PRODUCT CATALOG

PRIDE

PERFORMANCE

PRECISION

CRISSAIR INC.

2025
VERSION 4

MANUFACTURER OF QUALITY AIRCRAFT FLUID CONTROL COMPONENTS SINCE 1954

2022 Version 3.0

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CRISSAIR INC.

CRISSAIR INC.

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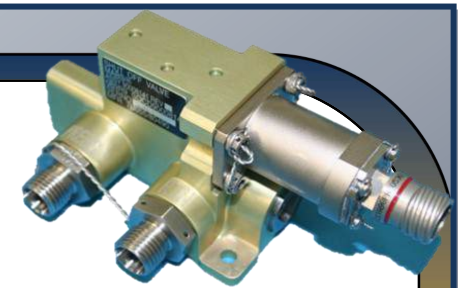
CRISSAIR INC.

HISTORY

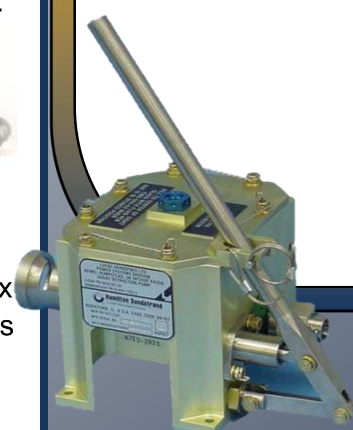
Crissair Inc. has designed and manufactured quality precision fluid control products for nearly every airframe manufacturer and major subcontractor in the military and commercial aircraft industries since opening the doors in 1954.

The inclusion of Canyon Engineering, in 2013, adds over 30 years of experience with complex aerospace and military fluid control products as well as an industrial product line.



Crissair Inc. owns and occupies a 78,000 square foot facility located in Valencia, CA. (50 miles north of LAX), with 50,000 square feet dedicated to manufacturing and testing. Another 50,000 square foot facility, dedicated to low cost manufacturing of detail components, is located just south of the border in Tijuana, Mexico. Crissair Inc. designs, manufactures, and tests a wide variety of fluid control products.

With a highly skilled and experienced engineering team utilizing lean six sigma methods, Crissair specializes in custom designs to meet the most challenging customer specifications. With over 12,000 designs in the library, development efforts and qualification schedules can be compressed very easily.



BACKGROUND

CRISSAIR INC.

CRISSAIR, Inc. has assembly/test capabilities to allow for 100% testing of all products prior to shipment. Testing is conducted in accordance with the acceptance test procedures agreed to by both CRISSAIR, Inc. and our customers. CRISSAIR, Inc. also has a dedicated 15,000 square foot Engineering Lab to run Qualification testing in-house.

- Skydrol Test Stands—flow capacity to 80 GPM—pressure capability to 8000 PSI
- MIL-H-83232 Red Oil Test Stands—flow capacity to 60 GPM—pressure capability to 8000 PSI
- MIL-L-23699 Test Stands—flow capacity to 42 GPM—pressure capability to 1000 PSI—fluid temperature range: ambient to 300°F
- MIL-PRF-7024 Test Stands— flow capacity to 8 GPM—pressure capability to 1000 PSI
- Diesel Oil Test Stands—flow capacity to 15 GPM—pressure capability to 1500 PSI
- Water/Glycol Test Stands—flow capacity to 50 GPM—pressure capability 300 PSI
- Environmental Test Chambers—temperature range: -100 to +400°F
- Dielectric testers
- Insulation resistance testers
- Bonding resistance testers
- Oscilloscopes
- Data acquisition equipment
- Endurance setups
- Impulse setups

ASSEMBLY AND TEST

CERTIFIED TO: AS9100 REV D, ISO 9001:2008, AND ISO 14001:2004

Certificate of Registration

This certifies that the Quality Management System of

Crissair, Inc.

28909 Avenue Williams
Valencia, California, 91355, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

AS9100D with ISO 9001:2015

Scope of Registration:
Design, Development, Manufacture and Repair of Fluid Control Devices.

Certificate Number:	C0066581-AS7
Certificate Decision Re-Issue Date:	16-FEB-2021
Certificate Issue Date:	03-MAR-2021
Expiration Date *:	02-MAR-2024

Jennifer Moncraft,
Global Managing Director

NSF International Strategic Registrations

Certificate of Registration

This certifies that the Environmental Management System of

Crissair, Inc.

28909 Avenue Williams
Valencia, California, 91355, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 14001:2004

Scope of Registration:
Design, Development, Manufacture, Repair of Fluid Control Devices for Aerospace, Automotive and Commercial Applications

Certificate Number:	C0066581-EM1
Certificate Issue Date:	24-FEB-2015
Registration Date:	03-MAR-2015
Expiration Date *:	02-MAR-2018

Carl Blazik,
Director, Technical
Operations & Business Units,
NSF-ISR, Ltd.

NSF International Strategic Registrations

Certificate of Registration

This certifies that the Quality Management System of

Crissair, Inc.

28909 Avenue Williams
Valencia, California, 91355, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 9001:2008

Scope of Registration:
Design, Development, Manufacture, Repair of Fluid Control Devices for Aerospace, Automotive and Commercial Applications

Certificate Number:	C0066581-IS5
Certificate Issue Date:	26-FEB-2015
Registration Date:	03-MAR-2015
Expiration Date *:	02-MAR-2018

Carl Blazik,
Director, Technical
Operations & Business Units,
NSF-ISR, Ltd.

NSF International Strategic Registrations

QUALITY

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CRISSAIR INC.

FAA REPAIR STATION, LIMITED ACCESSORIES

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Air Agency Certificate

Number KIKR903X

This certificate is issued to

CRISSAIR, INC.

whose business address is

28909 AVENUE WILLIAMS
VALENCIA, CALIFORNIA 91355

upon finding that its organization complies in all respects with the requirements of the Federal Aviation Regulations relating to the establishment of an Air Agency, and is empowered to operate an approved REPAIR STATION

with the following ratings:

LIMITED ACCESSORIES

This certificate, unless canceled, suspended, or revoked, shall continue in effect INDEFINITELY.

Date issued:
APRIL 5, 2005
REISSUED: FEBRUARY 6, 2014

By direction of the Administrator
for RICHARD SWANSON, MANAGER
VAN NUYS FSDO, WESTERN-PACIFIC REGION

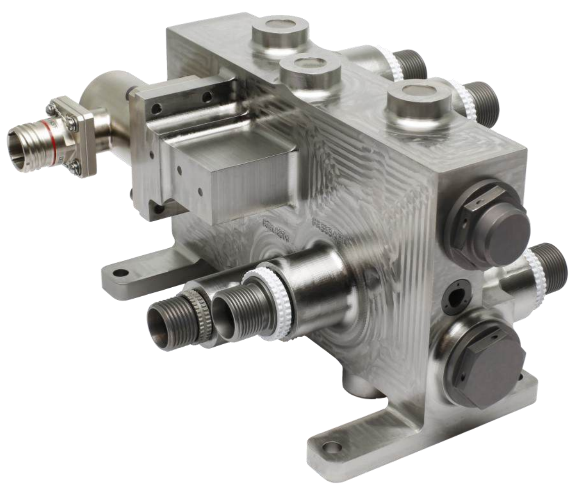
This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF THE FEDERAL AVIATION ADMINISTRATION

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both

FAA Form 8000-4 (1-67) SUPERSEDES FAA FORM 390. Electronic Forms (PDF)

OUR DEDICATED ENGINEERING STAFF WORKS CLOSELY WITH THE CUSTOMER FROM THE JOINT DEVELOPMENT PHASE THROUGH SUCCESSFUL PRODUCTION LAUNCH

- CAD Systems: Autodesk Inventor, PTC CREO (CAD, FEA & CFD), and Catia
- Hysan: Dynamic Flow Modeling
- LabVIEW: Data Acquisition
- Project Engineering: Cradle-to-grave methodology
- On-site Engineering Test Lab: Development and Qualification



ENGINEERING

CRISSAIR INC.

CHECK VALVES

CRISSAIR Inc, is a world class, leading manufacturer of all styles of Check Valves.

- Inline Check Valves: Crissair's line of inline check valves generally utilize a design containing a poppet and one-piece body. This unique design offers excellent performance and unmatched reliability for hydraulic, lubrication, and pneumatic systems. Many of Crissair's designs are qualified to MIL-V-19069 and MIL-V-25675, and can be found on the Qualified Products List QPL-25675.
- Cartridge Check Valves: The cartridge style check valves generally utilize the same internal components and design architecture as the inline check valves, but are specially designed to thread or insert into next level manifold assemblies.
- Zero Leak designs generally incorporate elastomeric poppets and/or seats.
- Fuel Swing Check Valves: Crissair's line of swing check valves are used in fuel or pneumatic system applications where low pressure drops and low leakage rates are of the essence. Many of Crissair's designs are qualified to MIL-V-7899 and can be found on the Qualified Products List QPL-7899.
- Split Flapper Check Valves are used within bleed air and environmental control systems (ECS). Some designs utilize materials capable of withstanding extremely high temperatures.

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

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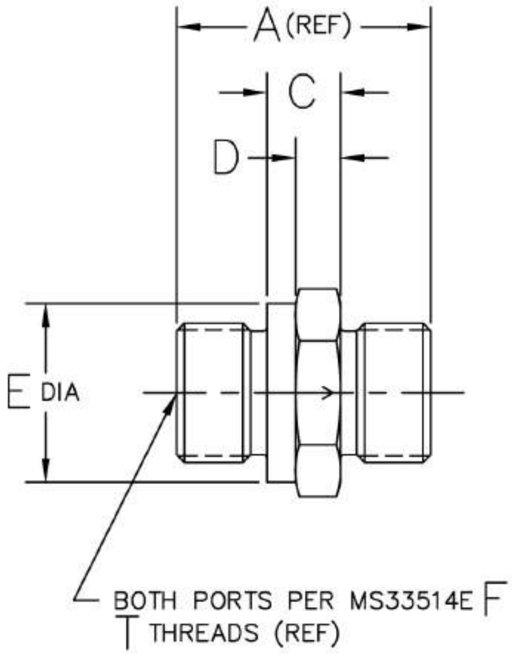
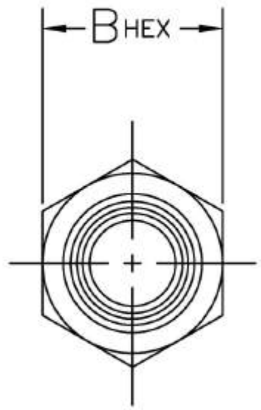
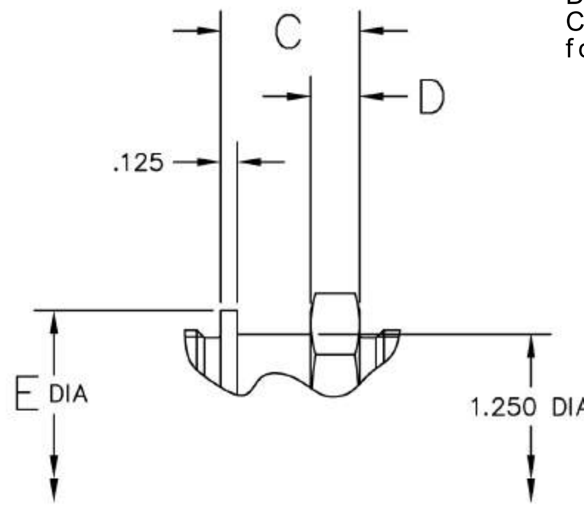
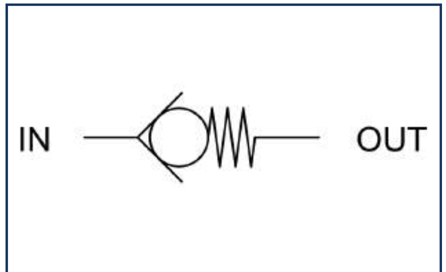
PART NUMBER: 2C4300 CHECK VALVE, SERIES, FLARELESS





Design Configuration for 2C4316





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

QUALIFIED PER: MIL-V-19069

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

BODY 431 CRES AVAILABLE WITH 2C5300 SERIES

POPPET 440C CRES

TEMPERATURE RANGE:-65°F TO 450°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

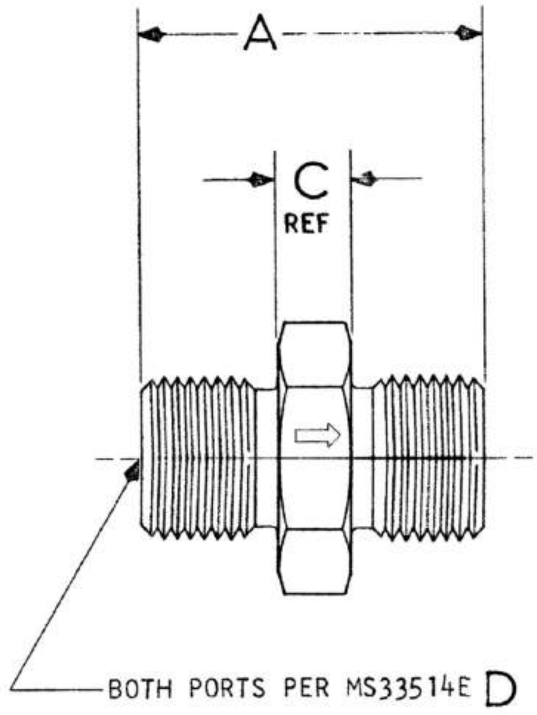
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

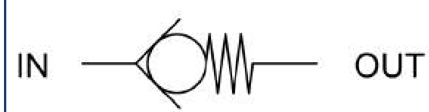
MS PART NO	CRISSAIR PART NO	TUBE OD	T THREAD	F	A REF	B HEX	C	D	E DIA	RATED FLOW (GPM)	MAX WT (LBS)
MS24423-16	2C4316	1	1.312-12UNJF-3A	16	2.438	1.625	1.062	.375	1.615	29.0	.515
MS24423-12	2C4312	3/4	1.062-12UNJF-3A	12	1.938	1.375	.562	.343	1.365	16.0	.336
MS24423-10	2C4310	5/8	.8750-14UNJF-3A	10	1.781	1.125	.531	.312	1.115	10.5	.207
MS24423-8	2C4380	1/2	.7500-16UNJF-3A	8	1.624	1.000	.500	.281	.990	6.0	.162
MS24423-6	2C4360	3/8	.5625-18UNJF-3A	6	1.407	.813	.469	.250	.803	3.5	.092
—	2C4350	5/16	.5000-20UNJF-3A	5	1.344	.750	.438	.219	.740	2.3	.069
MS24423-4	2C4340	1/4	.4375-20UNF-3A	4	1.344	.688	.438	.219	.678	1.2	.062

CATEGORY 1: CHECK VALVES, INLINE

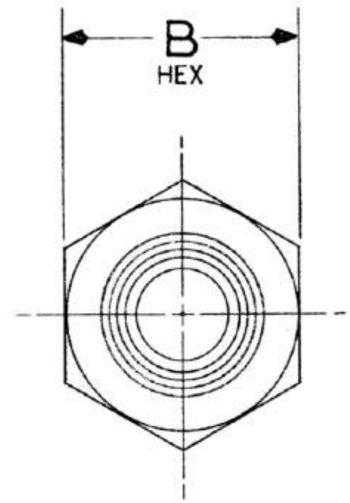
CRISSAIR INC.

PART NUMBER: 2C1700 CHECK VALVE, SERIES, FLARELESS





HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES

TEMPERATURE RANGE:-65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 10 PSID MAX

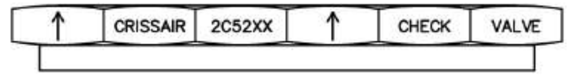
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	TUBE OD	D	A	B HEX	C REF	RATED FLOW (GPM)	MAX WT (LBS)
2C1716	1	16	2.437	1.625	1.062	29.0	.424
2C1712	3/4	12	1.875	1.375	.500	16.0	.275
2C1710	5/8	10	1.625	1.125	.375	10.5	.184
2C1780	1/2	8	1.440	1.000	.316	6.0	.120
2C1760	3/8	6	1.250	.813	.312	3.5	.073
2C1750	5/16	5	1.125	.750	.219	2.3	.051
2C1740	1/4	4	1.125	.688	.219	1.2	.043

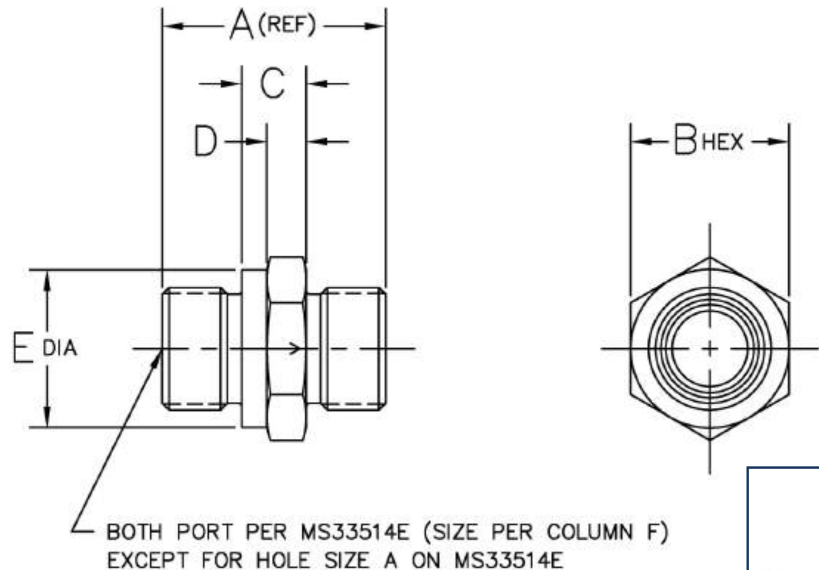
CATEGORY 1: CHECK VALVES, INLINE

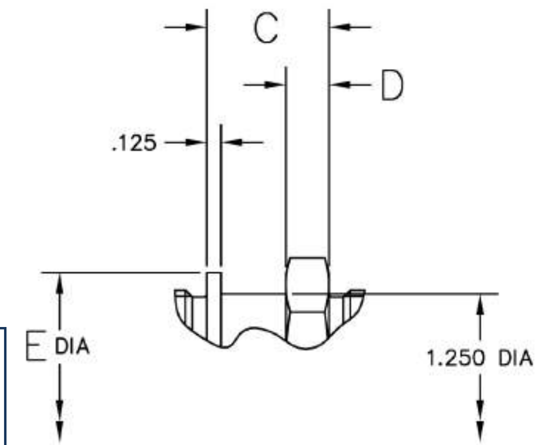
CRISSAIR INC.

PART NUMBER: 2C5200 CHECK VALVE, SERIES, FLARELESS

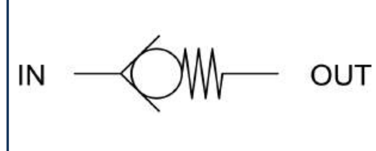


MARKING DETAIL





CONFIGURATION OF SIZE 16 ONLY



HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

QUALIFIED PER: MIL-V-19069

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 2024-T351 AL

POPPET 440C CRES

TEMPERATURE RANGE:-65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

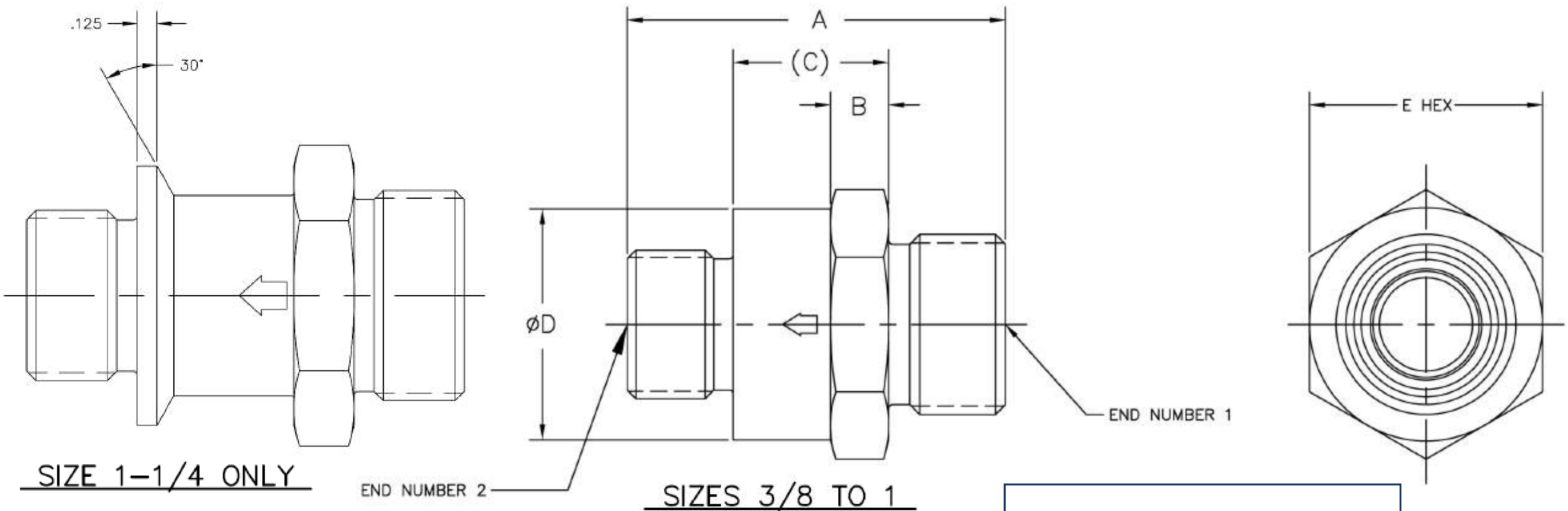
FLOW: SEE TABLE AT 15 PSID MAX

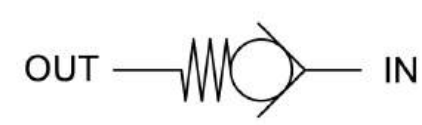
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

2C5216	1	1 5/16-12UNJF-3A	16	2.438	1.625	1.062	.375	1.615	29.0	.273
2C5212	3/4	1 1/16-12UNJF-3A	12	1.938	1.375	.562	.343	1.365	16.0	.162
2C5210	5/8	7/8-14UNJF-3A	10	1.781	1.125	.531	.312	1.115	10.5	.099
2C5280	1/2	3/4-16UNJF-3A	8	1.624	1.000	.500	.281	.990	6.0	.077
2C5260	3/8	9/16-18UNJF-3A	6	1.407	.813	.469	.250	.803	3.5	.039
2C5250	5/16	1/2-20UNJF-3A	5	1.344	.750	.438	.219	.740	2.3	.030
2C5240	1/4	7/16-20UNJF-3A	4	1.344	.688	.438	.219	.678	1.2	.026
CRISSAIR PART NO	TUBE OD	TUBE THREAD (REF)	F	A REF	B HEX	C	D	E DIA	RATED FLOW (GPM)	MAX WT (LBS)

CATEGORY 1: CHECK VALVES, INLINE

CHECK VALVE, SERIES, FLARELESS





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 6000 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

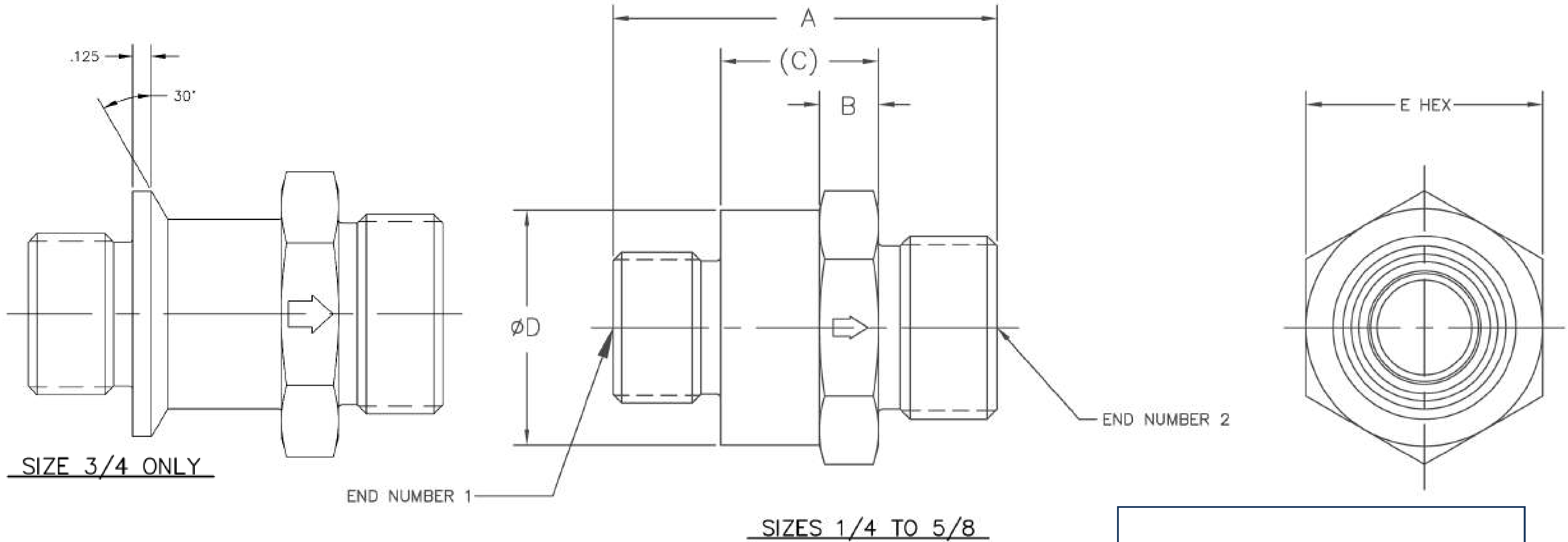
FLOW: SEE TABLE

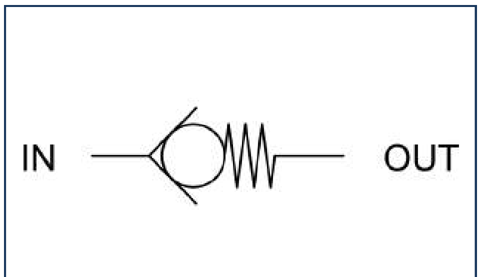
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 4000 PSID

CRISSAIR PART NO	TUBE SIZE	FLOW (GPM)	ΔP (PSID)	FITTING END NO 1 (FLARELESS TUBE)	FITTING END NO 2 (FLARELESS TUBE)	A ±.015	B ±.015	C (REF)	D ±.015	E ±.015	MAX WT (LBS)
7C6016-2	1 1/4	29.0	14	MS33514E20	MS33514E16	2.460	.375	1.084	1.865	1.875	.95
7C6012-2	1	16.0	12	MS33514E16	MS33514E12	2.030	.343	.654	1.615	1.625	.70
7C6010-2	3/4	10.5	12	MS33514E12	MS33514E10	1.850	.312	.537	1.365	1.375	.36
7C6008-2	5/8	6.0	14	MS33514E10	MS33514E8	1.670	.281	.483	1.115	1.125	.22
7C6006-2	1/2	3.5	12	MS33514E8	MS33514E6	1.480	.250	.449	.990	1.000	.15
7C6004	3/8	1.2	10	MS33514E6	MS33514E4	1.380	.219	.458	.803	.813	.10

CRISSAIR INC.

CHECK VALVE, SERIES, FLARELESS





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 6000 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

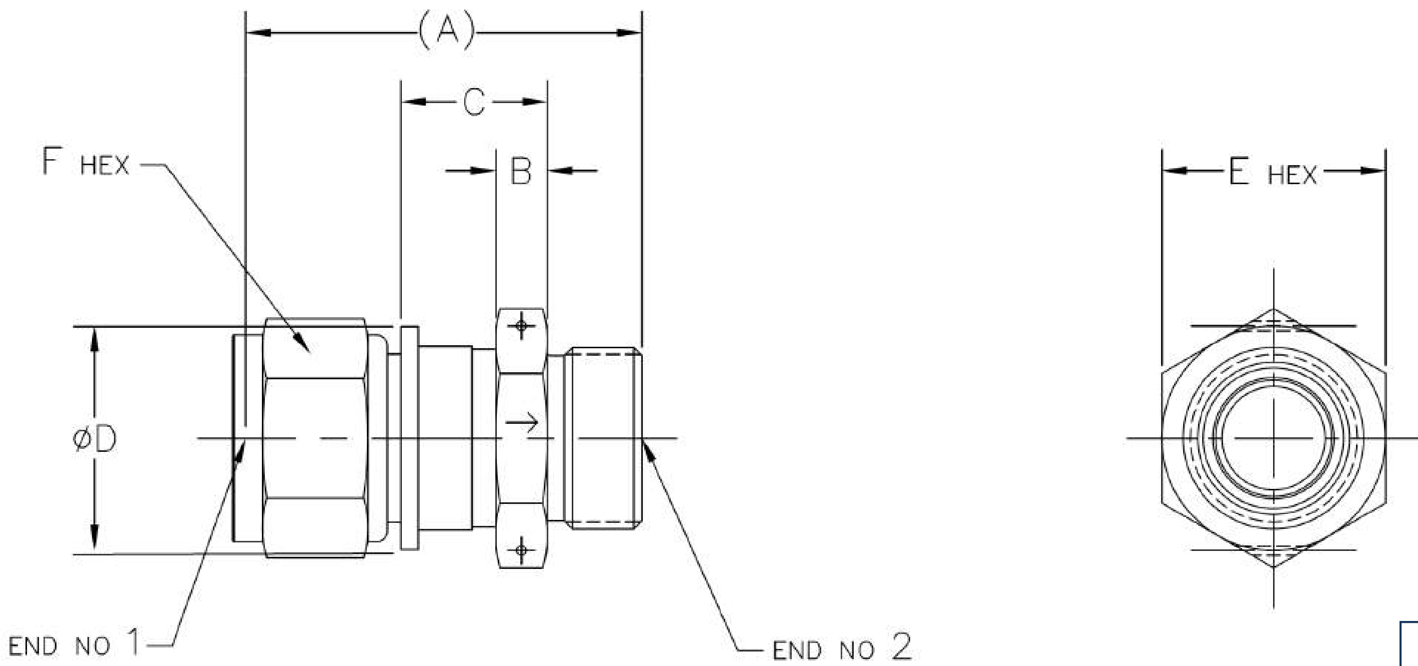
FLOW: SEE TABLE

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 4000 PSID

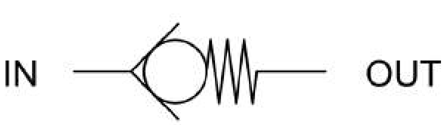
CRISSAIR PART NO	TUBE SIZE	FLOW (GPM)	ΔP (PSID)	FITTING END NO 1 (FLARELESS TUBE)	FITTING END NO 2 (FLARELESS TUBE)	A ±.015	B ±.015	C (REF)	D ±.015	E ±.015	MAX WT (LBS)
7C6016-1	3/4	29.0	12	MS33514E12	MS33514E16	2.730	.375	1.354	1.615	1.625	.60
7C6012-1	5/8	16.0	10	MS33514E10	MS33514E12	2.230	.343	.917	1.365	1.375	.47
7C6010-1	1/2	10.5	10	MS33514E8	MS33514E10	2.020	.312	.833	1.115	1.125	.29
7C6008-1	3/8	6.0	12	MS33514E6	MS33514E8	1.800	.281	.769	.990	1.000	.21
7C6006-1	1/4	3.5	25	MS33514E4	MS33514E6	1.630	.250	.708	.803	.813	.13

CRISSAIR INC.

