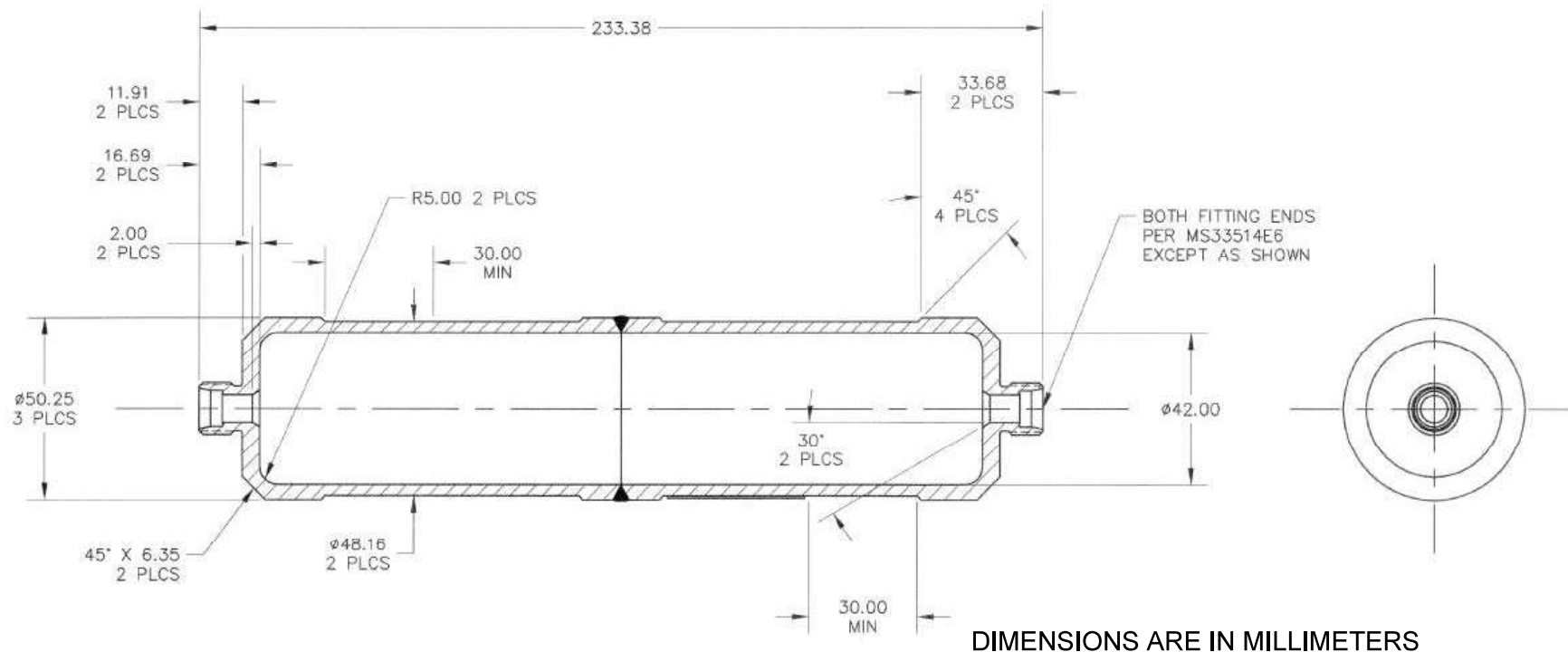
PROOF PRESSURE: 4500 PSIG

1 DRY FILM LUBE ON THREADS ONLY

CATEGORY 10 OTHER AEROSPACE VALVES: ATTENUATORS



PART NUMBER: 3A1160 , PULSATION DAMPER



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -40°F TO 212°F

OPERATING PRESSURE: 3000 PSIG

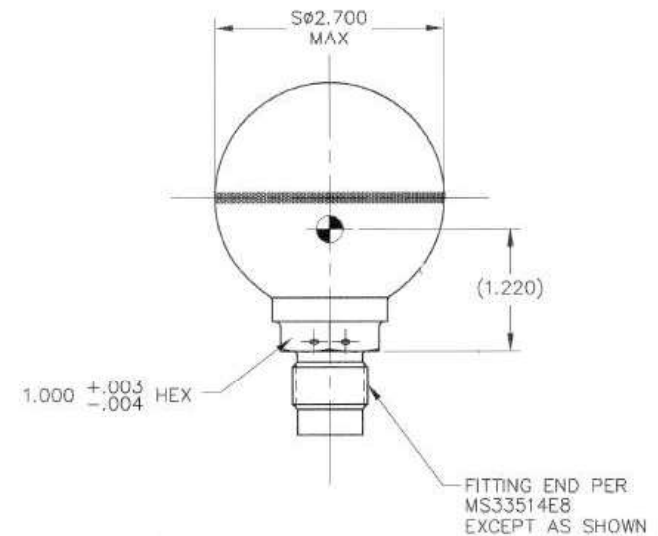
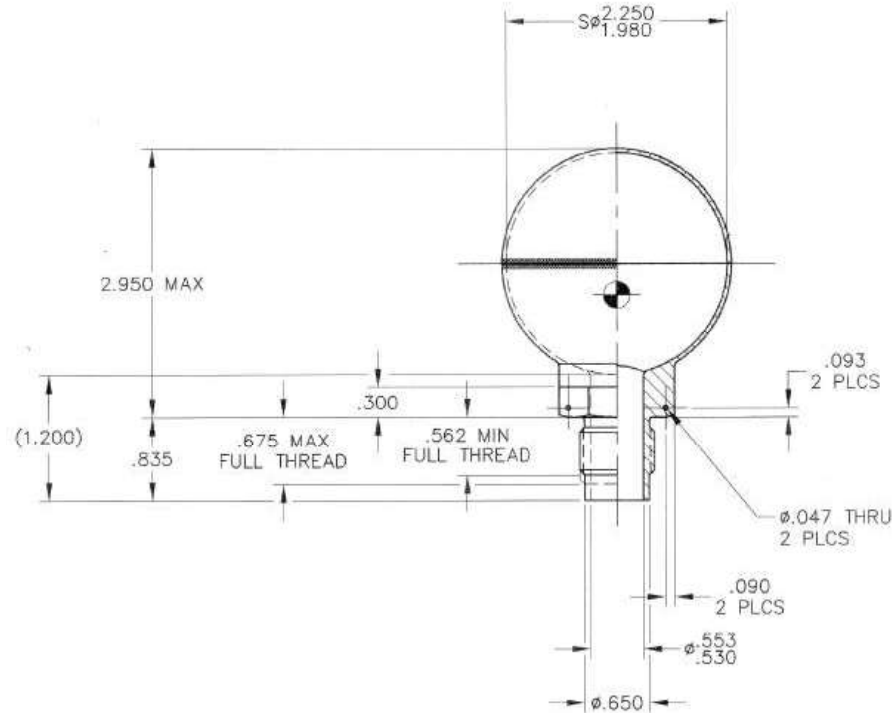
PROOF PRESSURE: 4500 PSIG

