



MANIFOLD ASSEMBLIES

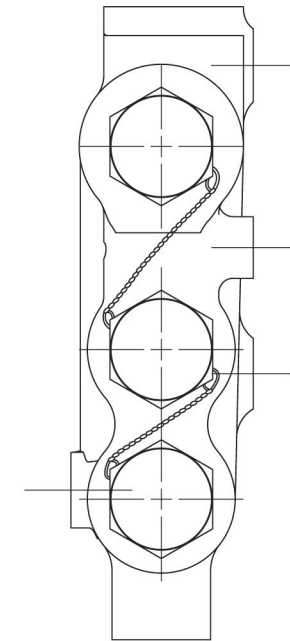
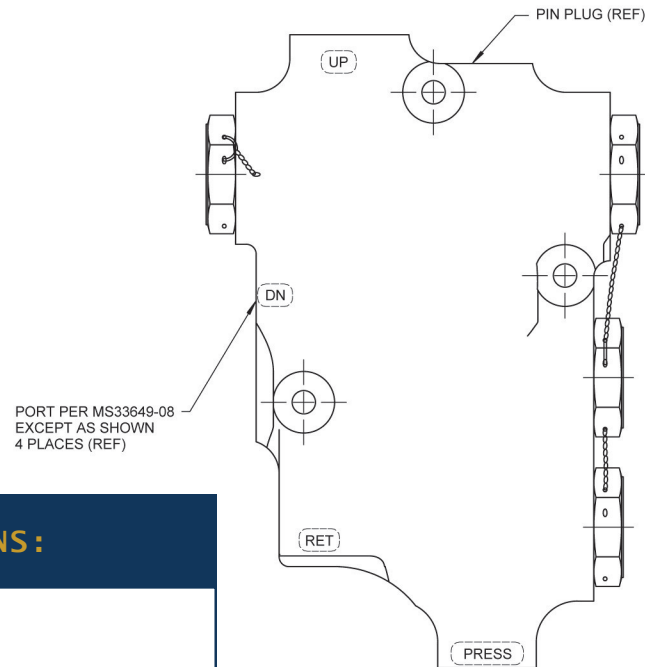
The greatest value proposition at Crissair lies within Manifold Assemblies. With the product range to cover all necessary fluid control components for certain manifold applications, Crissair's engineers optimize performance, weight, cost, and schedule simultaneously.



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



PART NUMBER: 1M1046-X, HYDRAULIC RETURN MANIFOLD



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

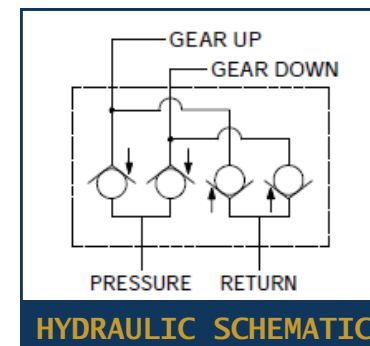
PRESSURE PORT TO GEAR DOWN PORT

GEAR UP PORT TO RETURN PORT

GEAR DDWM PORT TO RETURN PORT

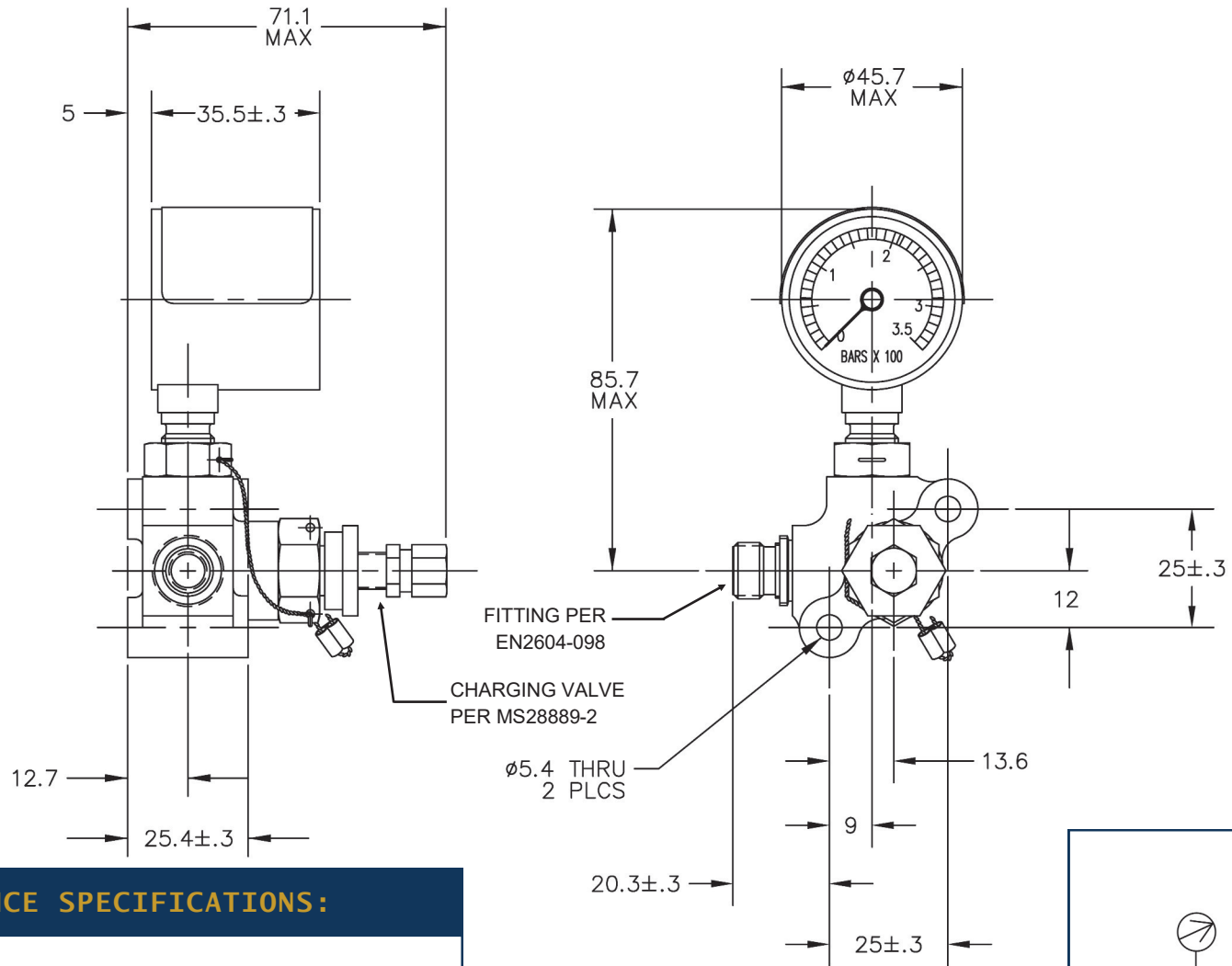
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CATALOG USE ONLY