CHECK VALVE, SERIES, B-NUT/FLARELESS



ALSO AVAILABLE WITH BODY IN AL ALLOY AND TITANIUM



HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 15-5PH CRES
POPPET 440C CRES
SWIVEL NUT 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG
4000 PSIG FOR 1C3200 SERIES

PROOF PRESSURE: 4500 PSIG
6000 PSIG FOR 1C3200 SERIES

CRACKING PRESSURE: 2 TO 8 PSID

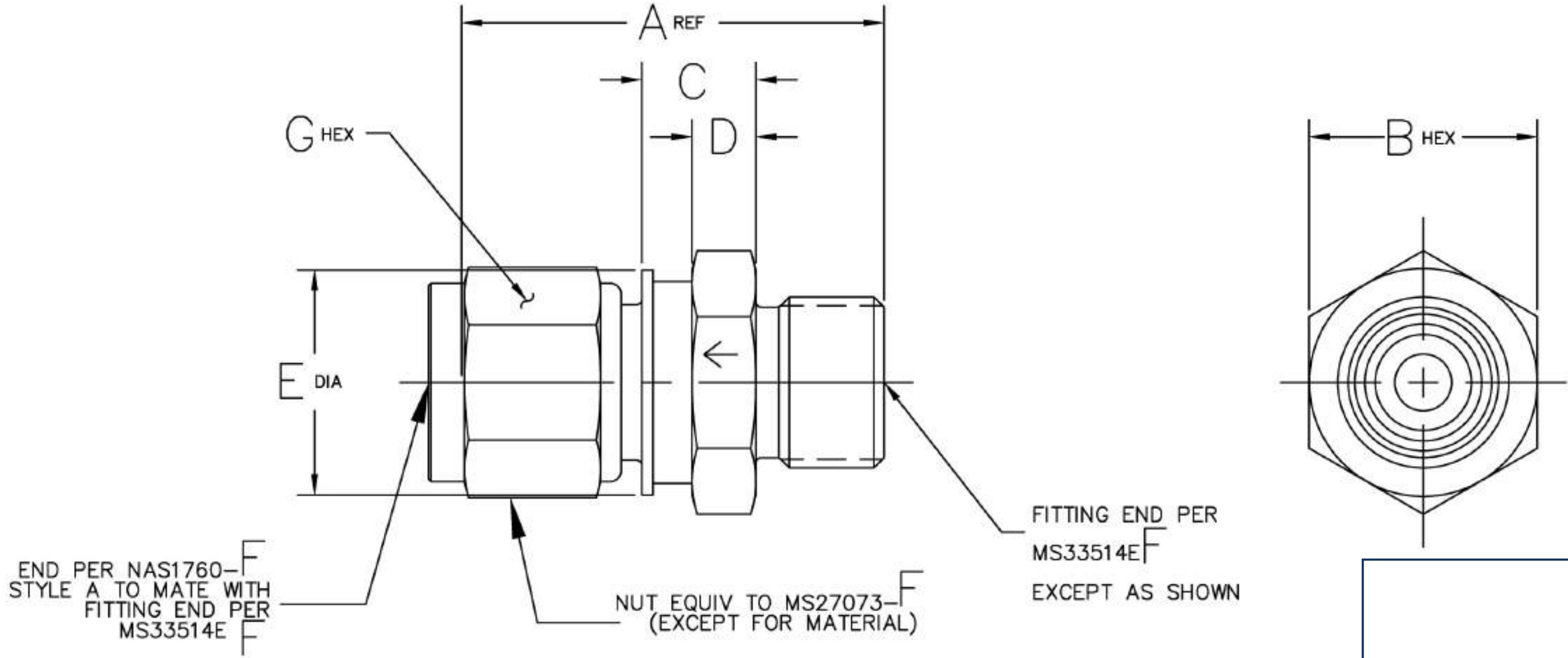
FLOW: SEE TABLE AT 15 PSID MAX

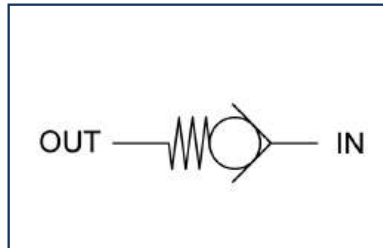
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 0 TO 1000 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	TUBE SIZE	FLOW (GPM)	FITTING END NO 1 (FLARELESS B-NUT)	FITTING END NO 2 (FLARELESS TUBE)	A (REF)	B ±.015	C ±.015	D ±.015	E ±.015	F ±.010
1C6216	1	29.0	NAS1760A16	MS33514E16	2.876	.375	1.062	1.615	1.625	1.500
1C6212	3/4	16.0	NAS1760A12	MS33514E12	2.201	.343	.562	1.365	1.375	1.250
1C6210	5/8	10.5	NAS1760A10	MS33514E10	2.056	.312	.531	1.115	1.125	1.000
1C6208	1/2	6.0	NAS1760A8	MS33514E8	1.853	.281	.500	.990	1.000	.875
1C6206	3/8	3.5	NAS1760A6	MS33514E6	1.621	.250	.469	.803	.812	.688
1C6204	1/4	1.2	NAS1760A4	MS33514E4	1.491	.219	.438	.678	.688	.562

CRISSAIR INC.

CHECK VALVE, SERIES, B-NUT/FLARELESS





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES
SWIVEL NUT 6AL-4V TITANIUM

TEMPERATURE RANGE:-65°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 6000 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

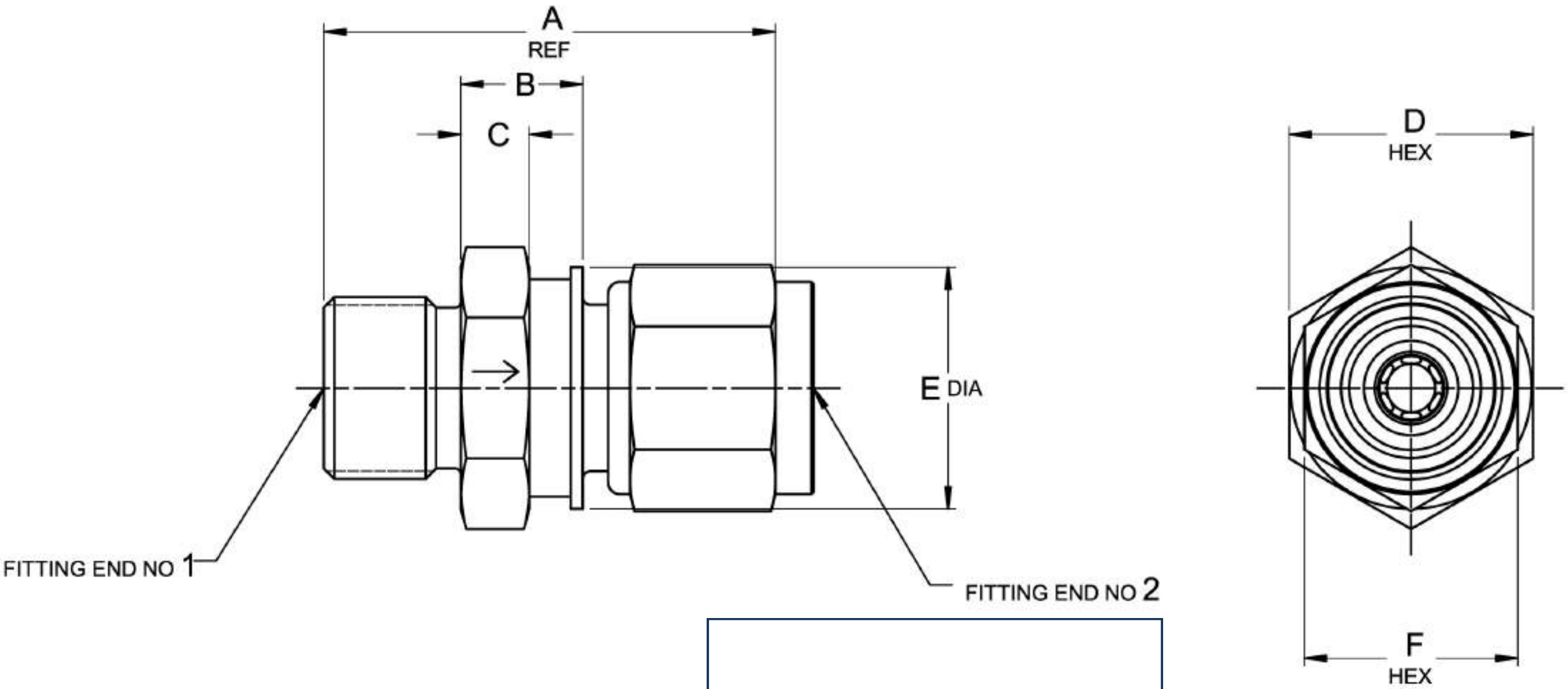
FLOW: SEE TABLE AT 15 PSID MAX

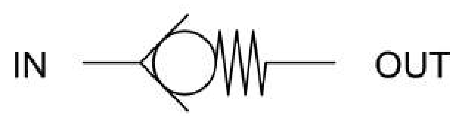
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID TO 1000 PSID
NONE AT 1000 TO 4000 PSID

CRISSAIR PART NO	F	A REF	B HEX	C	D	E DIA	G HEX	RATED FLOW (GPM)	MAX WT (LBS)
7C2616	16	2.876	1.625	1.062	.375	1.615	1.496	20.0	.957
7C2614	14	2.600	1.500	.812	.360	1.490	(1.371)	16.0	.888
7C2612	12	2.201	1.375	.562	.343	1.365	1.246	10.5	.795
7C2610	10	2.056	1.125	.531	.312	1.115	.996	6.0	.362
7C2608	8	1.853	1.000	.500	.281	.990	.871	3.5	.270
7C2606	6	1.621	.813	.469	.250	.803	.684	1.2	.150
7C2604	4	1.491	.688	.438	.219	.678	.559	0.4	.104

CRISSAIR INC.

CHECK VALVE, SERIES, B-NUT/FLARELESS





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 2024-T351 AL
POPPET 440C CRES
SWIVEL NUT 2024-T6 OR T851 AL

TEMPERATURE RANGE:-65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

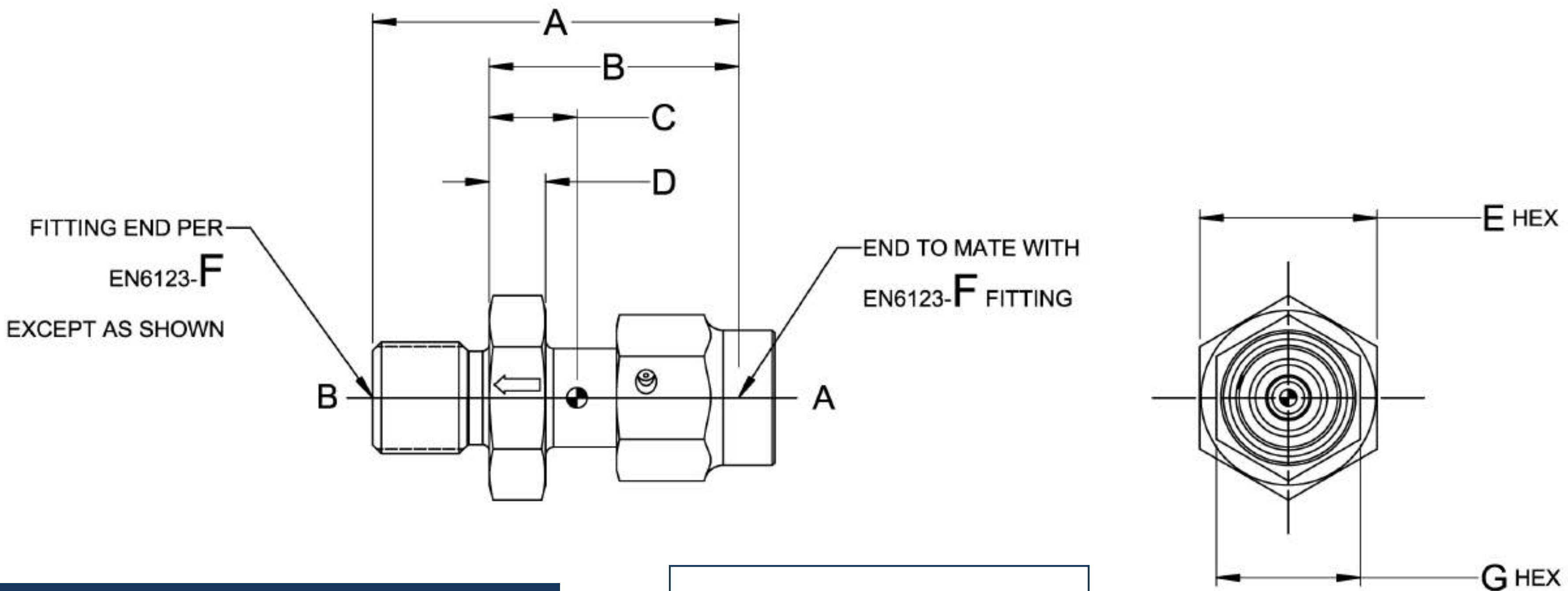
CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	FITTING END NO. 1	FITTING END NO. 2	A REF	B	C	D HEX	E DIA	F HEX	RATED FLOW (GPM)	MAX WT (LBS)
7C2008	MS33514E8 (.7500-16 UNJF-3A)	NAS1760-8 (.7500-16 UNJF-3B)	1.853	.500	.281	1.000	.990	.875	3.5	.102
7C2006	MS33514E6 (.5625-18 UNJF-3A)	NAS1760-6 (.5625-18 UNJF-3B)	1.621	.469	.250	.813	.803	.687	1.2	.059
7C2004	MS33514E4 (.4375-20 UNJF-3A)	NAS1760-4 (.4375-20 UNJF-3B)	1.491	.438	.219	.688	.678	.562	0.4	.037

CHECK VALVE, SERIES, B-NUT/FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 15-5PH CRES

POPPET PH13-8MO CRES

SWIVEL 15-5PH CRES

TEMPERATURE RANGE:-65°F TO 275°F

OPERATING PRESSURE: 5075 PSIG

PROOF PRESSURE: 7612 PSIG

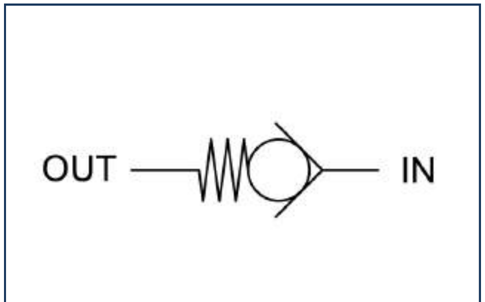
CRACKING PRESSURE: 2 TO 7.25 PSID

FLOW: 1C5554: 5.28 GPM AT 160 PSID

1C5556: 7.9 GPM AT 29 PSID

13.2 GPM AT 43.5 PSID

INTERNAL LEAKAGE (CHECKED DIRECTION):
2 DPM MAX AT 3 TO 73 PSID
NONE AT 73 TO 7612 PSID

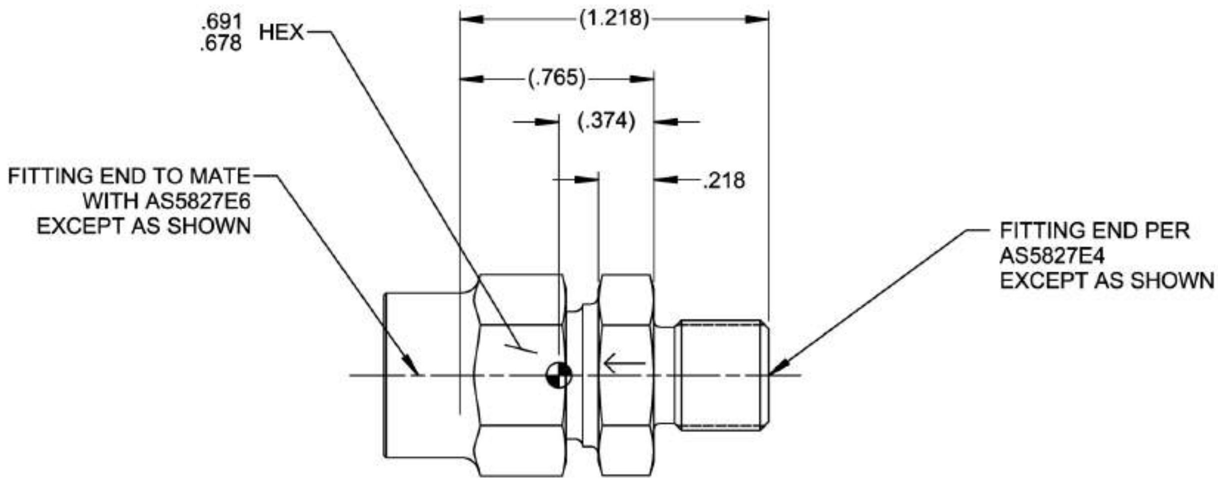


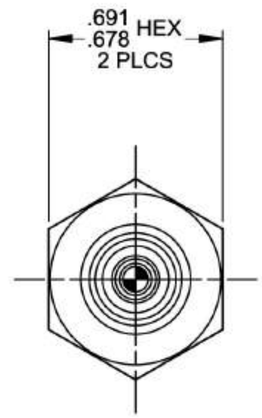
HYDRAULIC SCHEMATIC

CRISSAIR PART NO	F	A	B	C	D	E HEX	G HEX
1C6218	4	1.422	.984 .954	.341	.234 .204	.691 .678	.565 .552
1C6220	8	1.866	1.319 1.289	.451	.266 .236	1.003 .990	.878 .865

CRISSAIR INC.

PART NUMBER: 1C6214 B-NUT/FLARELESS





PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 15-5PH CRES

POPPET PH13-8MO CRES

SWIVEL 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 6000 PSIG

PROOF PRESSURE: 9000 PSIG

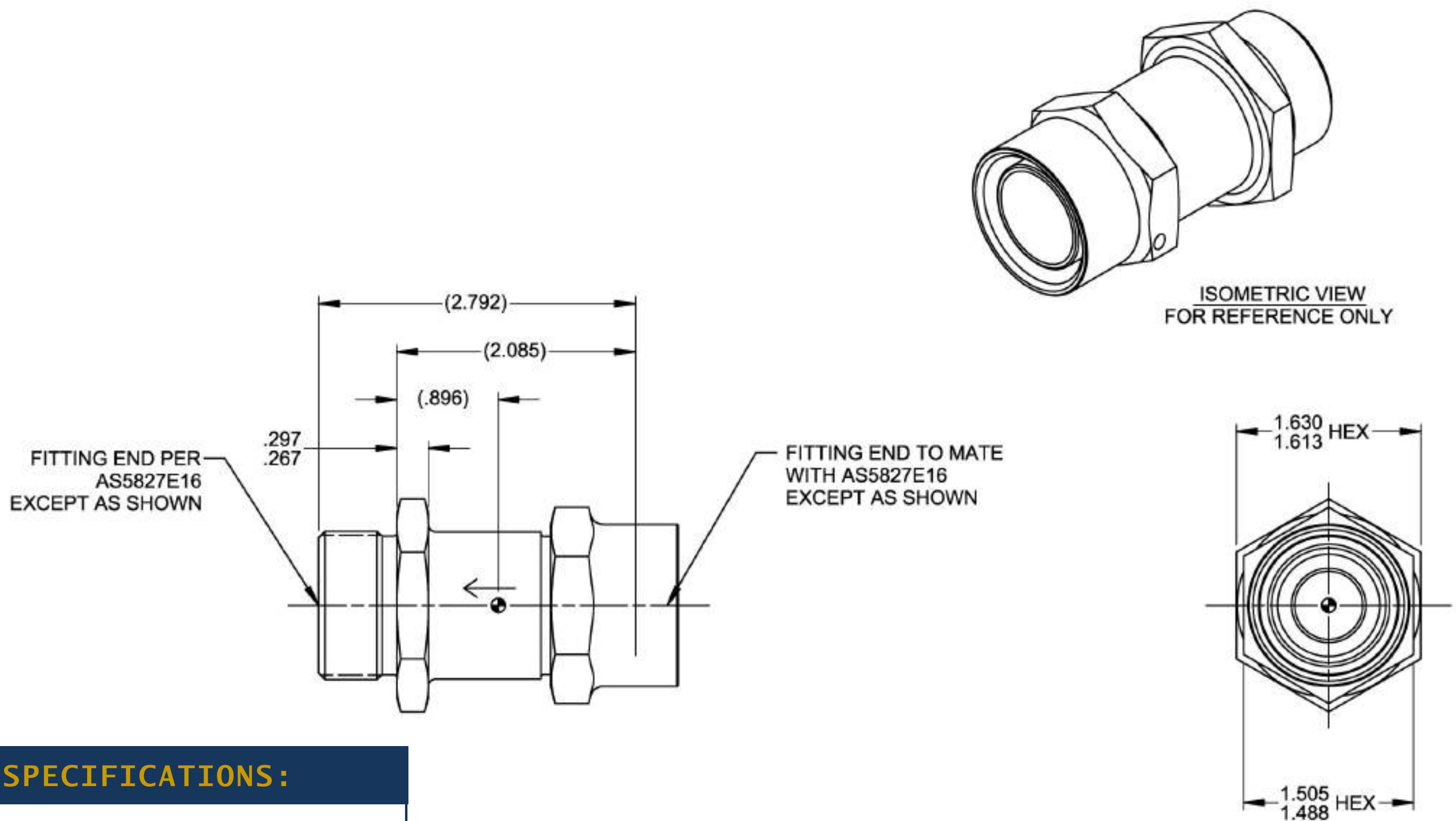
CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 2 GPM AT 29 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
5 DPM MAX AT 0 TO 1000 PSID
1 DPM MAX AT 1001 TO 6000 PSID

HYDRAULIC SCHEMATIC

PART NUMBER: 1C6202, B-NUT/FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 15-5PH CRES

POPPET PH13-8MO CRES

SWIVEL 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

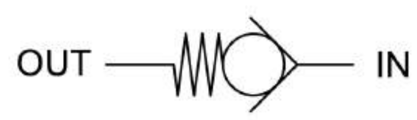
OPERATING PRESSURE: 5000 PSIG

PROOF PRESSURE: 7500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 40 GPM AT 36 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
5 DPM MAX AT 0 TO 5000 PSID



HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, INLINE

Previous Section

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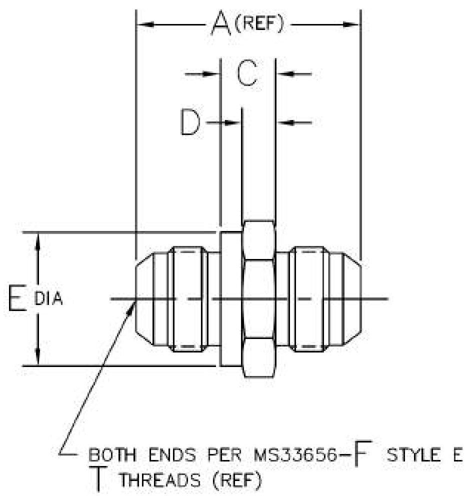
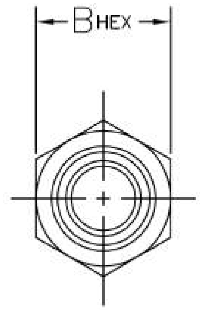
Next Section

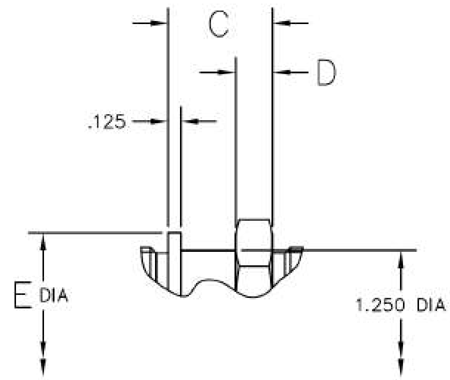
CRISSAIR INC.

PART NUMBER: 4C2100 CHECK VALVE, SERIES, FLARED

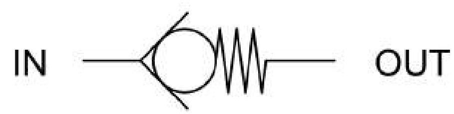
MARKING DETAIL







CONFIGURATION OF SIZE 16 ONLY



HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

BODY 431 CRES AVAILABLE FOR 2C6500 SERIES

BODY 303 CRES AVAILABLE FOR 2C5100 SERIES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 450°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

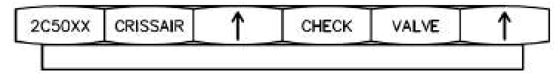
CRACKING PRESSURE: 2 TO 8 PSID

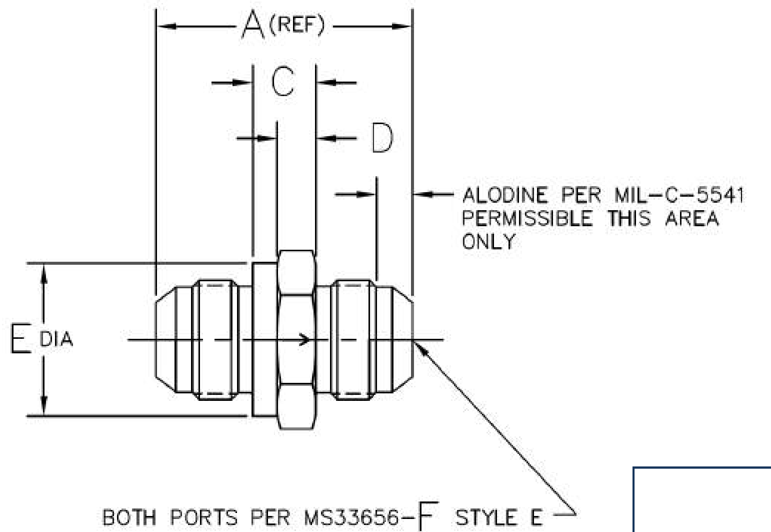
FLOW: SEE TABLE AT 15 PSID MAX

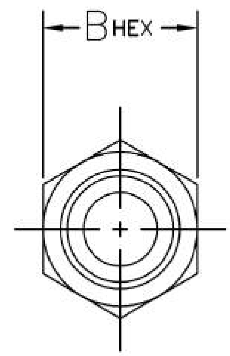
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

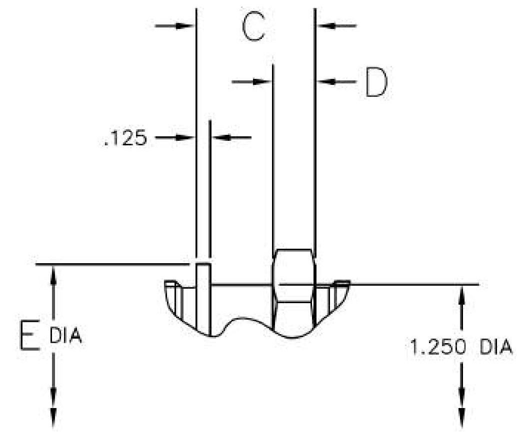
MS P/N	CRISSAIR PART NO	TUBE OD	T THREAD	F	A REF	B HEX	C	D	E DIA	RATED FLOW (GPM)	MAX WT (LBS)
MS24593-16	4C2116	1	1 5/16-12UNJ-3A	16	2.884	1.625	1.062	.375	1.615	29.0	.648
MS24593-12	4C2112	3/4	1 1/16-12UNJ-3A	12	2.290	1.375	.562	.343	1.365	16.0	.405
MS24593-10	4C2110	5/8	7/8-14UNJF-3A	10	2.047	1.125	.531	.312	1.115	10.5	.250
MS24593-8	4C2180	1/2	3/4-16UNJF-3A	8	1.814	1.00	.500	.281	.990	6.0	.189
MS24593-6	4C2160	3/8	9/16-18UNJF-3A	6	1.581	.813	.469	.250	.803	3.5	.104
MS24593-5	4C2150	5/16	1/2-20UNJF-3A	5	1.538	.750	.438	.219	.740	2.3	.078
MS24593-4	4C2140	1/4	7/16-20UNJF-3A	4	1.538	.688	.438	.219	.678	1.2	.070

PART NUMBER: 2C5000 CHECK VALVE, SERIES, FLARED

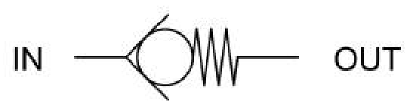








CONFIGURATION OF 2C5016 ONLY



HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 2024-T351 AL

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 300°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 10 PSID MAX

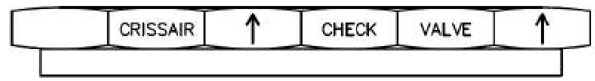
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

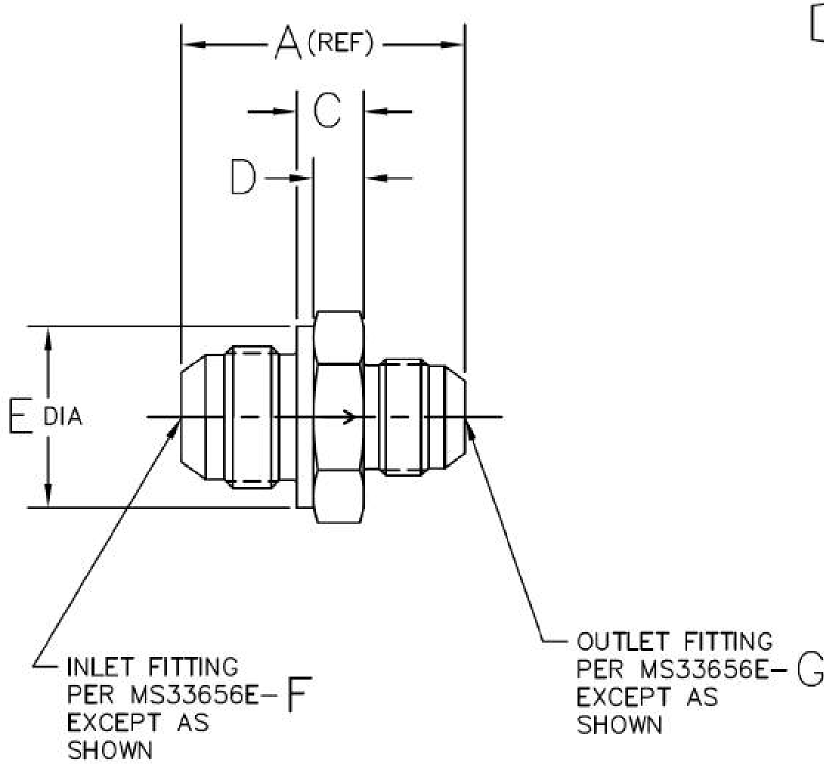
CRISSAIR PART NO	MAX WT (LBS)	TUBE OD	F	A REF	B HEX	C	D	E DIA	RATED FLOW (GPM)	APPLICABLE ASSY DWG NO
2C5016	.273	1	16	2.884	1.625	1.062	.375	1.615	29.0	2C5017
2C5012	.162	3/4	12	2.290	1.375	.562	.343	1.365	16.0	2C5013
2C5010	.099	5/8	10	2.047	1.125	.531	.312	1.115	10.5	2C5011
2C5080	.077	1/2	8	1.814	1.000	.500	.281	.990	6.0	2C5081
2C5060	.039	3/8	6	1.581	.813	.469	.250	.803	3.5	2C5061
2C5050	.030	5/16	5	1.538	.750	.438	.219	.740	2.3	2C5051
2C5040	.026	1/4	4	1.538	.688	.438	.219	.678	1.2	2C5041

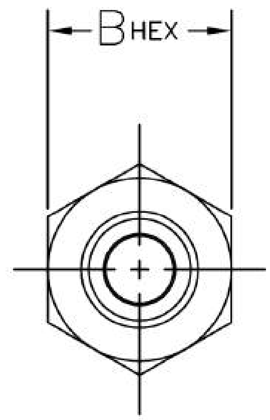
CATEGORY 1: CHECK VALVES, INLINE

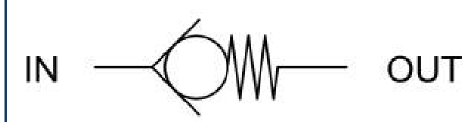
CRISSAIR INC.