WEIGHT: 1.94 LBS MAX

CATEGORY 10 OTHER AEROSPACE VALVES: ATTENUATORS



PART NUMBER: 3A1162 , ATTENUATOR BALL



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 72 PSIG

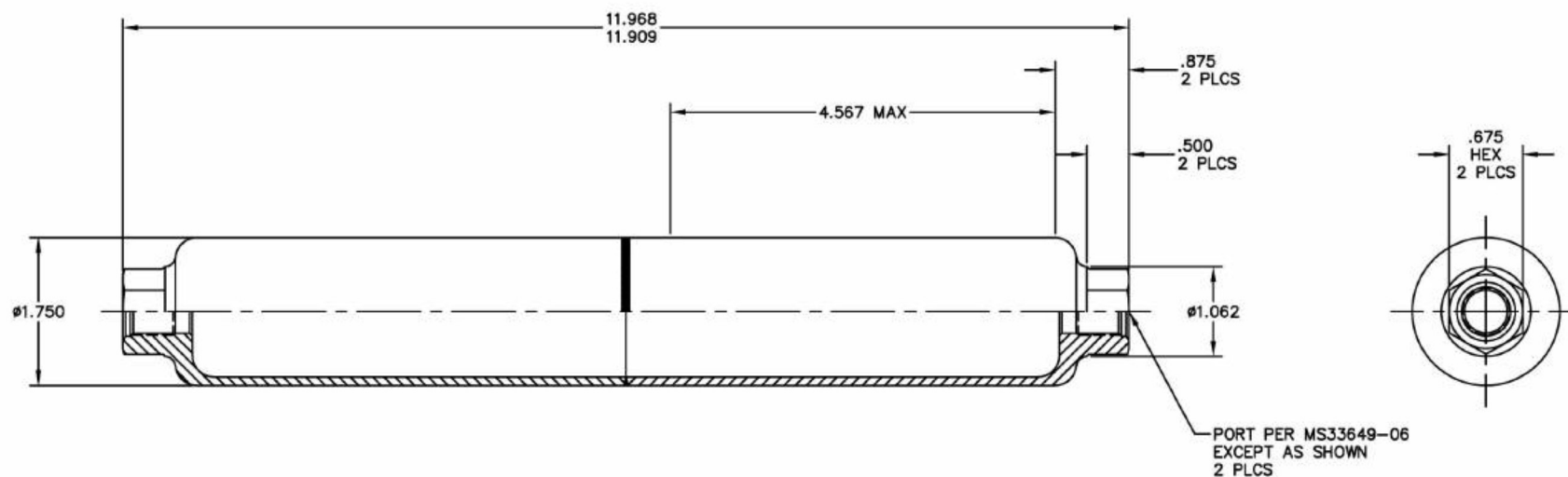
PROOF PRESSURE: 150 PSIG

WEIGHT: 0.38 LBS MAX

CATEGORY 10 OTHER AEROSPACE VALVES: ATTENUATORS



PART NUMBER: 3A1164 , ATTENUATOR



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

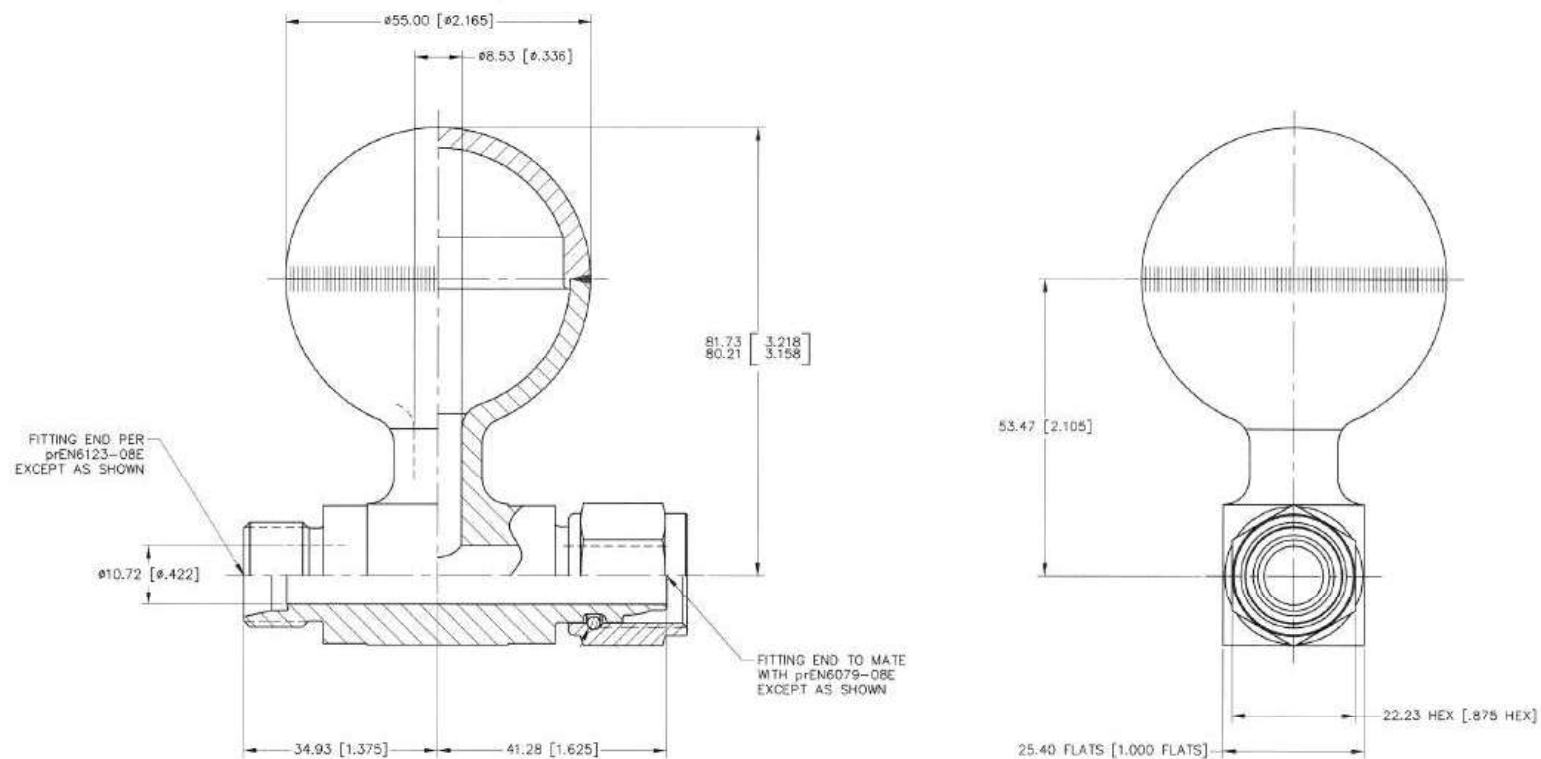
FLOW: 6.1 GPM AT 75 PSID MAX PRESSURE DROP WITH 3000 PSI AT 100°F

FIRE RESISTANCE: WITHSTAND A 2000°F FLAME FOR 5 MINUTES

WEIGHT: 2.02 LBS MAX



PART NUMBER: 3A1046-X, RIPPLE DAMPER



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

SWIVEL NUT 17-4PH CRES

TEMPERATURE RANGE: NORMAL: -40°F TO 201°F

EXTREME: -65°F TO 230°F

STORAGE: -67°F TO 185°F

SURVIVAL: -76°F TO 248°F

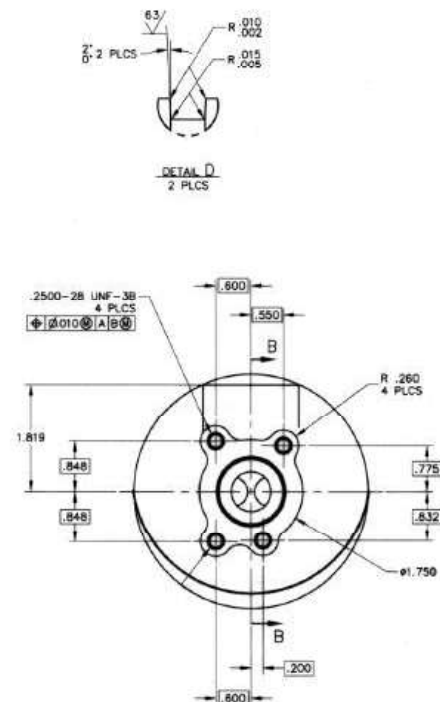
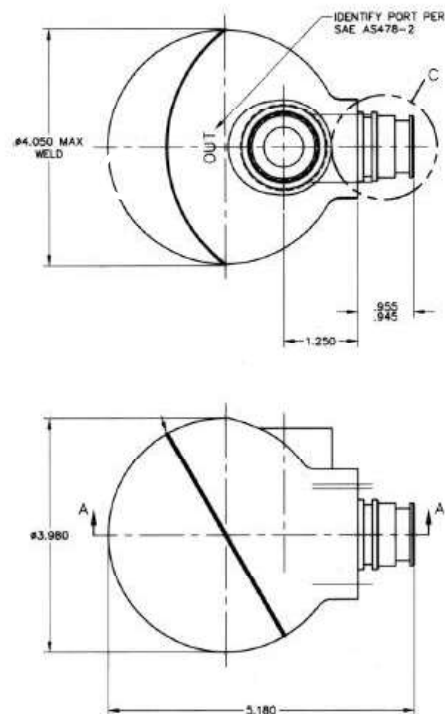
OPERATING PRESSURE: 5000 PSIG

PROOF PRESSURE: 7500 PSIG

FLOW: 13 GPM AT 19.4 PSID MAX

WEIGHT: 1.16 LBS MAX

CATEGORY 10 OTHER AEROSPACE VALVES: ATTENUATORS

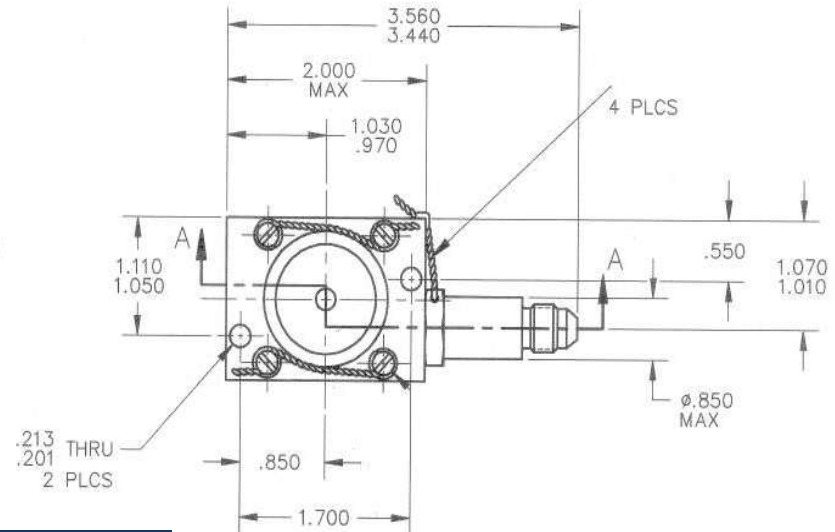
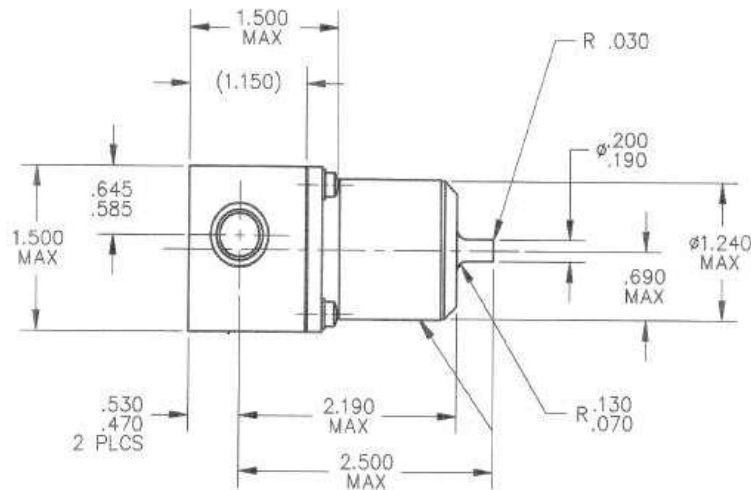


FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 6AL-4V TI
TEMPERATURE RANGE: -65°F TO 300°F
OPERATING PRESSURE: 5050 PSIG
PROOF PRESSURE: 7620 PSIG
WEIGHT: 1.97 LBS MAX

CATEGORY 10 OTHER AEROSPACE VALVES: ATTENUATORS



PART NUMBER: 3R2380 , PRESSURE REGULATOR AND INTEGRAL RELIEF ASSY



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR (OPERATING); WATER, CORVIS OIL (NON-OPERATING)

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: AMBIENT: -80°F TO 185°F (STORAGE)

-65°F TO 250°F (OPERATING)

FLUID: 100°F TO 450°F AND 120 PSIG (AIR)

ROOM TEMPERATURE AND 125 PSIG MAX (WATER)

350°F AND 25 PSIG MAX (CORVIS OIL)

PRESSURES:	INLET	OUTLET	VENT
OPERATING:	20-105 PSIG (ACT)	20±2 PSIG (PRESET)	25 PSIG MAX
	120 PSIG MAX		
PROOF:	250 PSIG	50 PSIG	50 PSIG

FLOW: 0.7 SCFM MIN AT 25±1 PSIG INLET PRESSURE, AND 20±2 PSIG OUTLET PRESSURE (AT SEA LEVEL)

LEAKAGE: REGULATING FUNCTION: 1.5 SCIM

INTERNAL RELIEF FUNCTION: 1.5 SCIM

REVERSE FLOW FUNCTION: BUBBLE TIGHT

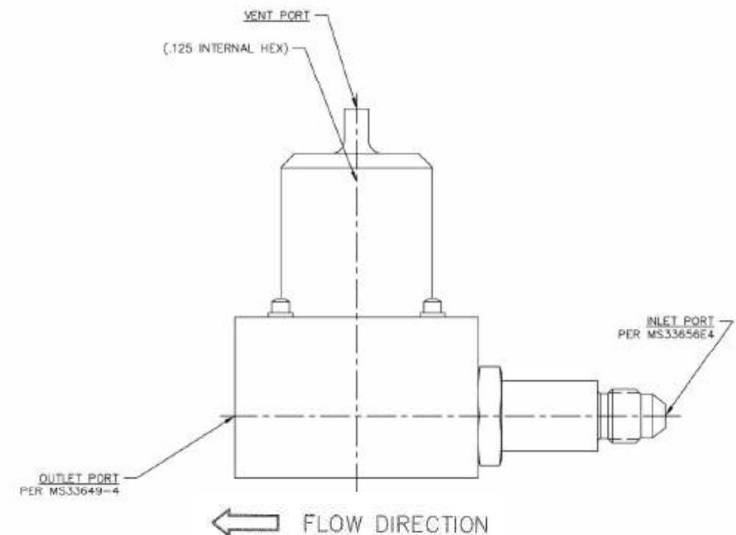
INTERNAL RELIEF FUNCTION: OUTLET PRESSURE RELIEF FUNCTION SHALL REMAIN CLOSED

AT 22 PSIG MIN AND BEGIN VENTING AT 25 PSIG MAX.

