



MANIFOLD ASSEMBLIES

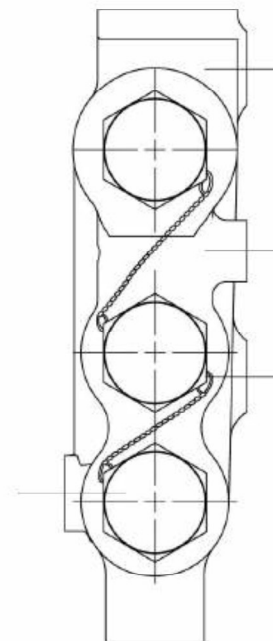
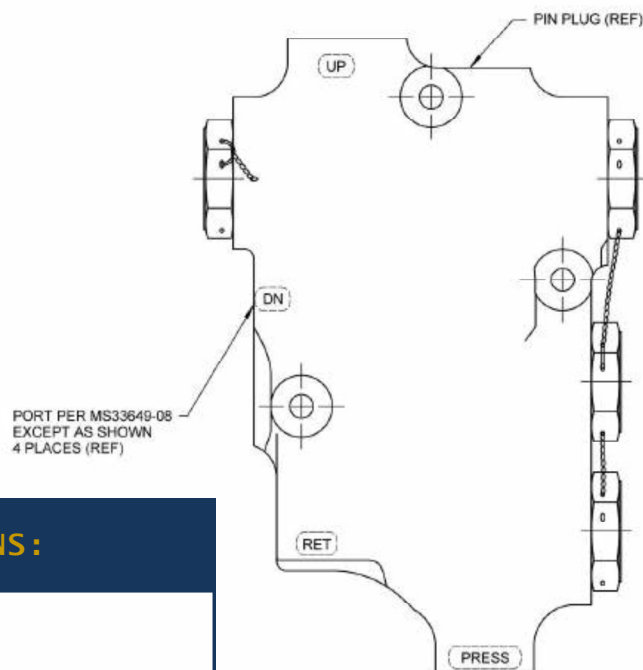
The greatest value proposition at Crissair lies within Manifold Assemblies. With the product range to cover all necessary fluid control components for certain manifold applications, Crissair's engineers optimize performance, weight, cost, and schedule simultaneously.



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



PART NUMBER: 1M1516 , HYDRAULIC RETURN MANIFOLD



CATALOG USE ONLY

PERFORMANCE SPECIFICATIONS:

FLUIDS: BMS-11*

MATERIAL: MANIFOLD 7075-T73 AL

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 2950 PSIG TO 3050 PSIG

PROOF PRESSURE: 4450 PSIG TO 4550 PSIG

RETURN PRESSURE: 45 PSIG TO 100 PSIG

CRACKING PRESSURE: 3 PSID TO 5 PSID

FLOW: FROM GEAR UP PORT TO PRESSURE PORT:

13 GPM WITH 150 PSID MAX PRESUURE DROP

FROM GEAR DOWN PORT TO PRESSURE PORT:

13 GPM WITH 150 PSID MAX PRESUURE DROP

FROM RETURN PORT TO GEAR DOWN PORT:

11 GPM WITH 250 PSID MAX PRESUURE DROP

FROM RETURN PORT TO GEAR UP PORT:

11 GPM WITH 200 PSID MAX PRESUURE DROP

INTERNAL LEAKAGE: NONE @ 3000 PSID FROM:

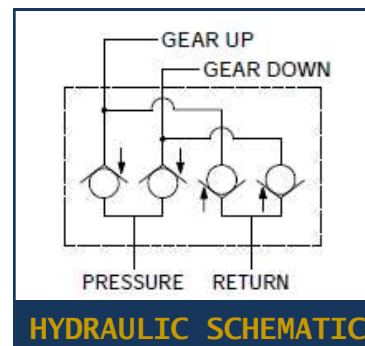
PRESSURE PORT TO GEAR UP PORT

PRESSURE PORT TO GEAR DOWN PORT

GEAR UP PORT TO RETURN PORT

GEAR DDWM PORT TO RETURN PORT

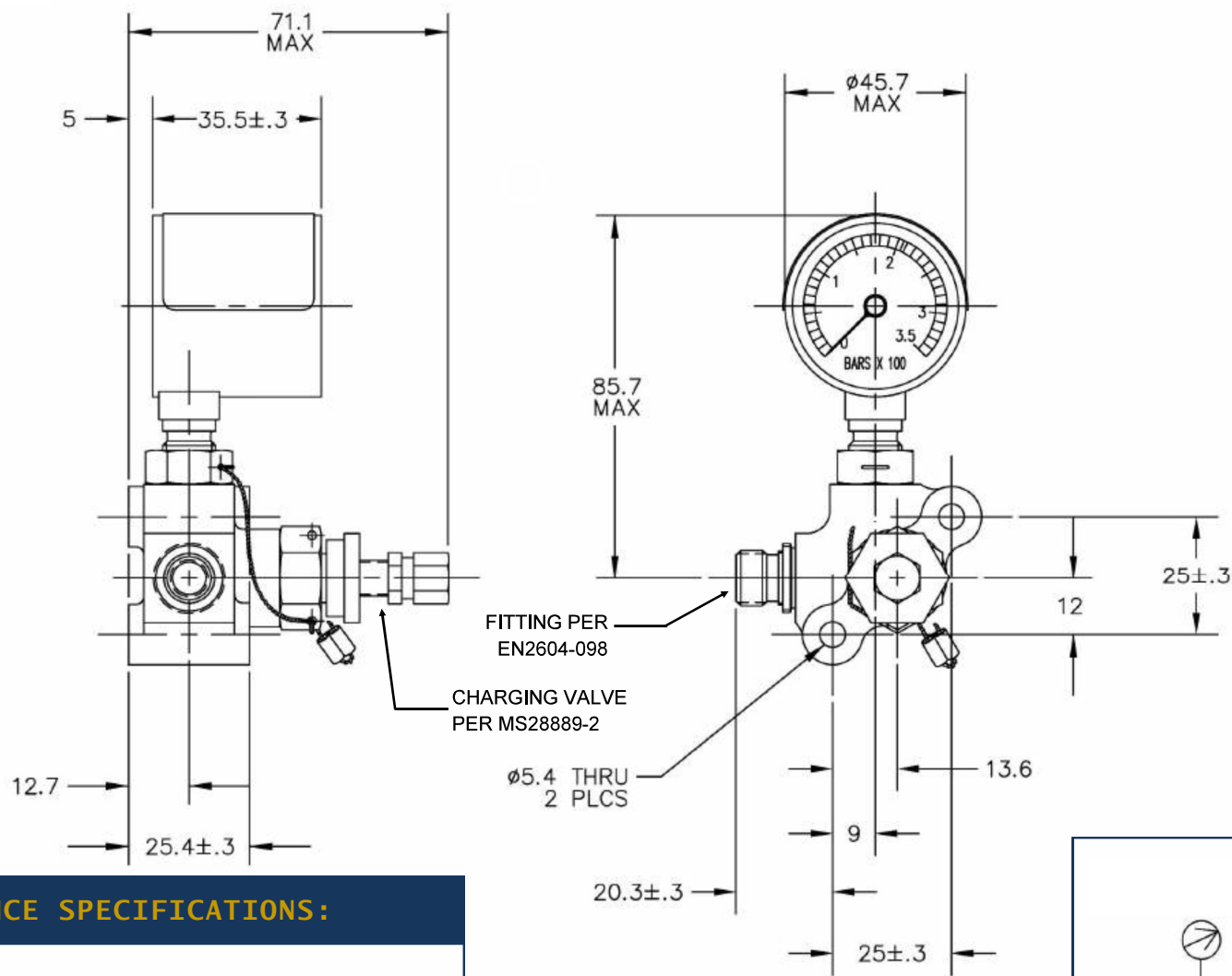
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC



PART NUMBER: 1M1518 , CHARGING MANIFOLD



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-83282*

MATERIAL: MANIFOLD 2024-T351 AL

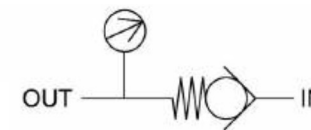
TEMPERATURE RANGE: -22°F TO 248°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 6000 PSIG

INTERNAL LEAKAGE: NONE

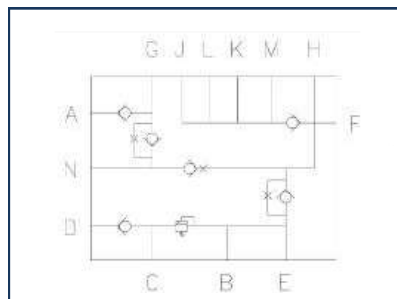
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



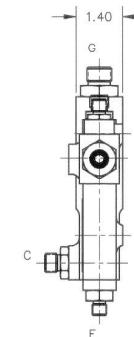
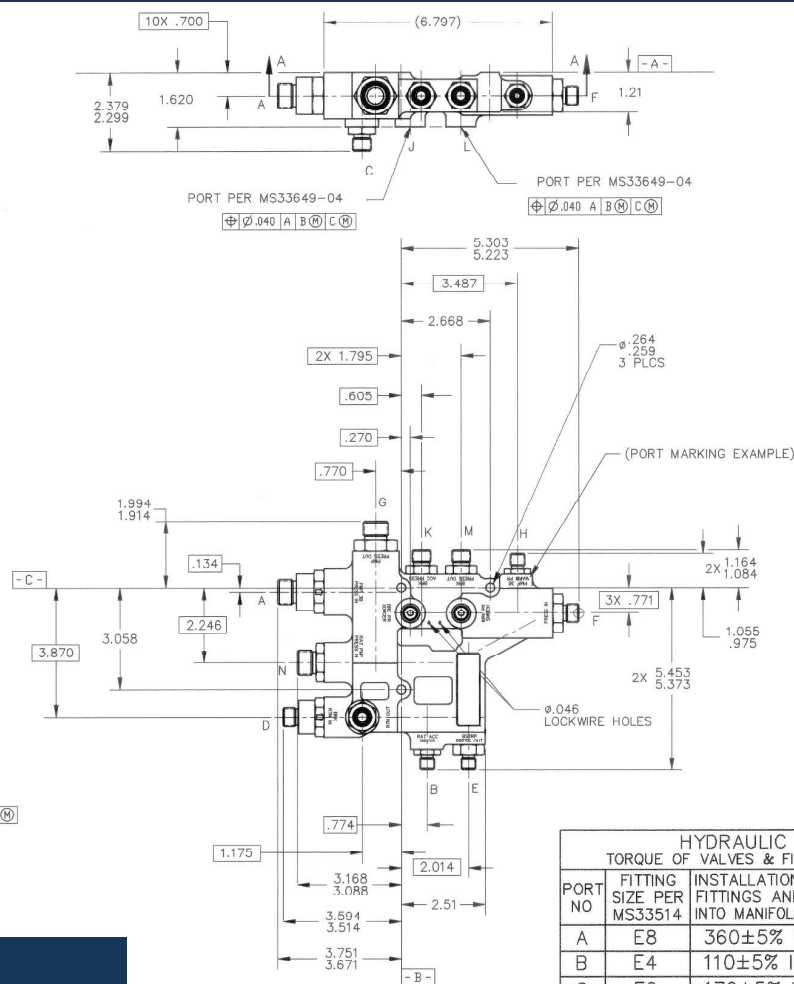
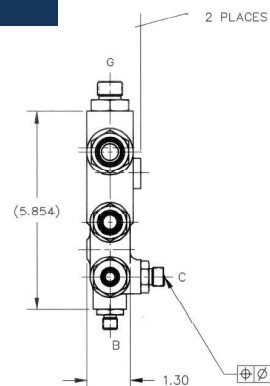
HYDRAULIC SCHEMATIC



PART NUMBER: 1M1520, MANIFOLD ASSEMBLY VALVE



HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER TYPE IV, CLASS 1 (SKYDROL LD-4)*