PART NUMBER: 7C2100 CHECK VALVE, SERIES, FLARED









HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW:SEE TABLE FOR FLOW OF MIL-H-83282 AT 100° ± 5°F

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	MAX WT (LBS)	INLET F FITTING	OUTLET G FITTING	A REF	B HEX	C	D	E DIA	RATED FLOW (GPM)	MAX ΔP PSID
7C2160	.120	6	5	1.575	.813	.469	.250	.803	2.3	15
7C2150	.100	5	4	1.569	.750	.469	.250	.740	1.2	15
7C2112	.600	16	12	2.275	1.625	.500	.375	1.615	16.0	15
7C2110	.405	12	10	2.125	1.375	.503	.375	1.365	10.5	15
7C2108	.250	10	8	1.946	1.125	.531	.312	1.115	6.0	15
7C2106	.189	8	6	1.713	1.000	.500	.250	.990	3.5	15
7C2104	.104	6	4	1.575	.813	.469	.250	.803	1.2	15

CATEGORY 1: CHECK VALVES, INLINE

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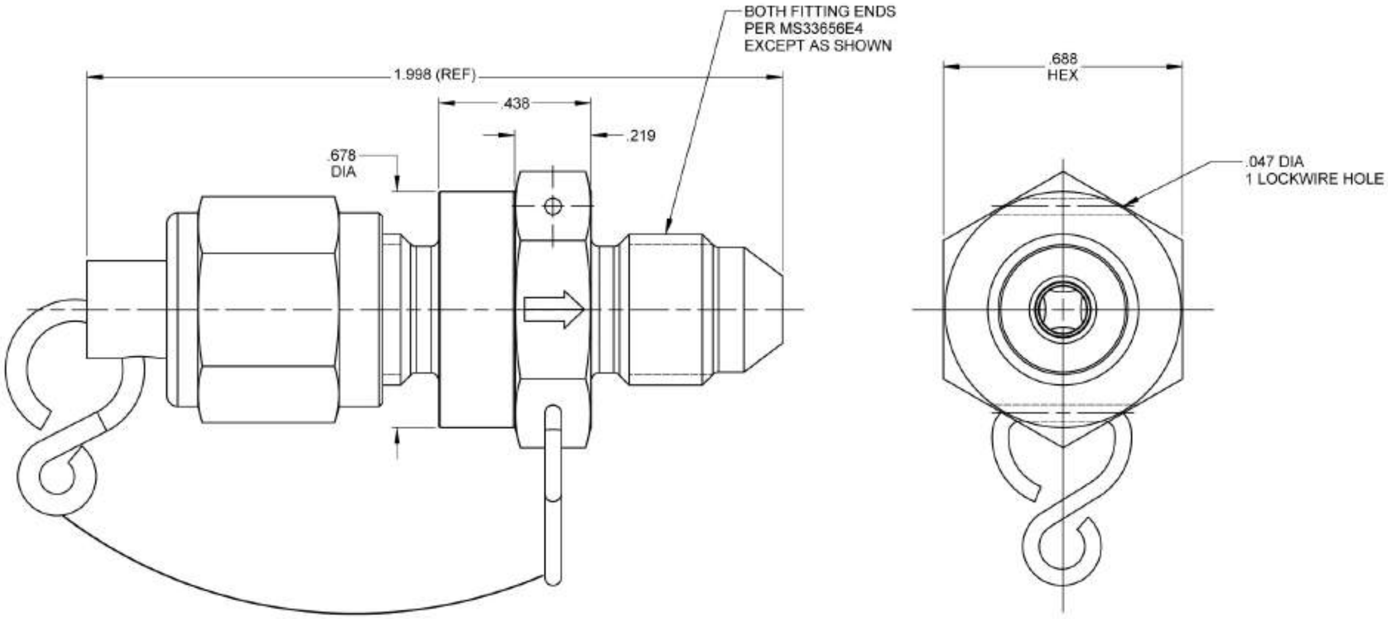
PART NUMBER: 1C2224 CHECK VALVE, FLARED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

BODY 303 CRES AVAILABLE FOR 1C1010

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 5600 PSIG

3000 PSIG FOR 1C1010

PROOF PRESSURE: 8400 PSIG

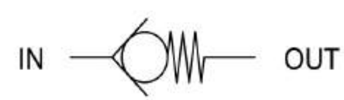
4500 PSIG FOR 1C1010

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 1.2 GPM AT 10 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

WEIGHT: .123 LBS MAX



HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, INLINE

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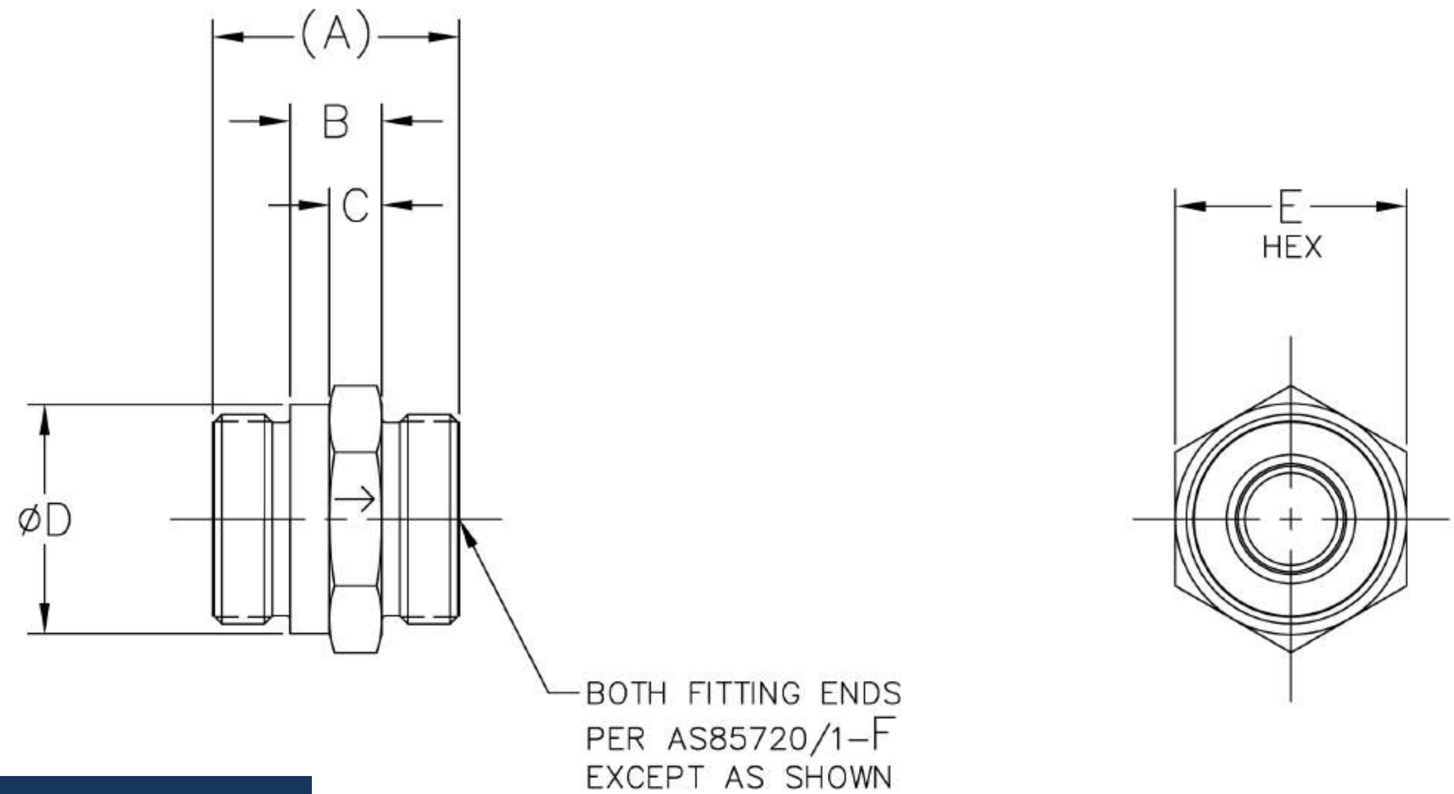
Next Section

CRISSAIR INC.

PART NUMBER: 7C1550 CHECK VALVE, SERIES, BEAM SEAL



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

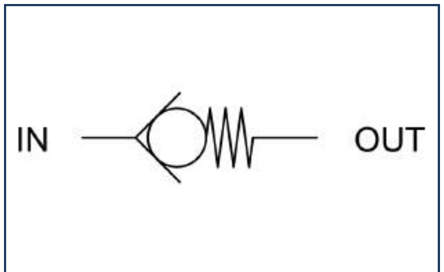
OPERATING PRESSURE: 5000 PSIG

PROOF PRESSURE: 7500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 5000 PSID

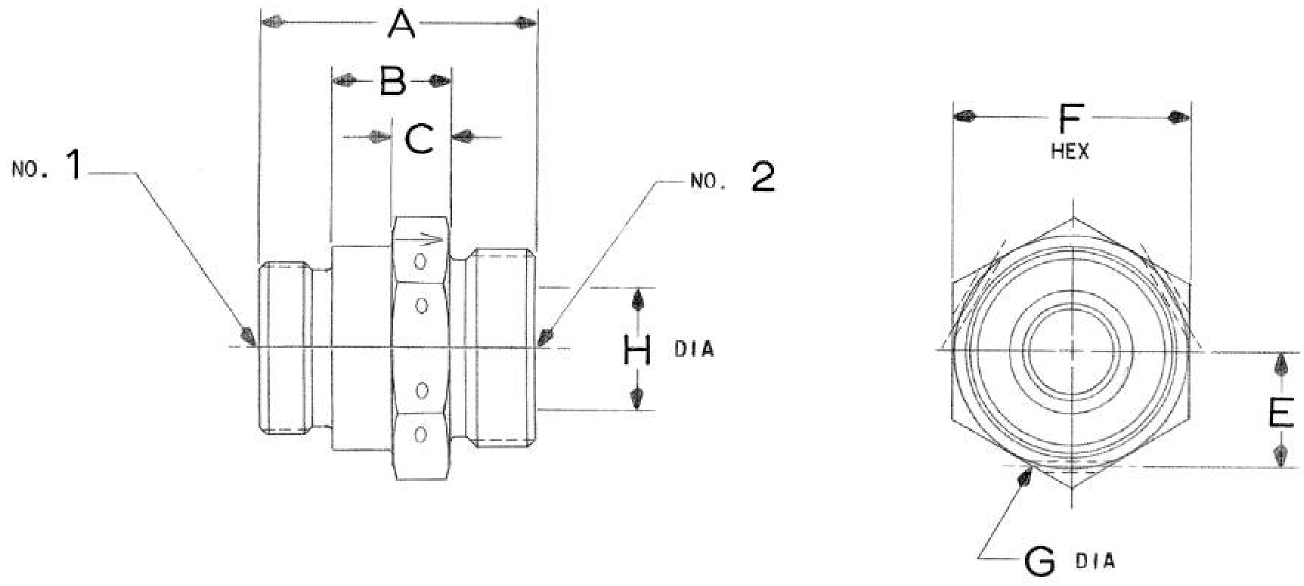


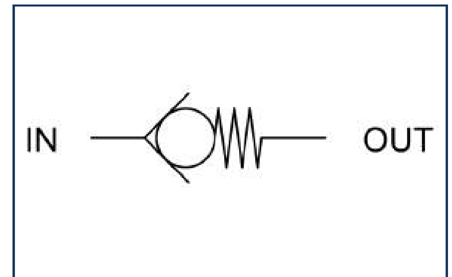
HYDRAULIC SCHEMATIC

CRISSAIR PART NO	F	(A)	B	C	øD	E HEX	RATED FLOW (GPM)	MAX WT (LBS)
7C1566	16	1.465	.545	.312	1.365	1.375	16.0	.43
7C1562	12	1.260	.436	.281	1.115	1.125	10.5	.24
7C1560	10	1.140	.396	.250	.990	1.000	6.0	.17
7C1558	8	1.000	.384	.218	.803	.813	3.5	.11
7C1556	6	.840	.250	.188	.678	.688	1.2	.06
7C1554	4	.817	.267	.188	.615	.625	1.0	.04

CRISSAIR INC.

PART NUMBER: 7C2700 CHECK VALVE, SERIES, BEAM SEAL





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 6000 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

4C2812 AT 18 PSID MAX

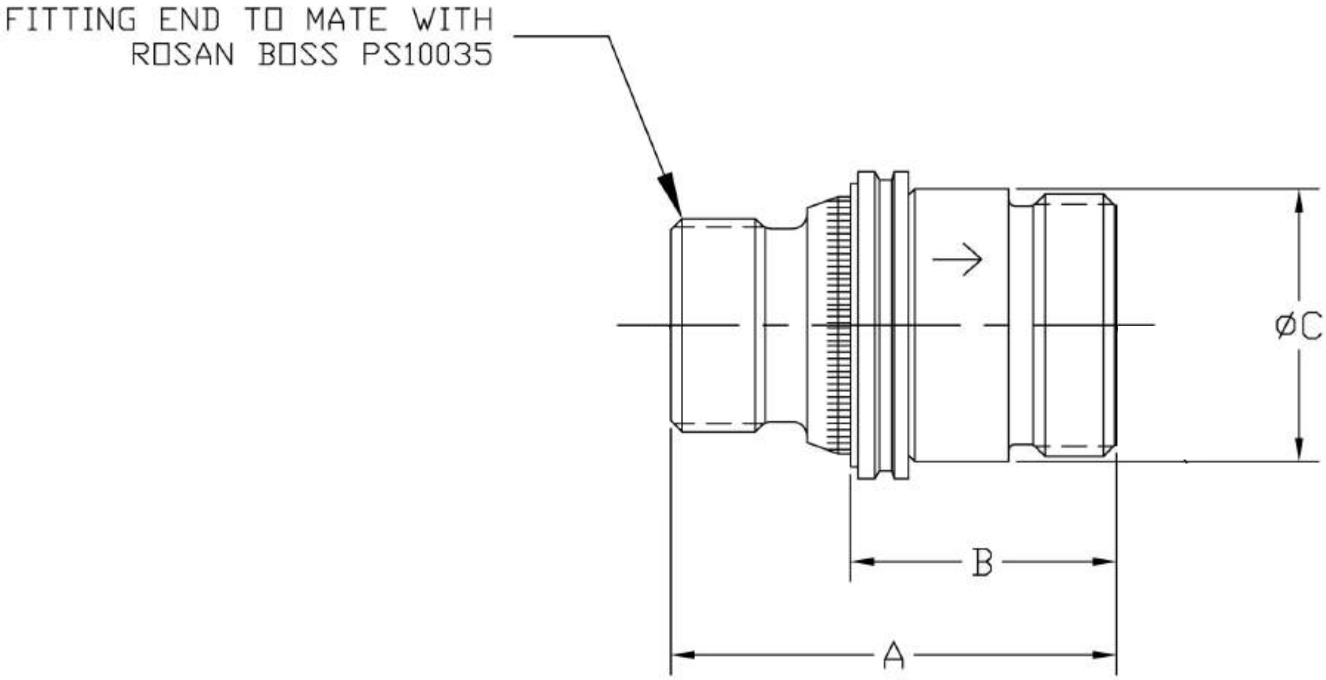
4C2814 AT 25 PSID MAX

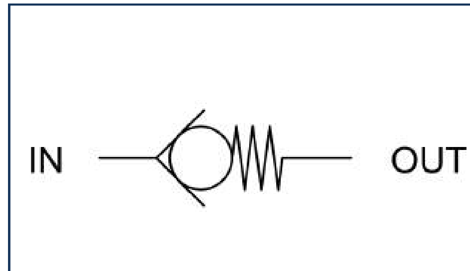
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 4000 PSID

CRISSAIR PART NO	FITTING END NO 1	FITTING END NO 2	(A)	B ±.015	C ±.015	E ±.015	F HEX ±.010	G DIA +.015 -.001	H DIA	RATED FLOW (GPM)	MAX WT (LBS)
7C2714	R44090-14 1.1250-16 UNJ-3A	R44090-16 1.2500-14 UNJ-3A	1.688	.798	.312	.688	1.375	.070	.764 .770	22.0	.417
7C2712	R44090-12 1.0000-16 UNJ-3A	R44090-14 1.1250-16 UNJ-3A	1.410	.568	.312	.688	1.375	.070	.764 .770	16.0	.300
7C2710	R44090-10 .8438-18 UNJS-3A	R44090-12 1.0000-16 UNJ-3A	1.315	.531	.281	.562	1.125	.070	.639 .645	10.5	.213
7C2708	R44090-8 .7188-20 UNJS-3A	R44090-10 .8438-18 UNJS-3A	1.180	.500	.250	.500	1.000	.047	.513 .519	6.0	.175
7C2706	R44090-6 .5625-20 UNJS-3A	R44090-8 .7188-20 UNJS-3A	1.041	.438	.219	.406	.813	.047	.385 .390	3.5	.092
7C2704	R44090-4 .4375-24 UNJS-3A	R44090-6 .5625-20 UNJS-3A	1.008	.438	.188	.344	.688	.047	.260 .265	1.2	.072

CATEGORY 1: CHECK VALVES, INLINE

CHECK VALVE, SERIES, ROSAN/FLARELESS





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4 CRES

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

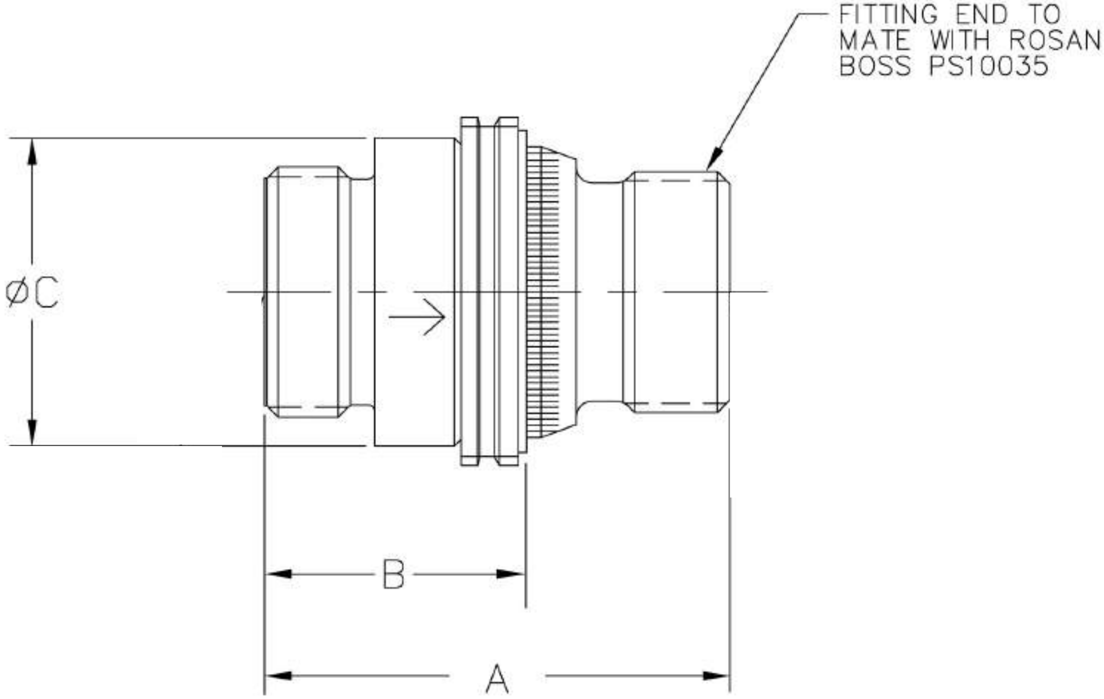
INTERNAL LEAKAGE (CHECKED DIRECTION):

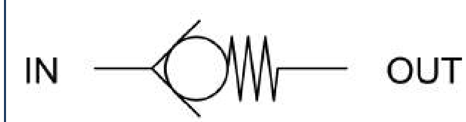
1 DPM MAX AT 5 PSID

NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	TUBE SIZE	FLOW (GPM)	MAX WT (LBS)	FITTING END NO 1 ROSAN (DRA 9 RF)	FITTING END NO 2 (FLARELESS TUBE)	A ±.015	B ±.020	C ±.015
4C2876-1	1	29.0	.611	-20 1.3125-18 UNJEF-3A	MS33514E16	2.320	1.554	1.400
4C2872-1	3/4	16.0	.283	-12 .8125-20 UNJEF-3A	MS33514E12	2.190	1.493	1.050
4C2870-1	5/8	10.5	.175	-10 .6785-24 UNJEF-3A	MS33514E10	1.920	1.285	.860
4C2868-1	1/2	6.0	.175	-10 .6785-24 UNJEF-3A	MS33514E8	1.800	1.165	.860
4C2866-1	3/8	3.5	.068	-6 .4375-20 UNJF-3A	MS33514E6	1.550	.985	.575
4C2864-1	1/4	1.2	.038	-4 .3125-24 UNJF-3A	MS33514E4	1.430	.919	.432

CHECK VALVE, SERIES, ROSAN/FLARELESS





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4 CRES
POPPET 440C CRES
LOCKRING A286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

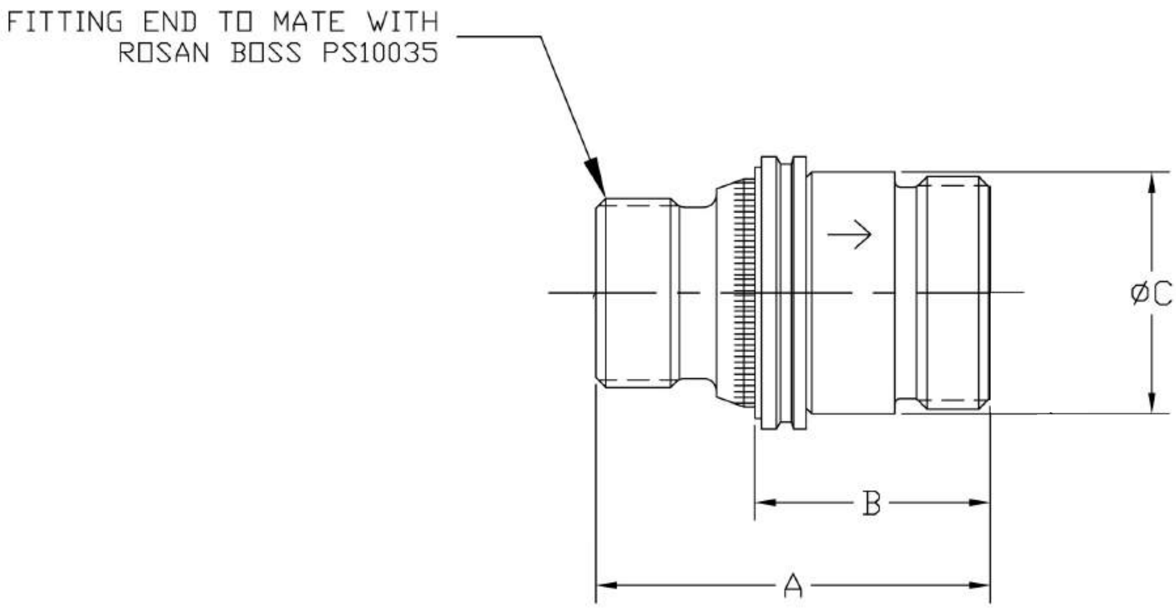
CRACKING PRESSURE: 2 TO 8 PSID

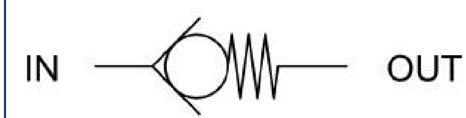
FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	TUBE SIZE	FLOW (GPM)	FITTING END NO 1 (FLARELESS TUBE)	FITTING END NO 2 ROSAN (DRA 9 RF)	A ±.015	B ±.020	C ±.015
4C2876-2	1	29.0	MS33514E16	-20 1.3125-18 UNJEF-3A	2.420	1.655	1.400
4C2872-2	3/4	16.0	MS33514E12	-16 1.1250-18 UNJEF-3A	2.030	1.275	1.305
4C2870-2	5/8	10.5	MS33514E10	-12 .8125-20 UNJEF-3A	1.840	1.140	1.040
4C2868-2	1/2	6.0	MS33514E8	-10 .6785-24 UNJEF-3A	1.700	1.063	.860
4C2866-2	3/8	3.5	MS33514E6	-8 .5625-18 UNJF-3A	1.580	.980	.750 .711
4C2864-2	1/4	1.2	MS33514E4	-6 .4375-20 UNJF-3A	1.520	.955	.560

CHECK VALVE, SERIES, ROSAN/DYNATUBE





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 450°F

OPERATING PRESSURE: 3000 PSIG NOMINAL

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

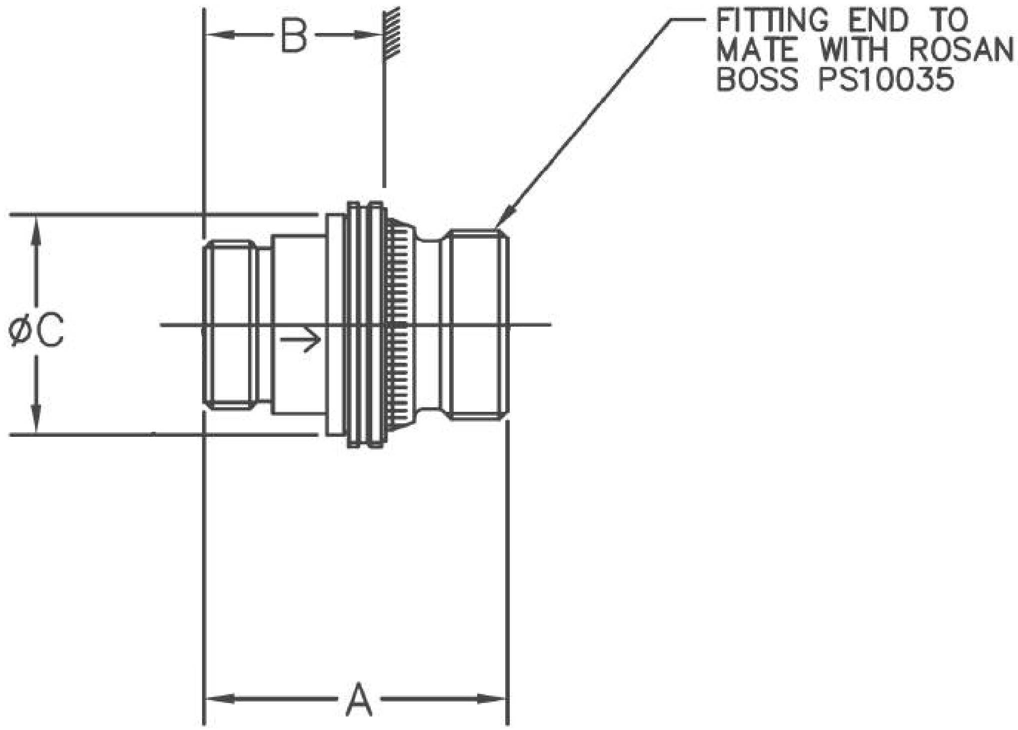
FLOW: SEE TABLE AT 15 PSID

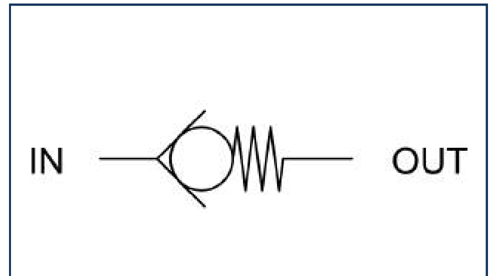
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	TUBE SIZE	FLOW (GPM)	FITTING END NO 1 ROSAN (DRA 9 RF)	FITTING END NO 2 DYNATUBE (TYPE A)	A ±.010	B ±.020	C ±.010	MAX WT (LBS)
4C6120-1	1 1/2	50.0	-24 1.625-18 UNJEF-3A	R44090-25S 1.8438-14 UNJS-3A	2.670	1.866	1.800	1.100
4C6116-1	1 1/4	29.0	-20 1.3125-18 UNJEF-3A	R44090-21S 1.5781-14 UNJS-3A	2.040	1.274	1.625 1.516	.660
4C6112-1	1	16.0	-16 1.1250-18 UNJEF-3A	R44090-16 1.2500-14 UNJS-3A	1.940	1.206	1.280	.640
4C6110-1	3/4	10.5	-12 .8125-20 UNJEF-3A	R44090-12 1.0000-16 UNJS-3A	1.700	1.003	1.040	.340
6C6108-1	5/8	6.0	-10 .6875-24 UNJEF-3A	R44090-10 .8438-18 UNJS-3A	1.580	.945	.860	.240
4C6106-1	1/2	3.5	-8 .5625-18 UNJF-3A	R44090-8 .7188-20 UNJS-3A	1.420	.820	.730	.150
4C6104-1	3/8	1.2	-6 .4375-20 UNJF-3A	R44090-6 .5625-20 UNJS-3A	1.360	.795	.577	.106

CRISSAIR INC.

CHECK VALVE, SERIES, ROSAN/DYNATUBE





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES
LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 450°F

OPERATING PRESSURE: 3000 PSIG NOMINAL

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

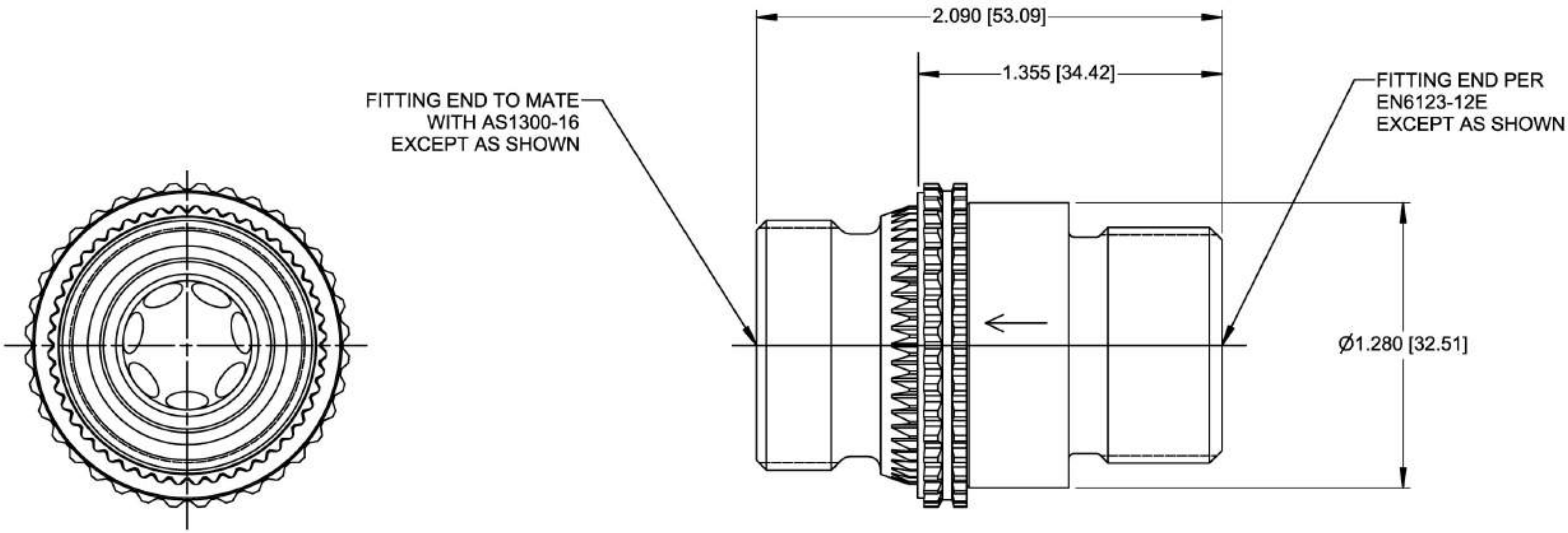
FLOW: SEE TABLE AT 15 PSID

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO.	TUBE SIZE	FLOW (GPM)	FITTING END NO 1 DYNATUBE (TYPE B)	FITTING END NO 2 ROSAN (DRA 9RF)	A ±.010	B ±.020	C ±.010	MAX WT (LBS)
4C6120-2	1 1/4	50.0	R44090-21S 1.5781-14 UNJS-3A	-24 1.6250-18 UNJEF-3A	2.700	1.896	1.600	1.010
4C6116-2	1	29.0	R44090-16 1.2500-14 UNJS-3A	-20 1.3125-18 UNJEF-3A	2.180	1.415	1.310	.550
4C6112-2	3/4	16.0	R44090-12 1.0000-16 UNJ-3A	-16 1.1250-18 UNJEF-3A	1.810	1.075	1.060	.340
4C6110-2	5/8	10.5	R44090-10 .8438-18 UNJS-3A	-12 .12520-20 UNJEF-3A	1.570	.870	1.040	.250
6C6108-2	1/2	6.0	R44090-8 .7188-20 UNJS-3A	-10 .6875-24 UNJEF-3A	1.450	.873	.870	.135
4C6106-2	3/8	3.5	R44090-6 .5625-20 UNJS-3A	-8 .5625-18 UNJEF-3A	1.380	.780	.720	.124
4C6104-2	1/4	1.2	R44090-4 .4375-24 UNJS-3A	-6 .4375-20 UNJEF-3A	1.330	.765	.577	.093

CRISSAIR INC.