OUTLET PRESSURE EXCEEDING 25 PSIG SHALL BE EXHAUSTED

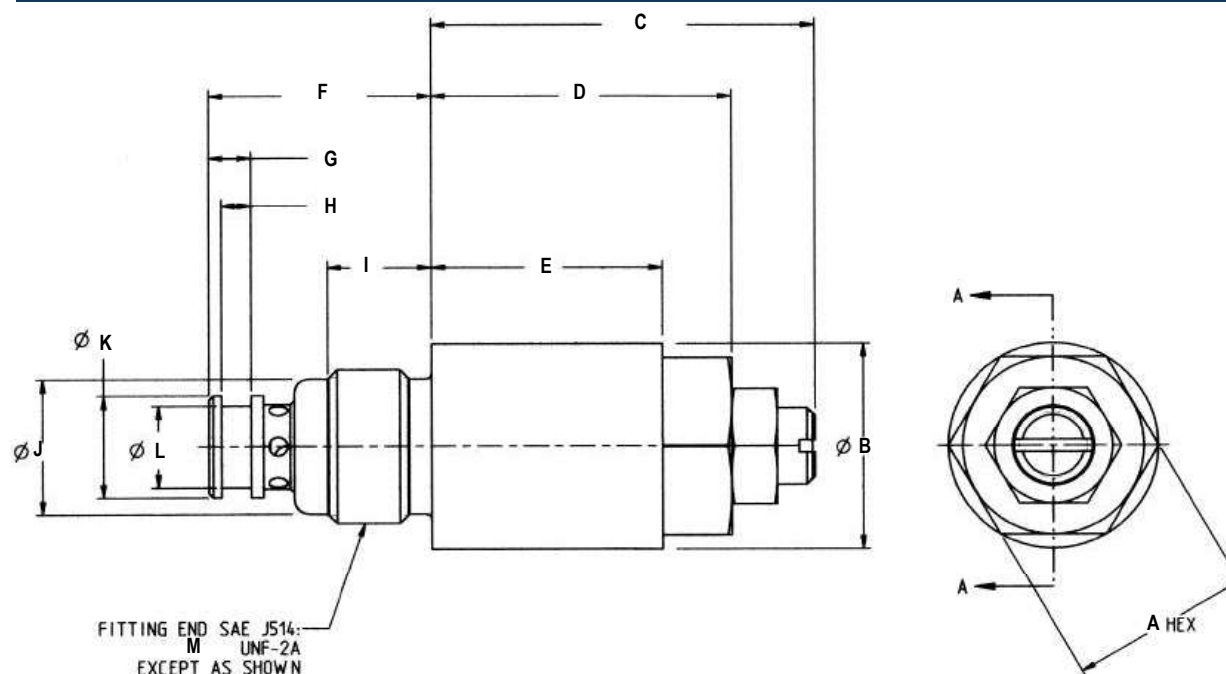
AT A FLOWRATE OF 1.0 SCFM MIN THROUGH THE VENT.

WEIGHT: 1.0 LBS MAX





PRESSURE COMPENSATED FLOW CONTROLS, HIGH PRESSURE, ADJUSTABLE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282*

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW RANGE: (SEE TABLE)

PART NUMBER	FLOW RANGE (GPM)	FLOW POINT TOLERANCE (FROM SET POINT)	PRESSURE RANGE (PSID)
35370-X	0.30-0.36	+/-0.023 GPM	200-3000
35360-X	0.44-0.59	+/-0.04 GPM	200-3000
35350-X	0.97-1.21	+/-0.11 GPM	200-3000
35340-X	1.22-2.09	+/-0.13 GPM	350-3000
35330-X	2.93-3.58	+/-0.23 GPM	200-3000
35320-X	5.44-6.64	+/-0.48 GPM	500-3000
35310-X	8.05-9.83	+/-0.72 GPM	500-3000

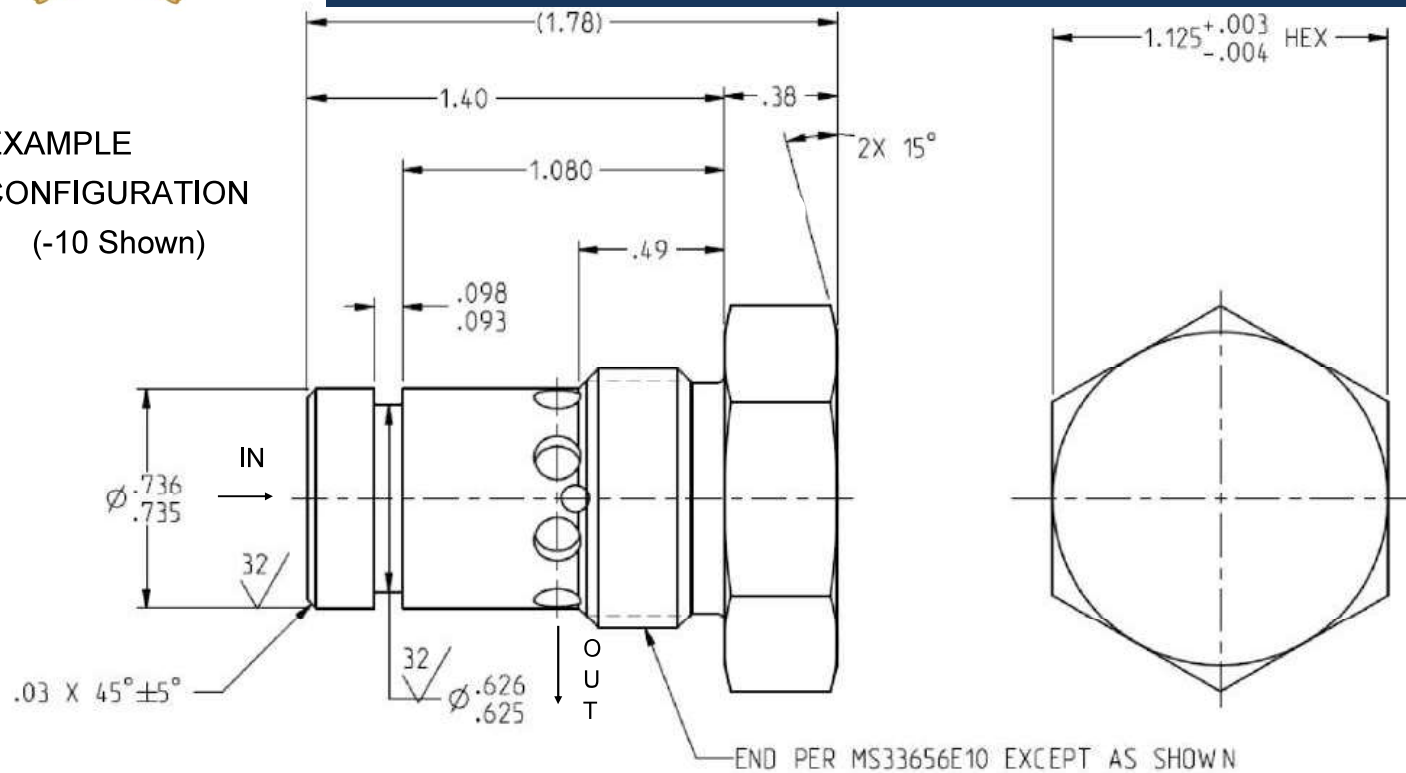
Part No.	A	B	C	D	E	F	G	H	I	J	K	L	M
3F1108	.87	1.00	1.81	1.43	1.10	1.06 ±.02	.200	.143 .138	.50	.660	.498 .497	.400 .398	3/4 - 16
3F1106	.87	1.00	1.81	1.43	1.10	1.06 ±.02	.200	.143 .138	.50	.660	.498 .497	.400 .398	3/4 - 16
3F1104	.87	1.00	1.96	1.43	1.10	1.06 ±.02	.200	.143 .138	.50	.660	.498 .497	.400 .398	3/4 - 16
3F1102	.87	1.00	1.96	1.43	1.10	1.06 ±.02	.200	.143 .138	.50	.660	.498 .497	.400 .398	3/4 - 16
3F1100	.87	1.00	1.96	1.43	1.10	1.06 ±.02	.200	.143 .138	.50	.660	.498 .497	.400 .398	3/4 - 16
3F1098	1.00	1.15	2.26	—	—	1.26	.185	.144 .139	.50	.770	.623 .622	.525 .523	7/8 - 14
3F1096	1.00	1.15	2.26	—	—	1.26	.185	.144 .139	.50	.770	.623 .622	.525 .523	7/8 - 14

CATEGORY 10 OTHER AEROSPACE VALVES: FLOW CONTROL VALVES (FLOW REGULATORS)



LDP (LOW DELTA P) PRESSURE COMPENSATED FLOW CONTROL VALVES

EXAMPLE
CONFIGURATION
(-10 Shown)



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC OIL, LUBRICATION OIL, PAO, ETHYLENE GLYCOL & OTHER (CONTAINS NO ELASTOMERS)

TEMPERATURE RANGE: -65°F TO 400°F

FLOW RANGE: (SEE TABLE) FLOW REGULATED WITHIN ITS PERCENTAGE OF DESIRED SET POINT.