MATERIAL: MANIFOLD 2024-T851 AL

TEMPERATURE RANGE: -65° TO 275°F

OPERATING PRESSURE: 3050 PSIG

PROOF PRESSURE: 4500 PSIG

WEIGHT: 3.90 LBS MAX

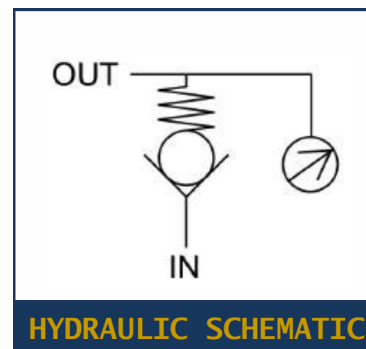
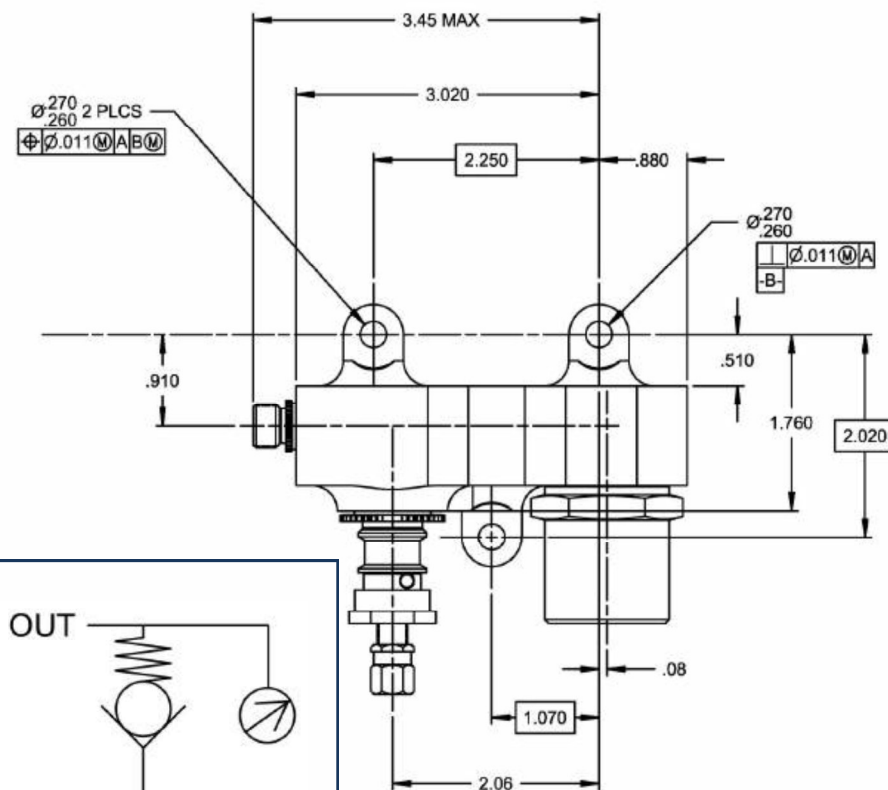
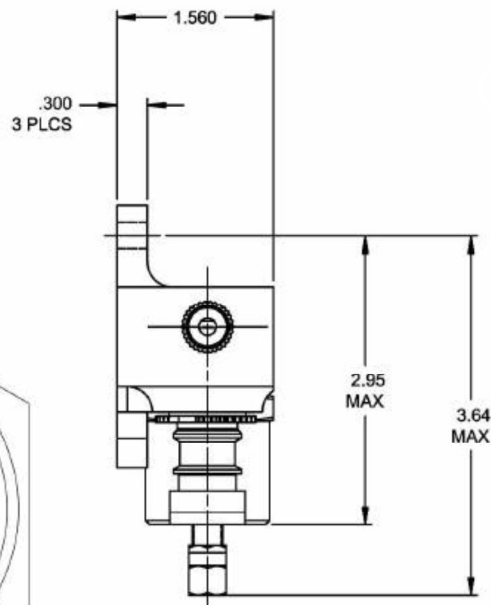
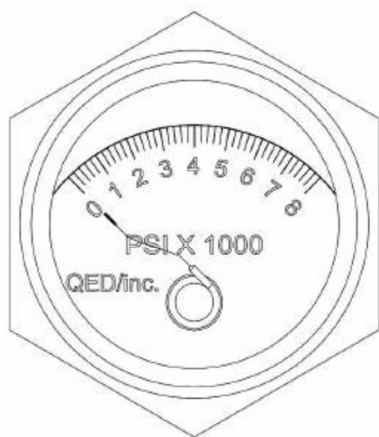
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC INTERFACE SIZES, TORQUE OF VALVES & FITTINGS AND PORT IDENTIFICATION				
PORT NO	FITTING SIZE PER MS33514	INSTALLATION TORQUE FITTINGS AND VALVES INTO MANIFOLD (ARP994)	PORT MARKING 	PORT SIZE PER MS33649
A	E8	360±5% IN/LBS	PMP 3B PRESS IN	-10
B	E4	110±5% IN/LBS	RAT ACC PRESS	-04
C	E6	170±5% IN/LBS	RTH OUT	-06
D	E6	280±5% IN/LBS	BRK RTH IN	-08
E	E4	170±5% IN/LBS	BSTRP PRESS OUT	-06
F	E6	280±5% IN/LBS	PRESS IN	-08
G	E8	360±5% IN/LBS	PMP PRESS OUT	-10
H	E4	110±5% IN/LBS	PMP 3B WARM PR	-04
J	-	-	BRK PR	-04
K	E6	170±5% IN/LBS	BRK ACC PRESS	-06
L	-	-	BRK PR SWITCH	-04
M	E6	170±5% IN/LBS	BRK PRESS OUT	-06
N	E8	280±5% IN/LBS	RAT PMP PRESS IN	-08

CATEGORY 11: MANIFOLD ASSEMBLIES



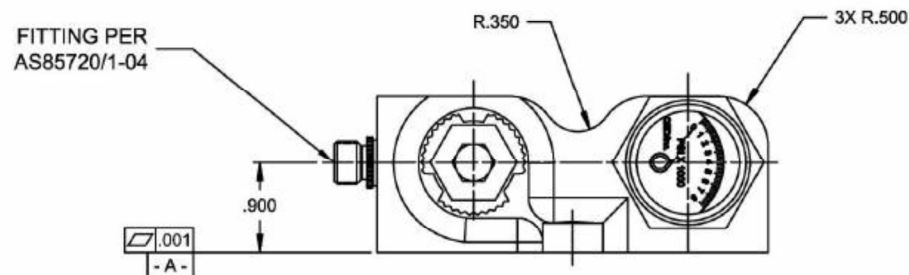
PART NUMBER: 1M1538 , HIGH PRESSURE PNEUMATIC MANIFOLD



"SAFETY CRITICAL ITEM"

PERFORMANCE SPECIFICATIONS:

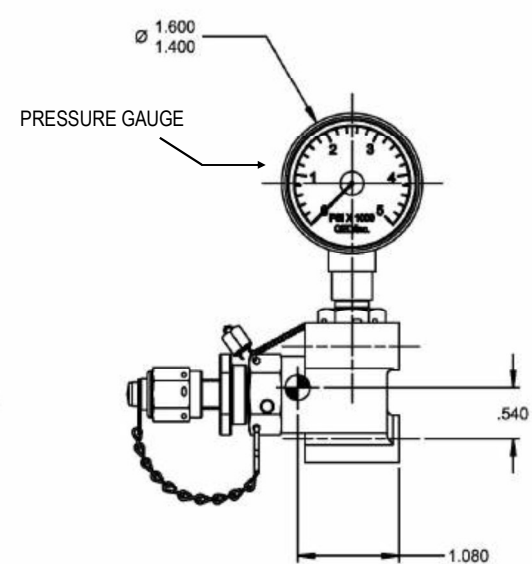
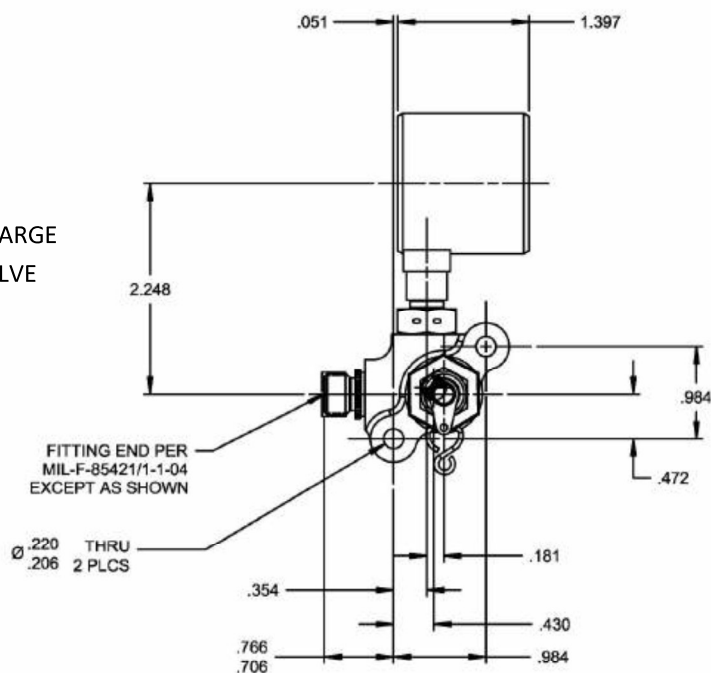
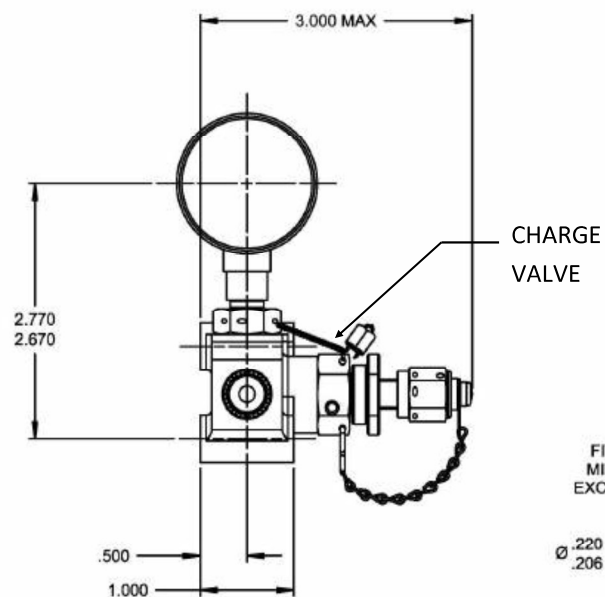
FLUIDS: AIR AND NITROGEN
 MATERIAL: MANIFOLD 6AL-4V TI
 TEMPERATURE RANGE: -65°F TO 250°F
 OPERATING PRESSURE: 5400 PSIG
 PROOF PRESSURE: 10800 PSIG
 INTERNAL LEAKAGE: NONE FROM 0 TO 5400 PSID WITH NUT ON ITEM 2 TORQUED TO 50-60 INCH/LBS