PART NUMBER: 7C1112 CHECK VALVE, ROSAN/FLARELESS

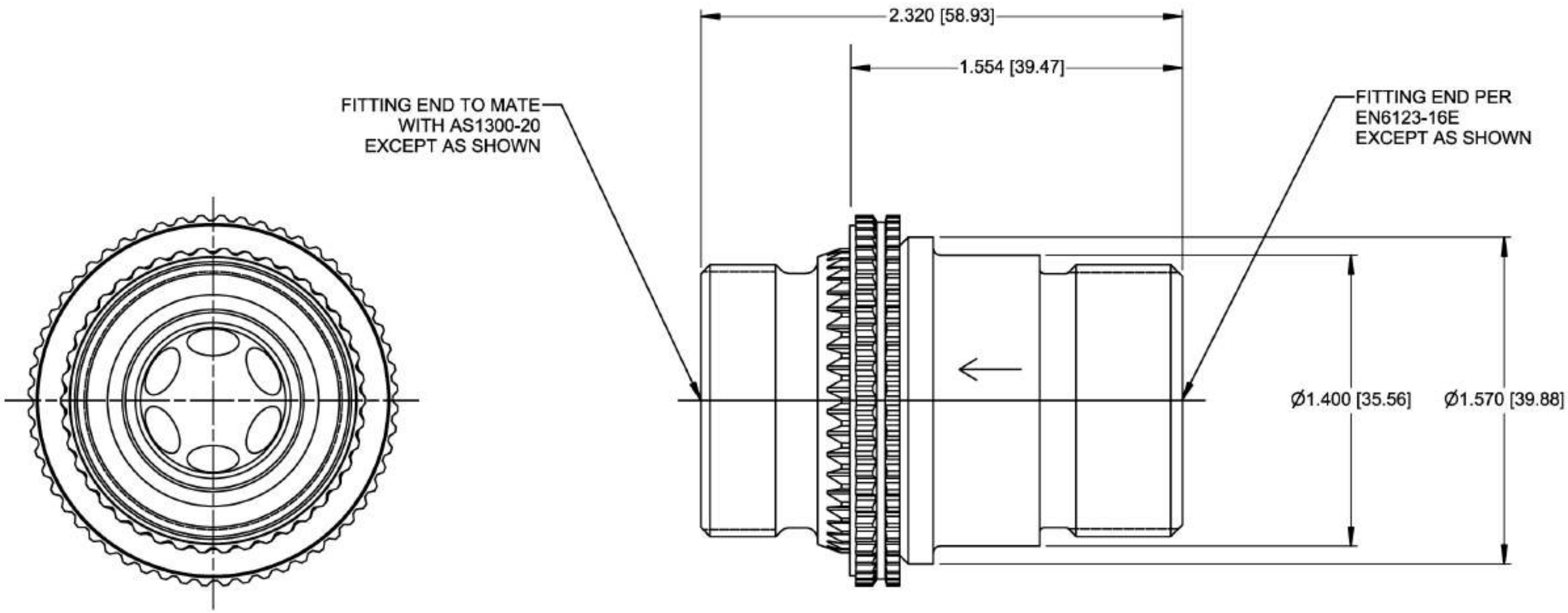


PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS
MATERIAL: BODY 15-5PH CRES
POPPET PH13-8MO
LOCKRING A-286 CRES
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 5000 PSIG
PROOF PRESSURE: 7500 PSIG
CRACKING PRESSURE: 2 TO 8 PSID
FLOW: 11.23 GPM AT 8 PSID MAX
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 5000 PSID
WEIGHT: .437 LBS MAX

HYDRAULIC SCHEMATIC

PART NUMBER: 7C1116 CHECK VALVE, ROSAN/FLARELESS



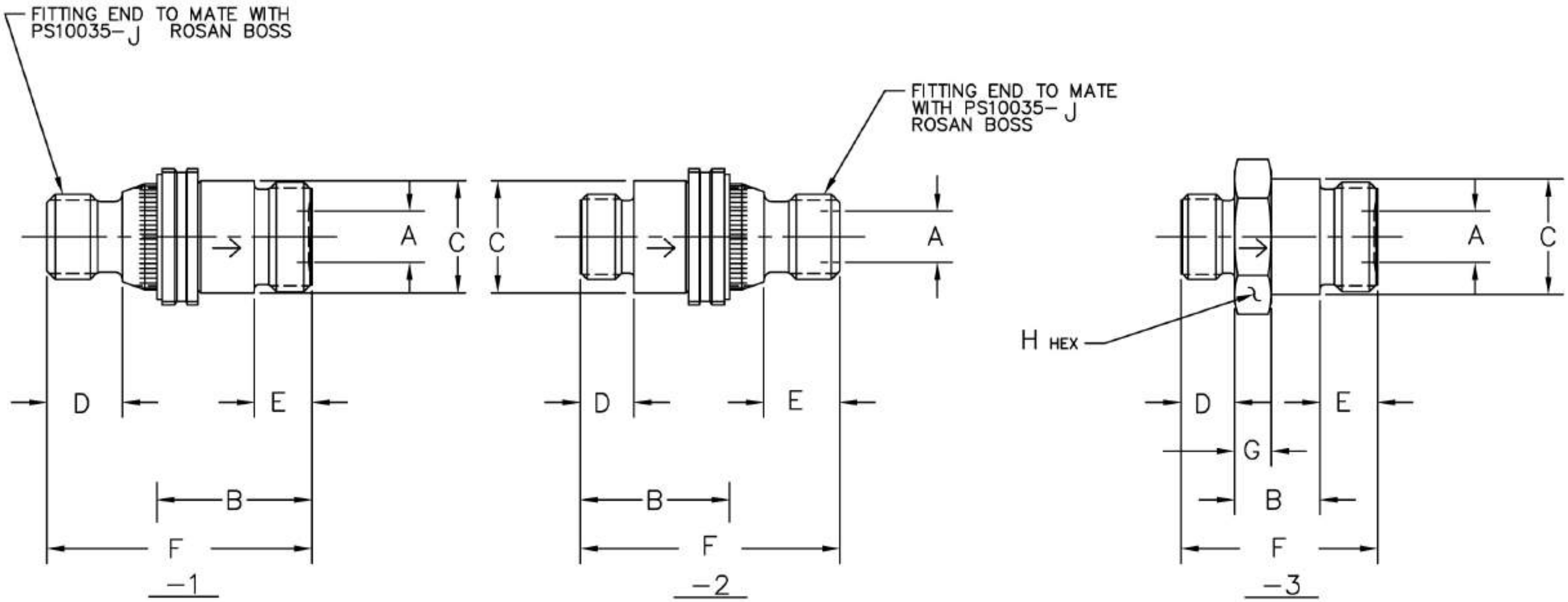
PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS
MATERIAL: BODY 15-5PH CRES
POPPET PH13-8MO
LOCKRING A-286 CRES
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 5000 PSIG
PROOF PRESSURE: 7500 PSIG
CRACKING PRESSURE: 2 TO 8 PSID
FLOW: 20 GPM AT 15 PSID MAX
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 5000 PSID
WEIGHT: .587 LBS MAX

HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, INLINE

PART NUMBER: 4C2600 CHECK VALVE, SERIES



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

LOCKRING (-1 & -2 ONLY) A-286 CRES

TEMPERATURE RANGE: -65°F TO 450°F

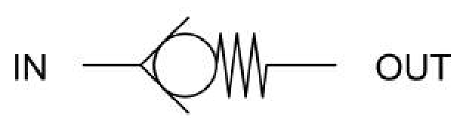
OPERATING PRESSURE: 5000 PSIG NOMINAL

PROOF PRESSURE: 7500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 5000 PSID



HYDRAULIC SCHEMATIC

FULL TABLE ON NEXT PAGE

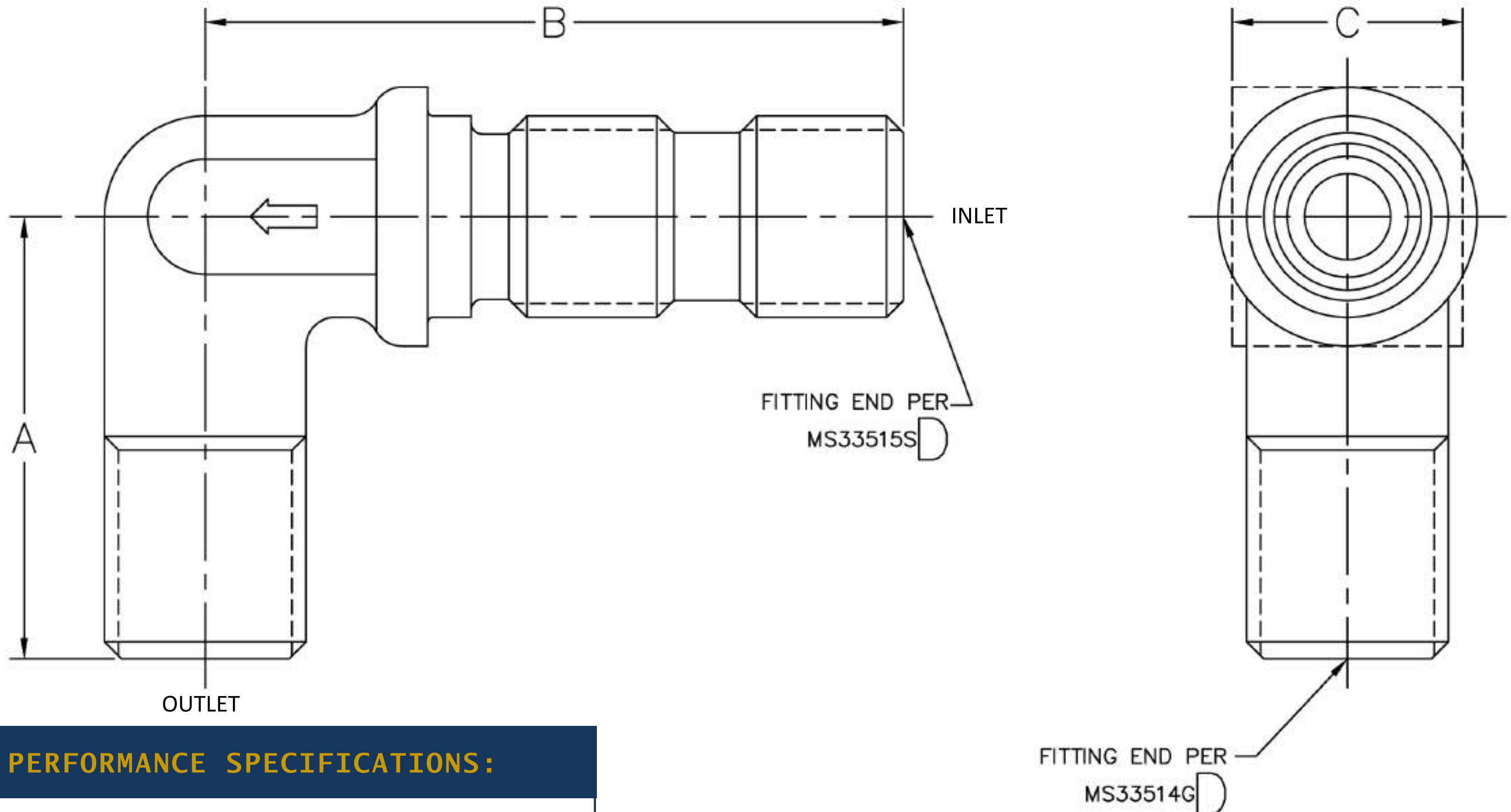
PHYSICAL SPECIFICATIONS

CATEGORY 1: CHECK VALVES, INLINE

CRISSAIR PART NO	FITTING END NO 1	FITTING END NO 2	ØA	B	ØC	D	E	F	G	H	J	RATED FLOW (GPM)	MAX WT (LBS)
4C6120-1	ROSAN-24 (1.6250-18 UNJEF-3A)	DYNATUBE R44090-25S (1.8438-14 UNJS-3A)	1.275 1.267	1.886 1.846	1.800	.600	.565 .535	2.670	-	-	24	50.0	1.100
4C6120-2	DYNATUBE R44090-21S (1.5781-14 UNJS-3A)	ROSAN-24 (1.6250-18 UNJEF-3A)	1.275 1.267	1.916 1.876	1.800	.457	.600	2.700	-	-	24	50.0	1.010
4C6120-3	DYNATUBE R44090-21S (1.5781-14 UNJS-3A)	DYNATUBE R44090-25S (1.8438-14 UNJS-3A)	1.275 1.267	-	1.510	.457	.450 .420	2.700	.480	2.000	-	50.0	-
4C6116-1	ROSAN-20 (1.3125-18 UNJEF-3A)	DYNATUBE R44090-21S (1.5781-14 UNJS-3A)	1.021 1.013	1.294 1.254	1.250	.561	.365 .335	2.040	-	-	20	29.0	.660
4C6116-2	DYNATUBE R44090-16 (1.2500-14 UNJS-3A)	ROSAN-20 (1.3125-18 UNJEF-3A)	1.021 1.013	1.426 1.402	1.510	.460	.560	2.180	-	-	20	29.0	.550
4C6116-3	DYNATUBE R44090-16 (1.2500-14 UNJS-3A)	DYNATUBE R44090-21S (1.5781-14 UNJS-3A)	1.021 1.013	-	1.250	.460	.365 .335	1.840	.380	1.625	-	29.0	.570
4C6112-1	ROSAN-16 (1.1250-18 UNJEF-3A)	DYNATUBE R44090-16 (1.2500-14 UNJS-3A)	.771 .763	1.226 1.186	1.280	.557	.460	1.940	-	-	16	16.0	.640
4C6112-2	DYNATUBE R44090-12 (1.0000-16 UNJ-3A)	ROSAN-16 (1.1250-18 UNJEF-3A)	.771 .763	1.088 1.064	1.310	.412	.557	1.810	-	-	16	16.0	.340
4C6112-3	DYNATUBE R44090-12 (1.0000-16 UNJ-3A)	DYNATUBE R44090-16 (1.2500-14 UNJS-3A)	.771 .763	-	.990	.412	.368 .338	1.440	.312	1.375	-	16.0	.360
4C6110-1	ROSAN-12 (.8125-20 UNJEF-3A)	DYNATUBE R44090-12 (1.0000-16 UNJ-3A)	.645 .639	1.023 .983	1.040	.520	.412	1.700	-	-	12	10.5	.340
4C6110-2	DYNATUBE R44090-10 (.8438-18 UNJS-3A)	ROSAN-12 (.8125-20 UNJEF-3A)	.645 .639	.885 .861	1.040	.372	.520	1.570	-	-	12	10.5	.250
4C6110-3	DYNATUBE R44090-10 (.8438-18 UNJS-3A)	DYNATUBE R44090-12 (1.0000-16 UNJ-3A)	.645 .639	.531	1.060	.372	.412	1.315	.281	1.125	-	10.5	.270
6C6108-1	ROSAN-10 (.6875-24 UNJEF-3A)	DYNATUBE R44090-10 (.8438-18 UNJS-3A)	.519 .513	.945	.860	.458	.372	1.580	-	-	10	6.0	.240
6C6108-2	DYNATUBE R44090-8 (.7188-20 UNJS-3A)	ROSAN-10 (.6875-24 UNJEF-3A)	.519 .513	.827 .803	.870	.308	.458	1.450	-	-	10	6.0	.135
6C6108-3	DYNATUBE R44090-8 (.7188-20 UNJS-3A)	DYNATUBE R44090-10 (.8438-18 UNJS-3A)	.519 .513	.500	.875	.308	.372	1.180	.250	1.000	-	6.0	.195
4C6106-1	ROSAN-8 (.5625-18 UNJF-3A)	DYNATUBE R44090-8 (.7188-20 UNJS-3A)	.390 .385	.840 .800	.730	.422	.308	1.420	-	-	08	3.5	.150
4C6106-2	DYNATUBE R44090-6 (.5625-20 UNJS-3A)	ROSAN-8 (.5625-18 UNJF-3A)	.390 .385	.800 .760	.720	.295	.422	1.380	-	-	08	3.5	.124
4C6106-3	DYNATUBE R44090-6 (.5625-20 UNJS-3A)	DYNATUBE R44090-8 (.7188-20 UNJS-3A)	.390 .385	.438	.780	.295	.308	1.041	.188	.812	-	3.5	.127
4C6104-1	ROSAN-6 (.4375-20 UNJF-3A)	DYNATUBE R44090-6 (.5625-20 UNJS-3A)	.265 .260	.815 .775	.577	.388	.295	1.360	-	-	06	1.2	.106
4C6104-2	DYNATUBE R44090-4 (.4375-24 UNJS-3A)	ROSAN-6 (.4375-24 UNJF-3A)	.265 .260	.785 .745	.577	.275	.388	1.330	-	-	06	1.2	.093
4C6104-3	DYNATUBE R44090-4 (.4375-24 UNJS-3A)	DYNATUBE R44090-6 (.5625-20 UNJS-3A)	.265 .260	.438	.593	.275	.295	1.008	.188	.688	-	1.2	.081

PART NUMBER: 1C6226 CHECK VALVE, SERIES, FLARELESS

CRISSAIR INC.



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

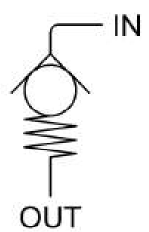
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID



HYDRAULIC SCHEMATIC

CRISSAIR PART NO	A +.046 -.000	B +.046 -.000	C ±.015	D	RATED FLOW (GPM)
1C6226-16	2.438	2.594	1.500	16	29.0
1C6226-12	1.906	2.468	1.250	12	16.0
1C6226-10	1.671	2.250	1.000	10	10.0
1C6226-8	1.500	1.968	.875	8	6.0
1C6226-6	1.266	1.688	.625	6	3.5
1C6226-5	1.156	1.532	.625	5	2.3
1C6226-4	1.062	1.500	.500	4	1.2

CATEGORY 1: CHECK VALVES, INLINE

Previous Section

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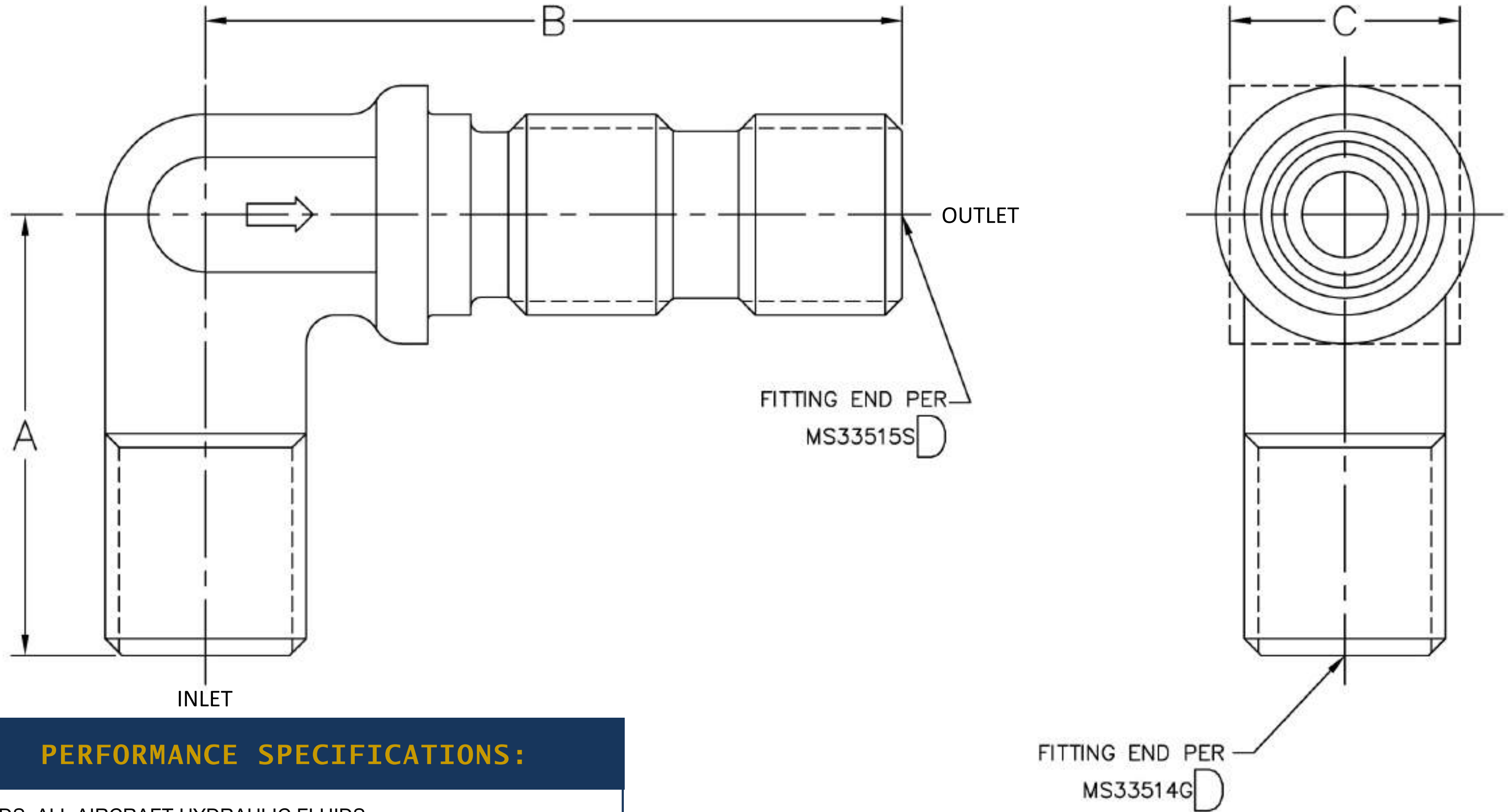
Next Section

PART NUMBER: 1C6228 CHECK VALVE, SERIES, FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

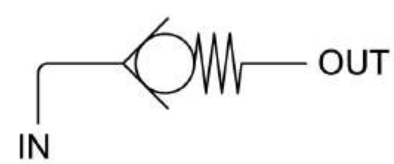
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

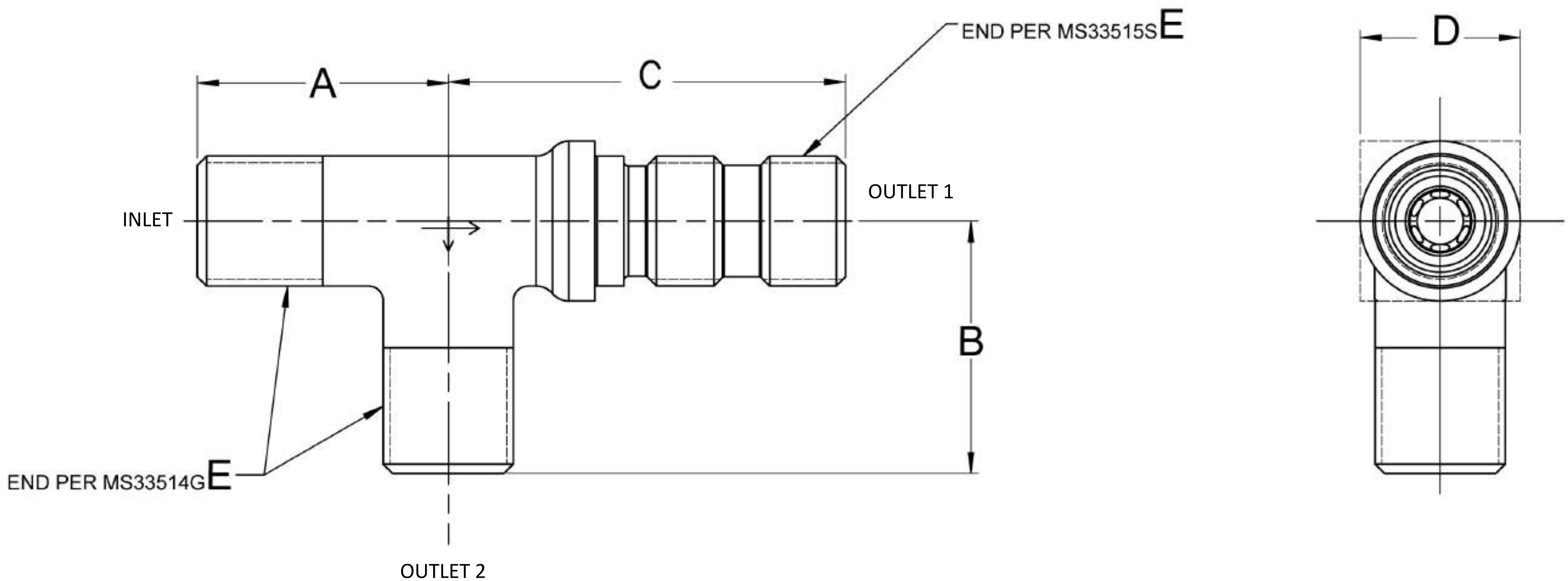
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID



HYDRAULIC SCHEMATIC

CRISSAIR PART NO	A +.046 -.000	B +.046 -.000	C ±.015	D	RATED FLOW (GPM)
1C6228-16	1.718	2.594	1.500	16	29.0
1C6228-12	1.625	2.468	1.250	12	16.0
1C6228-10	1.500	2.250	1.000	10	10.0
1C6228-8	1.312	1.968	.875	8	6.0
1C6228-6	1.062	1.688	.625	6	3.5
1C6228-5	1.032	1.532	.625	5	2.3
1C6228-4	.938	1.500	.500	4	1.2

PART NUMBER: 1C6230 CHECK VALVE, SERIES, FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

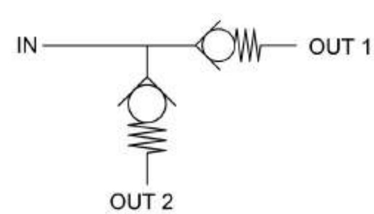
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

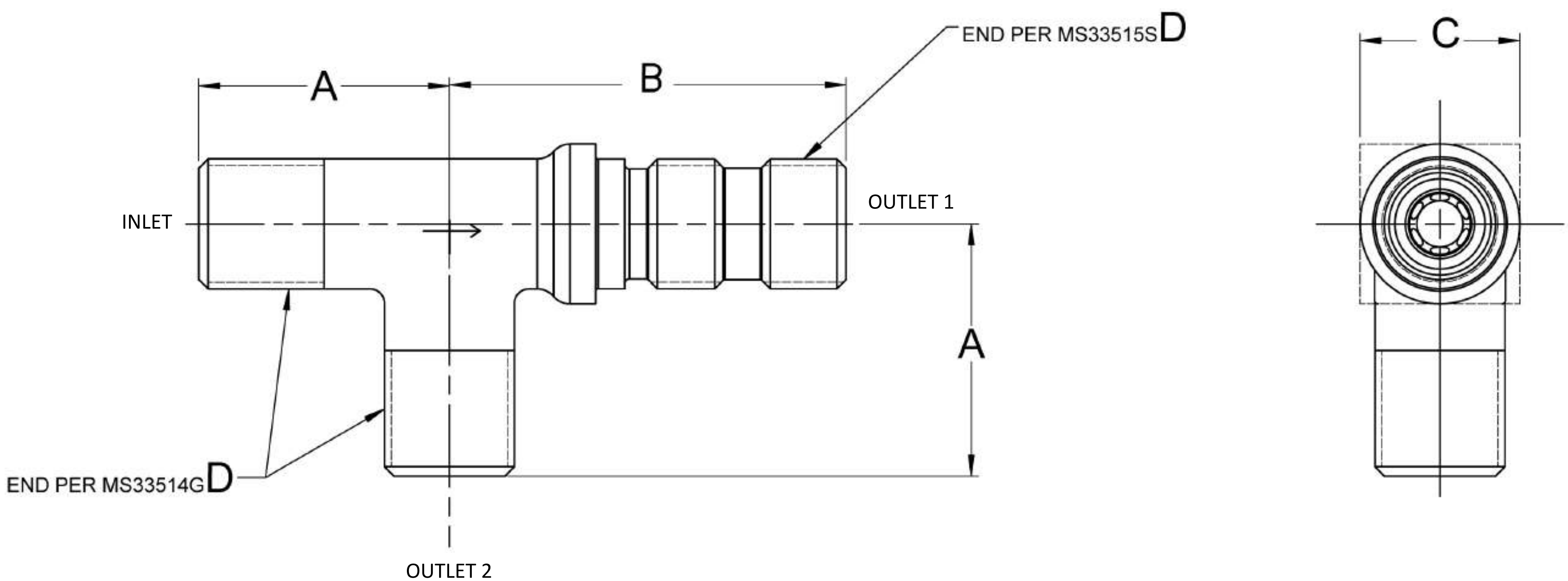


HYDRAULIC SCHEMATIC

1C6230-16	1.718	2.438	2.594	1.500	16	29.0
1C6230-12	1.625	1.906	2.468	1.250	12	16.0
1C6230-10	1.500	1.671	2.250	1.000	10	10.0
1C6230-8	1.312	1.500	1.968	.875	8	6.0
1C6230-6	1.062	1.062 1.090	1.688	.625	6	3.5
1C6230-5	1.032	1.156	1.532	.625	5	2.3
1C6230-4	.938	1.062	1.500	.500	4	1.2
CRISSAIR PART NO	A +.046 -.000	B +.046 -.000	C +.046 -.000	D ±.015	E	RATED FLOW (GPM)

CRISSAIR INC.

PART NUMBER: 1C6232 CHECK VALVE, SERIES, FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 2024-T4 AL
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

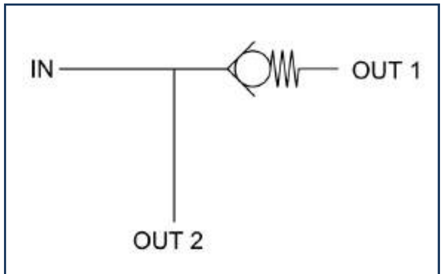
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID



HYDRAULIC SCHEMATIC

CRISSAIR PART NO	A +.046 -.000	B +.046 -.000	C ±.015	D	RATED FLOW (GPM)
1C6232-16	1.718	2.594	1.500	16	29.0
1C6232-12	1.625	2.468	1.250	12	16.0
1C6232-10	1.500	2.250	1.000	10	10.0
1C6232-8	1.312	1.968	.875	8	6.0
1C6232-6	1.062	1.688	.625	6	3.5
1C6232-5	1.032	1.532	.625	5	2.3
1C6232-4	.938	1.500	.500	4	1.2

CATEGORY 1: CHECK VALVES, INLINE

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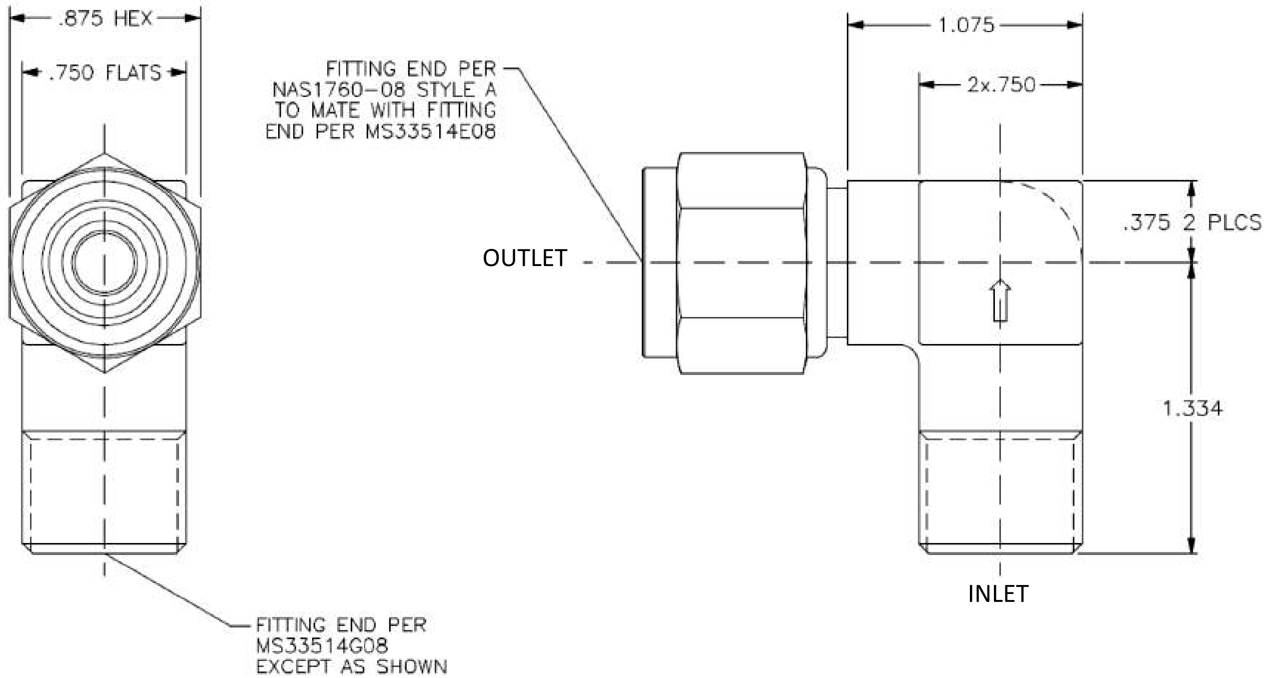
CRISSAIR INC.

PART NUMBER: 1C4782 CHECK VALVE, B-NUT/FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 304 CRES

POPPET 440C CRES

SWIVEL NUT 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

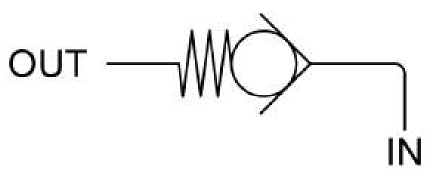
CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 3.5 GPM AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):

1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

WEIGHT: .37 LBS MAX

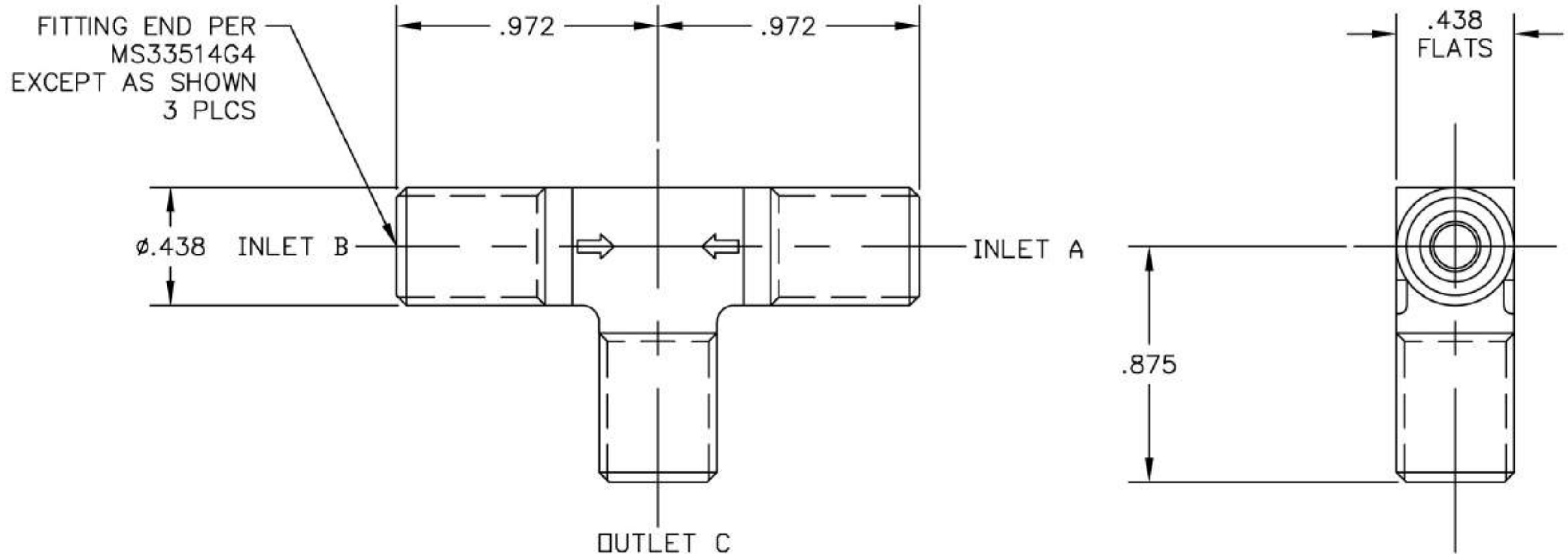


HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, INLINE

CRISSAIR INC.