CARTRIDGE SIZE PER AS4395	AVAILABLE FLOW SET POINT RANGE (GPM)	PRESSURE RANGE (PSID)	MATERIAL TYPE
-6	.03-.20	50-150	CRES
-8	.20-.50	25-150	ALUMINUM
-10	.50-2.0	20-150	ALUMINUM
-12	2.0-6.0	10-150	ALUMINUM
-16	6.0-15.0	10-150	ALUMINUM
-20	15.0-25.0	8-100	ALUMINUM

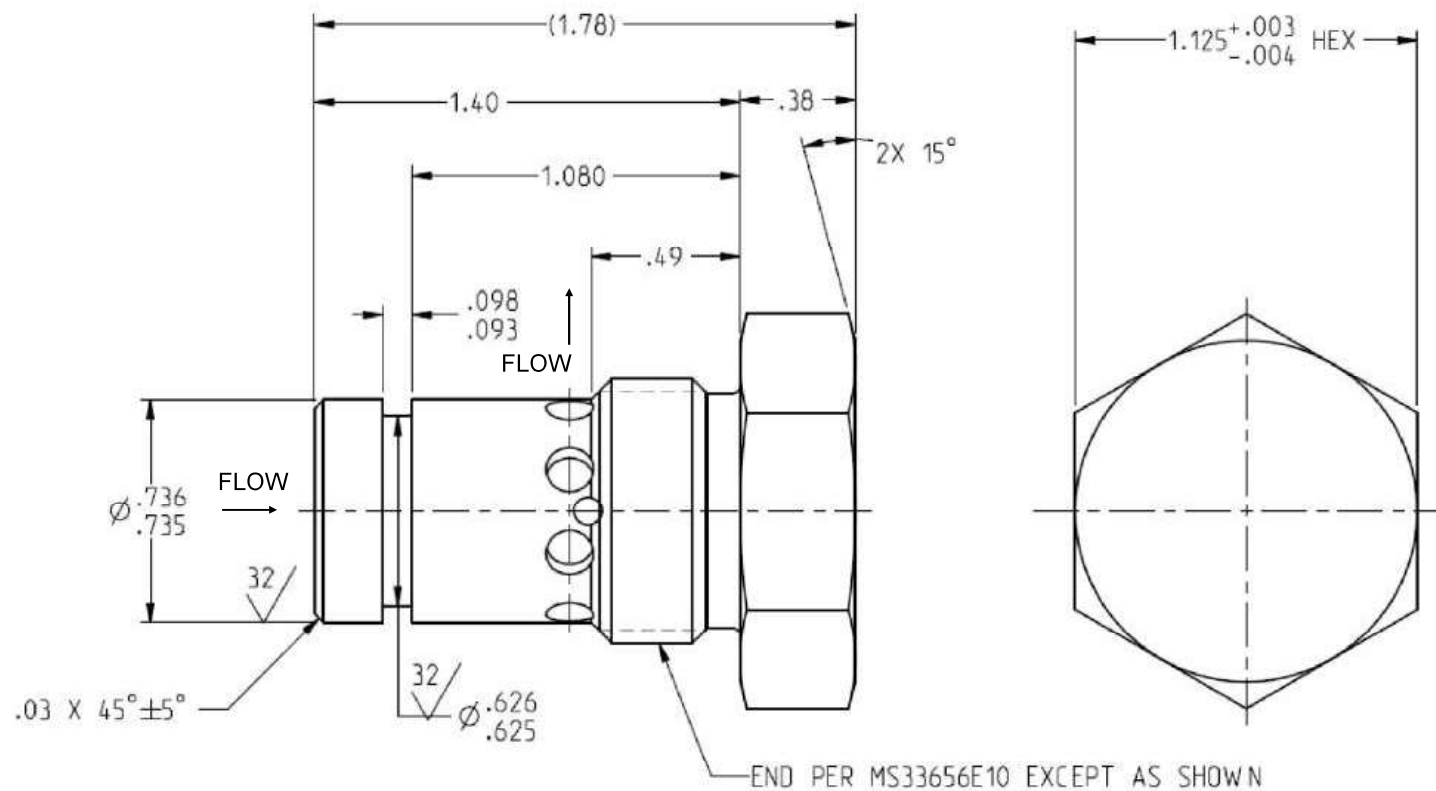
Note: Specific dimensions per
cartridge are available.
Please request additional
information if needed.



CATEGORY 10 OTHER AEROSPACE VALVES: FLOW CONTROL VALVES (FLOW REGULATORS)



PART NUMBER: 3F1086 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6061 AL

TEMPERATURE RANGE: 150°F +10/-0°F

OPERATING PRESSURE: 1800 PSIG

PROOF PRESSURE: 2400 PSIG

FLOW REGULATION: 4.44 GPM + 4/-2% AT 20 TO 50 PSID

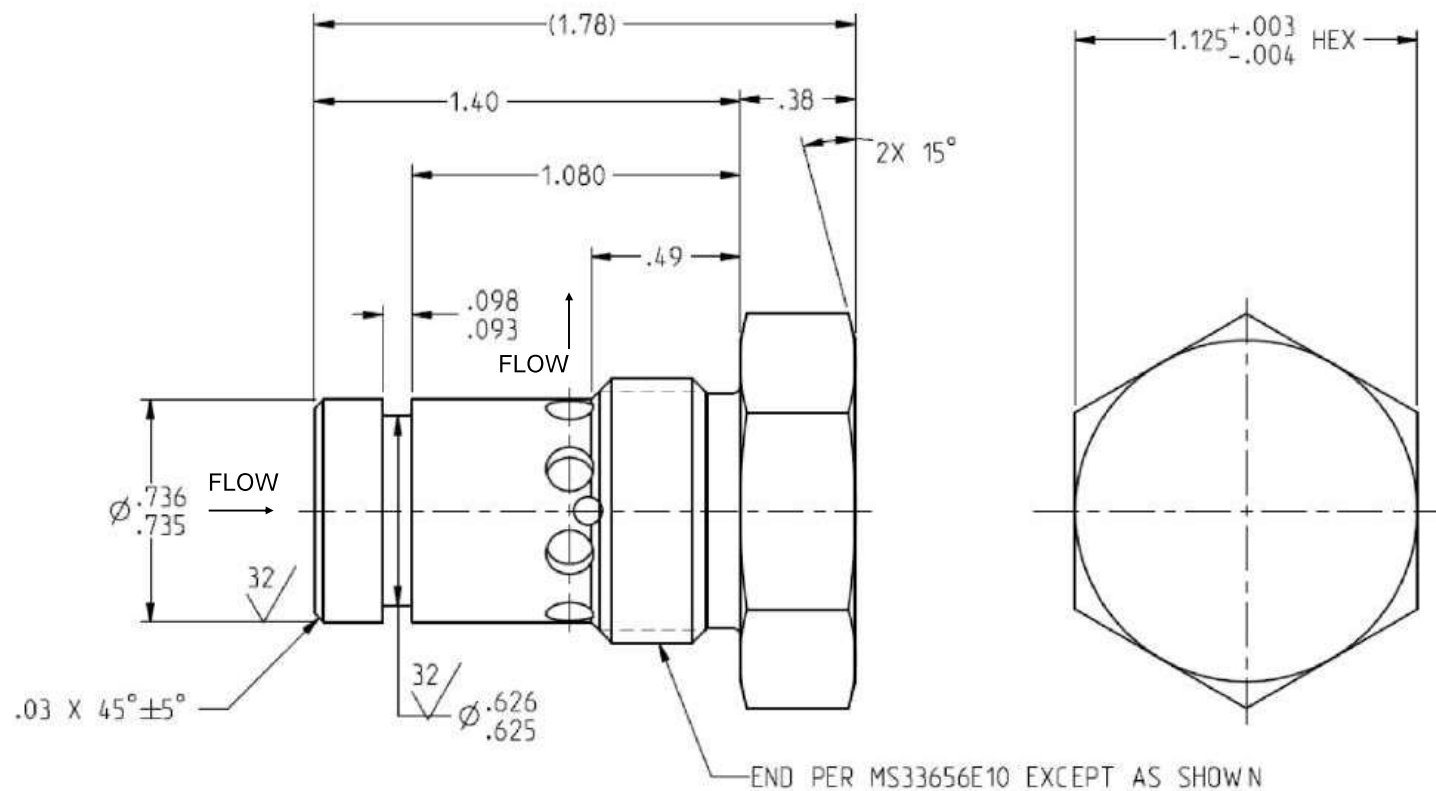
4.44 GPM ± 2% AT 50 TO 120 PSID



CATEGORY 10 OTHER AEROSPACE VALVES: FLOW CONTROL VALVES (FLOW REGULATORS)