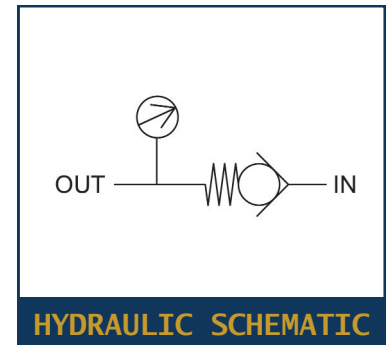


PART NUMBER: 1M1072-X, CHARGING MANIFOLD



PERFORMANCE SPECIFICATIONS:

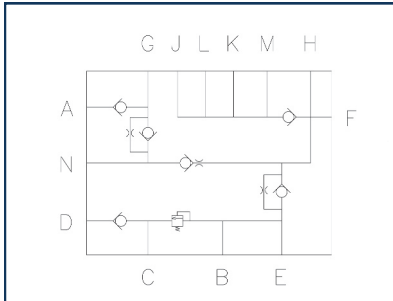
FLUIDS: MIL-H-83282*
MATERIAL: MANIFOLD 2024-T351 AL
TEMPERATURE RANGE: -22°F TO 248°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 6000 PSIG
INTERNAL LEAKAGE: NONE
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



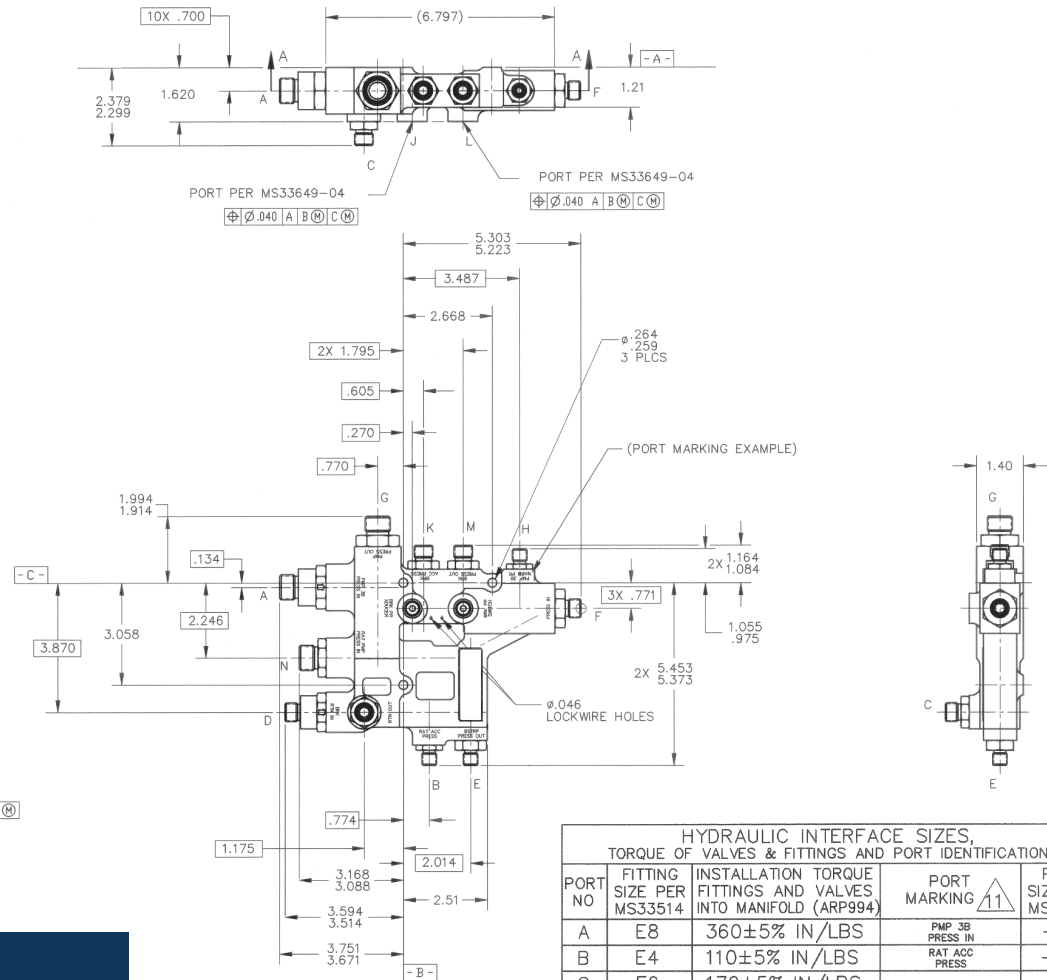
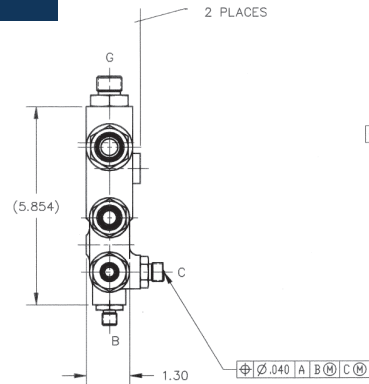
CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1086-X, MANIFOLD ASSEMBLY VALVE



HYDRAULIC SCHEMATIC



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	RTN OUT	-06
D	E6	280±5% IN/LBS	BRK RTN 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 XDUCER	-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