PART NUMBER: 1C6198 CHECK VALVE, TEE FLOW, FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS OR BLEED AIR

MATERIAL: BODY 347 CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 860°F (FLUID)
-65°F TO 250°F (AMBIENT)

OPERATING PRESSURE: 2 TO 300 PSIG

PROOF PRESSURE: 675 PSIG AT ROOM TEMPERATURE

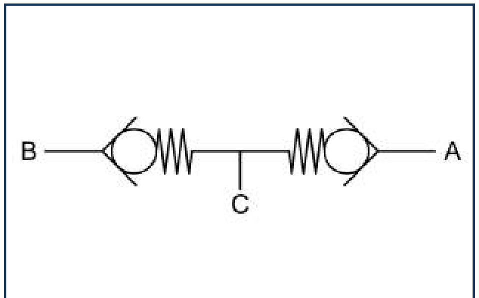
OPENING PRESSURE: FULLY OPEN AT 1 PSID

CLOSING PRESSURE: 0 TO 8 PSID IN REVERSE FLOW DIRECTION

FLOW: 1.5 GPM AT 7 PSID MAX AT 100°F (HYDRAULIC FLUID)

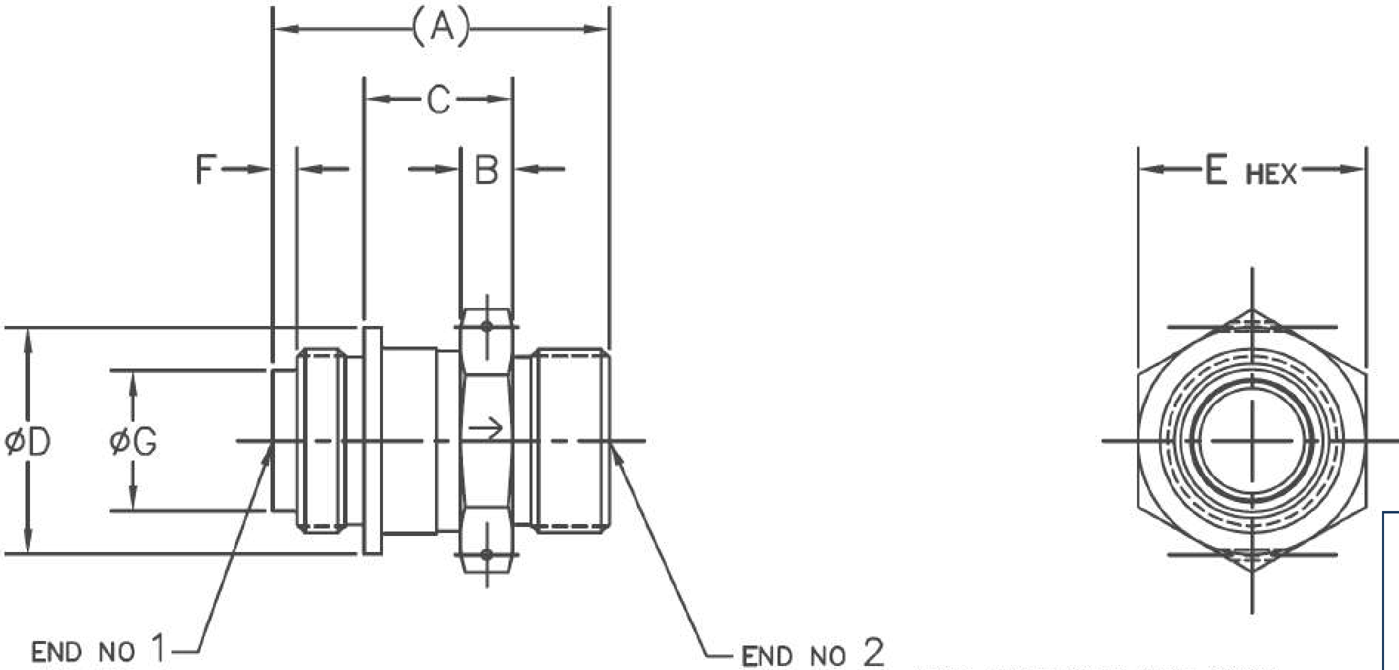
INTERNAL LEAKAGE (CHECKED DIRECTION):
5.0 SCFH MAX AT 300 PSID
IN REVERSE FLOW DIRECTION (BLEED AIR)

WEIGHT: .090 LBS MAX

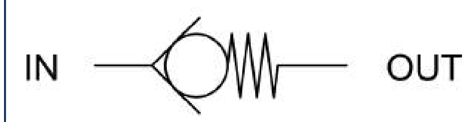


HYDRAULIC SCHEMATIC

CHECK VALVE, SERIES, FLARELESS/MOD



ALSO AVAILABLE WITH BODY
IN AL ALLOY AND TITANIUM



HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 15-5PH CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

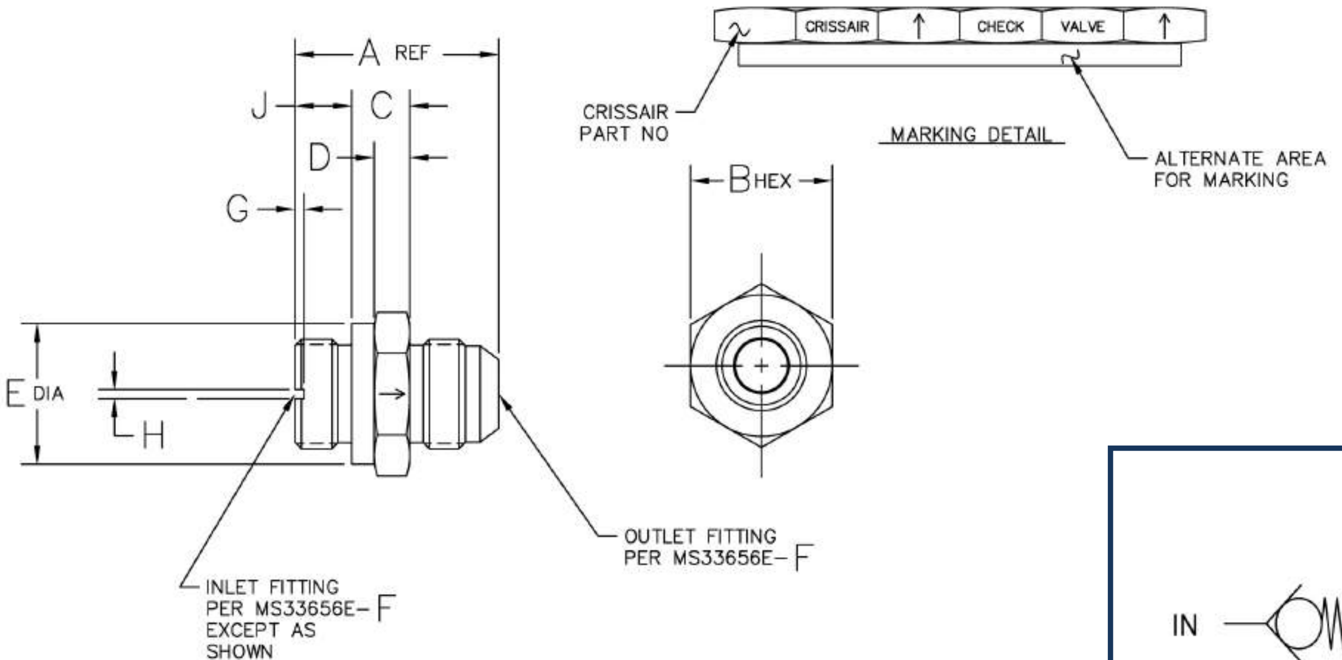
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM AT 0 TO 1000 PSID
NONE AT 1000 TO 3000 PSID

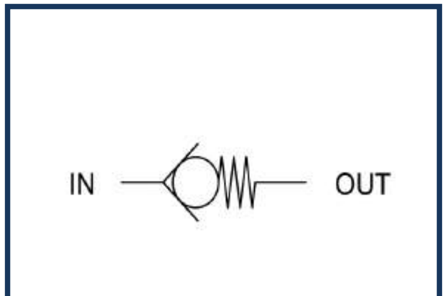
CRISSAIR PART NO	TUBE SIZE	FLOW (GPM)	FITTING END NO 1 (MODIFIED AS930)	FITTING END NO 2 (FLARELESS TUBE)	A (REF)	B ±.015	C ±.015	D ±.015	E ±.015	F ±.010	G ±.015
1C6316	1	29.0	AS930B-16	MS33514E16	2.400	.375	1.062	1.615	1.625	.170	1.000
1C6312	3/4	16.0	AS930B-12	MS33514E12	1.900	.343	.562	1.365	1.375	.170	.750
1C6310	5/8	10.5	AS930B-10	MS33514E10	1.746	.312	.531	1.115	1.125	.150	.625
1C6308	1/2	6.0	AS930B-8	MS33514E8	1.632	.281	.500	.990	1.000	.130	.500
1C6306	3/8	3.5	AS930B-6	MS33514E6	1.478	.250	.469	.803	.813	.140	.375
1C6304	1/4	1.2	AS930B-4	MS33514E4	1.441	.219	.438	.678	.688	.150	.250

CATEGORY 1: CHECK VALVES, INLINE

CRISSAIR INC.

PART NUMBER: 1C1700 CHECK VALVE, SERIES, FLARED/MOD





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

CRISSAIR PART NO	WEIGHT LBS MAX	F FITTING	G	H	J	A REF	B HEX	C	D	E DIA	RATED FLOW (GPM)	MAX ΔP PSID
1C1704	.077	4	.080	.060	.350	1.338	.688	.438	.219	.678	1.2	15
1C1706	.104	6	.080	.060	.370	1.395	.813	.469	.250	.803	3.5	15
1C1710	.250	10	.090	.090	.492	1.781	1.125	.531	.312	1.115	10.5	15

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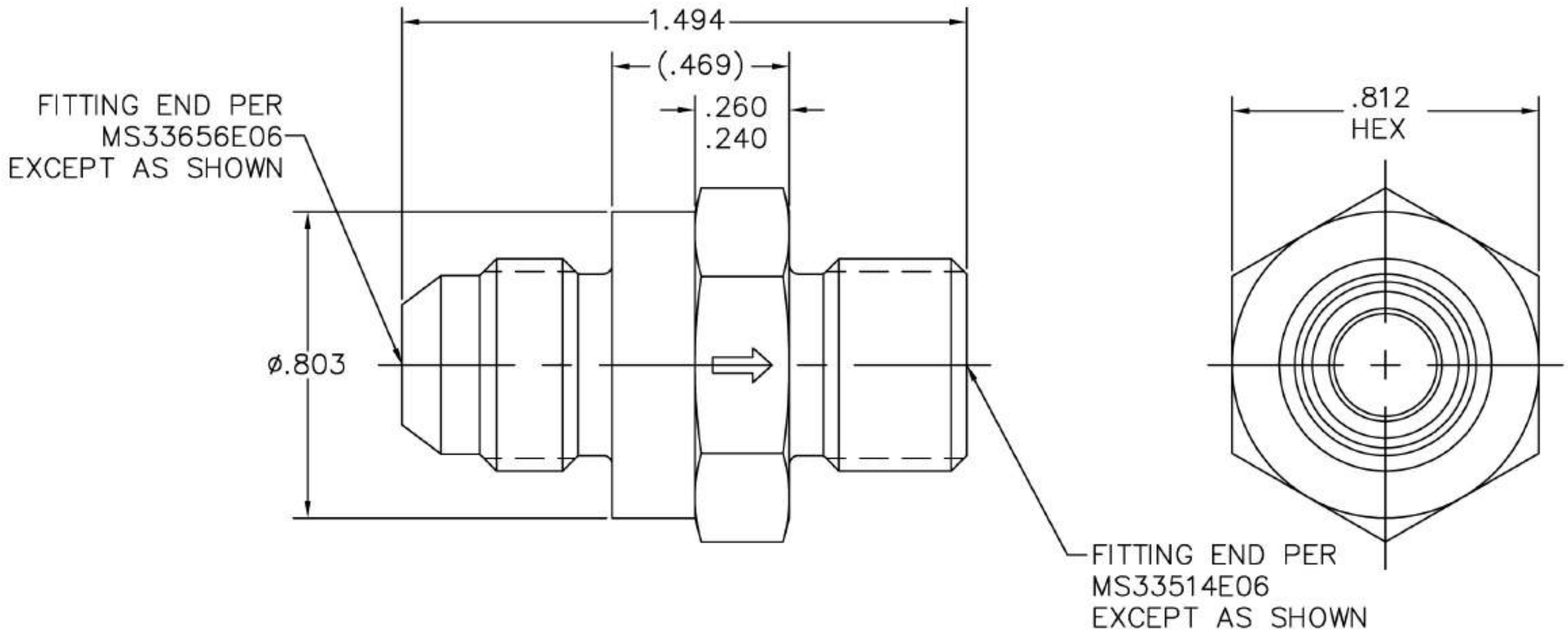
PART NUMBER: 1C6194 CHECK VALVE, FLARED/FLARELESS



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

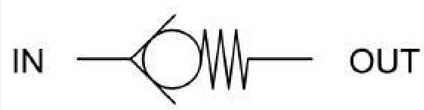
PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 3.5 GPM AT 15 PSID MAX

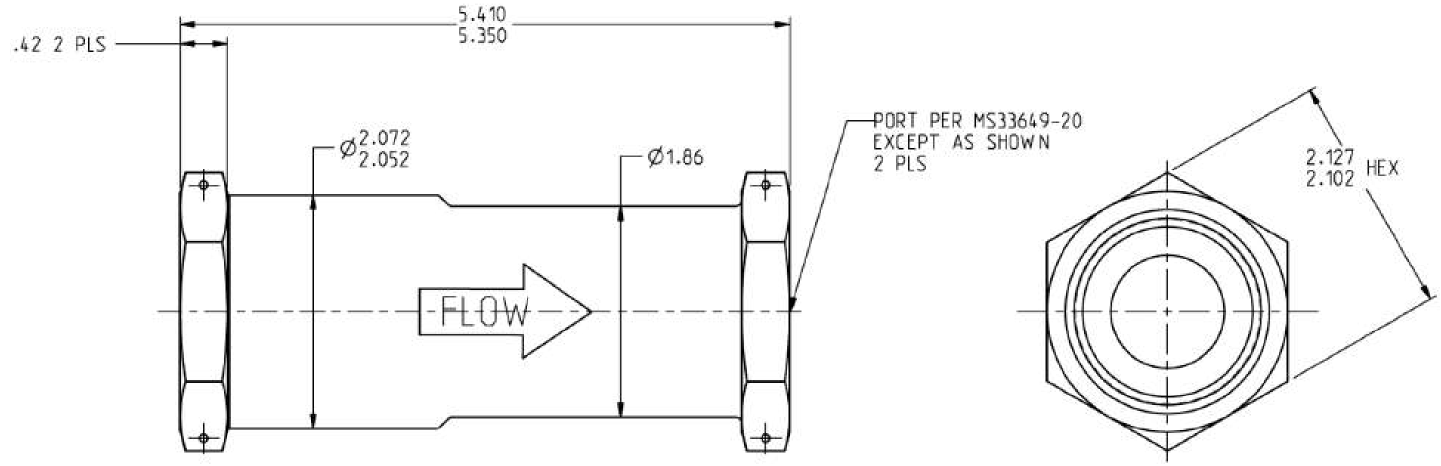
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

WEIGHT: .10 LBS MAX



HYDRAULIC SCHEMATIC

PART NUMBER: 3C4792-XCHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ETHYLENE GLYCOL/WATER MIXTURES OR PHOSPHATE ESTER

MATERIAL: BODY 6061-T6 AL

POPPET 6061-T6 AL

ELASTOMER ETHYLENE PROPYLENE

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 123 PSIG

PROOF PRESSURE: 185 PSIG

CRACKING PRESSURE: 0.9 ± 0.1 PSID*

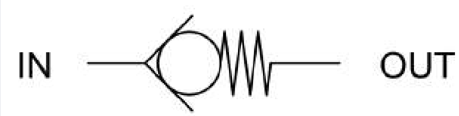
FLOW: 22 GPM AT 1.7 PSID MAX*

RESEAT: 0.6 PSID MINIMUM*

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 CC/MIN MAX AT 123 PSID

WEIGHT: 0.79 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING



HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, ZERO LEAK, INLINE

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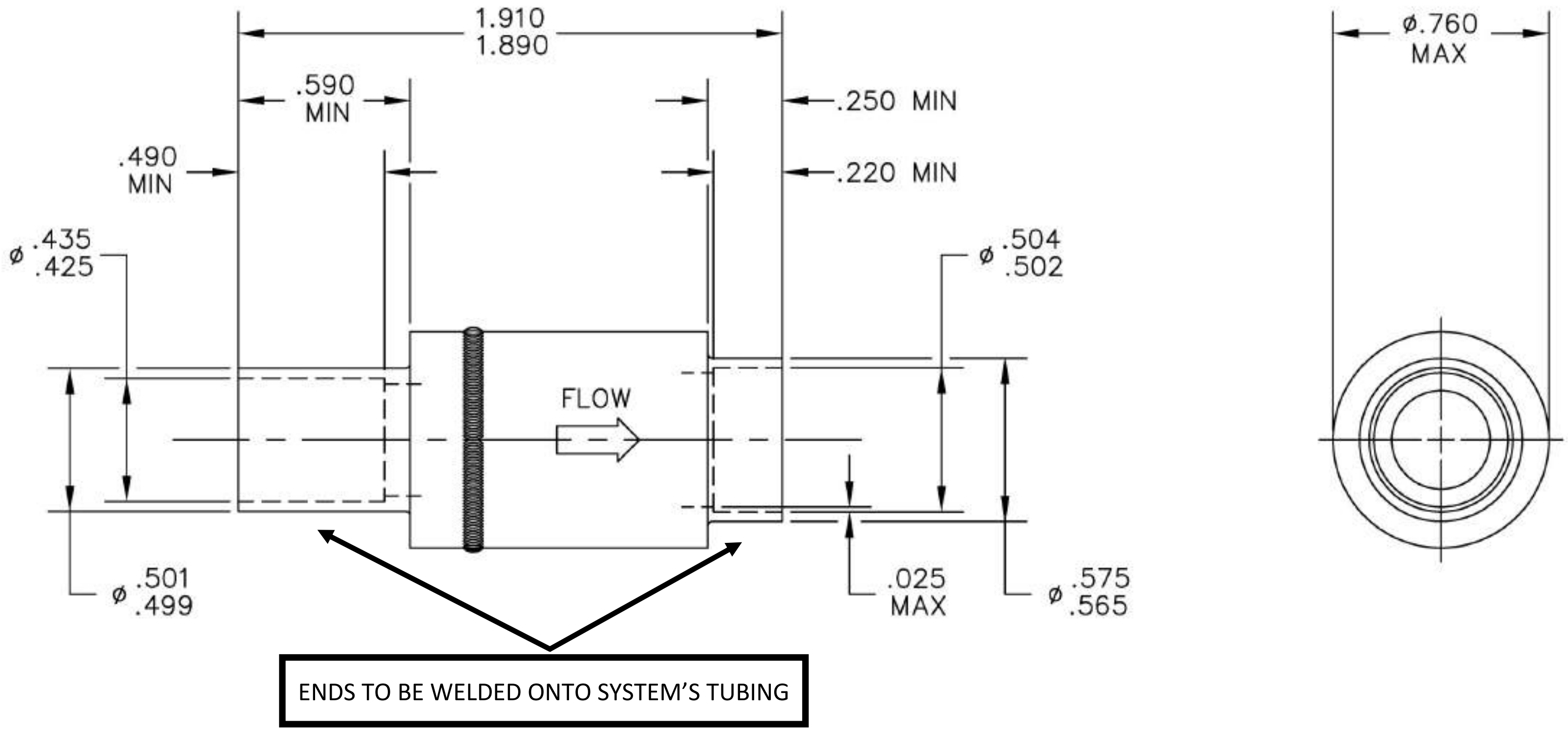
CRISSAIR INC.

PART NUMBER: 1C6192 CHECK VALVE, WELDED ENDS



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR WITH MIL-L-7808 OR MIL-L-23699 MIST

MATERIAL: BODY 347 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 400°F

OPERATING PRESSURE: 65 PSIG

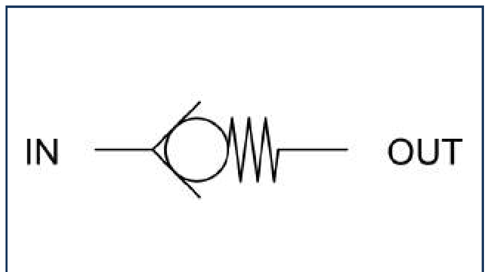
PROOF PRESSURE: 100 PSIG

CRACKING PRESSURE: 0.5 PSID

FLOW: 0.5 LB/MIN AT 1.0 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
0.001 LB/MIN MAX AT 0.5 TO 65 PSID

WEIGHT: 0.13 LBS MAX



HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, ZERO LEAK, INLINE

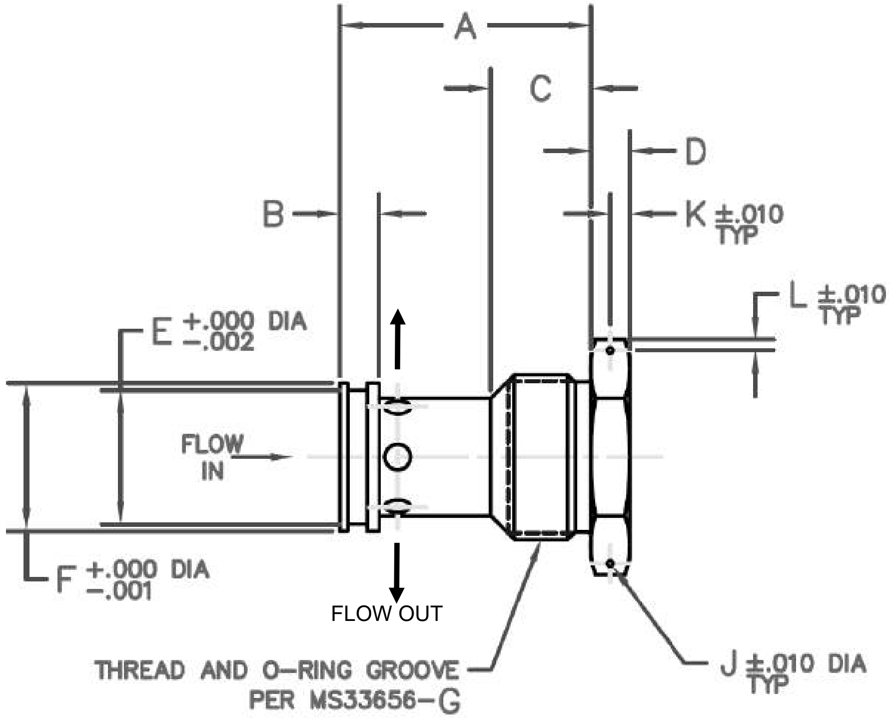
CRISSAIR HAS HUNDREDS OF OTHER CHECK VALVES NOT LISTED IN THE CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

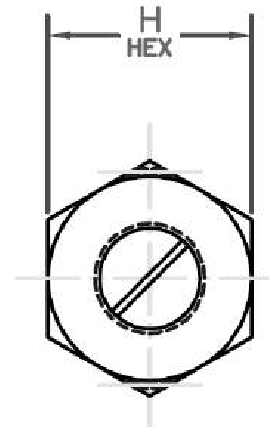
CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT (661) 367-3300 OR SALES@CRISSAIR.COM.

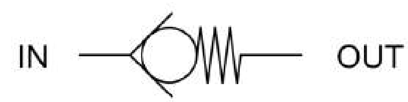
YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

CRISSAIR INC.

PART NUMBER: 2C6200A CHECK VALVE, SERIES







HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-5606 OR MIL-H-83282
(PHOSPHATE ESTER / SKYDROL OPTIONS
AVAILABLE UPON REQUEST)

MATERIAL: POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 - 3000 PSID

2C6216A	2C6236A	16	29.0	2.312	.312	.820	.375	1.381	1.491	20	1.875	.046	.187	.090
2C6212A	2C6232A	12	16.0	2.000	.312	.795	.312	1.068	1.178	16	1.625	.046	.156	.090
2C6210A	2C6230A	10	10.5	1.750	.290	.680	.312	.813	.923	12	1.375	.046	.156	.090
2C6208A	2C6228A	8	6.0	1.625	.280	.575	.250	.626	.736	10	1.125	.046	.125	.090
2C6206A	2C6226A	6	3.5	1.468	.270	.575	.219	.501	.611	8	1.000	.046	.109	.090
2C6204A	2C6224A	4	1.2	1.188	.250	.490	.188	.373	.483	6	.812	.046	.094	.090
BODY 2024-T4 AL PART NO	BODY 303 CRES PART NO	SIZE	RATED FLOW (GPM)	A	B	C	D	E	F	G	H	J	K	L

CATEGORY 1: CHECK VALVES, CARTRIDGE

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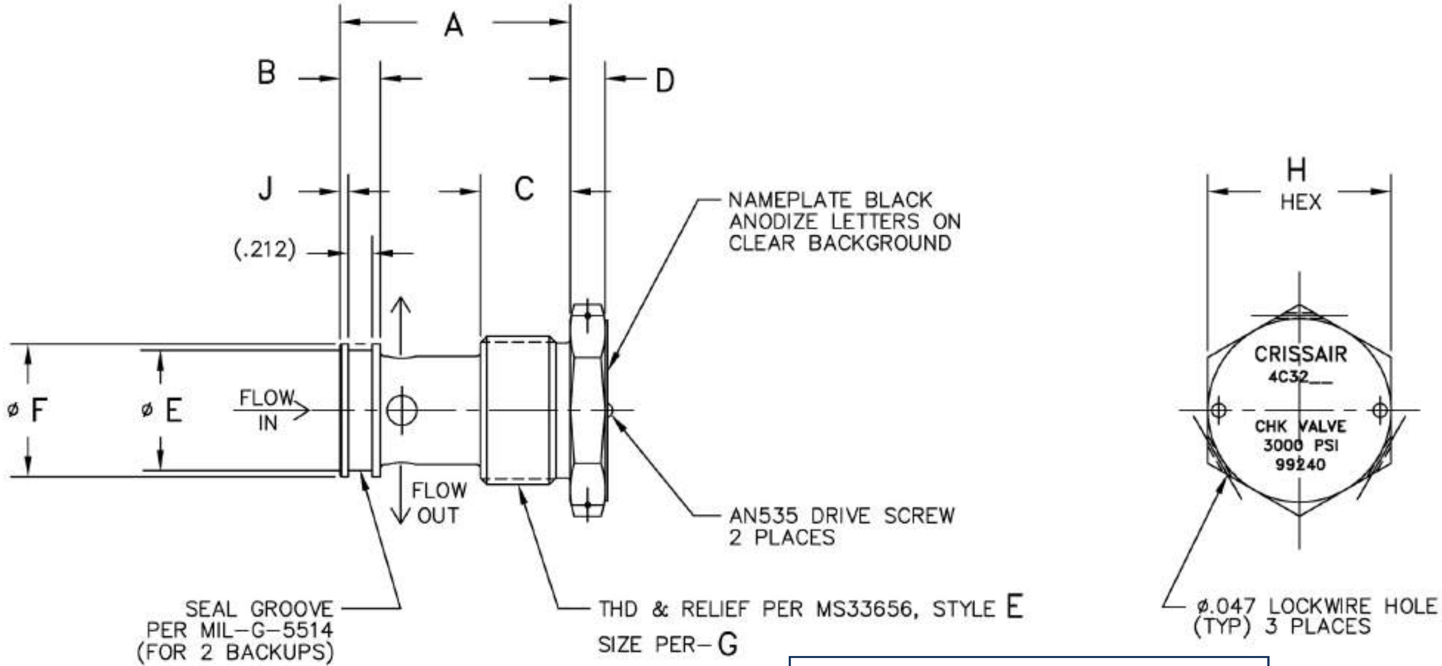
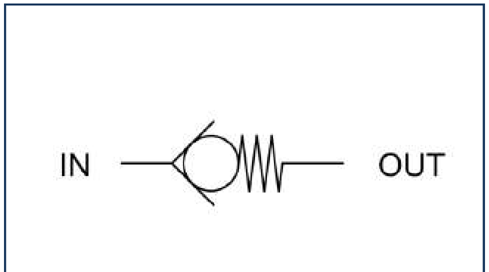
PART NUMBER: 7C2800 CHECK VALVE, SERIES





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-5606 OR MIL-H-83282
(PHOSPHATE ESTER / SKYDROL OPTIONS AVAILABLE UPON REQUEST)

MATERIAL: BODY 2024-T351 AL
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

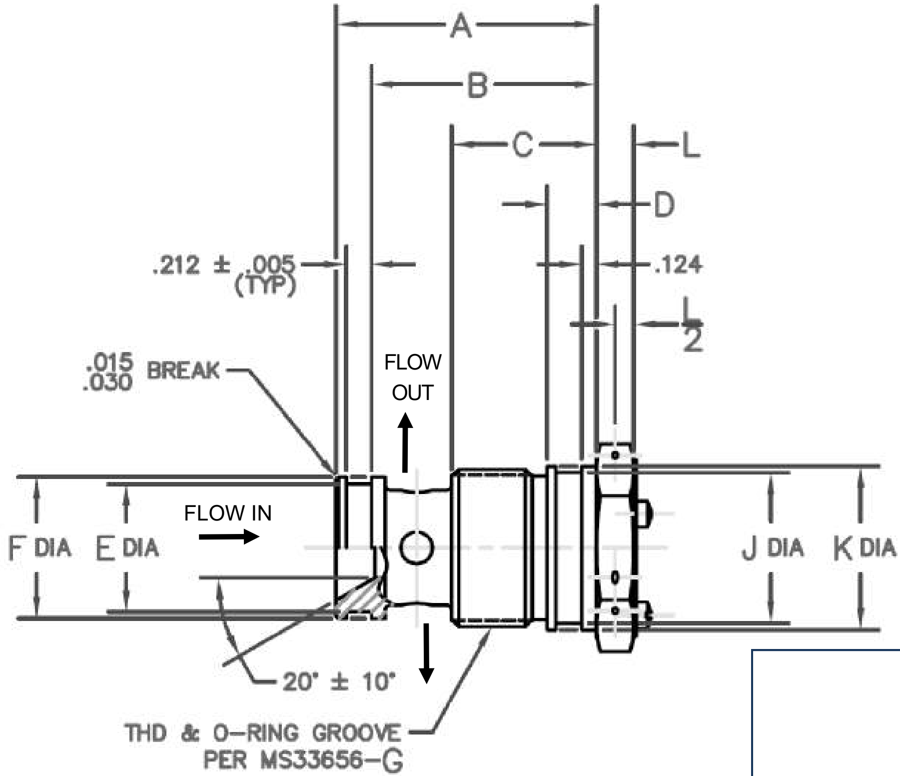
CRACKING PRESSURE: 2 TO 8 PSID

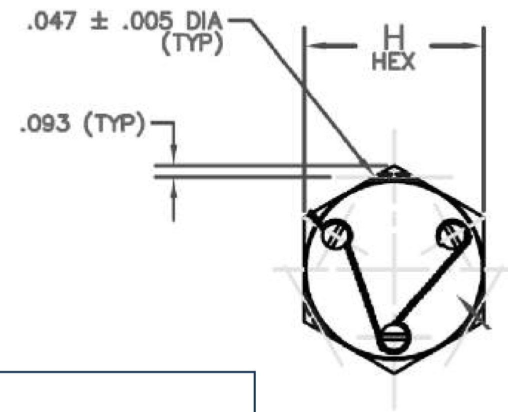
FLOW: SEE TABLE AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
NONE AT 3000 PSID

7C2816	16	2.370	.370	.820	.375	1.379	1.489	20	1.875	.080	29.0	.417
7C2812	12	2.040	.360	.795	.312	1.066	1.178	16	1.625	.075	16.0	.263
7C2810	10	1.750	.350	.680	.312	.813	.923	12	1.375	.070	10.5	.167
7C2808	8	1.700	.350	.575	.250	.626	.736	10	1.125	.070	6.0	.107
7C2806	6	1.440	.340	.575	.219	.501	.611	8	1.000	.065	3.5	.072
7C2804	4	1.250	.320	.490	.188	.373	.483	6	.812	.055	1.2	.040
CRISSAIR PART NO	DASH NO	A	B	C	D	E +.000 -.002	F +.000 -.001	G	H HEX	J	RATED FLOW (GPM)	MAX WT LBS

PART NUMBER: 2C9180 CHECK VALVE, SERIES





PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER / SKYDROL (MIL-H-5606 OR MIL-H-83282 OPTIONS AVAILABLE UPON REQUEST)

MATERIAL: BODY 2024-T351 AL
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 225°F

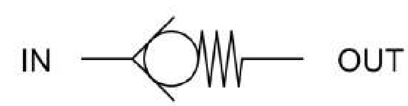
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: SEE TABLE

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID



HYDRAULIC SCHEMATIC

CRISSAIR PART NO	MAX WT (LBS)	SIZE	RATED FLOW (GPM)	MAX ΔP PSID	A ±.010	B ±.010	C	D ±.005	E +.000 -.002	F +.000 -.001	G	H	J +.000 -.002	K +.000 -.001	L
2C9196	.380	16	29.0	15	2.430	2.121	1.300	.411	1.068	1.178	16	1.625	1.381	1.491	.380
2C9192	.270	12	16.0	15	2.170	1.883	1.206	.411	1.068	1.178	16	1.500	1.256	1.366	.312
2C9190	.170	10	10.5	15	1.925	1.644	1.080	.400	.813	.923	12	1.250	1.006	1.116	.312
2C9188	.110	8	6.0	15	1.685	1.404	.970	.395	.626	.736	10	1.125	.813	.923	.250
2C9186	.076	6	3.5	25	1.600	1.324	.965	.390	.501	.611	8	1.000	.688	.798	.219
2C9184	.043	4	1.2	15	1.440	1.164	.870	.380	.373	.483	6	.750	.501	.611	.188