PART NUMBER: 3F1088 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6061 AL

TEMPERATURE RANGE: 150°F +10/-0°F

OPERATING PRESSURE: 1800 PSIG MAX

PROOF PRESSURE: 2400 PSIG MINIMUM

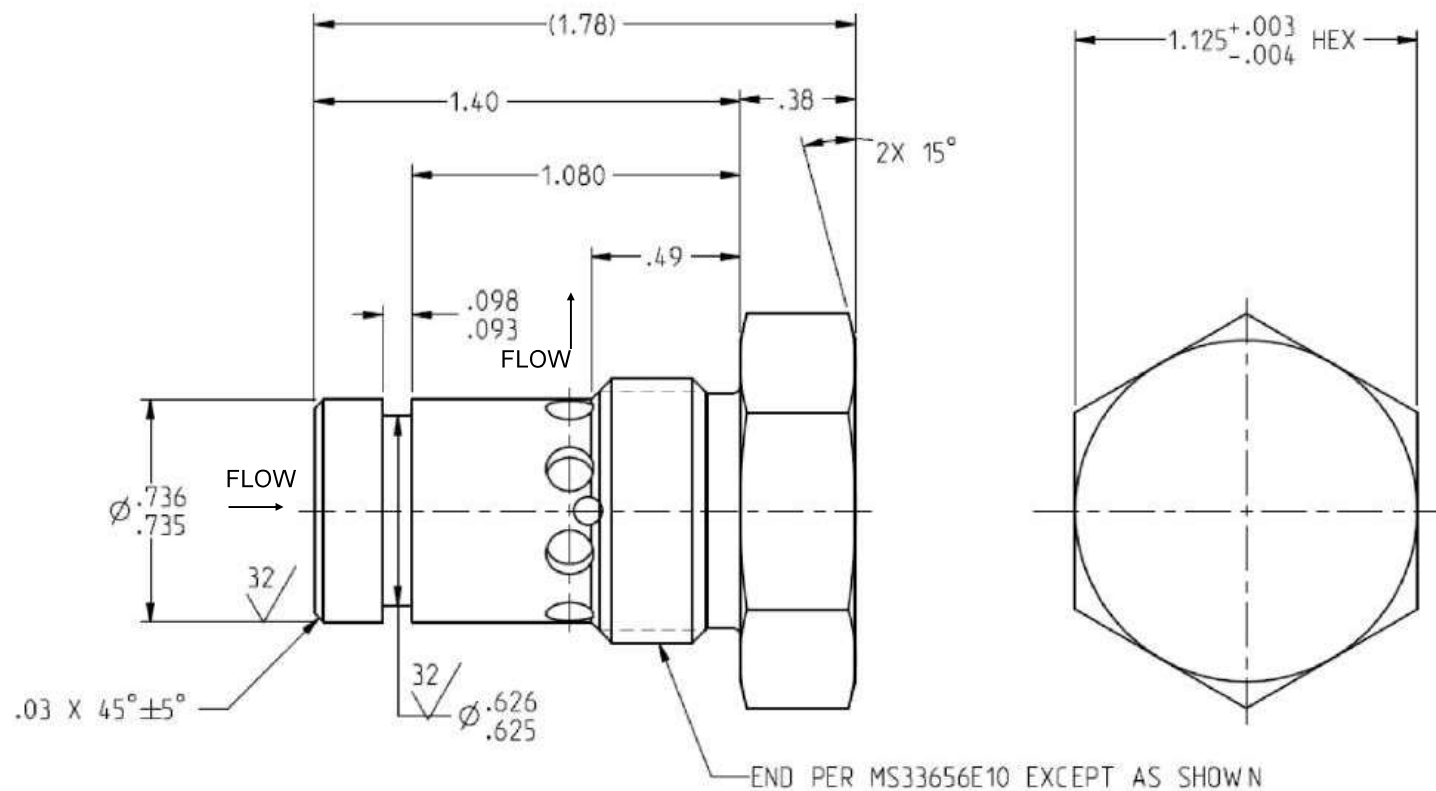
FLOW REGULATION: 0.72 GPM ± 2% AT 20 TO 120 PSID



CATEGORY 10 OTHER AEROSPACE VALVES: FLOW CONTROL VALVES (FLOW REGULATORS)



PART NUMBER: 3F1090 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6061 AL

TEMPERATURE RANGE: 150°F +10/-0°F

OPERATING PRESSURE: 1800 PSIG MAX

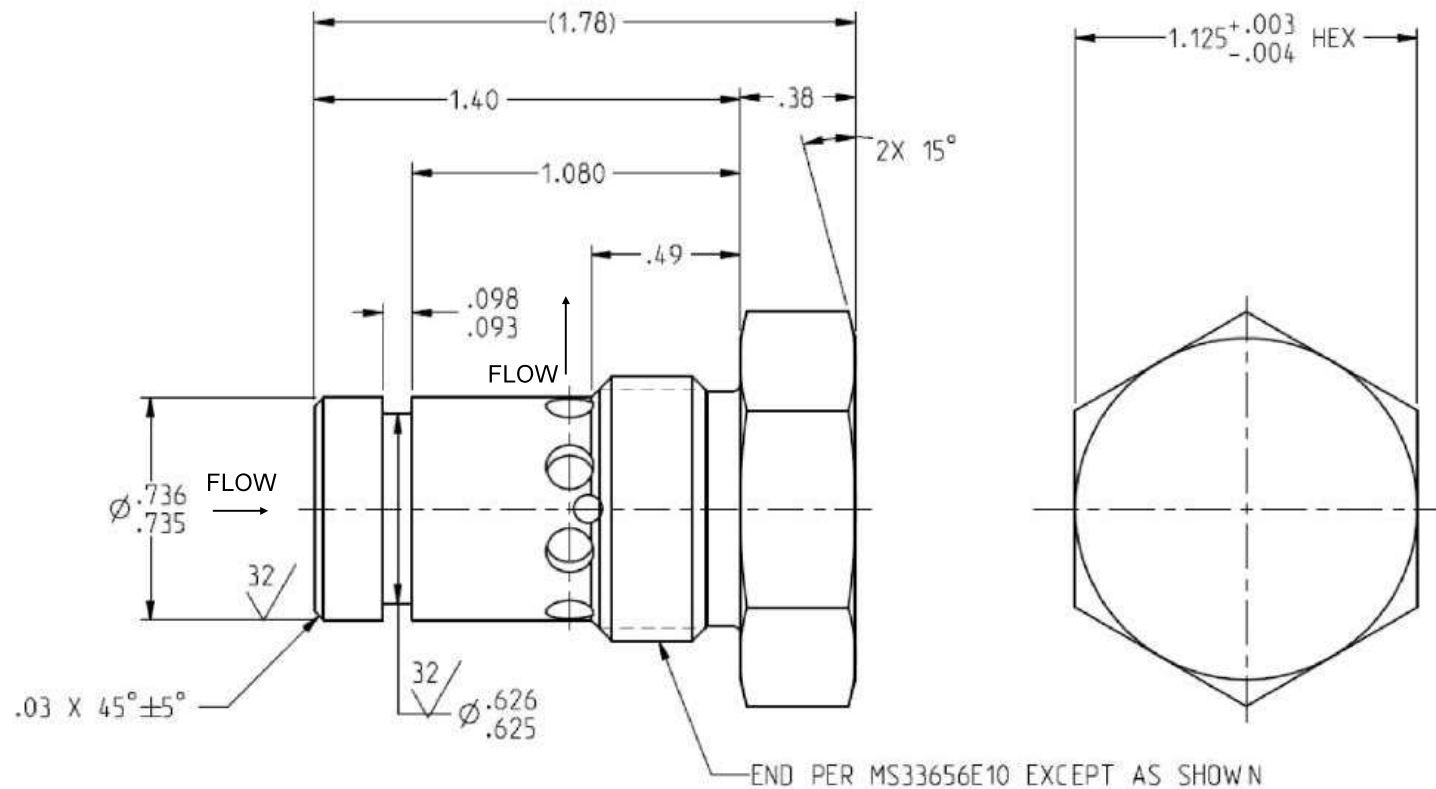
PROOF PRESSURE: 2400 PSIG MINIMUM

FLOW REGULATION: 1.30 GPM ± 2% AT 20 TO 150 PSID

CATEGORY 10 OTHER AEROSPACE VALVES: FLOW CONTROL VALVES (FLOW REGULATORS)



PART NUMBER: 3F1092 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6061 AL

TEMPERATURE RANGE: 150°F +10/-0°F

OPERATING PRESSURE: 1800 PSIG MAX

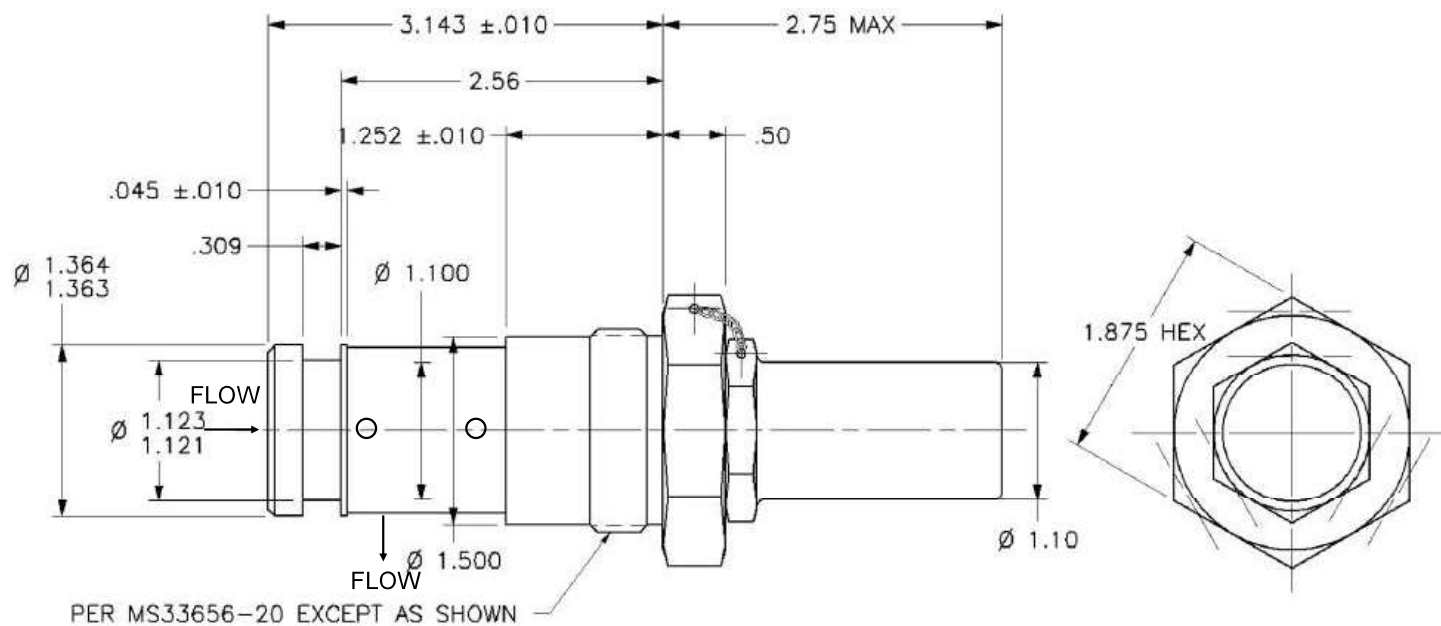
PROOF PRESSURE: 2400 PSIG MINIMUM

FLOW REGULATION: 0.91 GPM ± 2 % AT 600-1100 PSID

CATEGORY 10 OTHER AEROSPACE VALVES: FLOW CONTROL VALVES (FLOW REGULATORS)



PART NUMBER: 3F1094 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282*

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -25°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW REGULATION: 10.0 GPM ±10% AT 200-3000 PSID

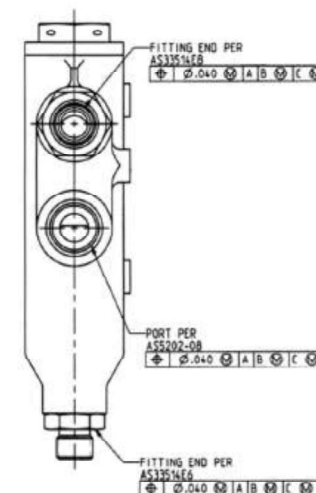
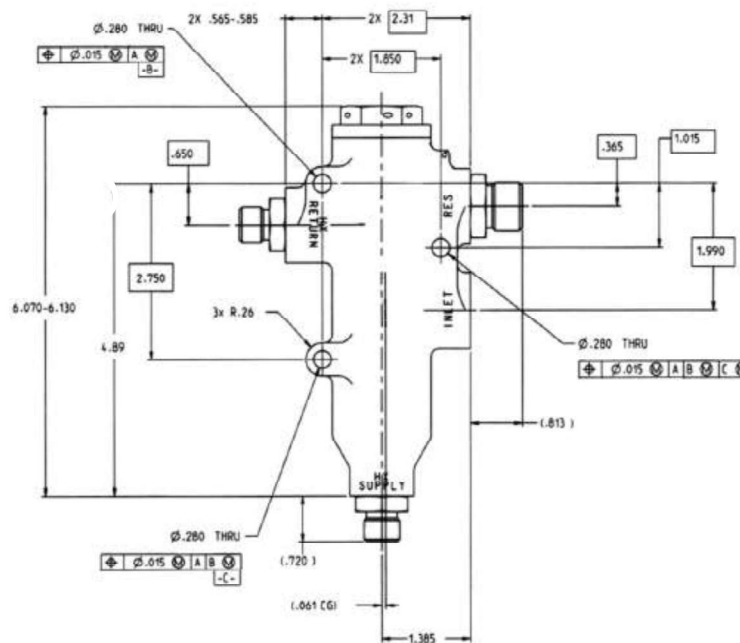
ADJUSTMENT RANGE: +1.0 / -3.0 GPM AROUND NOMINAL SETTING