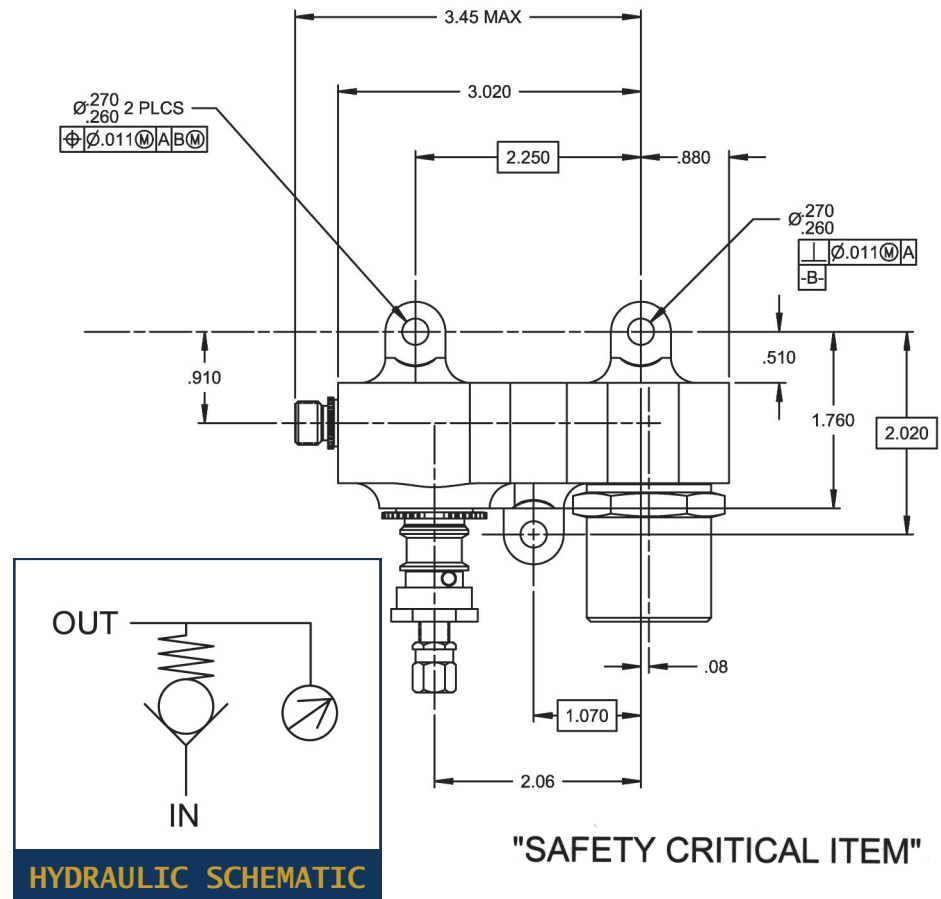
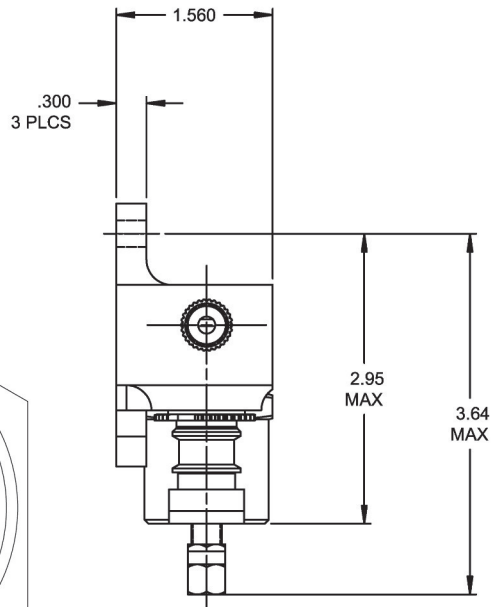
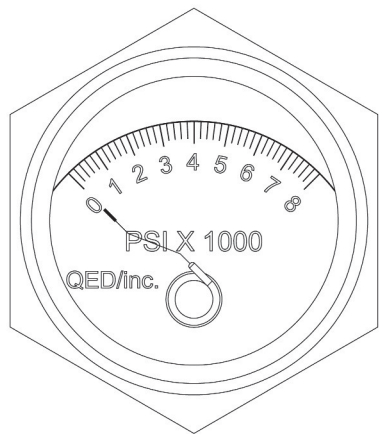
PERFORMANCE SPECIFICATIONS:

- 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

CATEGORY 11: MANIFOLD ASSEMBLIES

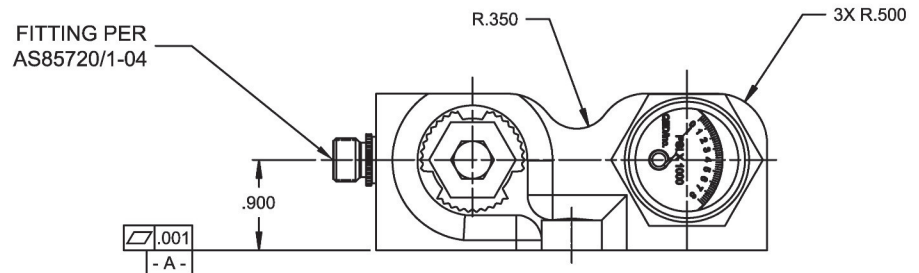


PART NUMBER: 1M1372-X, HIGH PRESSURE PNEUMATIC MANIFOLD



PERFORMANCE SPECIFICATIONS:

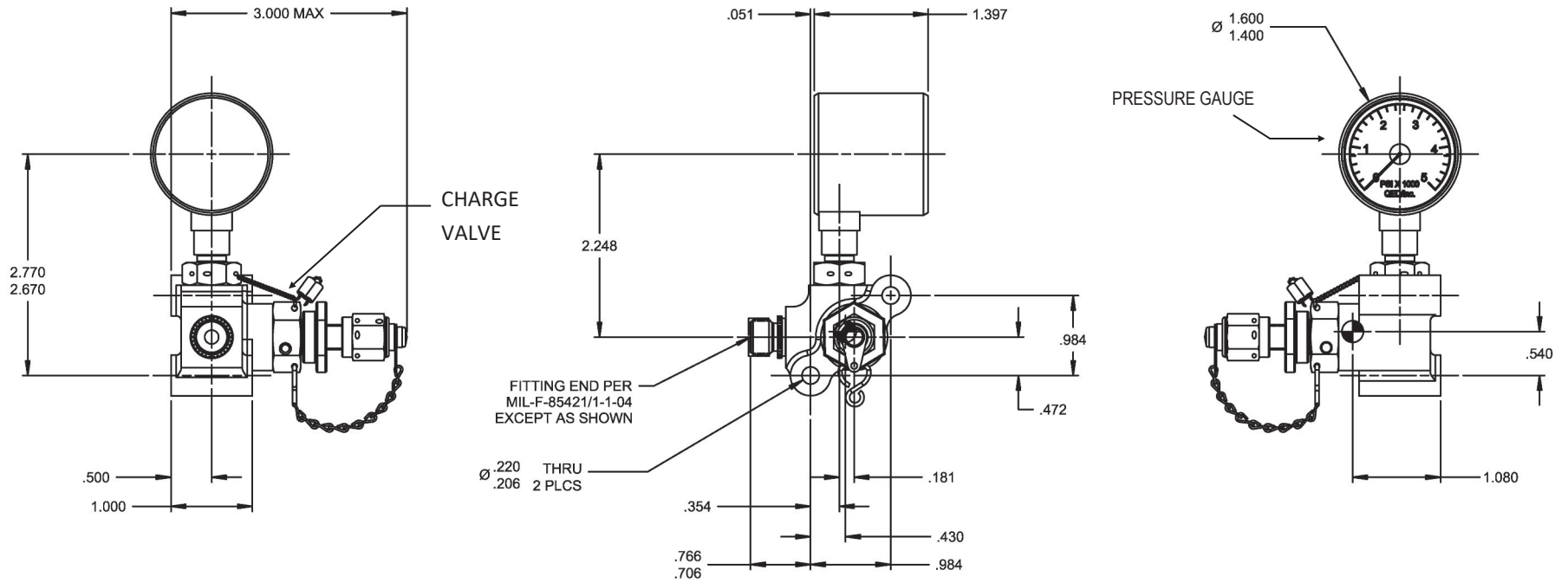
FLUIDS: AIR AND NITROGEN
 MATERIAL: MANIFOLD 6AL-4V TI
 TEMPERATURE RANGE: -65°F TO 250°F
 OPERATING PRESSURE: 5400 PSIG
 PROOF PRESSURE: 10800 PSIG
 INTERNAL LEAKAGE: NONE FROM 0 TO 5400 PSID WITH NUT ON ITEM 2 TORQUED TO 50-60 INCH/LBS