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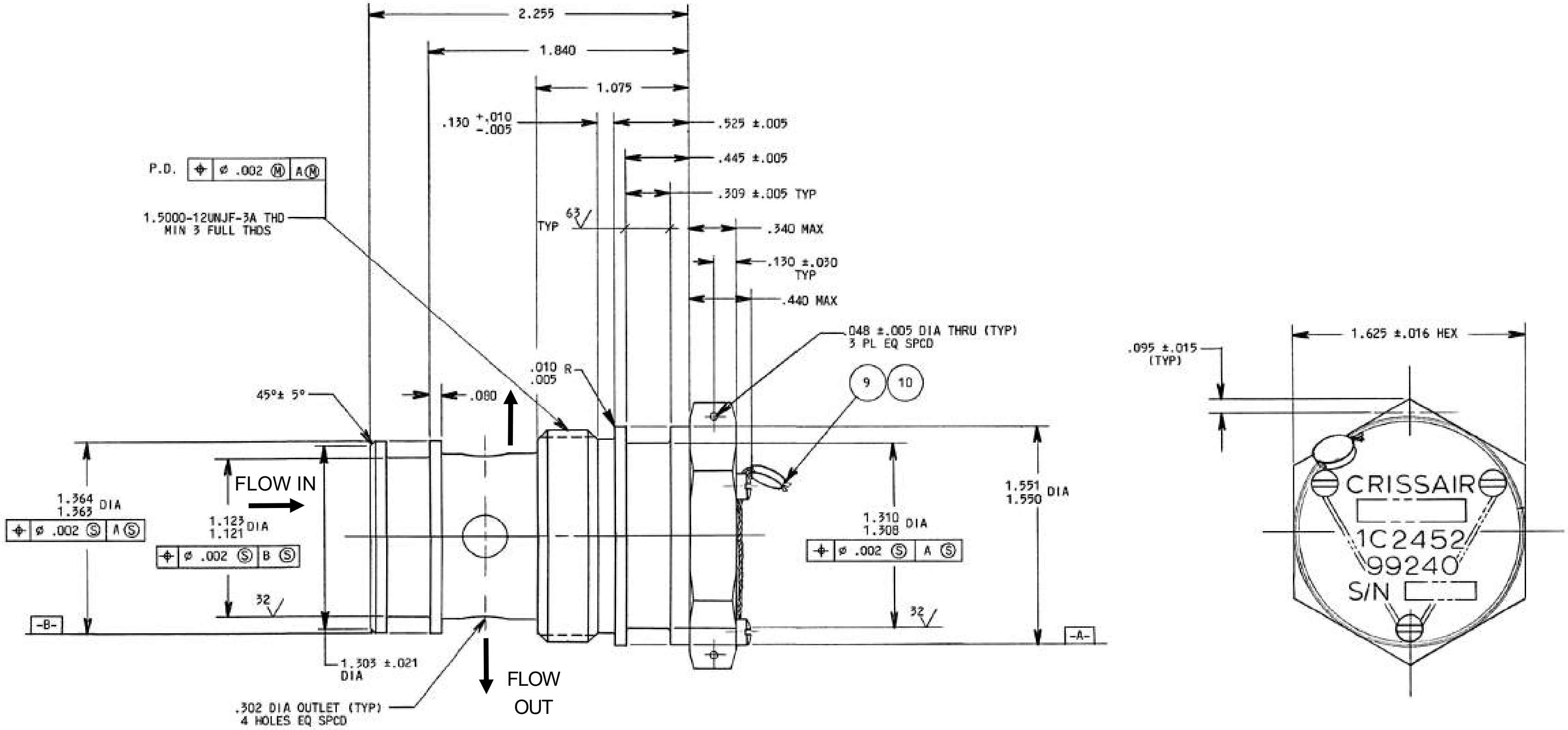
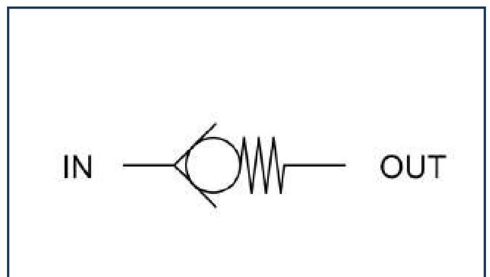
PART NUMBER: 1C6190 CHECK VALVE



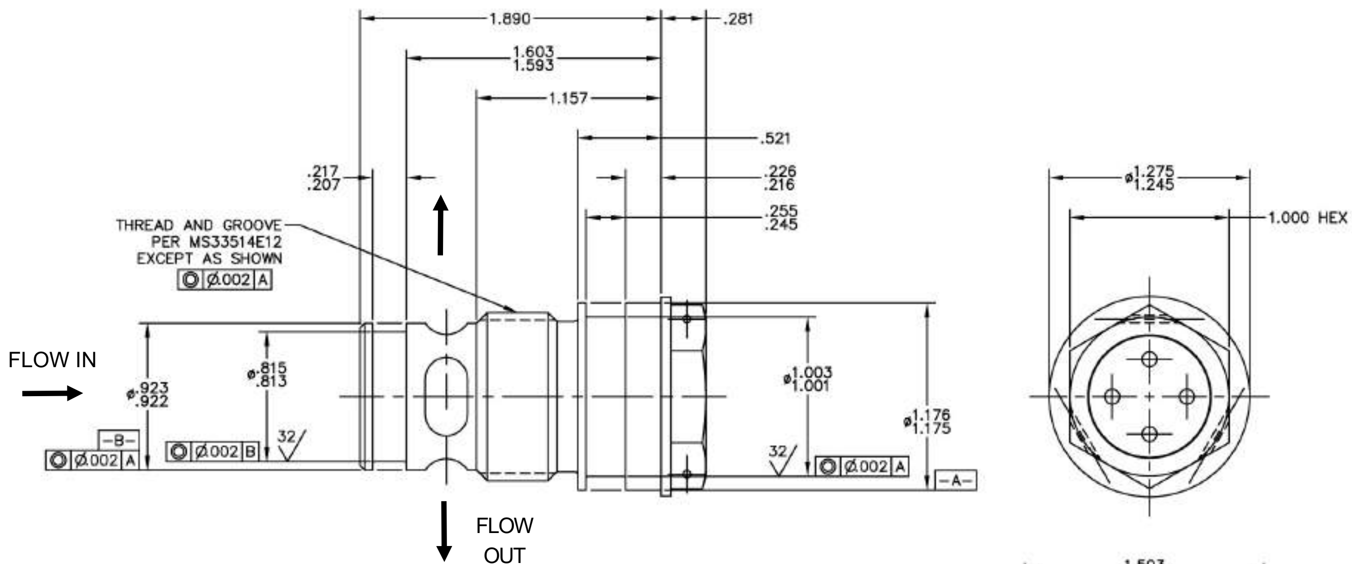
PERFORMANCE SPECIFICATIONS:

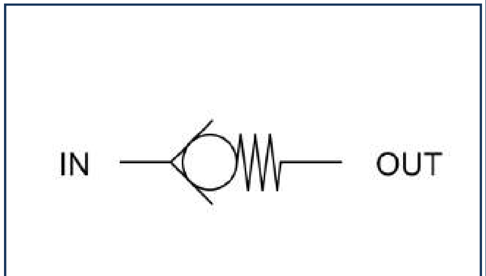
FLUIDS: MIL-H-5606 OR MIL-H-83282
(PHOSPHATE ESTER / SKYDROL OPTIONS AVAILABLE UPON REQUEST)
MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 4000 PSIG
PROOF PRESSURE: 6000 PSIG
CRACKING PRESSURE: 2 TO 8 PSID
FLOW: 20 GPM AT 12 PSID MAX
INTERNAL LEAKAGE (CHECKED DIRECTION):
NONE AT 4000 PSID
WEIGHT: .866 LBS MAX



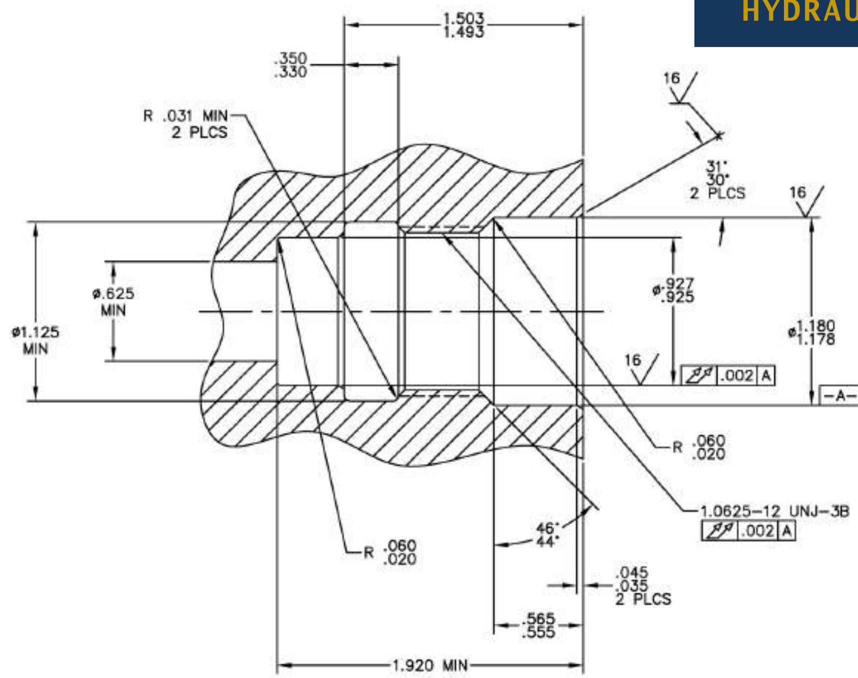
HYDRAULIC SCHEMATIC

PART NUMBER: 1C6200 CHECK VALVE





HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER / SKYDROL (MIL-H-5606 OR
MIL-H-83282 OPTIONS AVAILABLE UPON REQUEST)

MATERIAL: BODY 15-5PH CRES
POPPET PH13-8MO CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 5075 PSIG

PROOF PRESSURE: 8700 PSIG

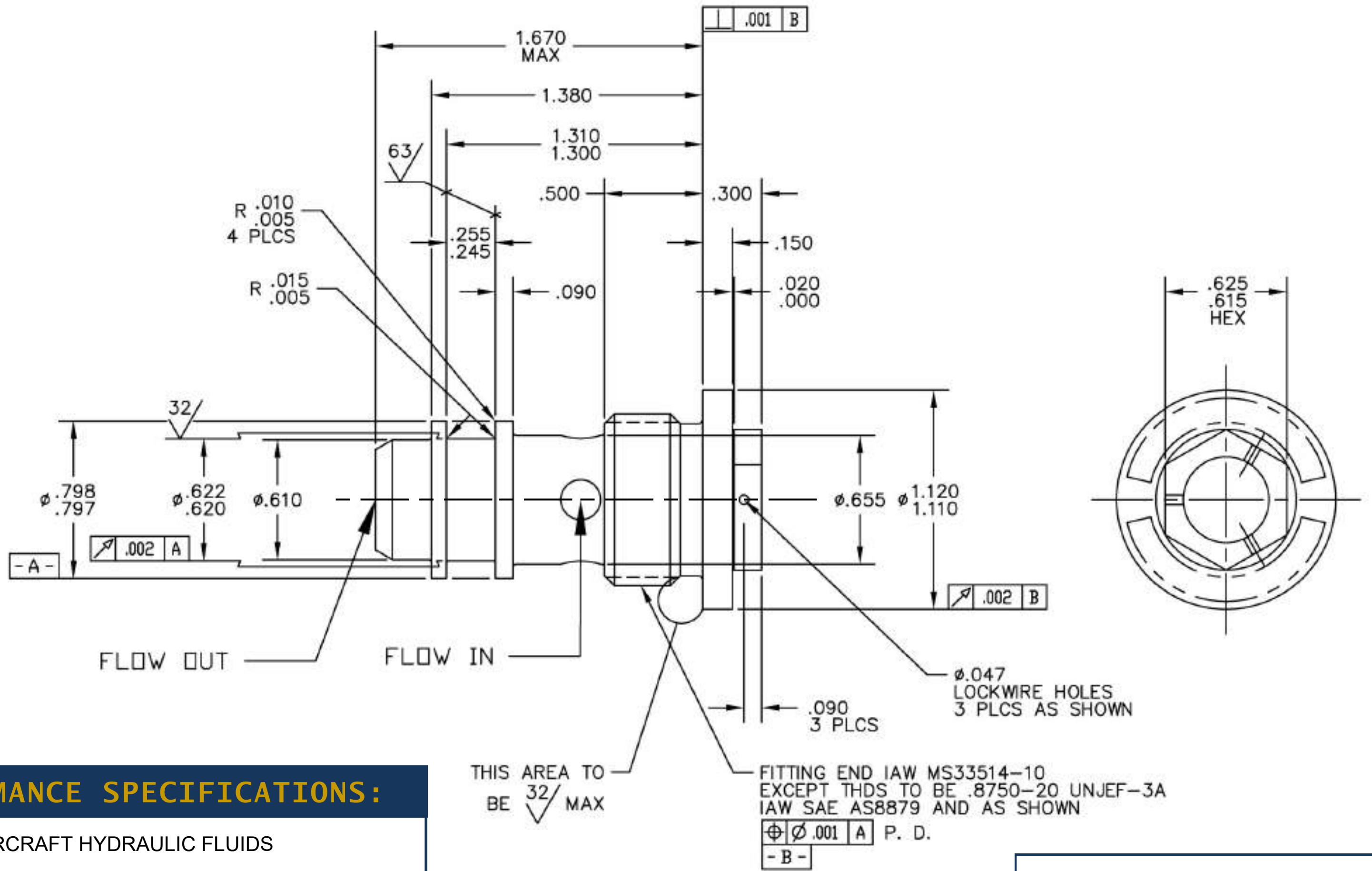
CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 8 GPM AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM FROM 15 TO 5075 PSID

WEIGHT: .375 LBS MAX

PART NUMBER: 1C6184 CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 7075-T73 AL

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 3000 PSIG

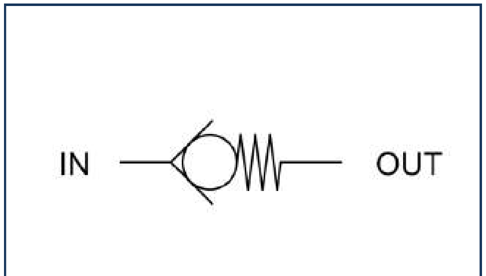
PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 6.85 GPM AT 15 PSID MAX AT 100°F ± 20°F

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

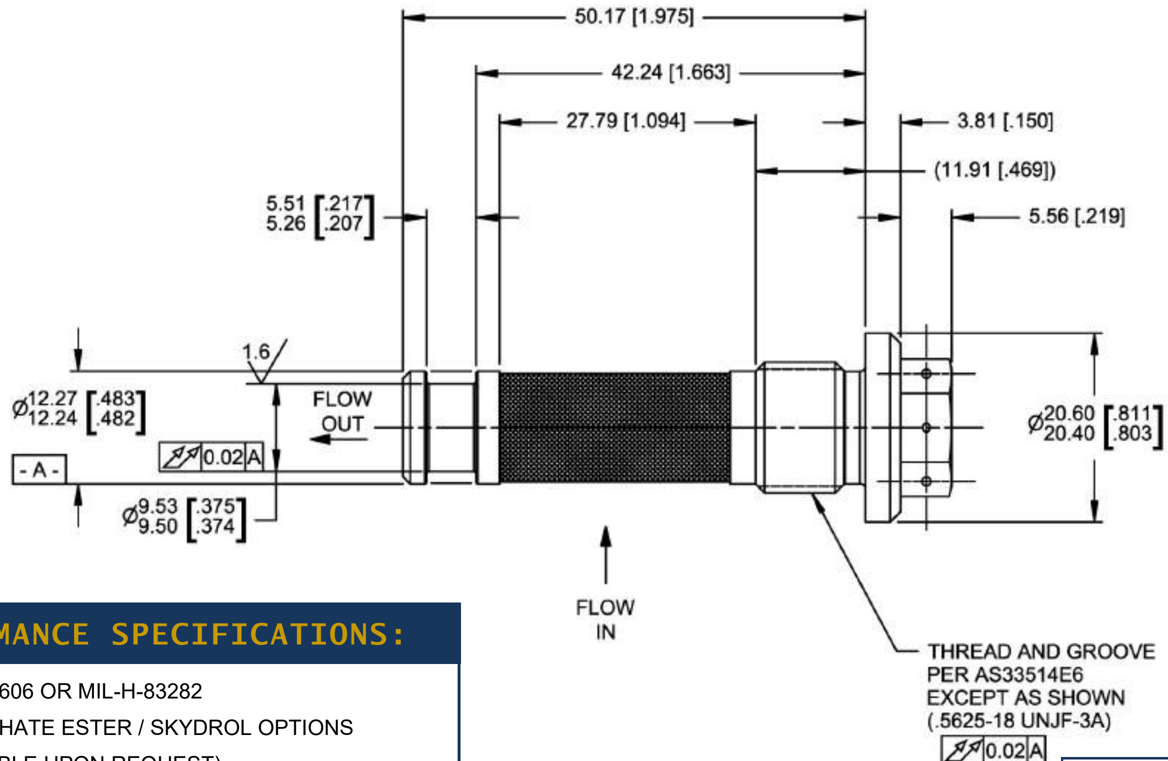
WEIGHT: .102 LBS MAX

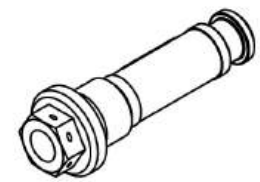


HYDRAULIC SCHEMATIC

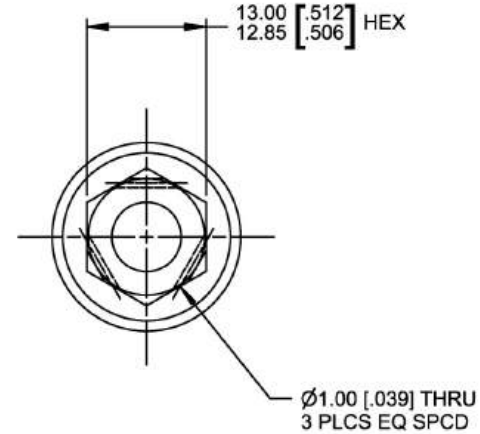
CATEGORY 1: CHECK VALVES, CARTRIDGE

PART NUMBER: 3C4790 CHECK VALVE





ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-5606 OR MIL-H-83282
(PHOSPHATE ESTER / SKYDROL OPTIONS
AVAILABLE UPON REQUEST)

MATERIAL: BODY 304 CRES
POPPET 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

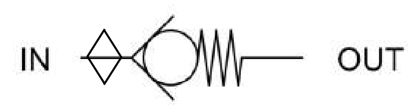
PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 25 PSID MAX

FLOW: 1.6 GPM AT 43.5 PSID MAX AT 68°F

INTERNAL LEAKAGE (CHECKED DIRECTION):
NONE AT 0 TO 3000 PSID

WEIGHT: .121 LBS MAX



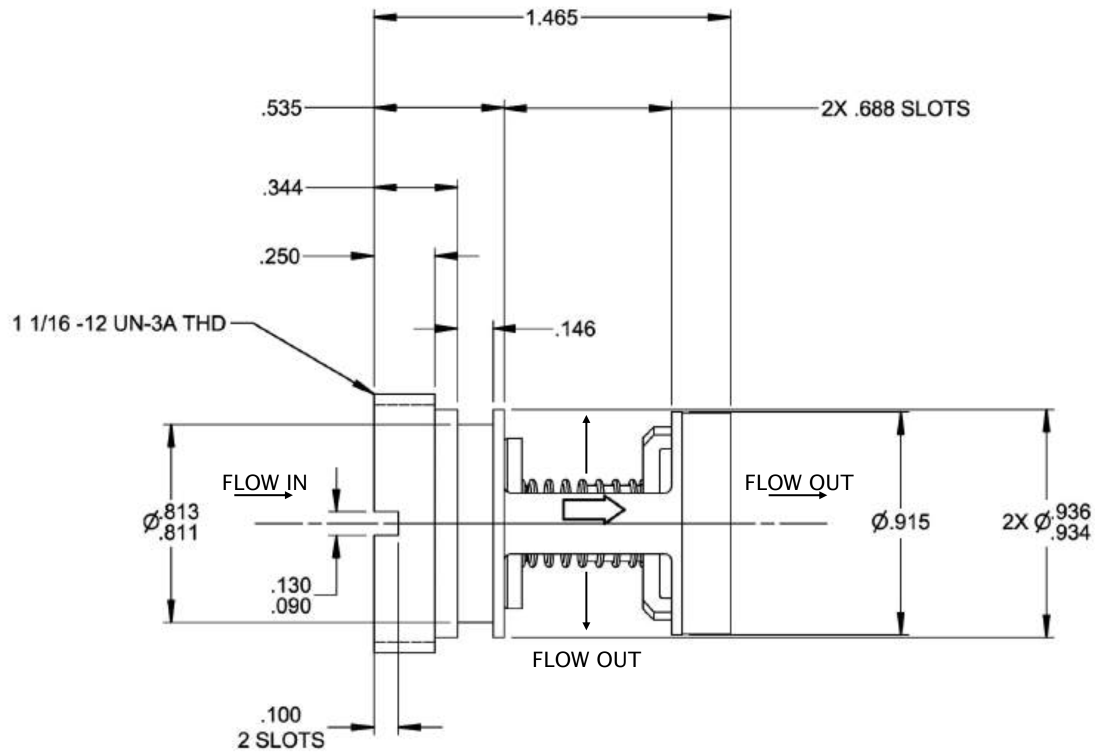
HYDRAULIC SCHEMATIC

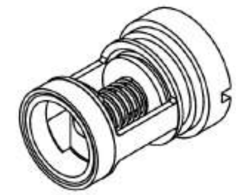
CATEGORY 1: CHECK VALVES, CARTRIDGE

Previous Section Return to Table of Contents Next Section

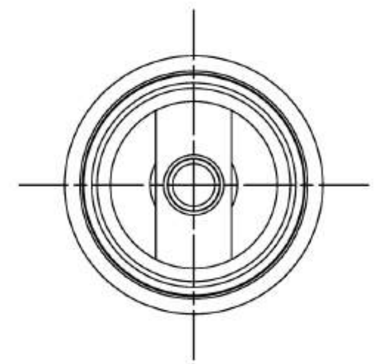
CRISSAIR INC.

PART NUMBER: 1C6222 CHECK VALVE





ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO +275°F

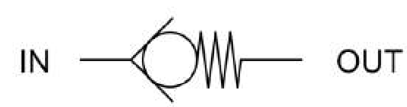
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 32 GPM AT 10 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

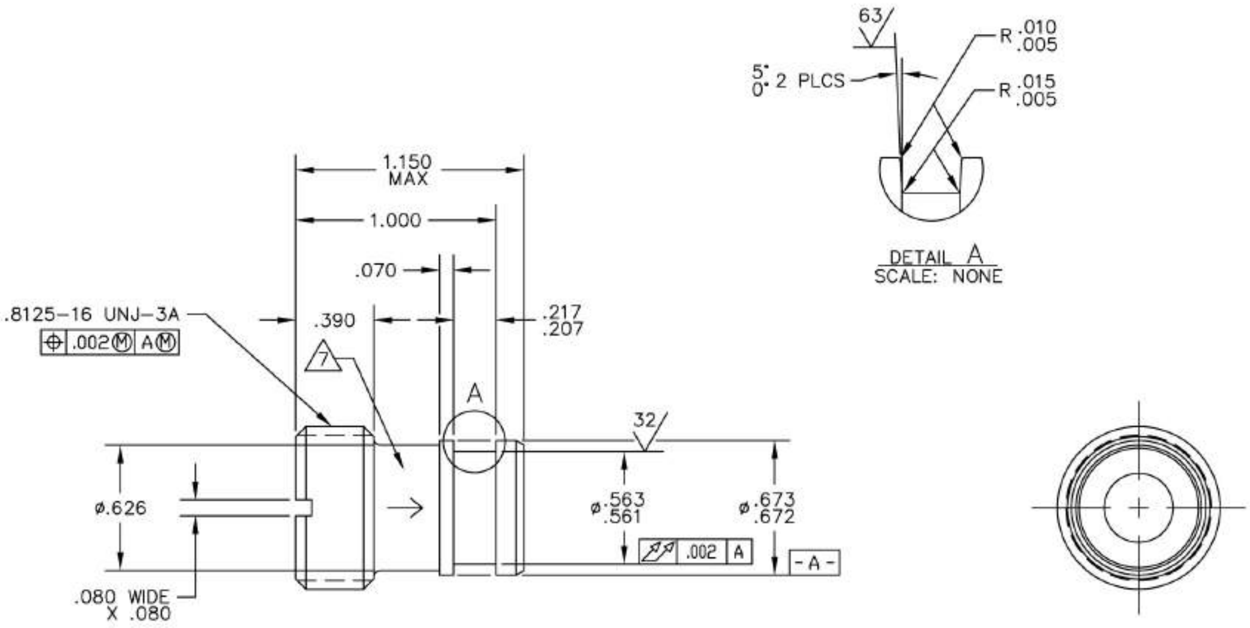


HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, CARTRIDGE

CRISSAIR INC.

PART NUMBER: 1C6196 CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F (FLUID)

-65°F TO 180°F (AMBIENT)

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 5 PSID

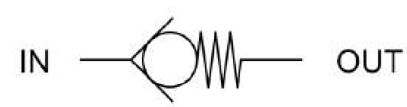
FLOW: 5 GPM AT 7 PSID MAX

RESEAT: 1.0 PSID MIN

INTERNAL LEAKAGE (CHECKED DIRECTION):

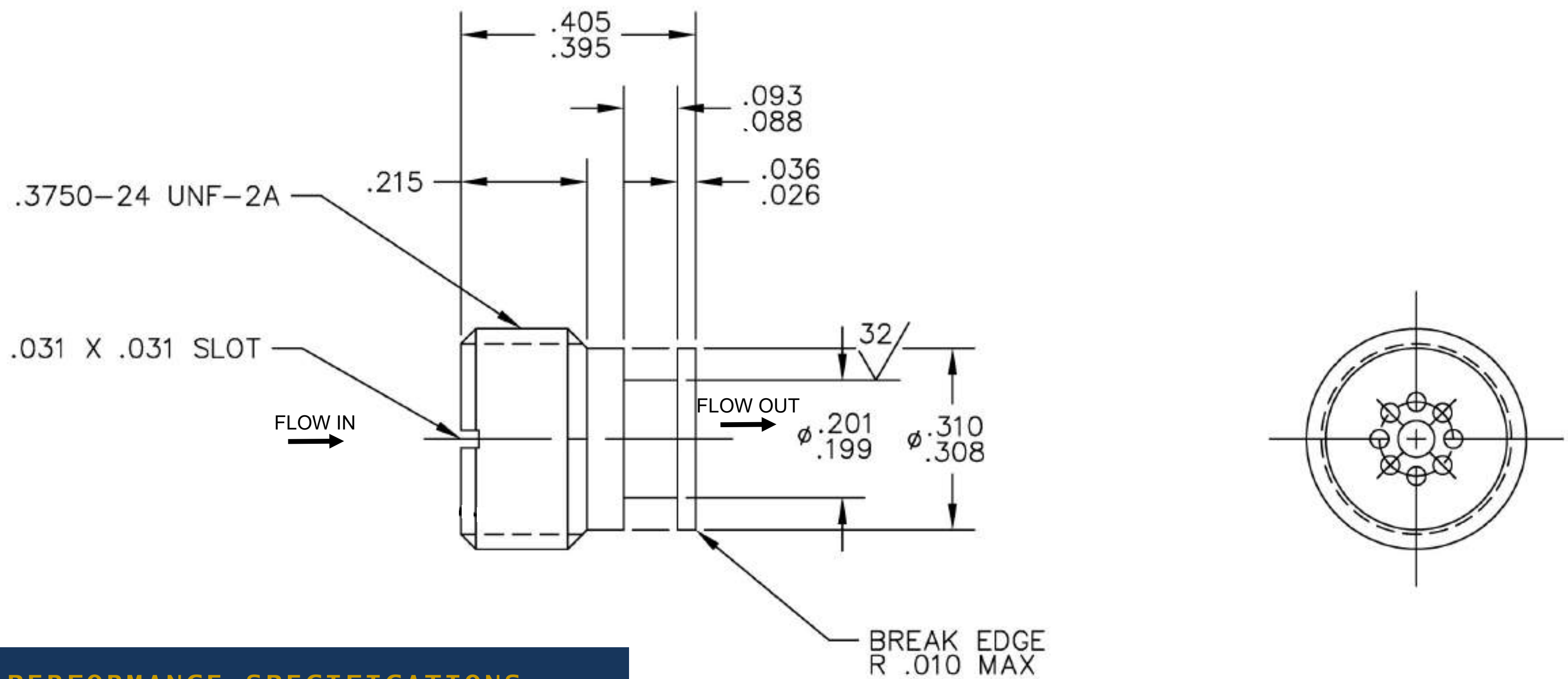
1 CC/MIN MAX AT 5 PSID

WEIGHT: .08 LBS MAX



HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, CARTRIDGE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 17-4PH CRES
POPPET 17-4PH CRES
ELASTOMER NITRILE

TEMPERATURE RANGE: -65°F TO 275°F (FLUID NON-OPERATING)
20°F TO 170°F (FLUID OPERATING)
-40°F TO 203°F (AMBIENT)

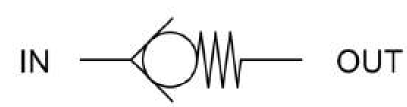
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 25 PSID MAX

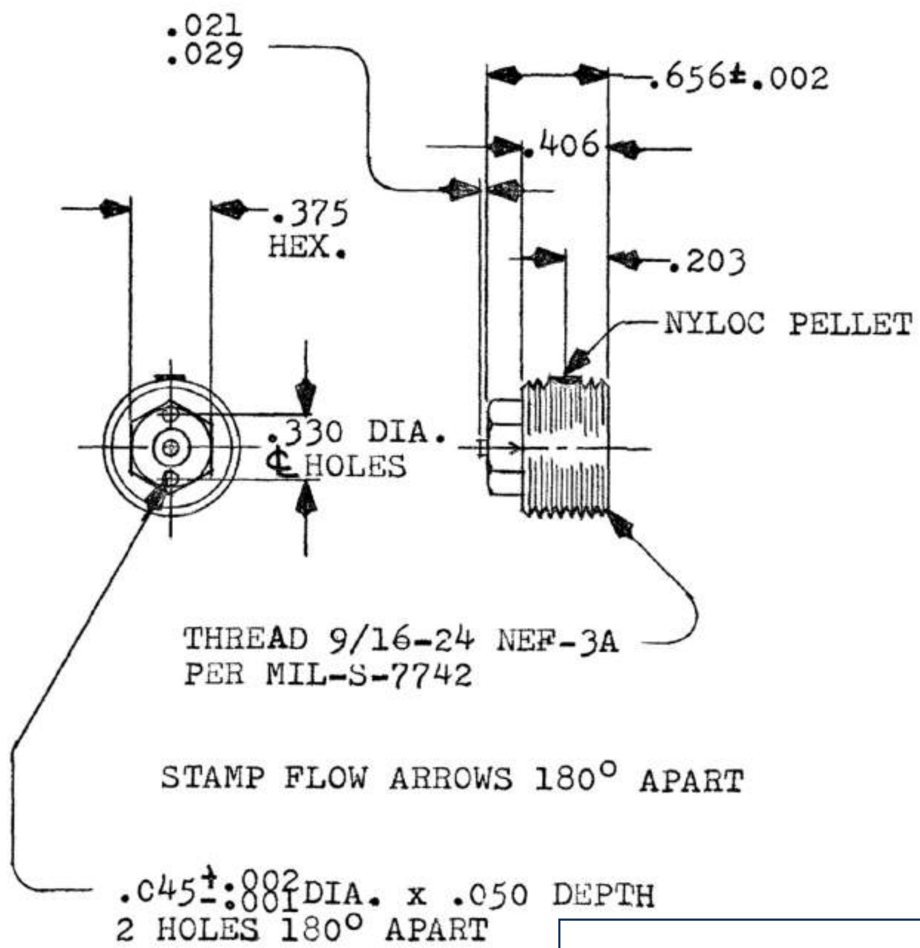
FLOW: .5 GPM AT 21 PSID MAX AT 100°± 20°F

INTERNAL LEAKAGE (CHECKED DIRECTION): NONE



HYDRAULIC SCHEMATIC

PART NUMBER: 1C6224 CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

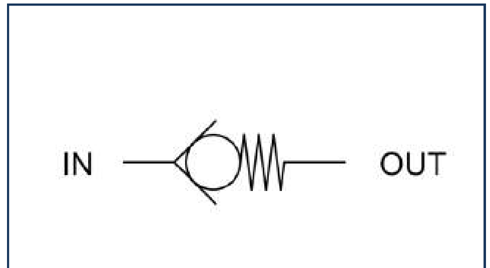
CRACKING PRESSURE: 2 TO 8 PSID MAX

FLOW: .5 GPM AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):

NONE AT 3000 PSID

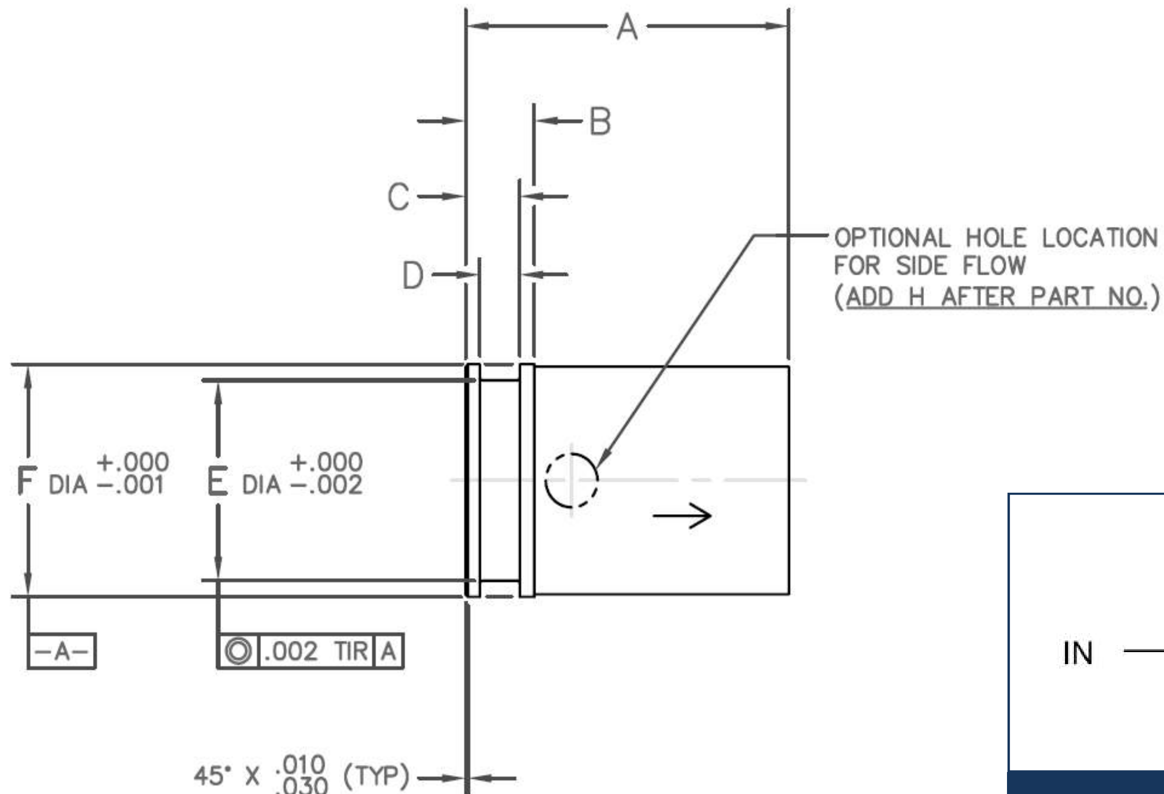
WEIGHT: .033 LBS MAX

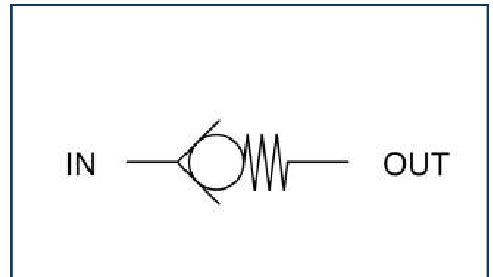


HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: CDS1000-CHECK VALVE





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 450°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