CATEGORY 11: MANIFOLD ASSEMBLIES

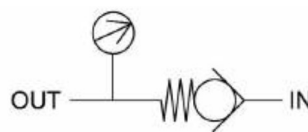


PART NUMBER: 1M1522 , CHARGING MANIFOLD

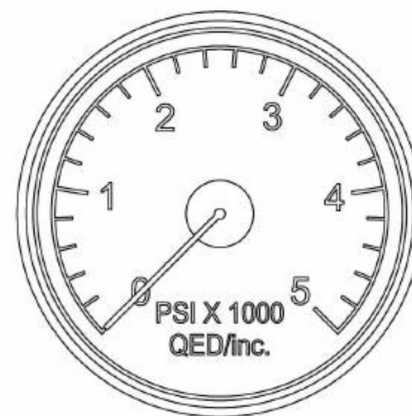


PERFORMANCE SPECIFICATIONS:

FLUIDS: NITROGEN
 MATERIAL: MANIFOLD 6AL-4V TI
 TEMPERATURE RANGE: -65°F TO 185°F
 OPERATING PRESSURE: 4000 PSIG
 PROOF PRESSURE: 6000 PSIG
 FLOW: 80 L/MIN MINIMUM
 INTERNAL LEAKAGE: NOT APPLICABLE
 WEIGHT: 2.45 LBS MAX



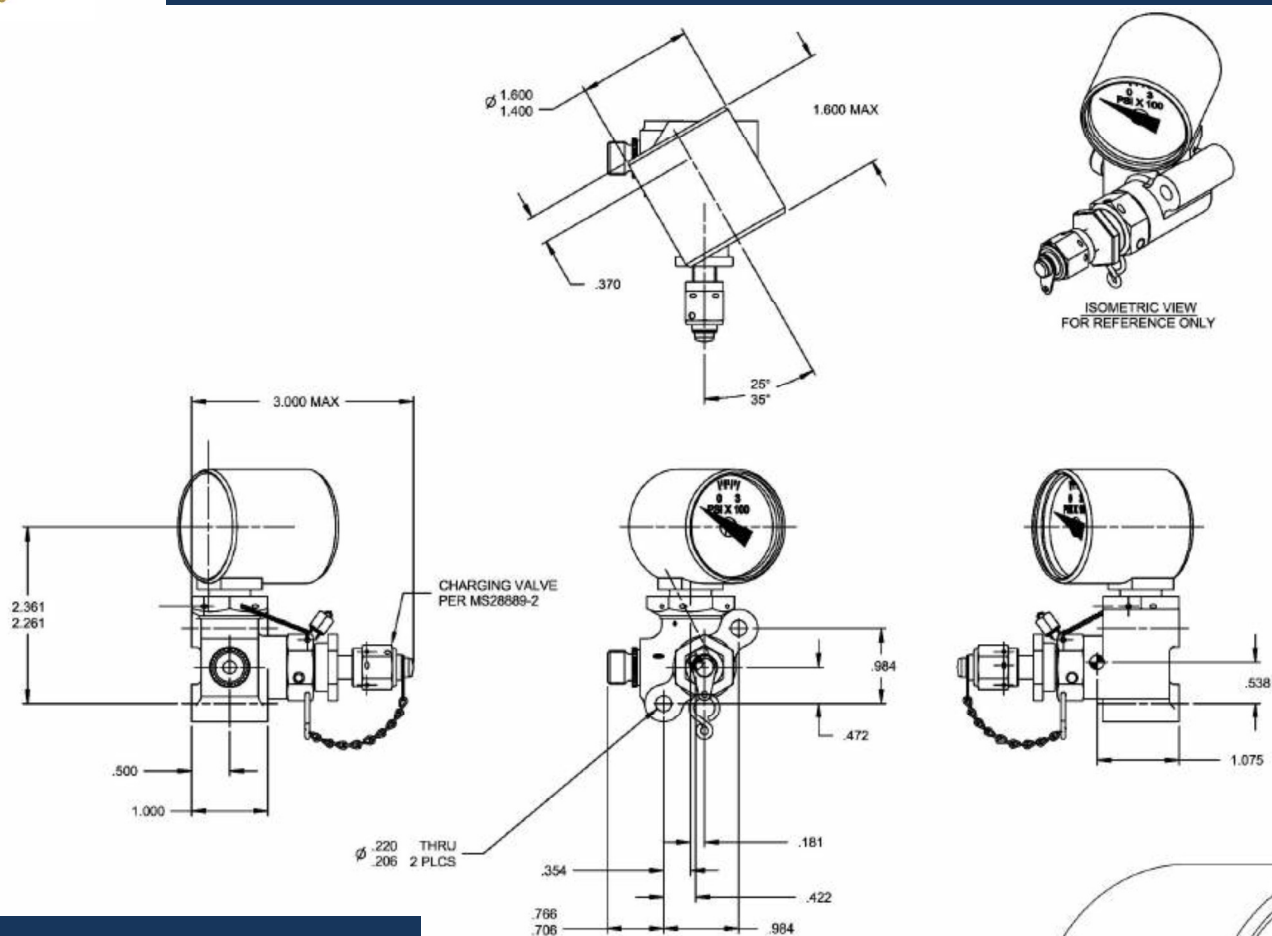
HYDRAULIC SCHEMATIC



CATEGORY 11: MANIFOLD ASSEMBLIES

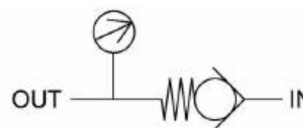


PART NUMBER: 1M1524

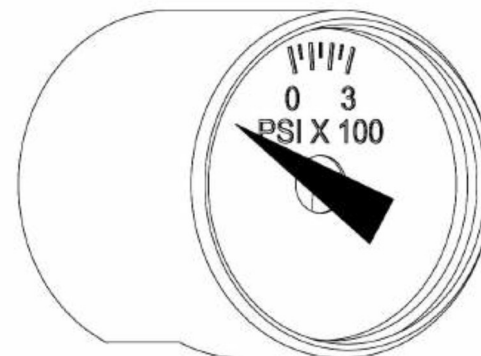


PERFORMANCE SPECIFICATIONS:

FLUIDS: NITROGEN
MATERIAL: MANIFOLD 6AL-4V TI
TEMPERATURE RANGE: -65°F TO 185°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
FLOW: 80 L/MIN MINIMUM
INTERNAL LEAKAGE: NOT APPLICABLE
WEIGHT: 0.88 LBS MAX



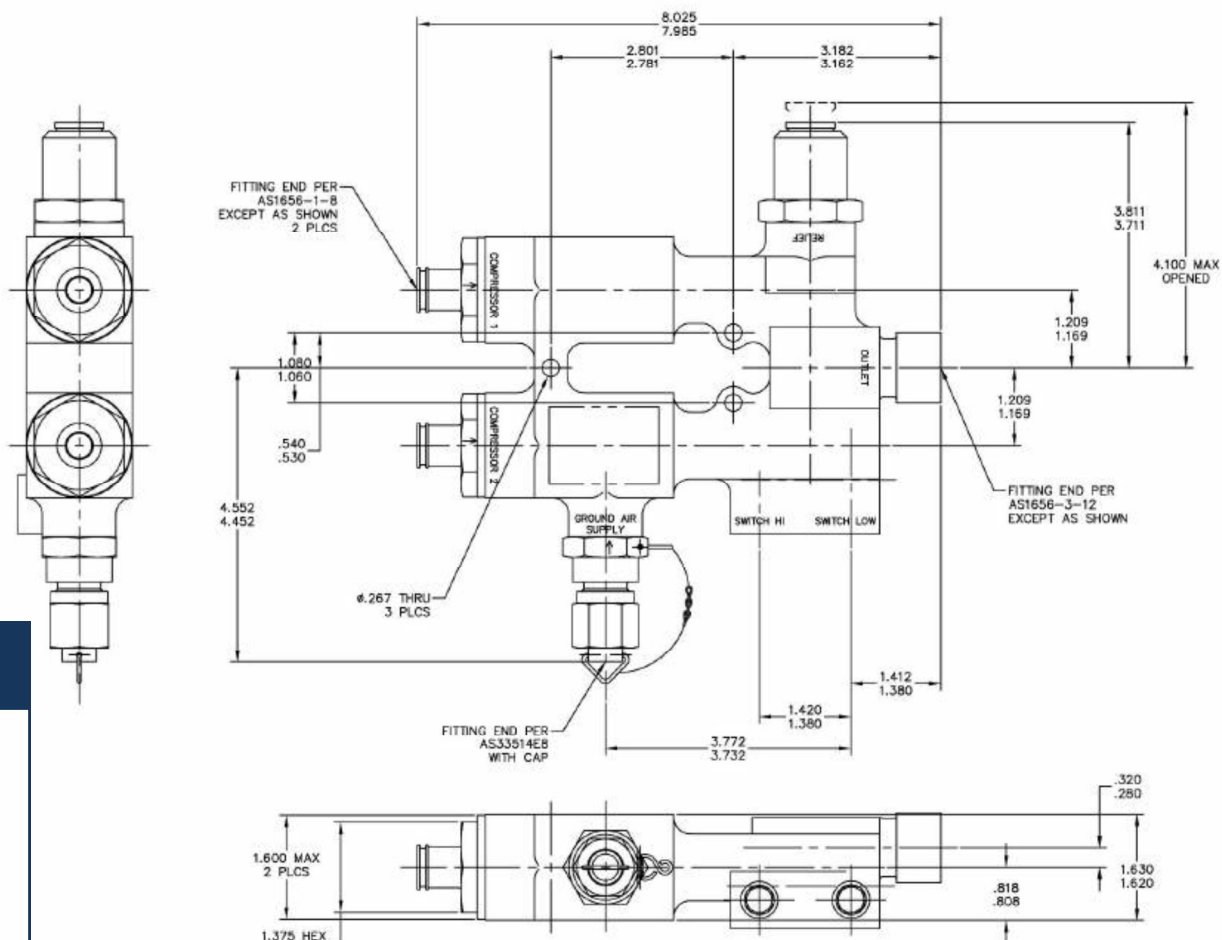
HYDRAULIC SCHEMATIC



CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1526 , MANIFOLD ASSEMBLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: COMPRESSED AIR AND WATER

MATERIAL: MANIFOLD 2024-T351 AL

TEMPERATURE RANGE: -80°F TO 400°F

OPERATING PRESSURE: 125 PSIG

PROOF PRESSURE: 188 PSIG

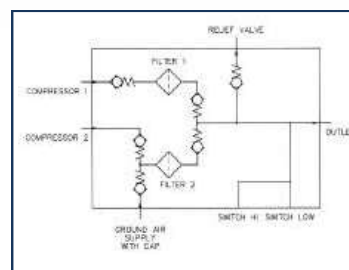
CRACKING PRESSURE: 1.5 TO 8 PSID

RELIEF PRESSURE: CRACKING 127.5 TO 137.5 PSID
RESEAT 110 PSID MINIMUM

FLOW: 16 GPM AT 35 PSID (COMPRESSOR INLET)
16-32 GPM AT 35 PSID (MANIFOLD OUTLET)
32 ± 5% GPM AT 150 PSID MAX (RELIEF OUTLET)
2.1 CFM AIRFLOW AT 4.2 PSID MAX
(COMPRESSOR 1 TO OUTLET) (AMBIENT)
2.1 CFM AIRFLOW AT 4.2 PSID MAX
(COMPRESSOR 2 TO OUTLET) (AMBIENT)