CATEGORY 11: MANIFOLD ASSEMBLIES

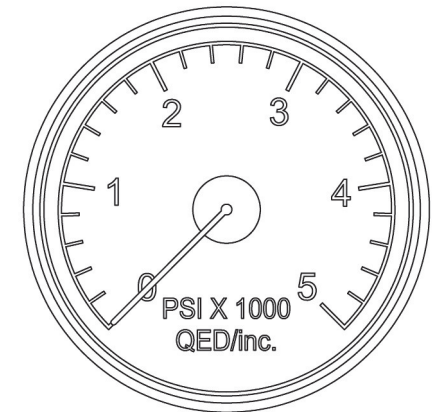
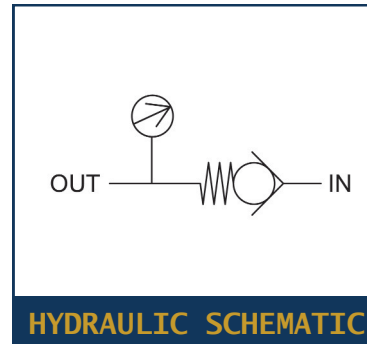


PART NUMBER: 1M1190-X, CHARGING MANIFOLD



PERFORMANCE SPECIFICATIONS:

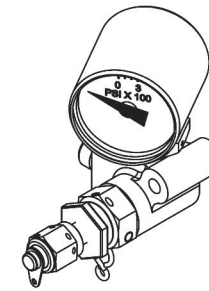
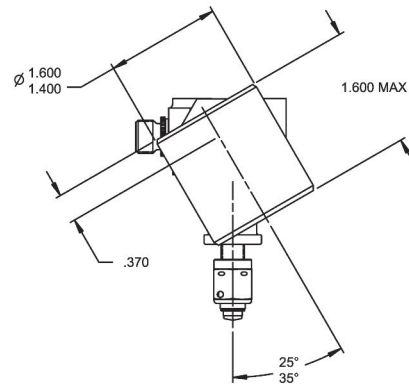
FLUIDS: NITROGEN
 MATERIAL: MANIFOLD 6AL-4V TI
 TEMPERATURE RANGE: -65°F TO 185°F
 OPERATING PRESSURE: 4000 PSIG
 PROOF PRESSURE: 6000 PSIG
 FLOW: 80 L/MIN MINIMUM
 INTERNAL LEAKAGE: NOT APPLICABLE
 WEIGHT: 2.45 LBS MAX



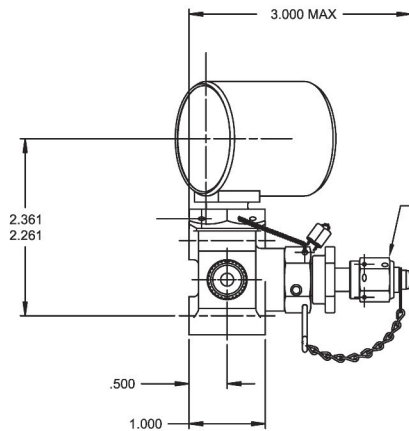
CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1204

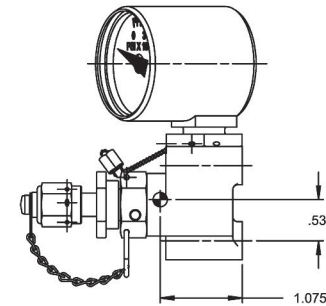
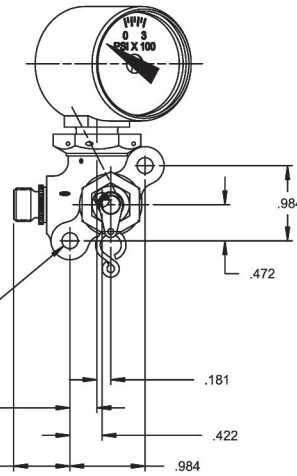


ISOMETRIC VIEW FOR REFERENCE ONLY



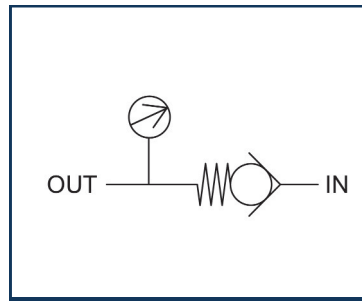
CHARGING VALVE PER MS28889-2

$\varnothing .220$ THRU
 $.206$ 2 PLCS

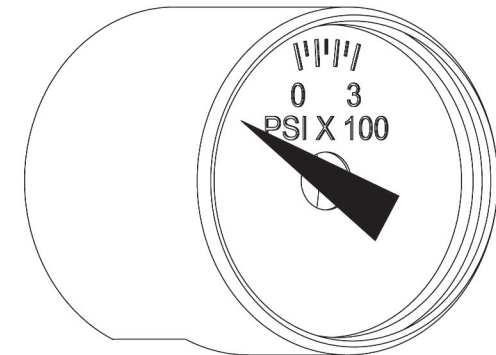


PERFORMANCE SPECIFICATIONS:

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



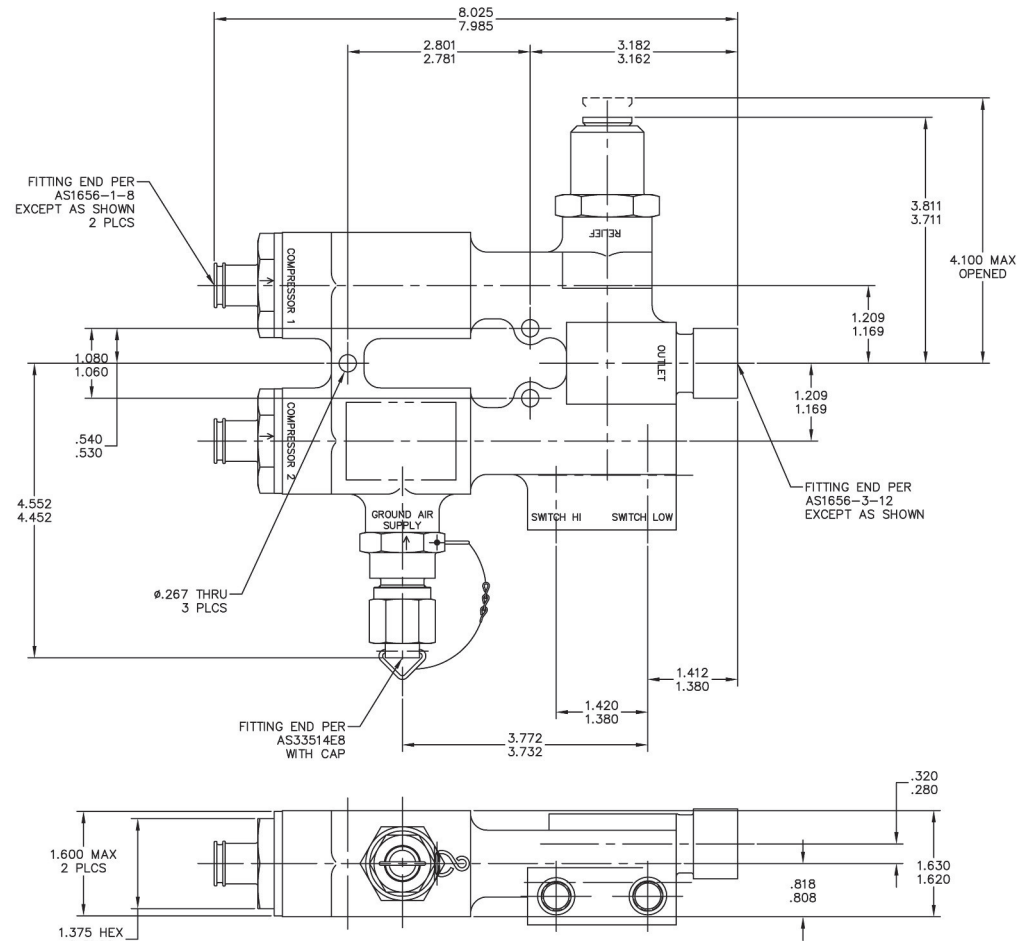
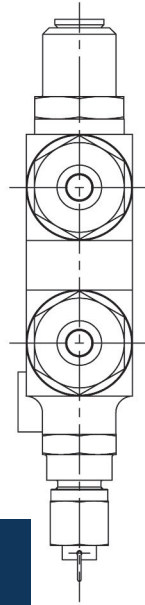
HYDRAULIC SCHEMATIC



CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1246-X, 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

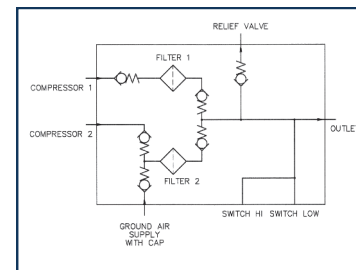
CRACKING PRESSURE: 1.5 TO 8 PSID

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

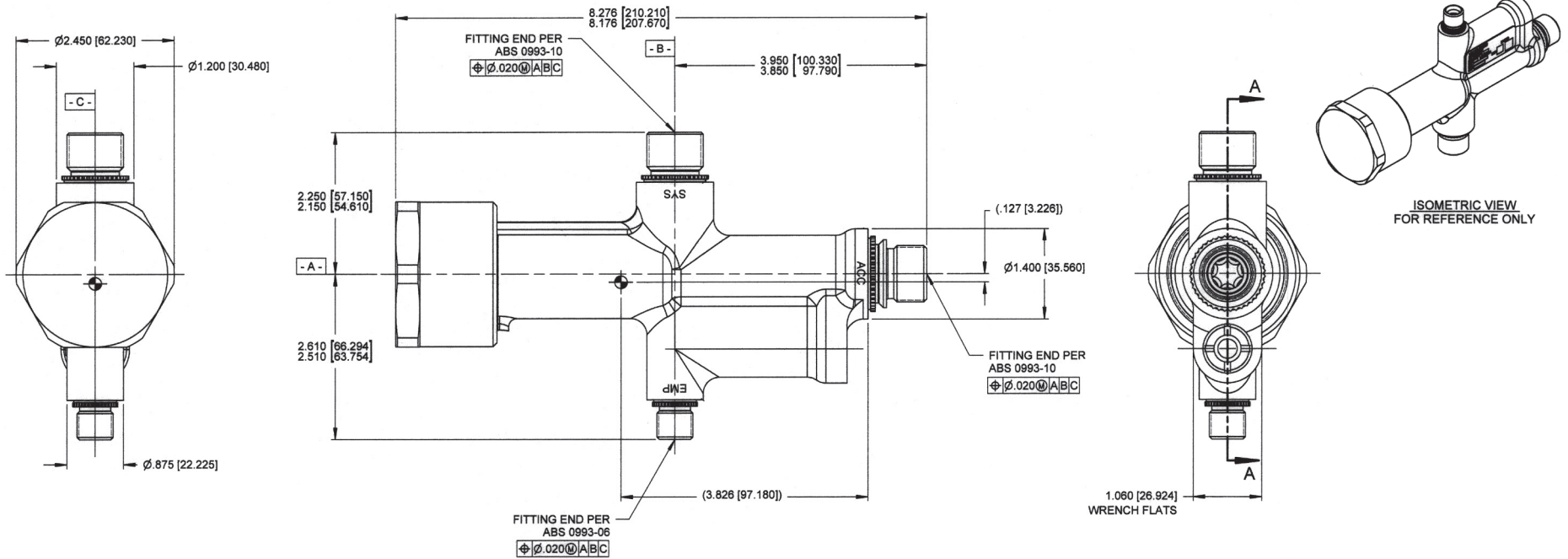


HYDRAULIC SCHEMATIC

CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1250-X, PRESSURE MAINTAINING VALVE MANIFOLD



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL*

MATERIAL: MANIFOLD 15-5PH CRES

TEMPERATURE RANGE: -40°F TO 203°F

OPERATING PRESSURE: 5002 TO 5076 PSIG

PROOF PRESSURE: 7614 PSIG

CHECK VALVES

CRACKING PRESSURE: 2 TO 7.2 PSID

PILOT OPERATION

OPENING: 4060 PSIG

RESEAT PRESSURE: 3074 PSIG

FLOW: 6.6 GPM AT 45 PSID MAX AT 68°F FROM EMP AND ACCUM

28.5 GPM AT 126 PSID MAX AT 68°F FROM SYS TO ACCUM AND ACCUM TO SYS

INTERNAL LEAKAGE: 2 DPM MAX FROM 1000 TO 5076 PSID
FROM ACCUM TO EMP AND ACCUM TO SYS

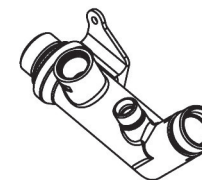
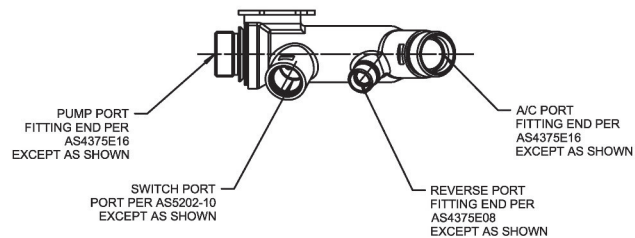
WEIGHT: 3.93 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