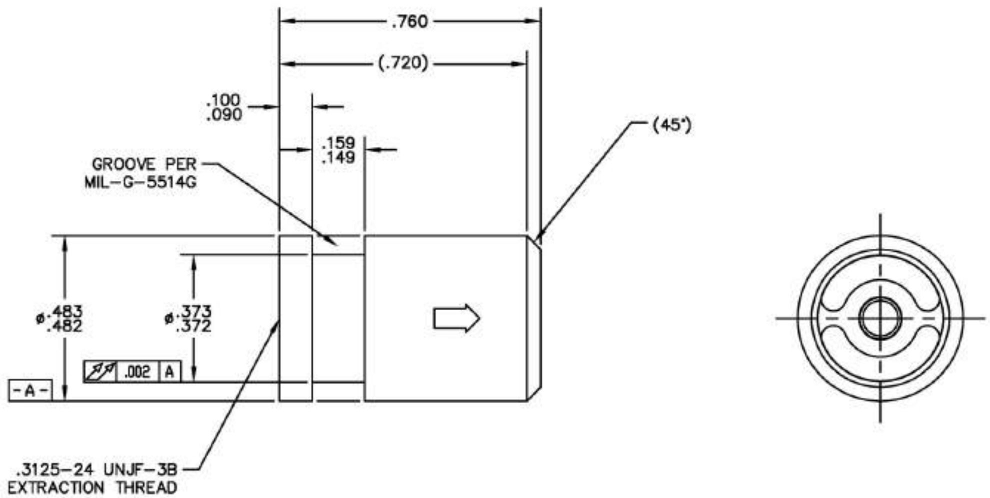
CRACKING PRESSURE: 2 TO 8 PSID

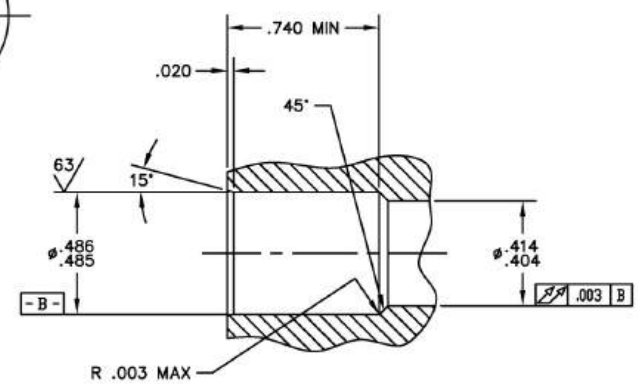
FLOW: SEE TABLE AT 15 PSID MAX ΔP

INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID

BODY 303 CRES PART NO	BODY 2024-T351 AL PART NO	SIZE	A ±.015	B MAX	C ±.010	D ±.005	E DIA	F DIA	RATED FLOW (GPM)
2C9334	2C9960	24	2.500	.620	.420	.309	1.498	1.738	70.0
2C9354	2C9958	20	2.480	.560	.350	.250	1.315	1.491	50.0
2C9352	2C9696	16	1.850	.500	.350	.250	1.003	1.179	29.0
2C9952	2C9692	12	1.500	.420	.335	.250	.817	.989	16.0
2C9950	2C9690	10	1.452	.404	.290	.212	.688	.798	10.5
2C9948	2C9688	8	1.174	.404	.290	.212	.563	.673	6.0
2C9946	2C9686	6	1.075	.404	.290	.212	.373	.483	3.5
2C9954	2C9694	5	1.000	.404	.290	.212	.373	.483	2.3
2C9944	2C9684	4	.900	.404	.290	.212	.248	.358	1.2

PART NUMBER: 1C4418 CHECK VALVE

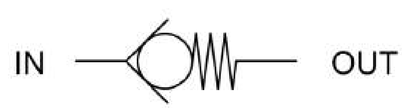




INSTALLATION CAVITY
SCALE: NONE

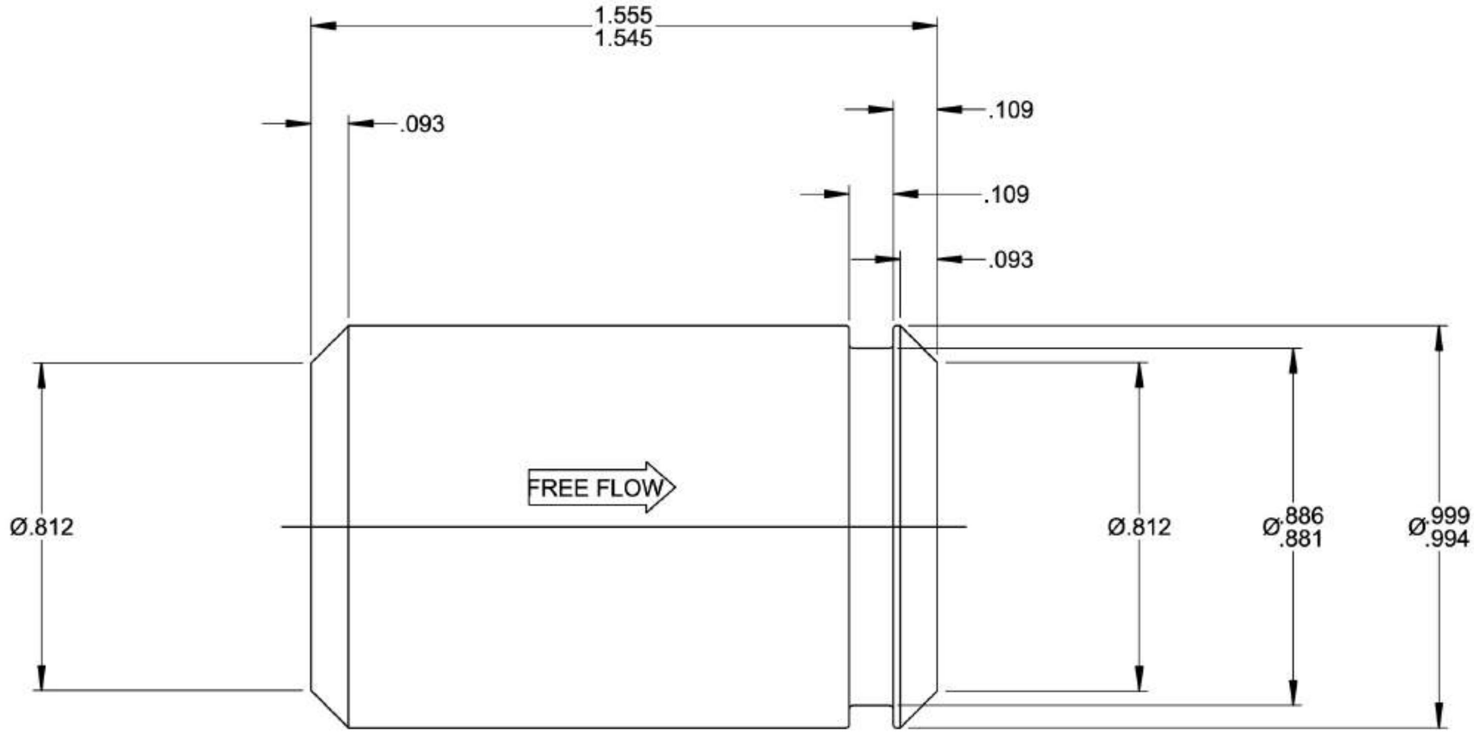
PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS
MATERIAL: BODY 15-5PH CRES
POPPET 440C CRES
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 4000 PSIG
PROOF PRESSURE: 6000 PSIG
CRACKING PRESSURE: 2 TO 8 PSID
FLOW: 4.00 GPM AT 15 PSID MAX USING MIL-H-83282 AT 80°F
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 4000 PSID
WEIGHT: .02 LBS MAX



HYDRAULIC SCHEMATIC

PART NUMBER: 1C6188 CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: +40°F TO 160°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 5000 PSIG

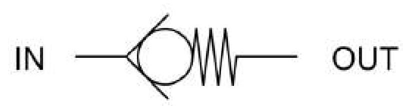
CRACKING PRESSURE: 1 TO 2 PSID

FLOW: 16 GPM AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):

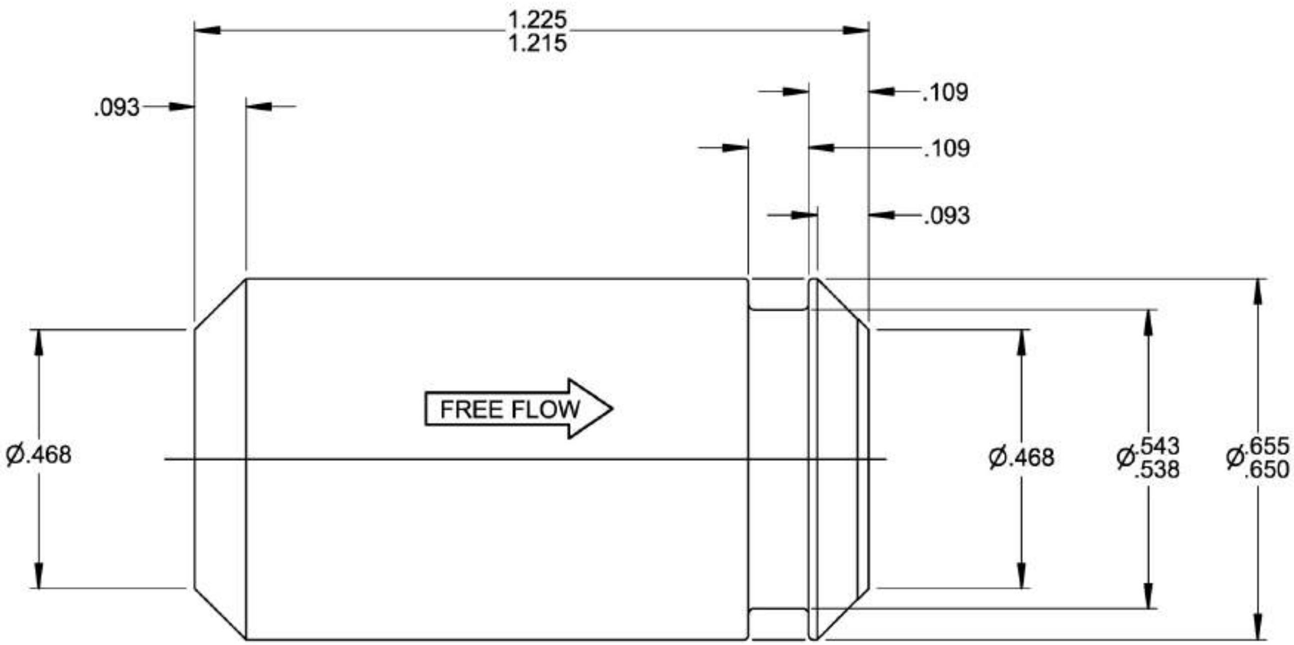
2 DPM MAX AT 5 PSID

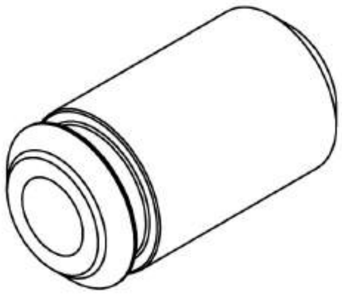
NONE AT 1000 TO 3000 PSID



HYDRAULIC SCHEMATIC

PART NUMBER: 1C6186 CHECK VALVE

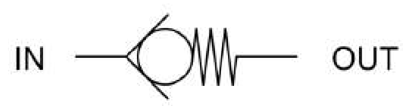




ISOMETRIC VIEW
FOR REFERENCE ONLY

PERFORMANCE SPECIFICATIONS:

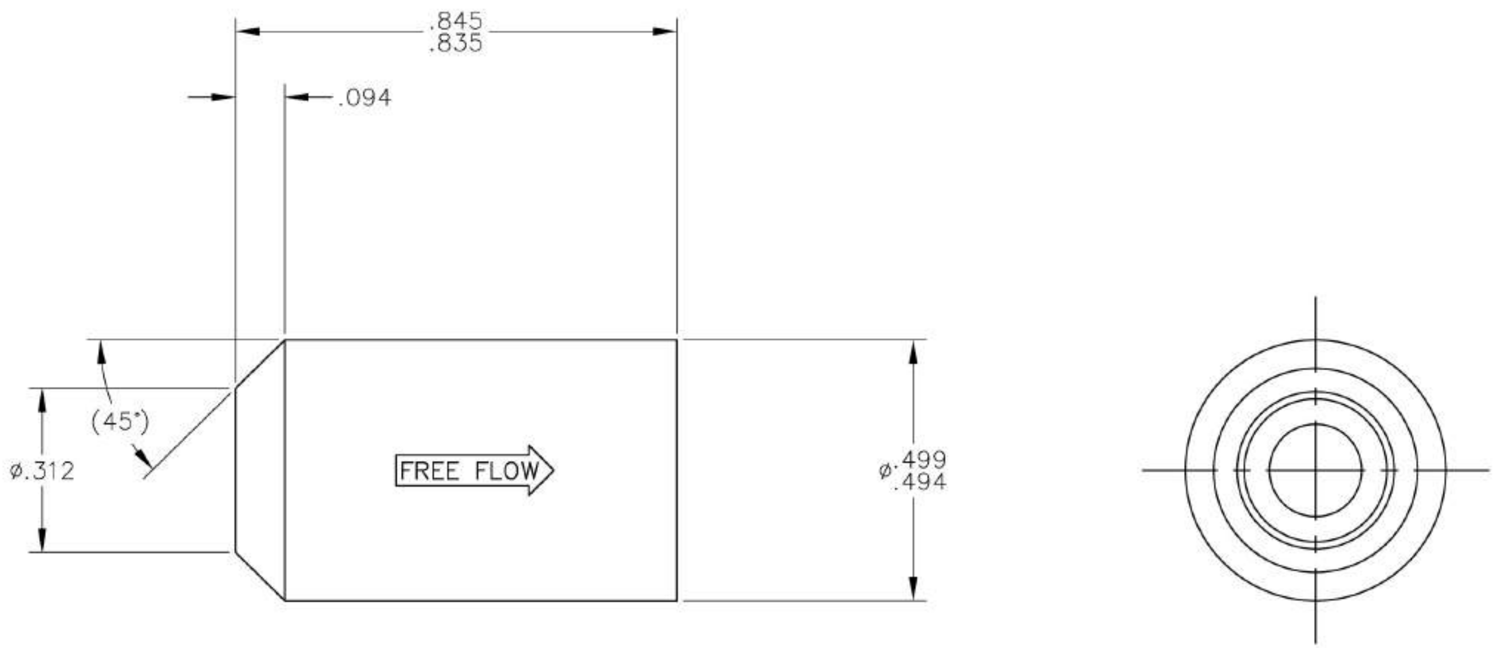
FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS
MATERIAL: BODY 303 CRES
POPPET 440C CRES
TEMPERATURE RANGE: +40°F TO 160°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 5000 PSIG
CRACKING PRESSURE: 1 TO 2 PSID
FLOW: 5 GPM AT 15 PSID MAX
INTERNAL LEAKAGE (CHECKED DIRECTION):
2 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID



HYDRAULIC SCHEMATIC

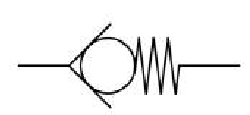
CRISSAIR INC.

PART NUMBER: 1C4792 CHECK VALVE



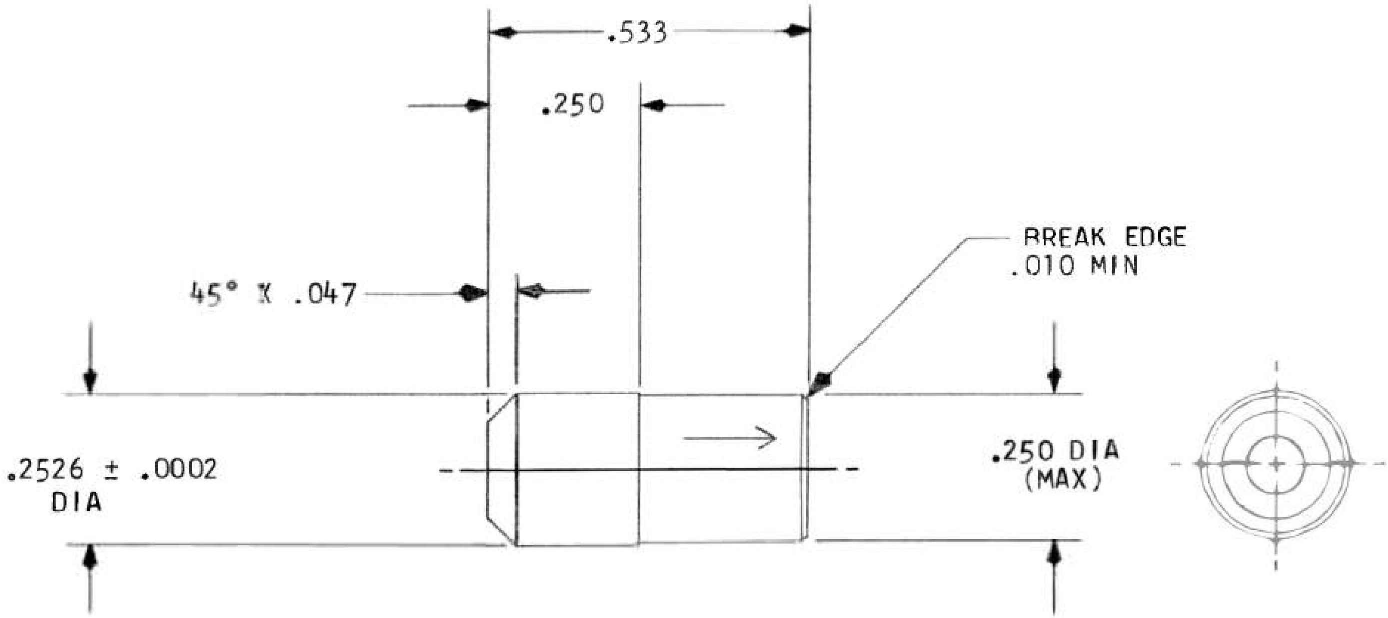
PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS
MATERIAL: BODY 303 CRES
POPPET 440C CRES
TEMPERATURE RANGE: 40°F TO 300°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 5000 PSIG
CRACKING PRESSURE: 4 TO 5 PSID
FLOW: 2.5 GPM AT 15 PSID MAX
INTERNAL LEAKAGE (CHECKED DIRECTION):
2 DPM MAX AT 5 PSID
NONE AT 1000, 1500 AND 3000 PSID
WEIGHT: .03 LBS MAX



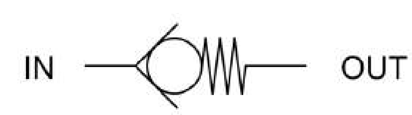
HYDRAULIC SCHEMATIC

PART NUMBER: 2C5654 CHECK VALVE



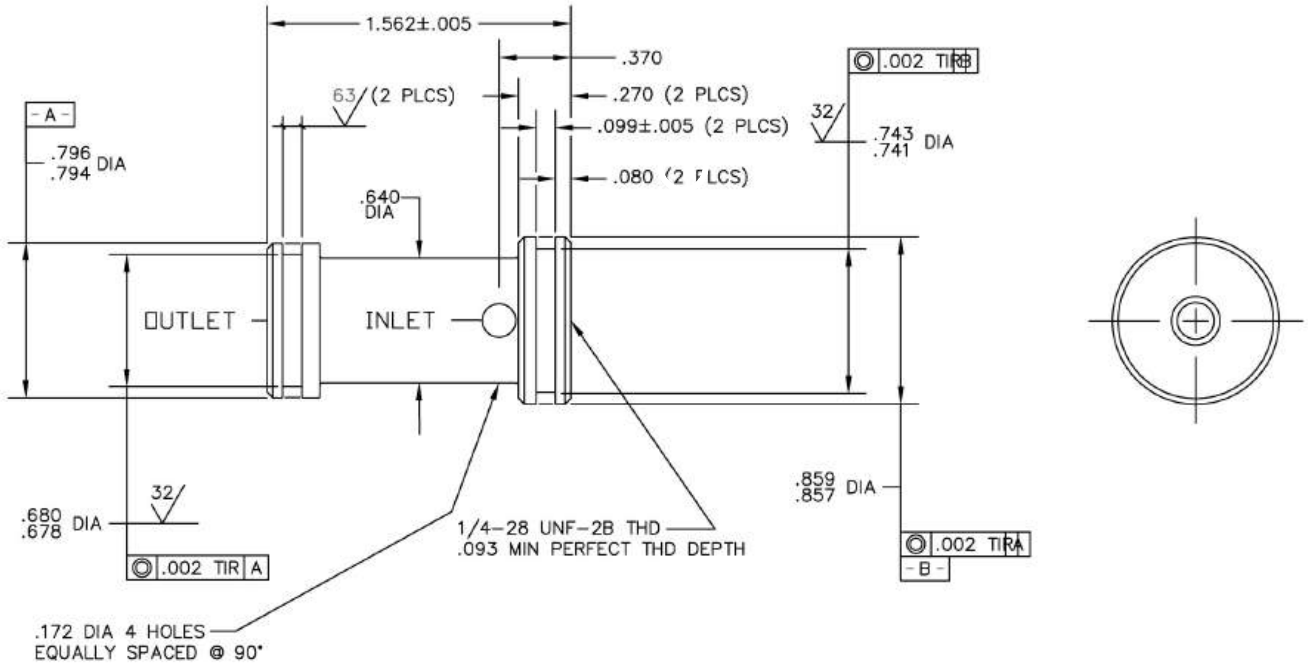
PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS
MATERIAL: BODY 303 CRES
POPPET 440C CRES
TEMPERATURE RANGE: -65°F TO 225°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
CRACKING PRESSURE: 2 TO 5 PSID
FLOW: .8 GPM AT 15 PSID MAX
INTERNAL LEAKAGE (CHECKED DIRECTION):
1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3000 PSID
WEIGHT: .0036 LBS MAX



HYDRAULIC SCHEMATIC

PART NUMBER: 3C4784 CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-5606 OR MIL-H-83282 (PHOSPHATE ESTER & SKYDROL OPTIONS AVAILABLE UPON REQUEST)

MATERIAL: BODY 6061-T651 AL
POPPET 17-4PH CRES
ELASTOMER FLUOROCARBON

TEMPERATURE RANGE: -65°F TO 300°F

OPERATING PRESSURE: 125 PSIG

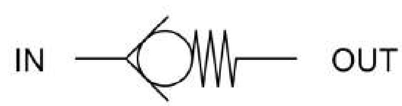
PROOF PRESSURE: 225 PSIG

CRACKING PRESSURE: 2 TO 4 PSID

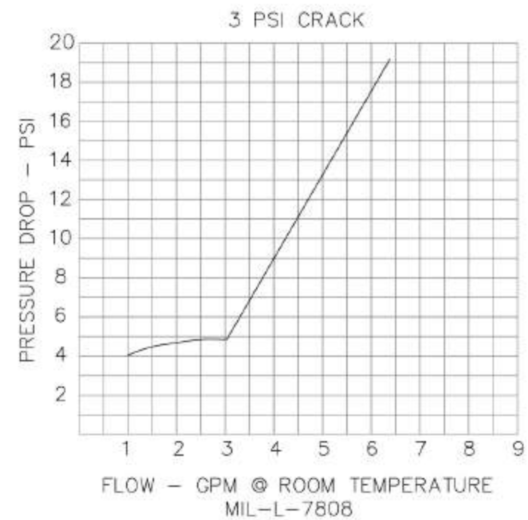
FLOW: 2.0 GPM AT 5 PSID MAX AT 176°F

INTERNAL LEAKAGE (CHECKED DIRECTION):
NONE TO 300 PSID

WEIGHT: .065 LBS MAX

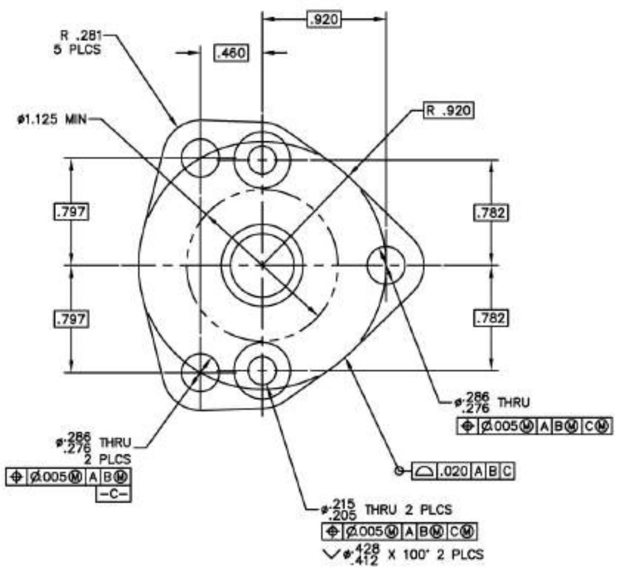


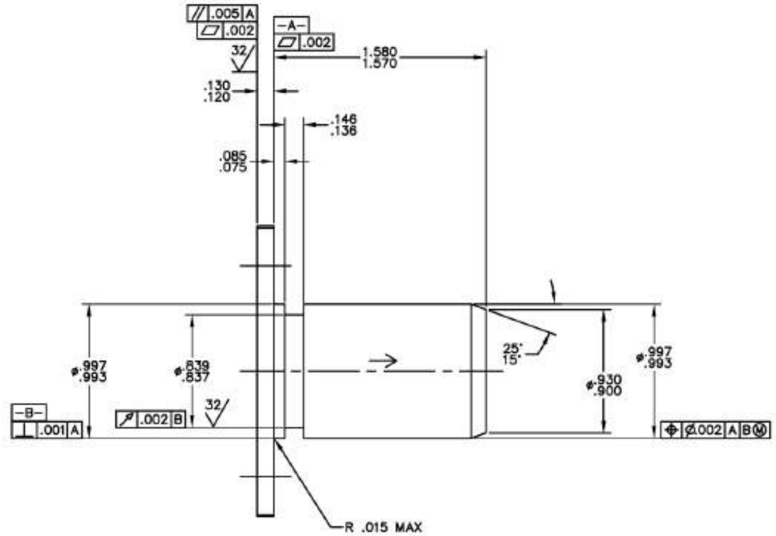
HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 3C4788 CHECK VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-5606 OR MIL-H-83282
(PHOSPHATE ESTER / SKYDROL OPTIONS
AVAILABLE UPON REQUEST)

MATERIAL: BODY 15-5PH CRES
POPPET 303 CRES
ELASTOMER FLUOROCARBON

TEMPERATURE RANGE: -40°F TO 350°F

OPERATING PRESSURE: 100 PSIG

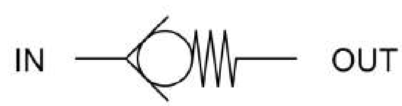
PROOF PRESSURE: 200 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 12.0 GPM AT 15 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):
NONE AT 0 TO 300 PSID

WEIGHT: .32 LBS MAX



HYDRAULIC SCHEMATIC

CATEGORY 1: CHECK VALVES, CARTRIDGE

Previous Section

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Next Section

CRISSAIR HAS HUNDREDS OF OTHER CHECK VALVES NOT LISTED IN THE

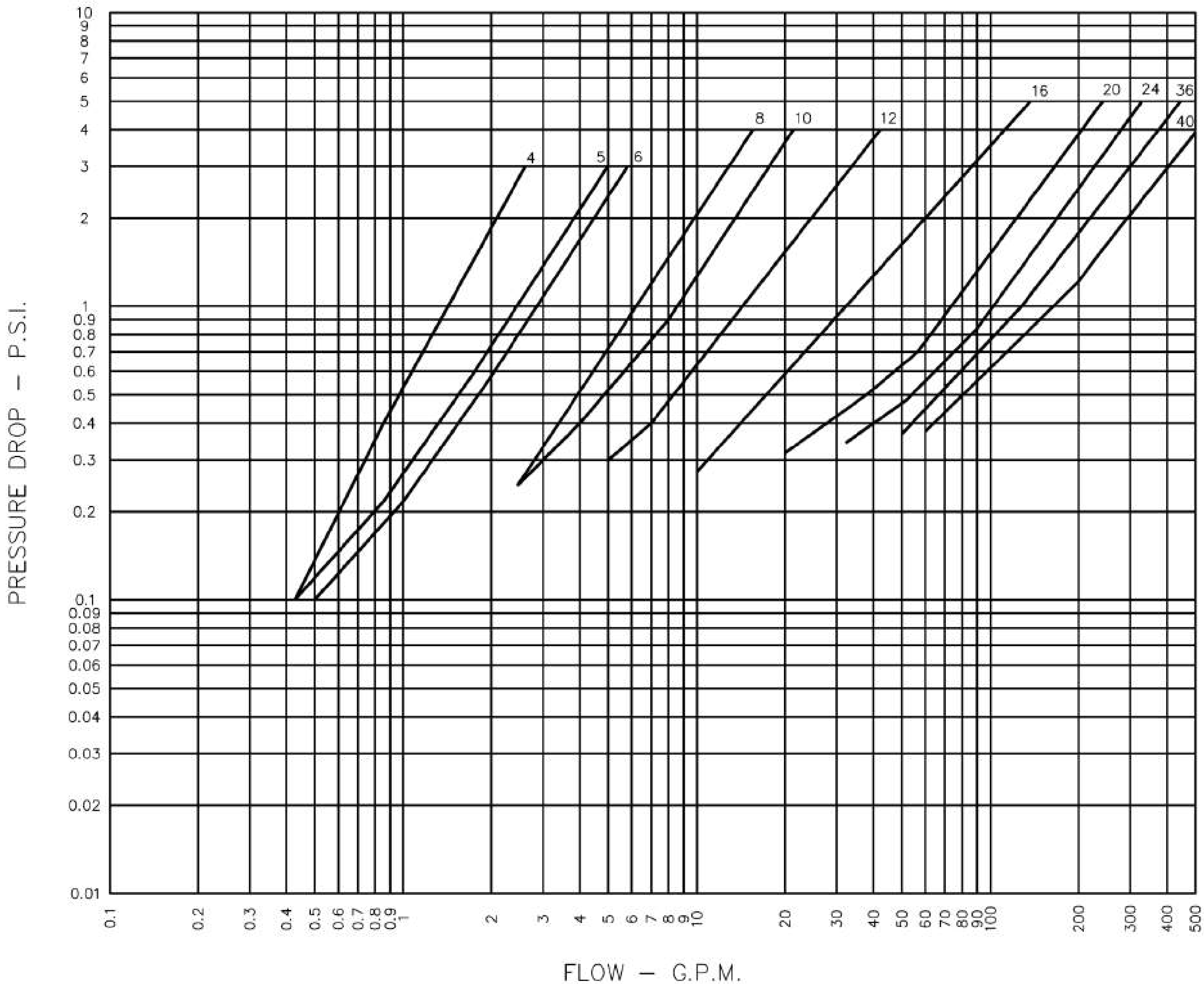
CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT

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

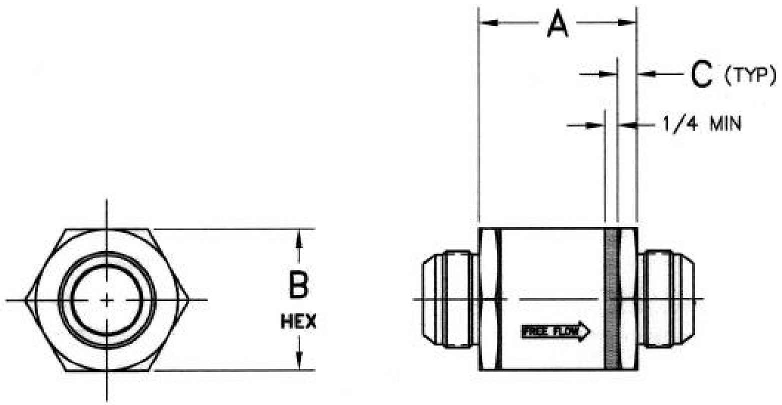
YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

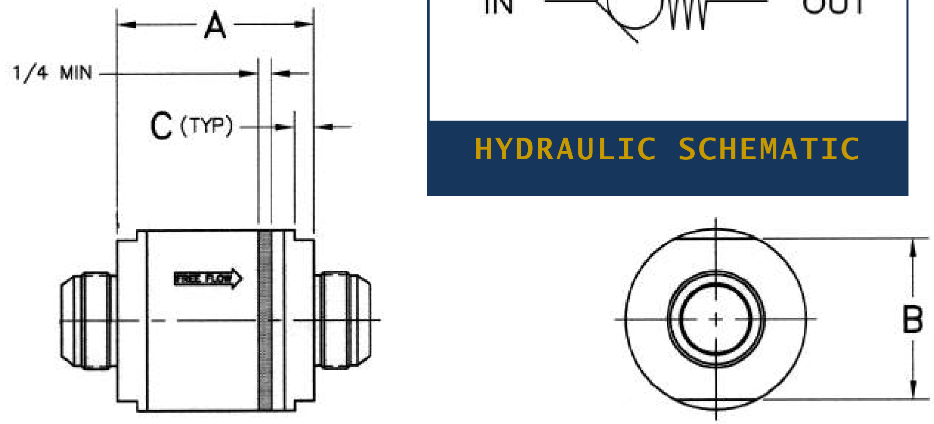
FLOW CURVE SWING CHECK VALVES (SIZES 4 TO 40)

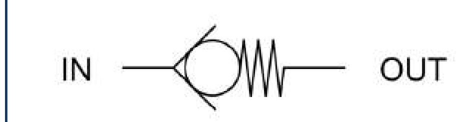


CRISSAIR INC.