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 10 OTHER AEROSPACE VALVES: FLOW CONTROL VALVES (FLOW REGULATORS)

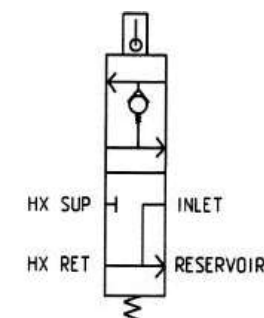




PERFORMANCE SPECIFICATIONS:

GREATER FLUID TEMP AT INLET

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

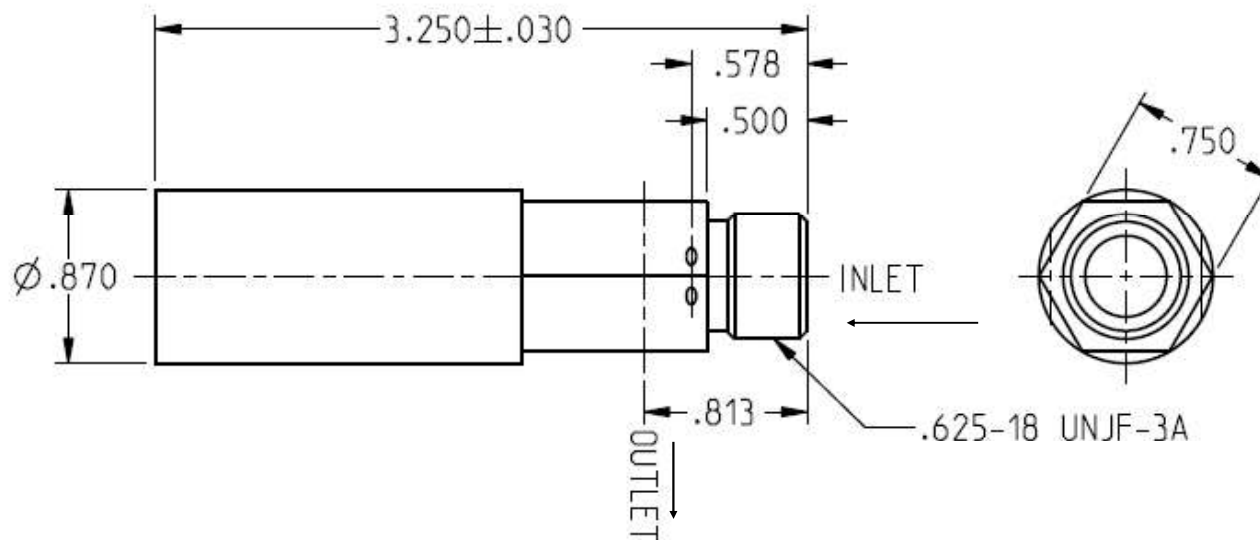


HYDRAULIC SCHEMATIC

CATEGORY 10 OTHER AEROSPACE VALVES: THERMAL CONTROL VALVES



PART NUMBER: 5T0020 ,THERMAL/PRESSURE BYPASS VALVE



PERFORMANCE SPECIFICATIONS:

TEST FLUID: MIL-L-23699

MATERIAL: BODY 6061-T6

POPPET 6061-T6

OPERATING PRESSURE: 150 PSIG

PROOF PRESSURE: 250 PSIG

THERMAL OPERATION: FULL BYPASS CONDITION: 6.44 GPM MIN MAX AT 40 PSID MAX AND 125°F

CLOSED CONDITION LEAKAGE: 200 CC/MIN MAX AT 40 PSID AND 155°F

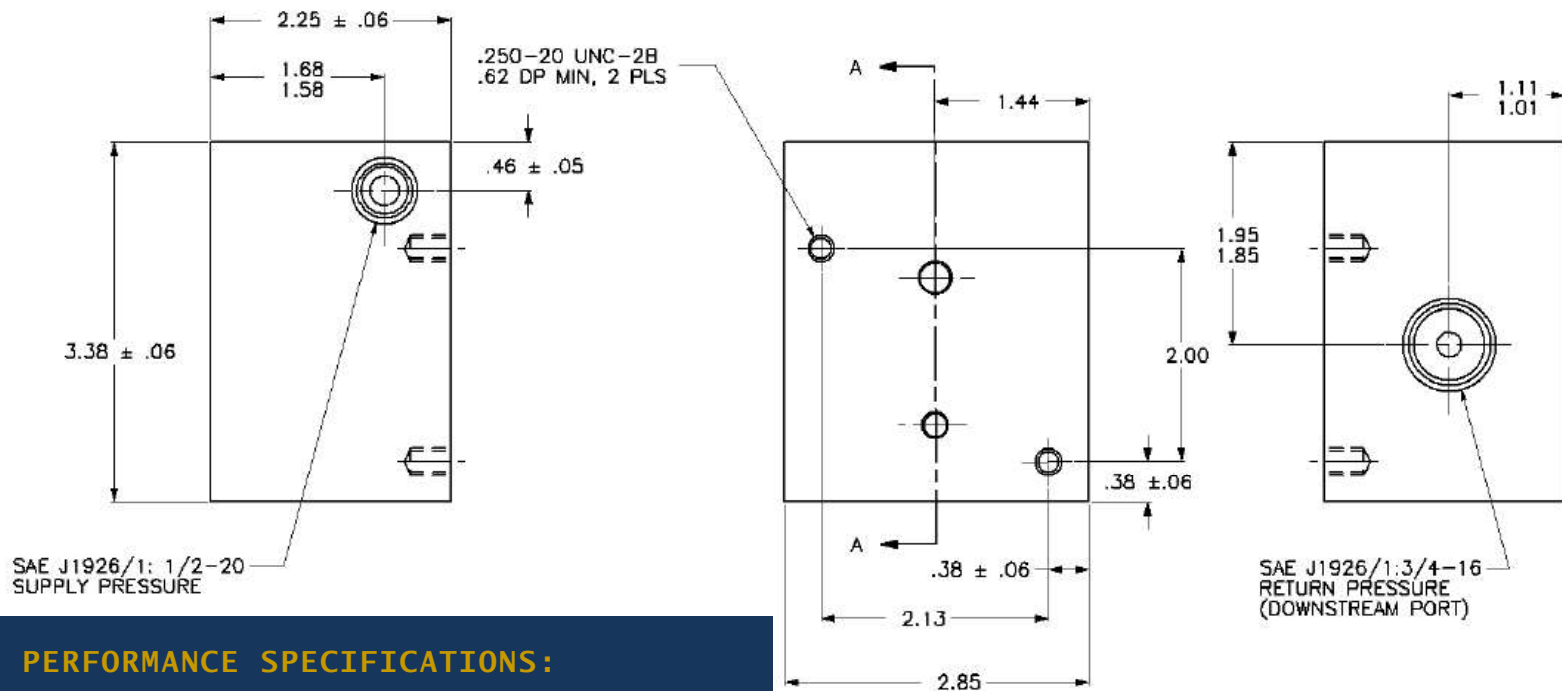
RELIEF VALVE: CRACKING PRESSURE: 50±5 PSID AT 155°F AND A MINIMUM FLOW OF 500 CC/MIN

FULL FLOW: 7.15 GPM AT 80 PSID MAX AND 155°F

RESEAT PRESSURE: 35 PSID MIN UNDER DECREASING PRESSURE CONDITION AT 155°F AND A MAX FLOW RATE OF 200 CC/MIN



PART NUMBER: 6P0014 ,DOWNSTREAM PRESSURE REGULATOR



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-L-2104 OR MIL-L-46167*

MATERIAL: HOUSING 6061-T6

TEMPERATURE RANGE: -20°F TO 275°F

OPERATING PRESSURE: 300 PSIG MAX

PROOF PRESSURE: 450 PSIG

OPERATION: RETURN PRESSURE (DOWNSTREAM PORT) REGULATED TO 9.5 ± 2.0 PSIG

FOR SUPPLY PRESSURES OF 140 TO 300 PSIG AT 20 ± 0.1 GPM

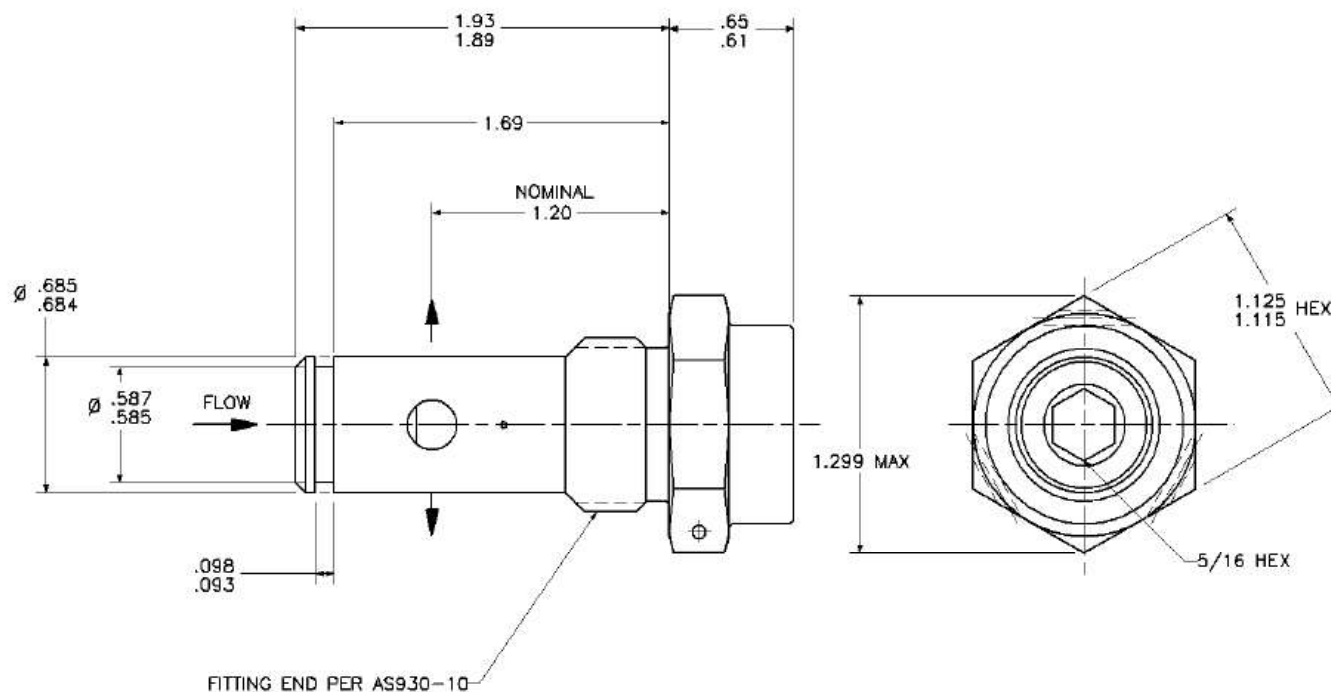
WEIGHT: 2.50 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE





PART NUMBER: 2R4874 ,PRESSURE REGULATOR (BYPASS VALVE)



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-23699*

MATERIAL: BODY 6061-T6

POPPET 15-5PH

TEMPERATURE RANGE: -65°F TO 343°F

OPERATING PRESSURE: 600 PSIG MAX

PROOF PRESSURE 975 PSIG

CRACKING PRESSURE: 250±10 PSID

FLOW: 6 GPM AT 310 PSID MAX

RESEAT PRESSURE: 200 PSID MINIMUM

INTERNAL LEAKAGE: 5 CC/MIN MAXIMUM AT PRESSURES BELOW RESEAT

WEIGHT: 0.20 LBS MAX

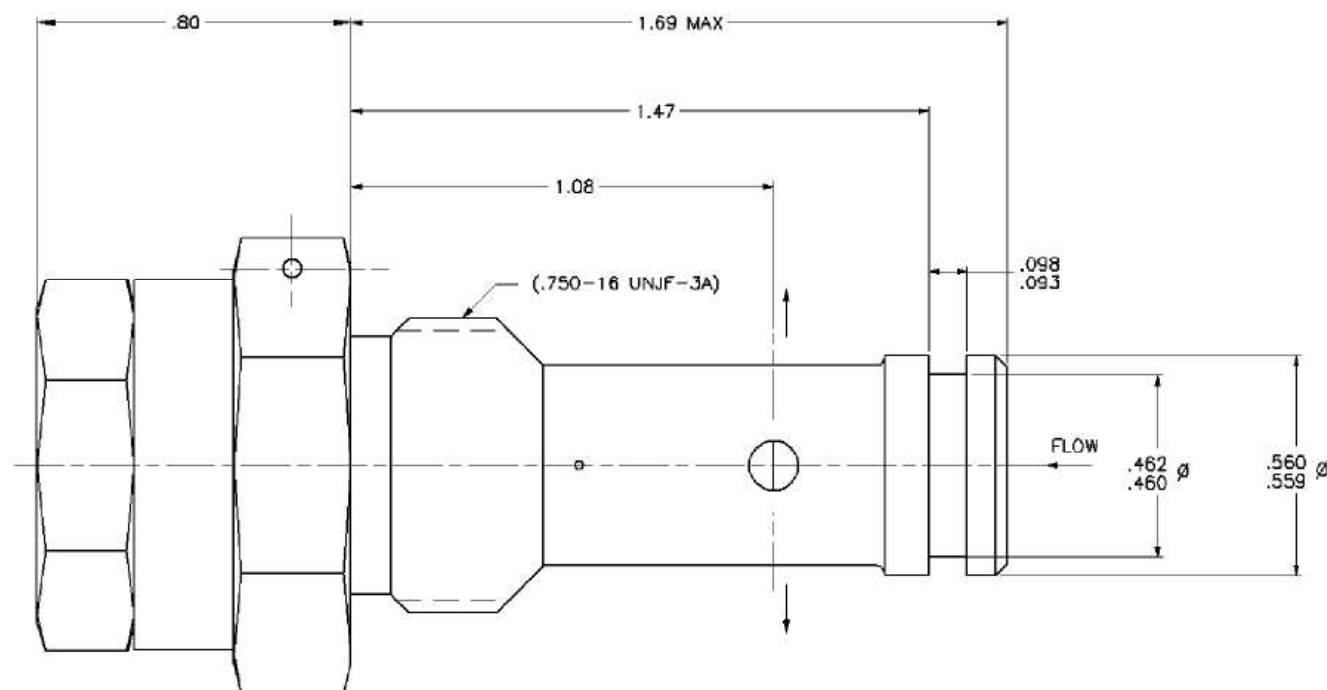
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 10 OTHER AEROSPACE VALVES: PRESSURE REGULATOR VALVES



PART NUMBER: 3F1110 ,PRESSURE REGULATOR



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282*

MATERIAL: BODY 6061-T6

POPPET 15-5PH

TEMPERATURE RANGE: -65°F TO 343°F

OPERATING PRESSURE: 1500 PSIG MAX

PROOF PRESSURE: 2100 PSIG

CRACKING PRESSURE: 800 $\pm$ 50 PSID

FLOW: 1.5 GPM AT 1020 TO 1180 PSID

3.0 GPM AT 1320 TO 1500 PSID

RESEAT PRESSURE: 640 PSID MINIMUM

INTERNAL LEAKAGE: 5 CC/MIN MAXIMUM AT PRESSURES BELOW RESEAT

WEIGHT: 0.20 LBS MAX

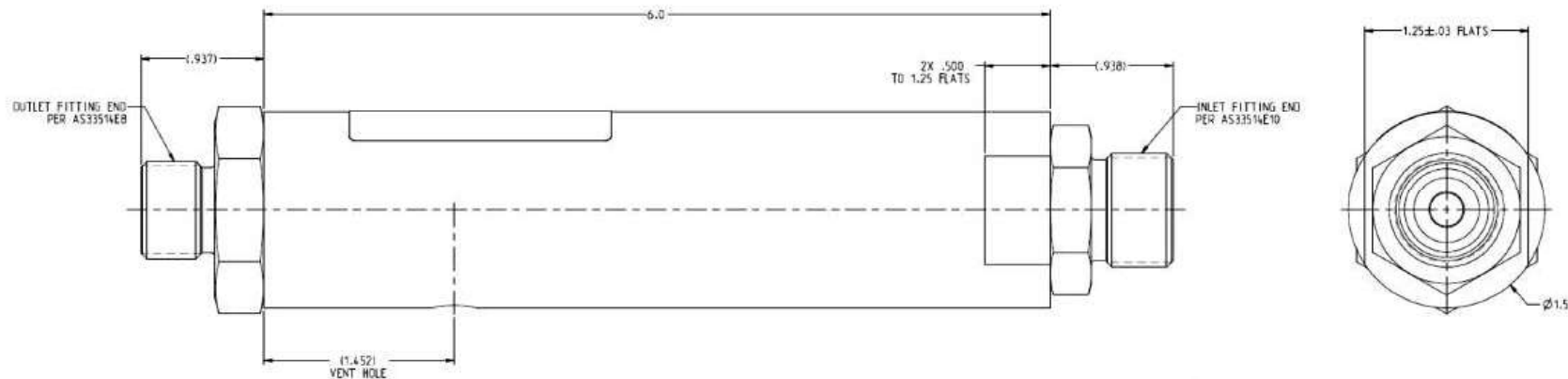
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



CATEGORY 10 OTHER AEROSPACE VALVES: PRESSURE REGULATOR VALVES



PART NUMBER: 5P1018 ,PRIORITY VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: LOW DENSITY PHOSPHATE ESTER FLUID TYPE IV AND V (SKYDROL)*

MATERIAL: HOUSING 2024-T351

POPPET 440C CRES

TEMPERATURE RANGE: -67°F TO 185°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACK: 2450 PSIG MAX AT 10 CC/MIN

FLOW: 2450 PSIG MAX AND 100 PSID MAX AT 7.3 GPM

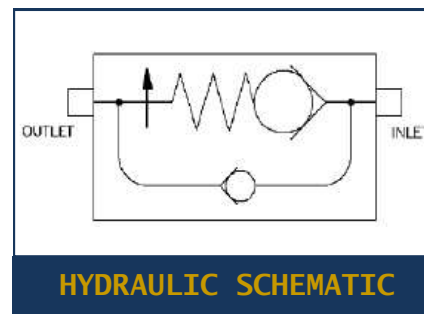
RESEAT PRESSURE: 2000 PSIG MINIMUM AT 1 CC/MIN

INTERNAL LEAKAGE: 7.0 DPM MAX AT 0 TO 2000 PSIG

REVERSE FLOW: 100 PSID MAX AT 7.3 GPM

WEIGHT: 1.50 LBS MAX

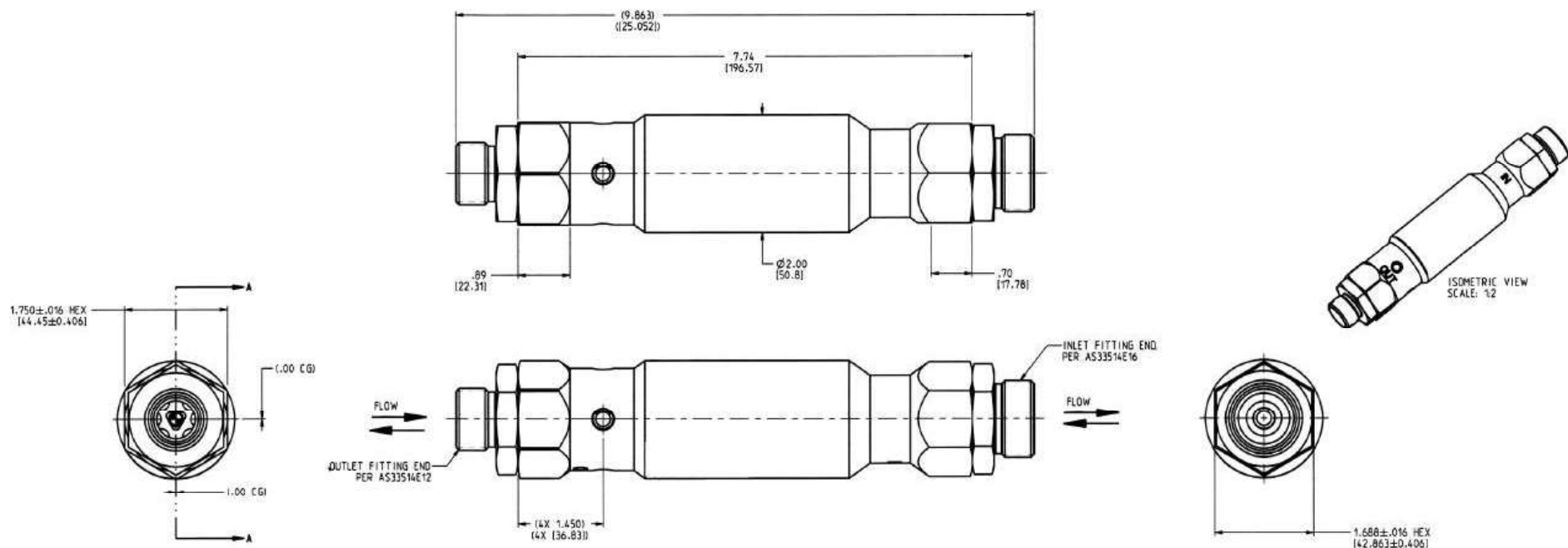
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC



PART NUMBER: 5P1020 ,PRIORITY VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL*

MATERIAL: HOUSING 2024-T351

POPPET 17-4 PH

TEMPERATURE RANGE: 20°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

TRANSIENT PRESSURE DURING NORMAL OPERATION: 3750 PSIG

PROOF PRESSURE: 4500 PSIG

PERFORMANCE (INLET TO OUTLET)

REFERENCE CRACKING PRESSURE: 2400 PSIG MINIMUM

FLOW: 20 GPM AT 180 PSID MAX WITH 2700 ± 50 PSIG AT THE INLET

RESEAT PRESSURE: 7 DPM MAXIMUM AT 2113 TO 0 PSIG

INTERNAL LEAKAGE: 7.0 DPM MAXIMUM AT 0 TO 2113 PSIG

PERFORMANCE (OUTLET TO INLET)

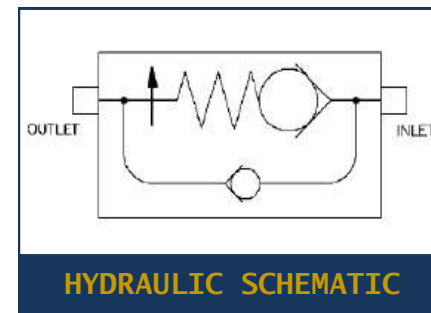
FLOW: 1.0 GPM MINIMUM AT 100 PSID

RESPONSE, VALVE: THE VALVE SHALL REACT TO THE FLOW DEMAND AND REGULATE

THE INLET PRESSURE AT 2113 PSIG MINIMUM WITHIN 300 MILLISECONDS

WEIGHT: 2.72 LBS MAX

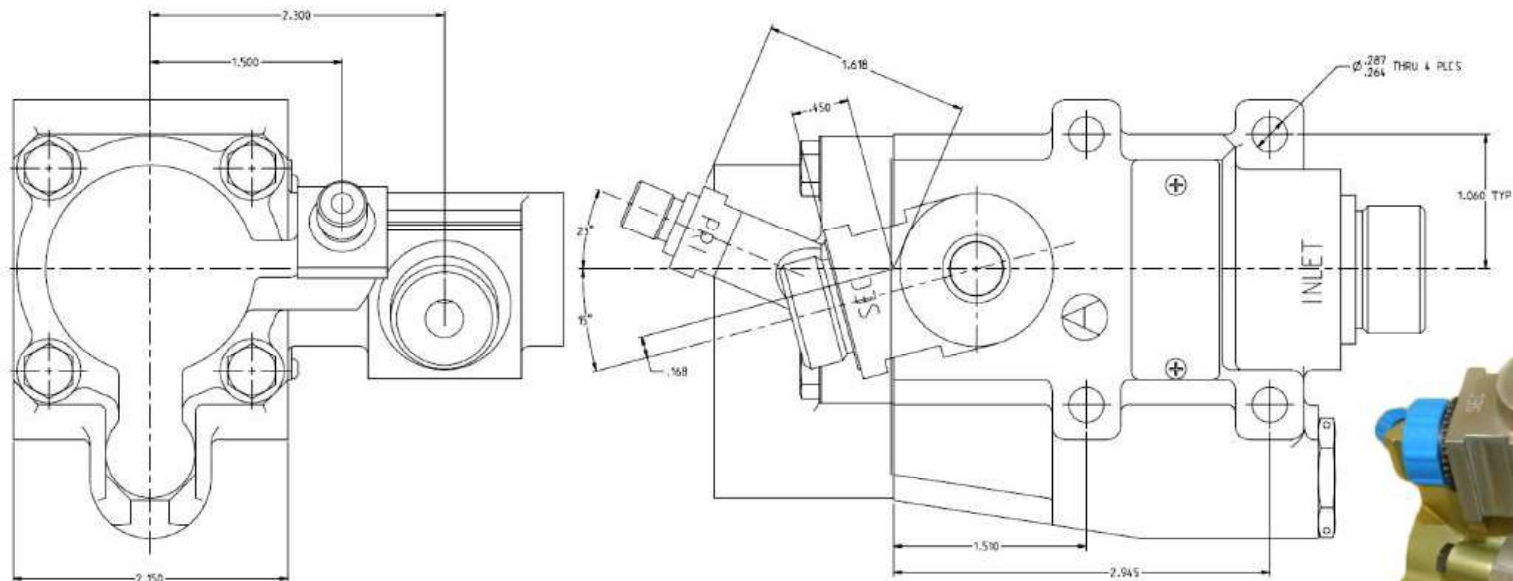
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC



PART NUMBER: 1M1514 ,FUEL FLOW DIVIDER



PERFORMANCE SPECIFICATIONS:

FLUIDS: JP4, JP5, OR EQUIVALENT

MATERIAL: HOUSING 17-4 PH

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 1000 PSIG MAX

PERFORMANCE: SEE FLOW CURVE

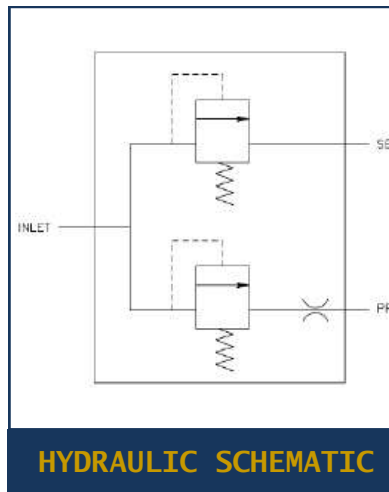
PRIMARY CRACK: 20 PSID MAX

PRIMARY FLOW: SEE CURVE

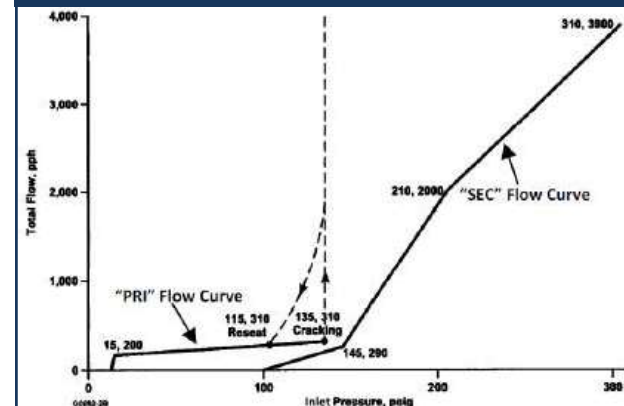
SECONDARY CRACK: 145 PSID MAX

SECONDARY FLOW: SEE CURVE

WEIGHT: 2.50 LBS MAX



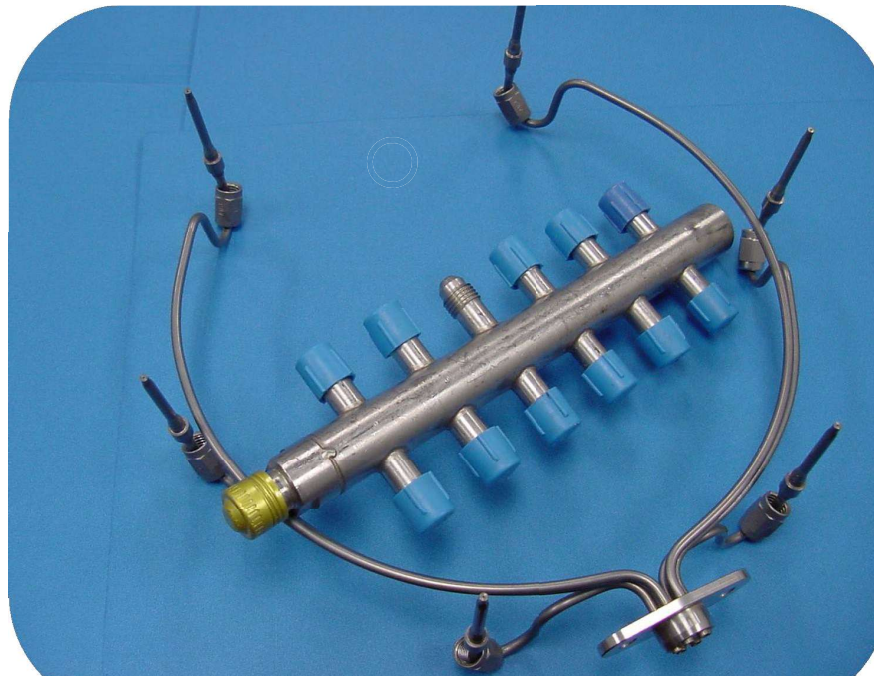
FLOW CURVE, LAB TESTED



CATEGORY 10 OTHER AEROSPACE VALVES: FUEL FLOW DIVIDERS



PART NUMBER: MULTI-PORT FUEL DISTRIBUTION MANIFOLDS



PERFORMANCE SPECIFICATIONS:

FLUIDS: DIESEL OILS, JET FUELS & OTHER

TEMPERATURE RANGE: -65°F TO 500°F (HIGH TEMPERATURE MATERIALS AVAILABLE FOR EXTREME ENVIRONMENTS)

OPERATING PRESSURE: UP TO 1000 PSI

FLOW TOLERANCE RANGE $\pm 1\%$ TO 10% NOZZLE TO NOZZLE/PORT TO PORT

FLOW RATES: UP TO 10 GPM

NOTES: CRISSAIR HAS A VARIETY OF CONFIGURATIONS AND FLOW RATES FOR AEROSPACE, COMMERCIAL, AND INDUSTRIAL APPLICATIONS.

CATEGORY 10 OTHER AEROSPACE VALVES: FUEL MANIFOLDS



CRISSAIR HAS VARIOUS OTHER 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.