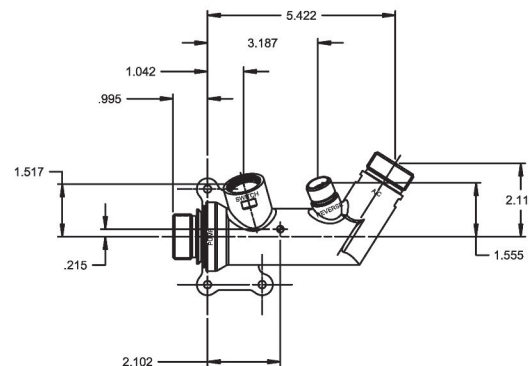
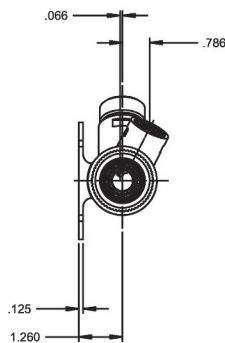
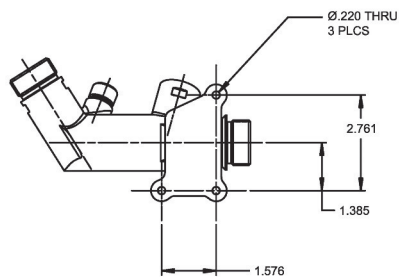
CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1280-X, CHECK VALVE MANIFOLD



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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

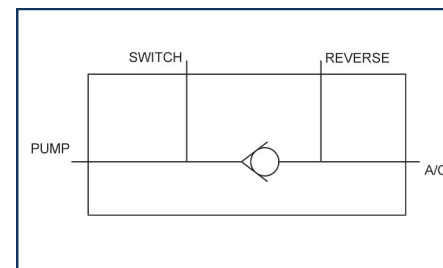
INTERNAL LEAKAGE: 2 DPM MAX AT 2.9 TO 72 PSID

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

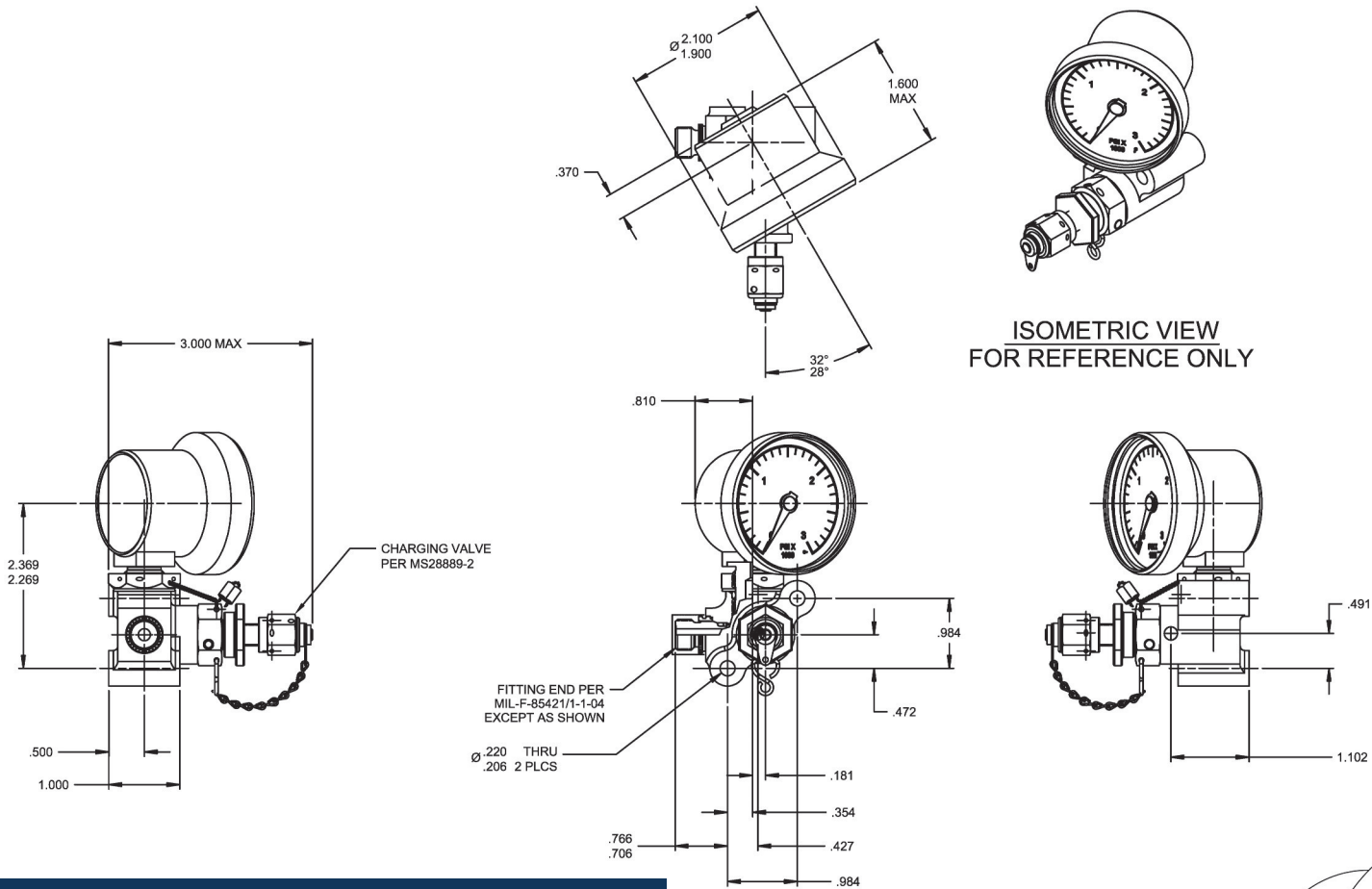


HYDRAULIC SCHEMATIC

CATEGORY 11: MANIFOLD ASSEMBLIES

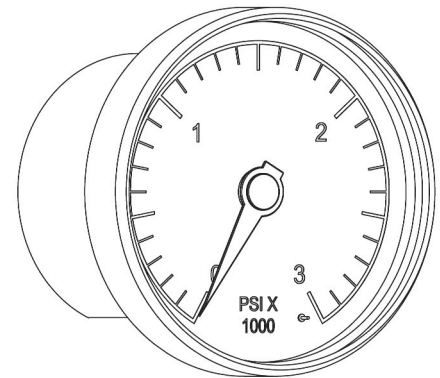
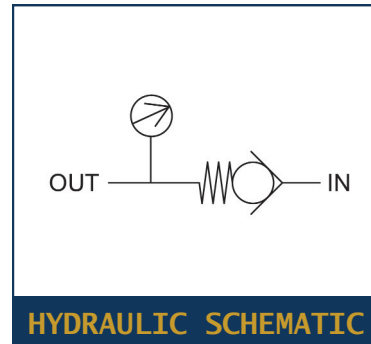


PART NUMBER: 1M1298-X, CHARGING MANIFOLD



PERFORMANCE SPECIFICATIONS:

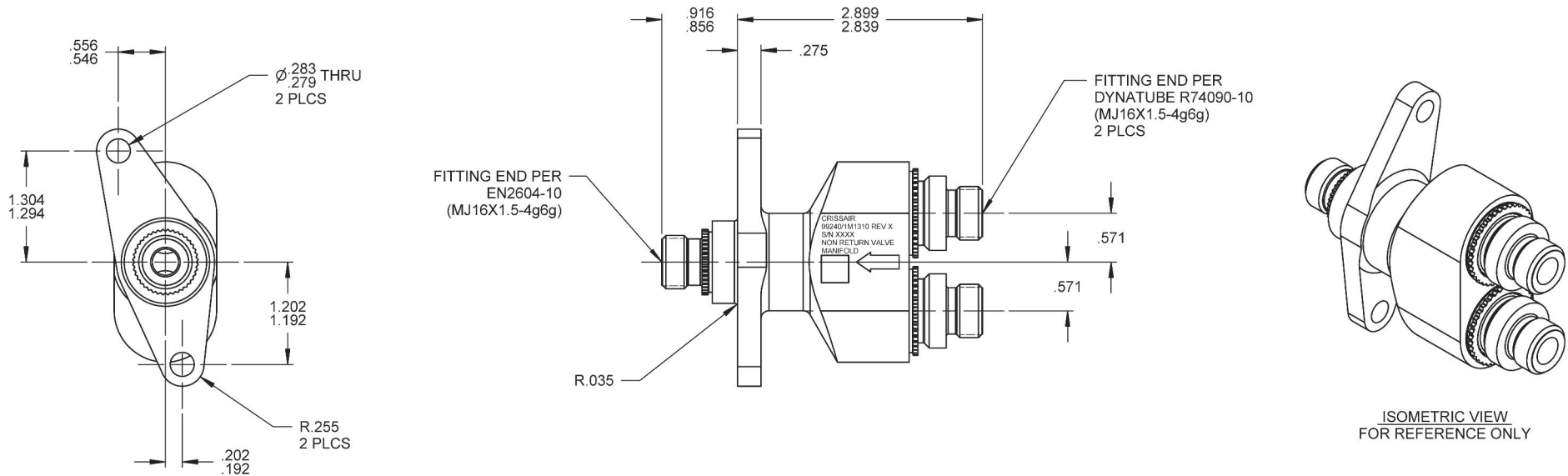
FLUIDS: NITROGEN
MATERIAL: MANIFOLD 6AL-4V TI
TEMPERATURE RANGE: -65°F TO 185°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
INTERNAL LEAKAGE: NOT APPLICABLE
WEIGHT: 0.88 LBS MAX



CATEGORY 11: MANIFOLD ASSEMBLIES

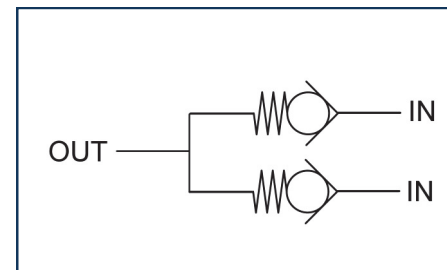


PART NUMBER: 1M1310-X, 2 INTO 1 CHECK VALVE MANIFOLD



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

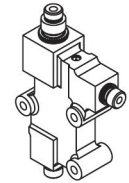
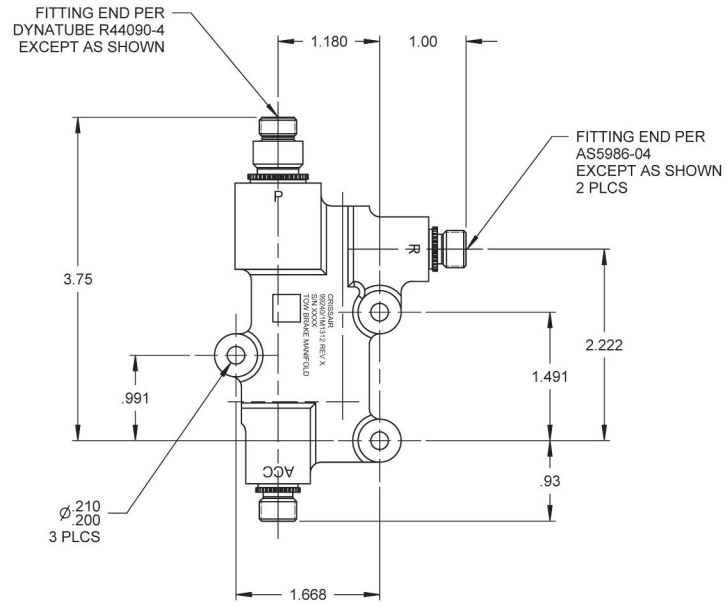
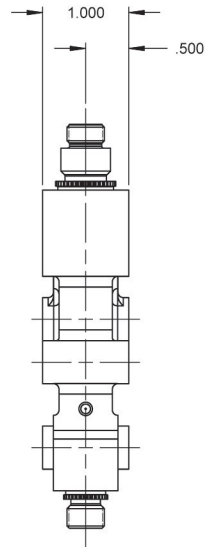


HYDRAULIC SCHEMATIC

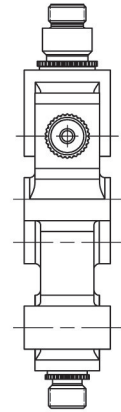
CATEGORY 11: MANIFOLD ASSEMBLIES



PART NUMBER: 1M1312-X, CHARGING MANIFOLD

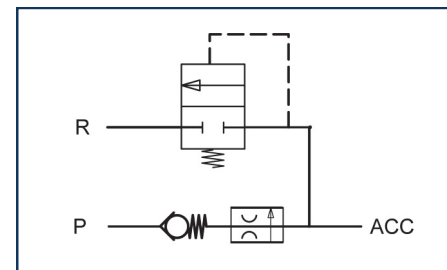


ISOMETRIC VIEW FOR REFERENCE ONLY



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



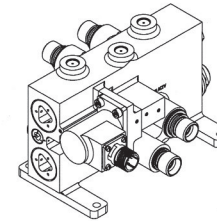
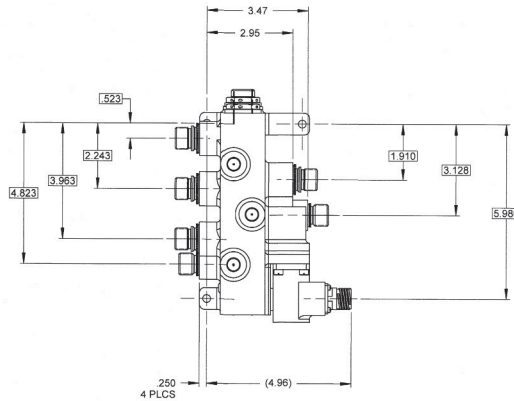
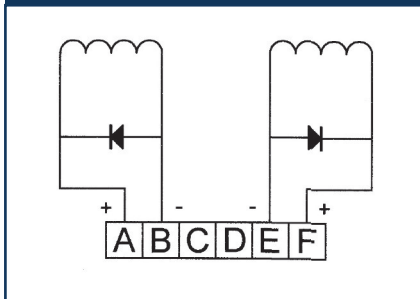
HYDRAULIC SCHEMATIC