INTERNAL LEAKAGE: 10 CC/MIN MAX FROM 0 TO 10 PSID
NONE FROM 11 TO 125 PSID

WEIGHT: 2.70 LBS MAX



HYDRAULIC SCHEMATIC

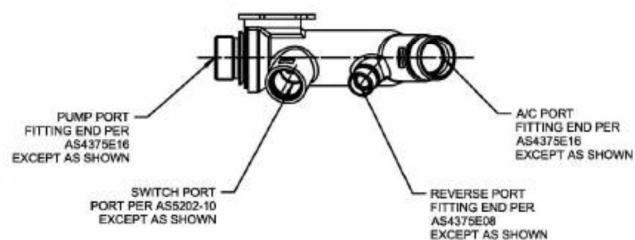
CATEGORY 11: MANIFOLD ASSEMBLIES



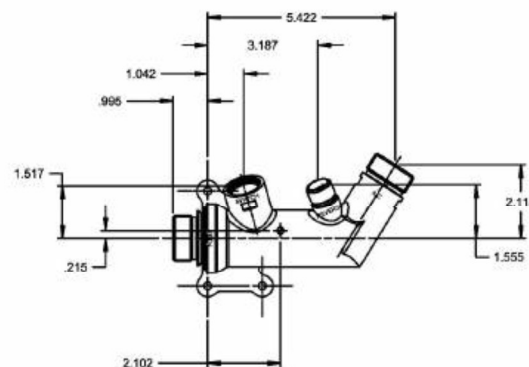
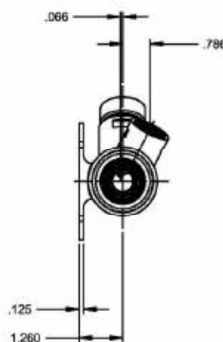
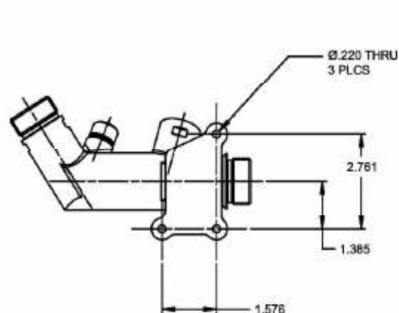
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



PART NUMBER: 1M1280-X, CHECK VALVE MANIFOLD



ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER BASED FLUID TYPE IV OR V*

MATERIAL: MANIFOLD 6AL-4V TI

TEMPERATURE RANGE: -5°F TO 158°F

OPERATING PRESSURE: 2988 PSIG

PROOF PRESSURE: 4547 PSIG

CRACKING PRESSURE: 2 TO 7.2 PSID

FLOW: 11.1 GPM AT 20.3 PSID MAX FROM PUMP TO REVERSE

46 GPM AT 45 PSID MAX FROM PUMP TO A/C

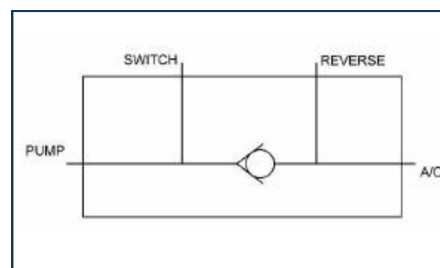
INTERNAL LEAKAGE: 2 DPM MAX AT 2.9 TO 72 PSID

1 DPM MAX AT 87 TO 1001 PSID

0 DPM AT 1015 TO 4547 PSID

WEIGHT: 1.65 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

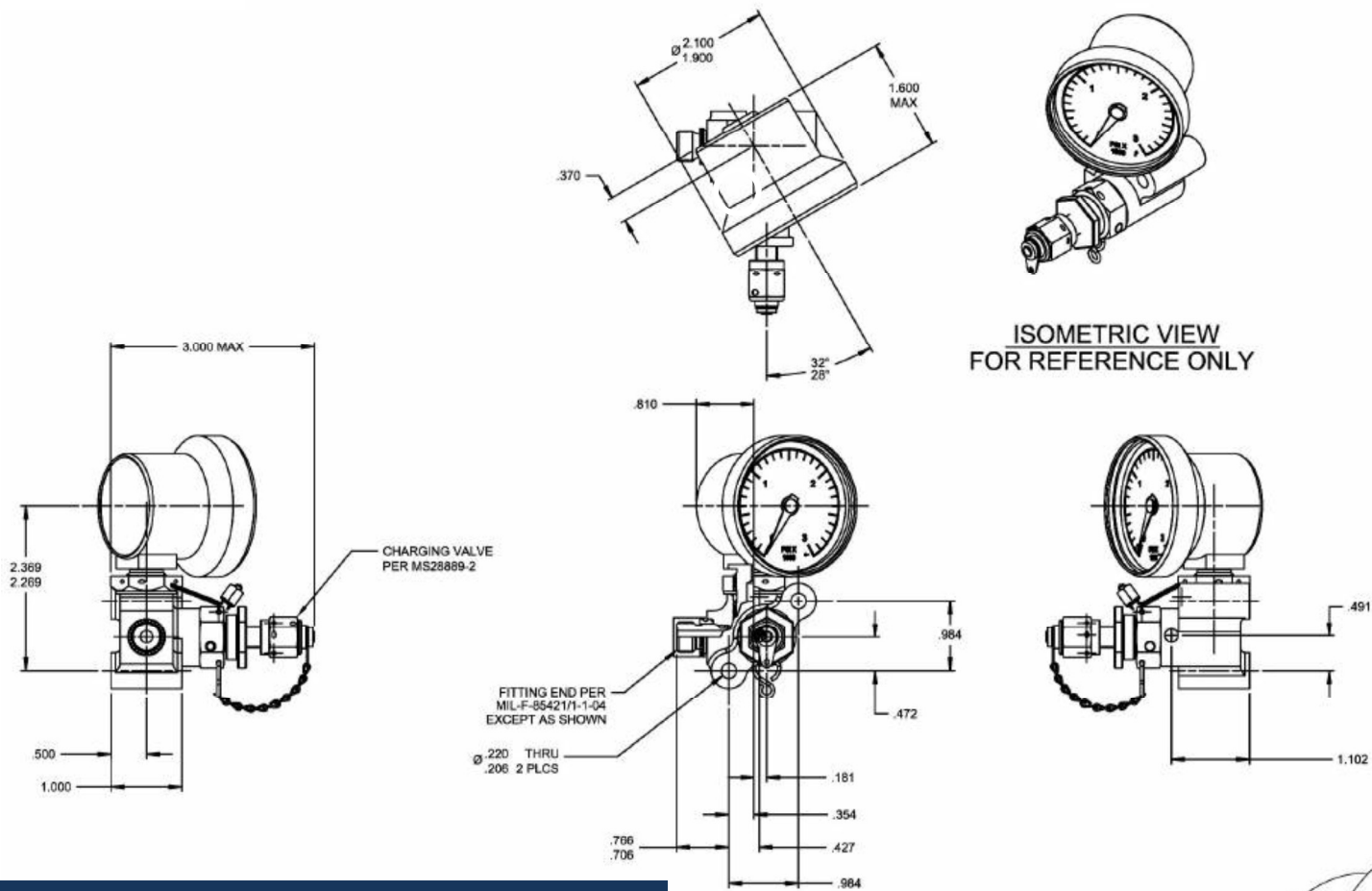


HYDRAULIC SCHEMATIC

CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1532 , CHARGING MANIFOLD



PERFORMANCE SPECIFICATIONS:

FLUIDS: NITROGEN

MATERIAL: MANIFOLD 6AL-4V TI

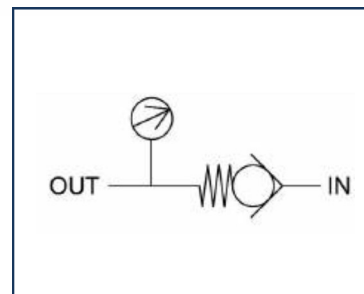
TEMPERATURE RANGE: -65°F TO 185°F

OPERATING PRESSURE: 3000 PSIG

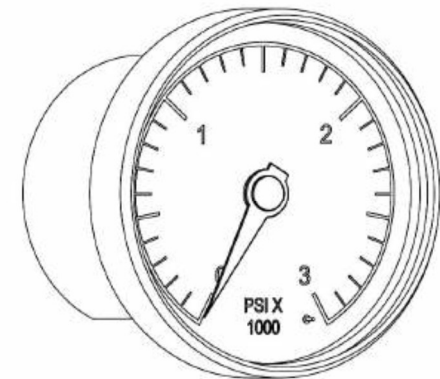
PROOF PRESSURE: 4500 PSIG

INTERNAL LEAKAGE: NOT APPLICABLE

WEIGHT: 0.88 LBS MAX



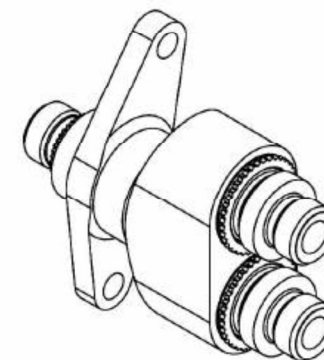
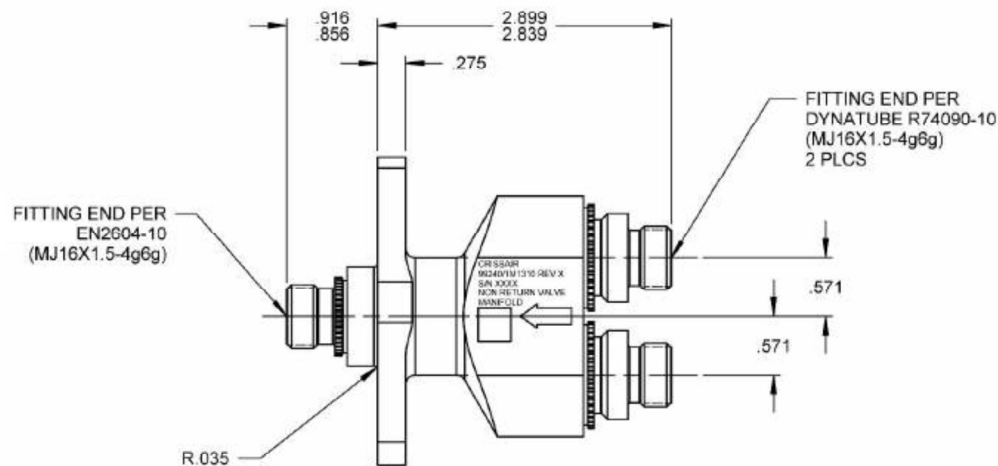
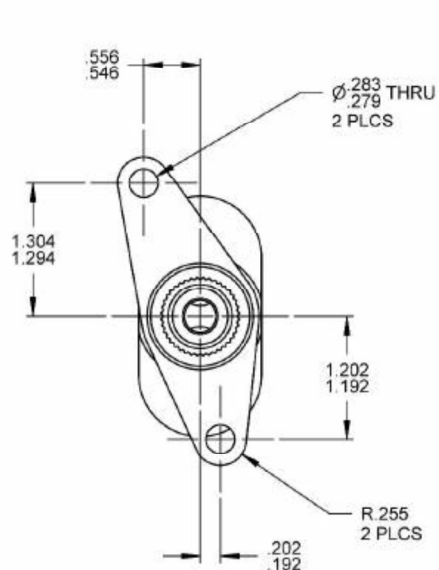
HYDRAULIC SCHEMATIC



CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1310-X, 2 INTO 1 CHECK VALVE MANIFOLD



ISOMETRIC VIEW
FOR REFERENCE ONLY

PERFORMANCE SPECIFICATIONS:

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

MATERIAL: MANIFOLD 7075-T73 AL

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3200 PSIG

PROOF PRESSURE: 4800 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

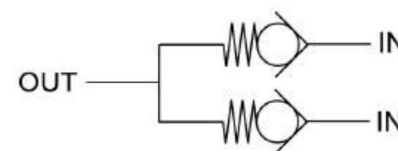
FLOW: 8 GPM AT 35 PSID MAX

9.5 GPM AT 51 PSID MAX

INTERNAL LEAKAGE: 1 DPM MAX AT 5 PSID

NONE AT 1000 TO 3200 PSID

WEIGHT: 0.60 LBS MAX

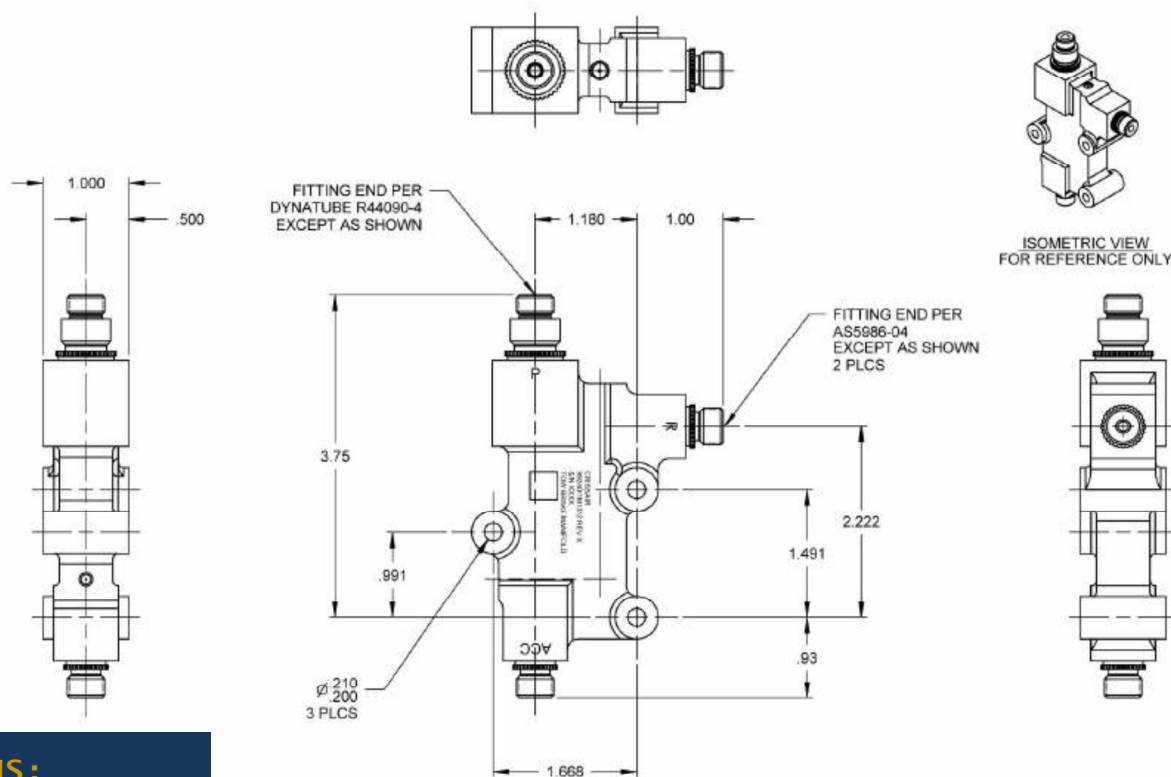


HYDRAULIC SCHEMATIC

CATEGORY 11: MANIFOLD ASSEMBLIES

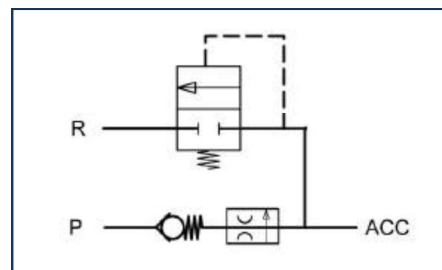


PART NUMBER: 1M1312-X, CHARGING MANIFOLD



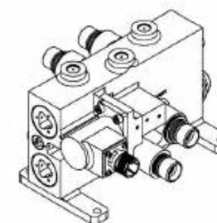
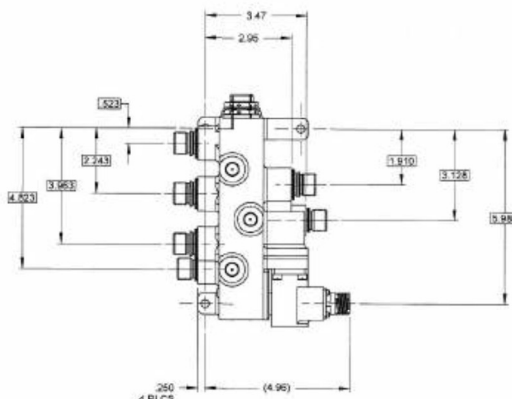
PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT HYDRAULIC FLUID PER MIL-PRF-83282 AND MIL-PRF-87257*
 MATERIAL: MANIFOLD 7075-T73511 AL
 TEMPERATURE RANGE: -65°F TO 275°F
 OPERATING PRESSURE: 3100 PSIG
 PROOF PRESSURE: 4650 PSIG
 CRACKING PRESSURE: 2 TO 8 PSID
 RELIEF PRESSURE: 3500 PSID
 RESEAT PRESSURE: 3200 PSID
 FLOW: 0.8 TO 1.0 GPM FROM 200 TO 3000 PSID (REGULATED FLOW)
 15 CC/MIN MINIMUM AT 4050 PSID (RELIEF FLOW)
 INTERNAL LEAKAGE: 1 DPM MAX AT 5 PSID
 NONE AT 1000 TO 3000 PSID
 40 DPH MAX AT 3200 PSID (DECREASING PRESSURE)
 WEIGHT: 0.56 LBS MAX
 *OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

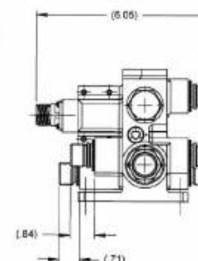
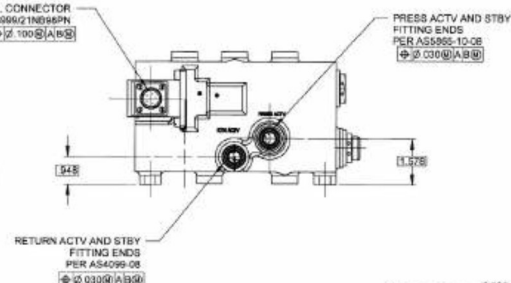
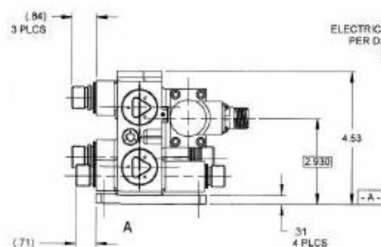
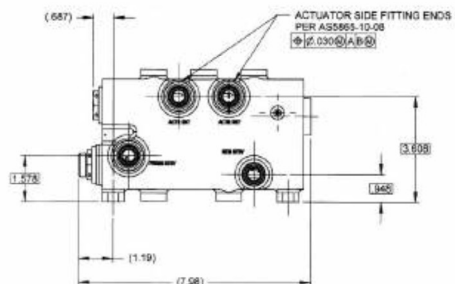


HYDRAULIC SCHEMATIC

CATEGORY 11: MANIFOLD ASSEMBLIES

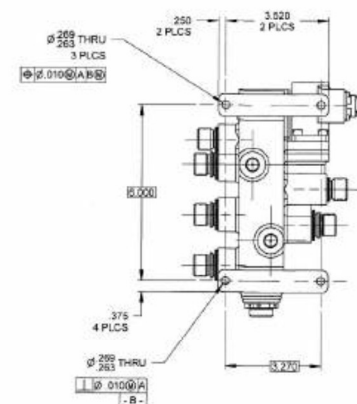


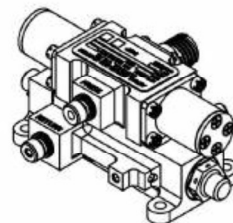
ISOMETRIC VIEW
FOR REFERENCE ONLY



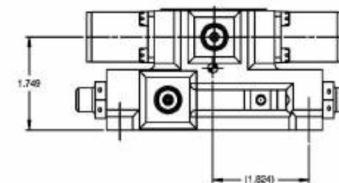
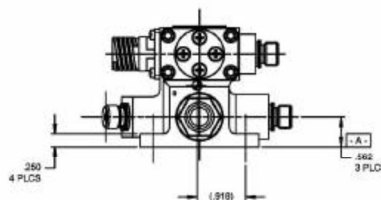
FLUIDS: AIRCRAFT HYDRAULIC FLUID PER MIL-PRF-83282*
 MATERIAL: MANIFOLD 6AL-4V TI AL
 TEMPERATURE RANGE: -40°F TO 275°F
 OPERATING PRESSURE: 5050 PSIG
 PROOF PRESSURE: 7725 PSIG
 FLOW: 15.3 GPM AT 150 PSID MAX BETWEEN ANY FLOW PATH
 INTERNAL LEAKAGE: 25 CC/MIN MAX AT 5050 PSID AND 80°F TO 120°F
 OPERATING VOLTAGE RANGE: 16 TO 31 VDC (28 VDC NOMINAL)
 COIL RESISTANCE: 33-37 OHMS AT 70°F TO 90°F PER COIL
 PULL-IN VOLTAGE: 16 VDC MAX AT 70°F TO 90°F
 DROP-OUT VOLTAGE: 2.8 VDC MIN AT 70°F TO 90°F
 PEAK INVERSE VOLTAGE: 600 VDC
 DUTY CYCLE: CONTINUOUS
 WEIGHT: 9.6 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE





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FOR REFERENCE ONLY



*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CATEGORY 11: MANIFOLD ASSEMBLIES



CRISSAIR HAS VARIOUS OTHER MANIFOLDS 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.