CATEGORY 11: MANIFOLD ASSEMBLIES

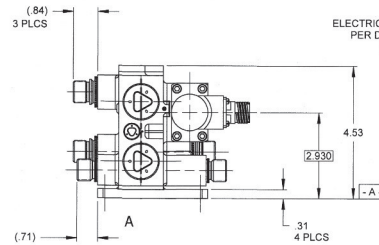
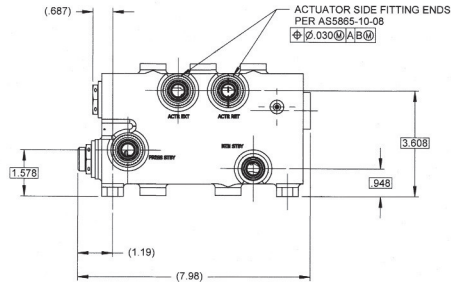


PART NUMBER: 1M1374-X, SOLENOID OPERATED SPOOL MANIFOLD

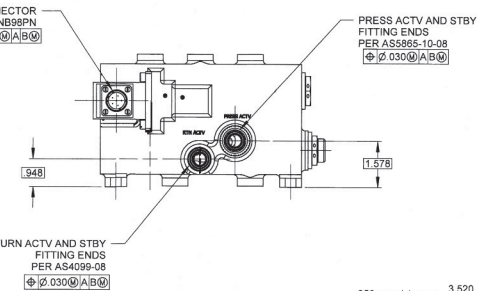
ELECTRICAL SCHEMATIC



ISOMETRIC VIEW FOR REFERENCE ONLY



ELECTRICAL CONNECTOR PER D38999/21NB98PN
 $\phi \ .100 @ A/B \textcircled{D}$

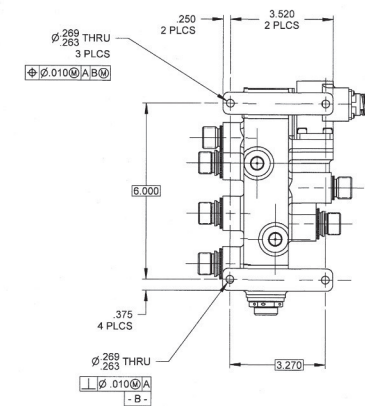
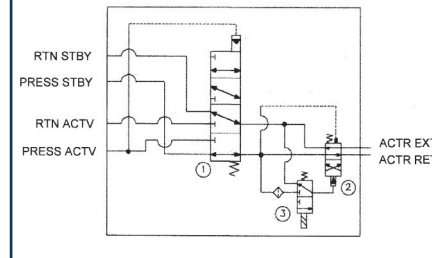


PERFORMANCE SPECIFICATIONS:

- 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

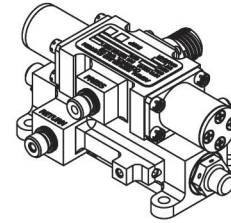
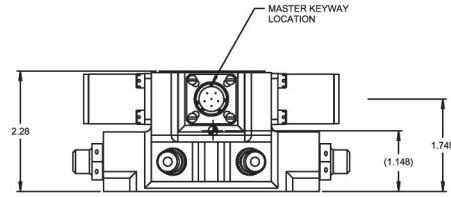
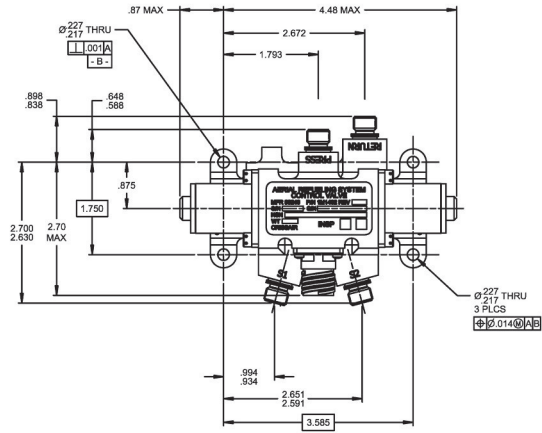
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC

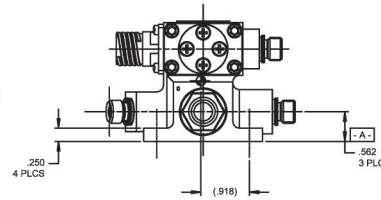




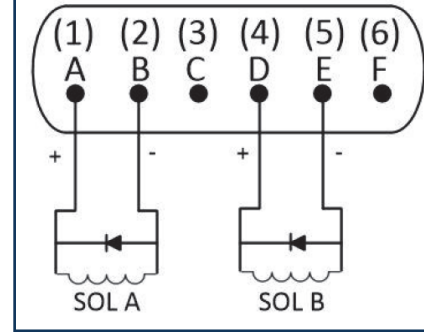
PART NUMBER: 1M1402-X



ISOMETRIC VIEW FOR REFERENCE ONLY



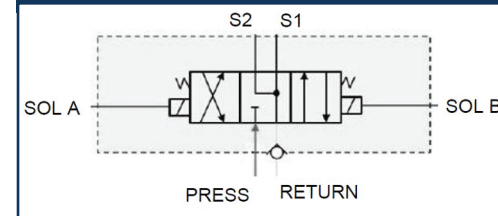
ELECTRICAL SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT HYDRAULIC FLUID PER MIL-PRF-83282*
 MATERIAL: MANIFOLD 7075-T7351 AL
 TEMPERATURE RANGE: -40°F TO 275°F
 OPERATING PRESSURE: 3100 PSIG PRESSURE PORT
 1500 PSIG RETURN PORT
 PROOF PRESSURE: 4500 PSIG PRESSURE PORT
 3000 PSIG RETURN PORT
 FLOW: P TO S1 OR S2 - 0.79 GPM AT 60 PSID MAX
 S1 OR S2 TO R - 0.79 GPM AT 60 PSID MAX
 INTERNAL LEAKAGE: 17 CC/MIN MAX AT 3100 PSID AND 100°F
 OPERATING VOLTAGE RANGE: 18 TO 32 VDC (28 VDC NOMINAL)
 INSULATION RESISTANCE: 100 MEGAOHMS MIN AT 500 VDC FOR 1 MIN
 FOLLOWING THE DIELECTRIC STRENGTH TEST
 PULL-IN VOLTAGE: 18 VDC MAX UNDER ALL SPECIFIED TEMP
 DROP-OUT VOLTAGE: 2.0 VDC MIN AT -65°F
 DUTY CYCLE: CONTINUOUS
 WEIGHT: 2.2 LBS MAX
 *OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC





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.