PART NUMBER: 2S3000, FUEL CHECK VALVE, LOW PRESSURE







HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS PER MIL-G-5572, MIL-T-5624 AND AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-P-5315

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: SEE TABLE

PROOF PRESSURE: SEE TABLE

CRACKING PRESSURE: 4” H_2O MAX PSID

FLOW: SEE TABLE AT 20 INCHES H_2O MAX ΔP

INTERNAL LEAKAGE: .50 CC/MIN (FUEL) OR

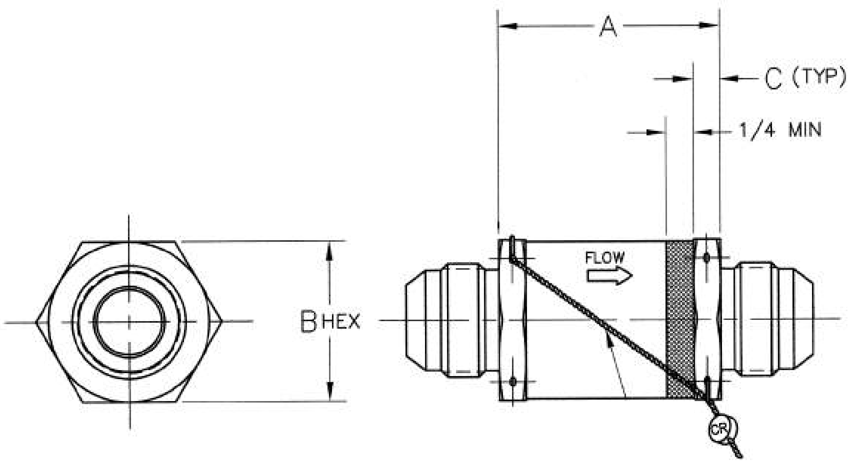
10 CC/MIN (AIR) MAX ABOVE 4” H_2O

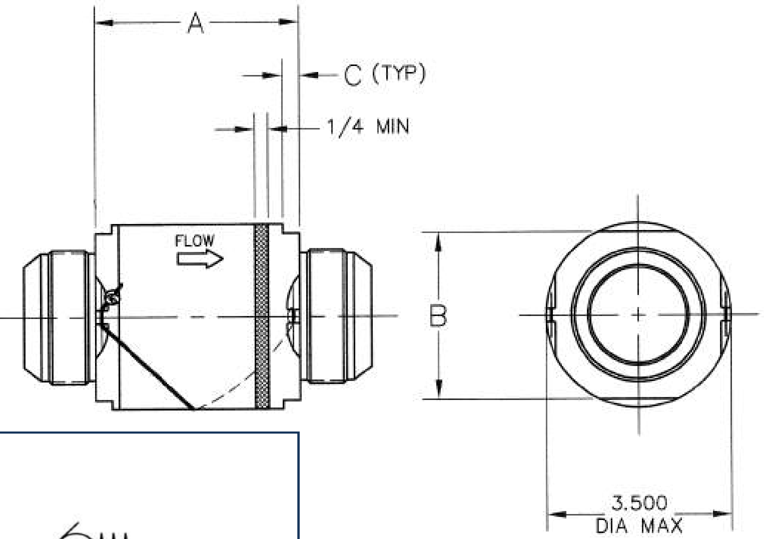
PART NO	TUBING O.D.	RATED FLOW (GPM)	OPERATING PRESSURE	PROOF PRESSURE	BURST PRESSURE	A ±.031	B HEX	C MIN	WT (LBS) MAX
2S3032	2.000	130	265 PSIG	400 PSIG	800 PSIG	3.813	3.125	0.312	1.940
2S3028	1.750	100				3.429	3.000	0.375	1.504
2S3024	1.500	70				3.063	2.750	0.375	1.159
2S3020	1.250	50				2.688	2.500	0.312	0.853
2S3016	1.000	30	300 PSIG	500 PSIG	1000 PSIG	2.375	1.812	0.250	0.431
2S3012	0.750	15				2.063	1.500		0.315
2S3010	0.625	10				1.782	1.187		0.192
2S3008	0.500	6				1.674			0.176
2S3006	0.375	3.75				1.563	1.063		0.127
2S3005	0.312	2.30							0.117
2S3004	0.250	1.25							0.113

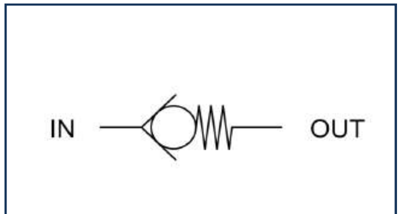
CATEGORY 1: SWING CHECK VALVES

CRISSAIR INC.

PART NUMBER: 2S3000L, FUEL CHECK VALVE, LOW PRESSURE







HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS PER MIL-G-5572, MIL-T-5624 MIL-C-7024, TT-S-735, ASTM D-1655 JET FUELS, TYPE A, A-1, B

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-R-83248

TEMPERATURE RANGE: -67°F TO 350°F (AMBIENT)
-67°F TO 200°F (FUEL)

CRACKING PRESSURE: 8 INCHES H_2O MAX AT 10 CC/MIN (MINIMUM) FLOW VALVE SHALL RESEAT BEFORE OUTLET PRESS EQUALS INLET PRESS (WITH NO PRESSURE, VALVE MUST REMAIN CLOSED IN ANY ATTITUDE)

FLOW & ΔP: PART NO 2S3004L THROUGH 2S3008L~1.5 PSID MAX ΔP AT RATED FUEL FLOW ALL OTHERS 1.0 PSID MAX ΔP AT RATED FUEL FLOW (SEE TABLE)

INTERNAL LEAKAGE: (FUEL) 0.10 CC/MIN MAX FROM 4” H_2O TO OPER PRESS

(AIR) NO BUBBLES FOR 1 MINUTE FROM 4” H_2O OPER PRESS

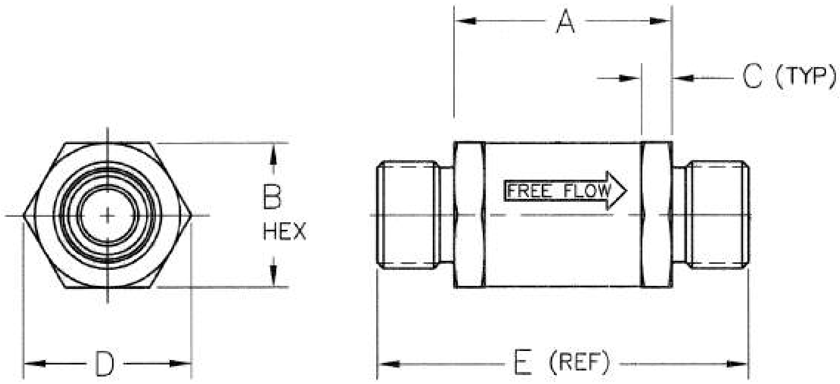
DESIGN: IN ACCORDANCE WITH MIL-V-7899C CLASS B

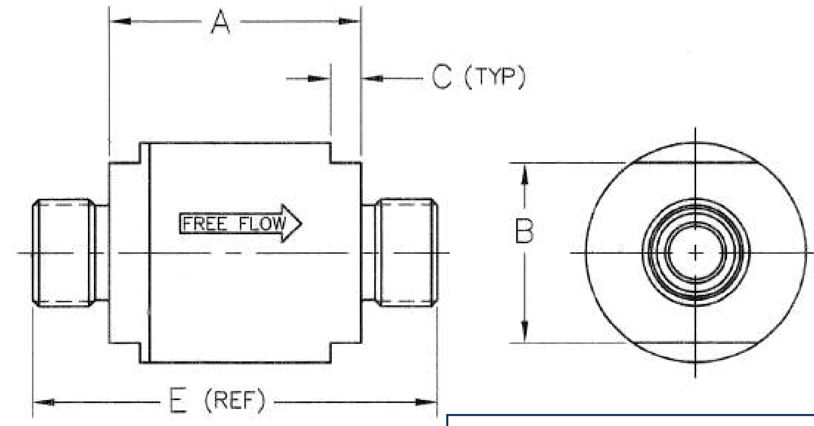
MILITARY PART NO	PART NO	TUBING O.D.	RATED FLOW (GPM)	OPER PRESS (PSIG)	PROOF PRESS (PSIG)	BURST PRESS (PSIG)	A ±.031	B HEX	C MIN	WT (LBS) MAX
MS28884B-32	2S3032L	2.000	130	265	400	800	3.813	3.125 ±.010	.312	1.940
MS28884B-28	2S3028L	1.750	100				3.429	3.000 ±.010	.375	1.504
MS28884B-24	2S3024L	1.500	70				3.063	2.750 +.008 -.016	.375	1.159
MS28884B-20	2S3020L	1.250	50				2.688	2.500 +.008 -.016	.312	.853
MS28884B-16	2S3016L	1.000	30	300	500	1000	2.375	1.812 +.008 -.016	.250	.431
MS28884B-12	2S3012L	.750	15				2.063	1.500 +.003 -.006		.315
MS28884B-10	2S3010L	.625	10				1.782	1.187 +.003 -.006		.192
MS28884B-8	2S3008L	.500	6				1.674		.125	.176
MS28884B-6	2S3006L	.375	3.75				1.563	1.063 +.003 -.006		.127
MS28884B-5	2S3005L	.312	2.30							.117
MS28884B-4	2S3004L	.250	1.25							.113

CATEGORY 1: SWING CHECK VALVES

CRISSAIR INC.

PART NUMBER: 2S3600L, FUEL CHECK VALVE, LOW PRESSURE





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS PER MIL-G-5572, MIL-T-5624 AND AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-R-25897

TEMPERATURE RANGE: -65°F TO 160°F

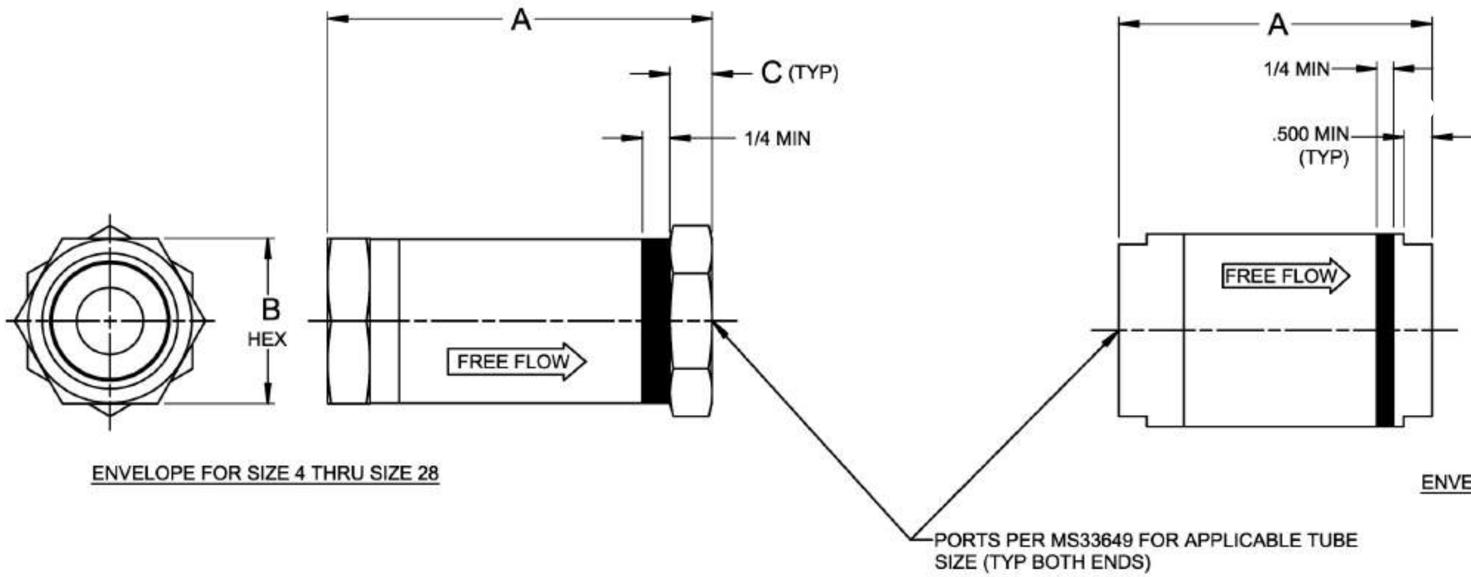
CRACKING PRESSURE: 4" H_2O MAX

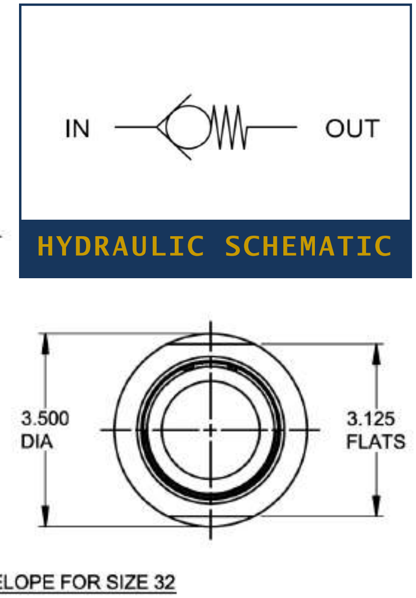
FLOW : SEE TABLE AT 1.5 PSID MAX

INTERNAL LEAKAGE: (FUEL) .01 CC/MIN MAX FROM 4" H_2O TO OPER PRESS
(AIR) NO BUBBLES FOR 1 MINUTE FROM 4" H_2O TO OPER PRESS

CRISSAIR PART NO	TUBING O.D.	FLOW (GPM)	OPER PRESS (PSIG)	PROOF PRESS (PSIG)	BURST PRESS (PSIG)	A ±.031	B HEX	C	D	E (REF)	WT (LBS) MAX
2S3632L	2.000	130	265	400	800	3.813	3.125±.010	.312	-	5.189	1.940
2S3624L	1.500	70				3.063	2.750	.375	3.175	4.439	1.159
2S3620L	1.250	50				2.688	2.500	.312	2.887	4.064	.853
2S3616L	1.000	30	300	500	1000	2.375	1.812	.250	2.092	3.751	.431
2S3612L	.750	15				2.062	1.500		1.732	3.438	.315
2S3610L	.625	10	500	750	1250	1.782	1.187		1.371	3.032	.192
2S3608L	.500	6				1.673				2.797	.176
2S3606L	.375	3.75				1.529	1.063		1.225	2.467	.127
2S3605L	.313	2.30				1.545				2.451	.117
2S3604L	.250	1.25				1.563				2.469	.113

PART NUMBER: 2S4200, FUEL CHECK VALVE, LOW PRESSURE





HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS PER MIL-G-5572, MIL-T-5624 AND AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-R-83248

TEMPERATURE RANGE: -65°F TO 350°F

CRACKING PRESSURE: 4” H_2O MAX

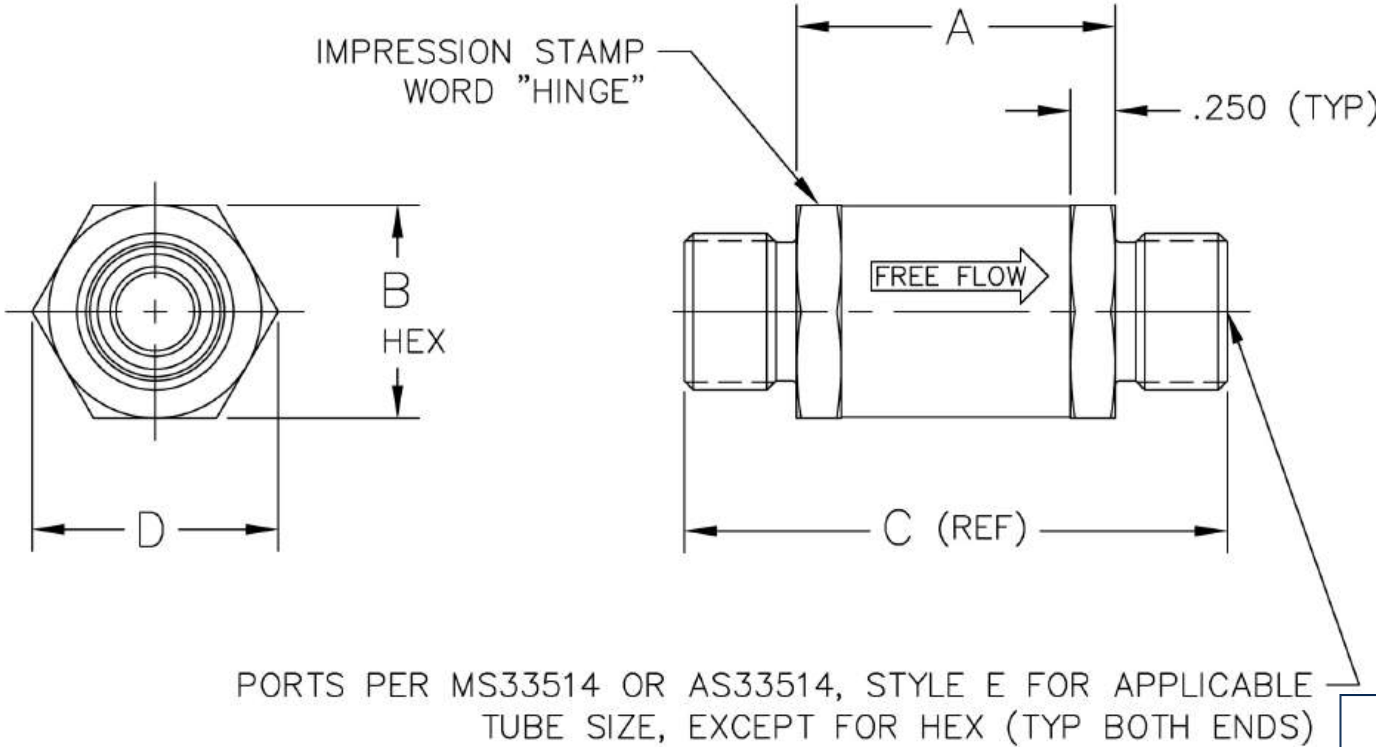
FLOW : SEE TABLE AT: 1.5 PSID (WITH OUTLET FITTING PER MS33514)

3.5 PSID (WITH OUTLET FITTING PER MS33656)

INTERNAL LEAKAGE: (FUEL) .50 CC/MIN MAX ABOVE 4” H_2O
(AIR) 10 CC/MIN MAX ABOVE 4” H_2O

CRISSAIR PART NO	TUBING O.D.	FLOW (GPM)	OPER PRESS (PSIG)	PROOF PRESS (PSIG)	BURST PRESS (PSIG)	A ±.031	B HEX	C
2S4232	2.000	130	265	400	800	5.688	-	-
2S4228	1.750	100				5.063	3.000	.500
2S4224	1.500	70				4.625	2.750	
2S4220	1.250	50				4.062	2.500	
2S4216	1.000	30	300	500	1000	3.594	1.875	.375
2S4212	.750	15				3.500	1.500	
2S4210	.625	10				2.844	1.187	
2S4208	.500	6				2.344		.250
2S4206	.375	3.75				2.031	1.063	
2S4205	.312	2.30						
2S4204	.250	1.25						

PART NUMBER: 2S5300, FUEL CHECK VALVE, LOW PRESSURE



HYDRAULIC SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUIDS PER BMS 3-11 & AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER NAS1613

TEMPERATURE RANGE: -65°F TO 160°F

CRACKING PRESSURE: 4" H_2O MAX

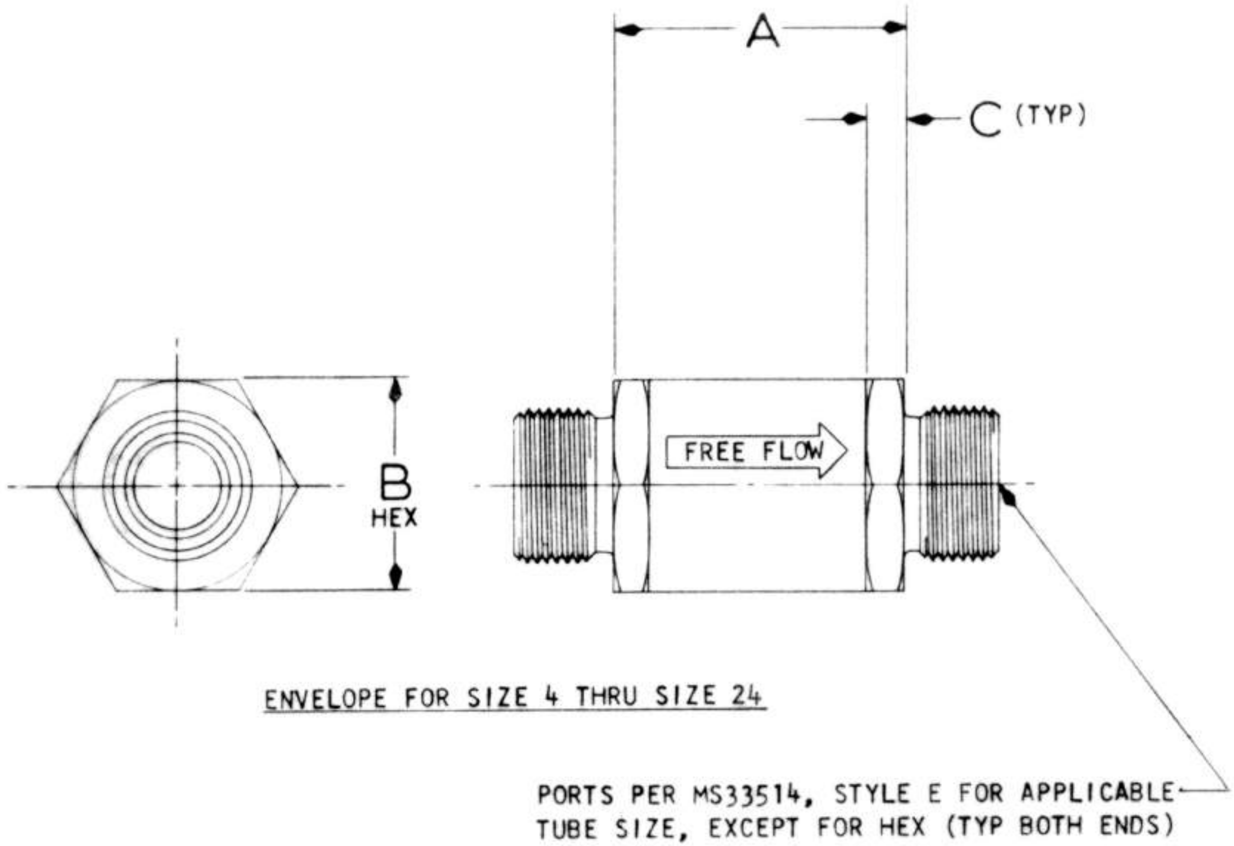
FLOW : SEE TABLE

INTERNAL LEAKAGE: NO BUBBLES FOR ONE MINUTE AT $3''^{+0''}_{-1''}$ H_2O AND TABULATED PROOF PRESSURE

CRISSAIR PART NO	TUBING O.D.	FLOW (SCFM)	ΔP "H_20	OPER PRESS (PSIG)	PROOF PRESS (PSIG)	BURST PRESS (PSIG)	A ±.031	B HEX	C (REF)	D	WT LBS MAX
2S5312	.750	20	4.75	300	500	1000	2.062	1.500	3.438	1.734	.315
2S5310	.625	10	5.5				1.782	1.187	3.032	1.375	.192
2S5308	.500	5					1.673		2.797		.176
2S5306	.375	2	.375	500	750	1250	1.529		2.467		.127
2S5305	.313	1.5					1.545	1.063	2.451	1.219	.117
2S5304	.250	0.5					1.563		2.469		.113

CATEGORY 1: SWING CHECK VALVES

PART NUMBER: 2S7600, FUEL CHECK VALVE, LOW PRESSURE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC OIL PER MIL-H-5606 & AIR

MATERIAL: BODY 2024-T351 AL
ELASTOMER MIL-P-25732

TEMPERATURE RANGE: -65°F TO 275°F

CRACKING PRESSURE: 4” H_2O MAX

FLOW : SEE TABLE AT 30” H_2O MAX ΔP

INTERNAL LEAKAGE: (OIL) .50 CC/MIN MAX ABOVE 4” H_2O
(AIR) 10 CC/MIN MAX ABOVE 4” H_2O

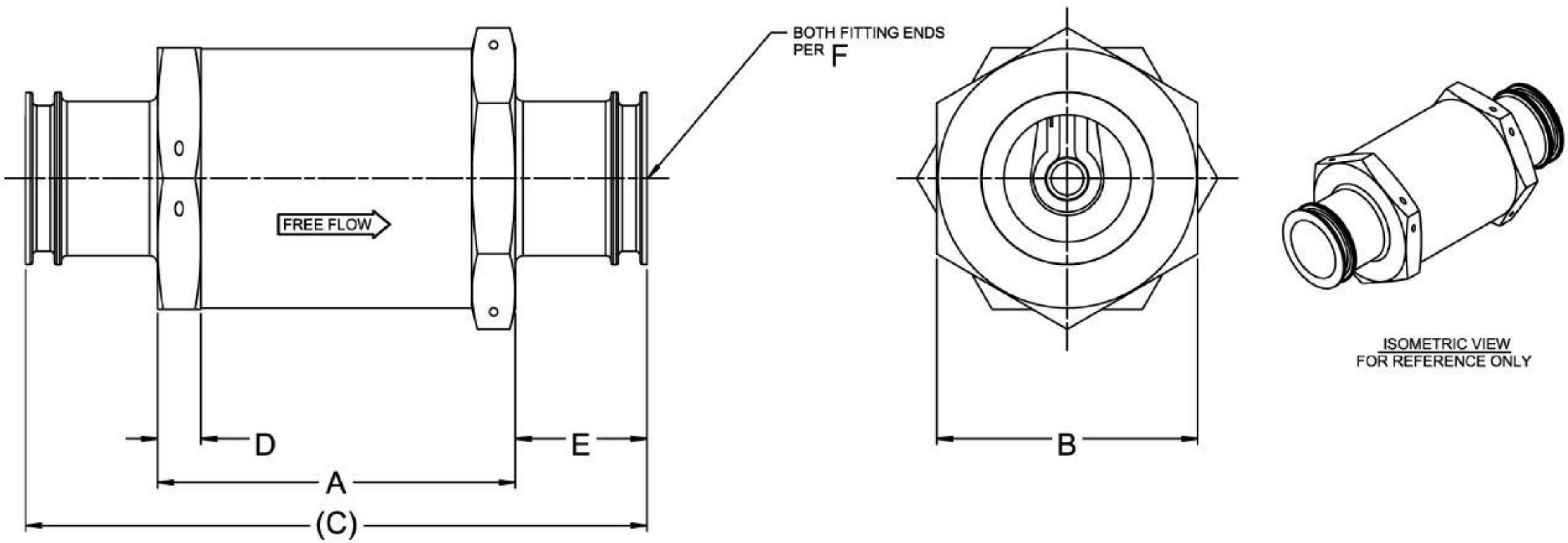
HYDRAULIC SCHEMATIC

CRISSAIR PART NO	TUBING O.D.	FLOW (GPM)	OPER PRESS (PSIG)	PROOF PRESS (PSIG)	BURST PRESS (PSIG)	A ±.031	B HEX	C (REF)	WT LBS MAX
2S7606	.375	3.75	500	750	1250	1.563	1.063	.250	.127
2S7604	.250	1.25							.113

CATEGORY 1: SWING CHECK VALVES

CRISSAIR INC.

SWING CHECK VALVE, SERIES



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MIL-PRF-87252C* (2S7410 ONLY)

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-R-83248

ELASTOMER FLUOROSILICONE*

TEMPERATURE RANGE: -65°F TO 350°F AMBIENT

-65°F TO 158°F AMBIENT*

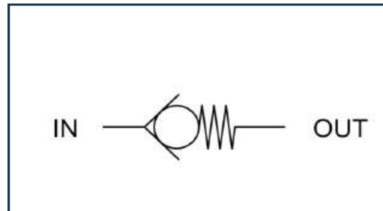
CRACKING PRESSURE: 8” H_2O MAX

FLOW : SEE TABLE AT 1 PSID MAX

INTERNAL LEAKAGE: 0.10 CC/MIN MAX FROM 8” H_2O TO 300 PSID

Ø .030 ORIFICE*

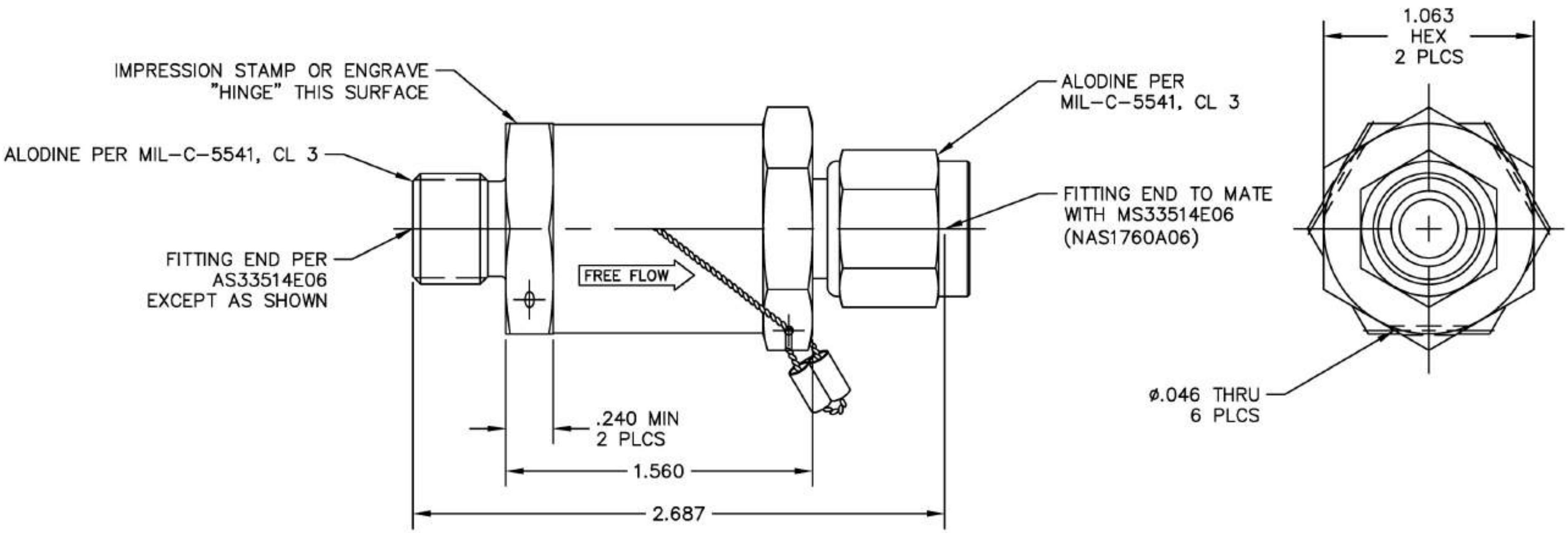
* P/N 2S7410 PERFORMANCE SPECIFICATIONS



HYDRAULIC SCHEMATIC

CRISSAIR PART NO	FLOW (LB/MIN)	OPER PRESS (PSIG)	PROOF PRESS (PSIG)	BURST PRESS (PSIG)	A ±.031	B HEX	C (REF)	D	E	F	WT LBS MAX
2S7408	0.6	300	500	1000	2.058	1.500	3.574	.250	.758	AS1656-1-12	.27
2S7398	2.1				2.370	1.813	3.885			AS1656-1-16	.39
2S7400	1.2	265	400	800	2.688	2.500	4.203	.312		AS1656-1-20	.79
2S7410	60 GPM	250	375	750	3.063	2.750	4.613	.375	.775	10F18S-24	1.03

PART NUMBER: 2S6930, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT FUELS AND AIR

MATERIAL: BODY 6061-T651 AL
ELASTOMER FLUOROSILICONE
SWIVEL NUT 7075-T73 AL

TEMPERATURE RANGE: -65°F TO 165°F

OPERATING PRESSURE: 120 PSIG

PROOF PRESSURE: 240 PSIG

CRACKING PRESSURE: 0.8" TO 11" H_2O

FLOW: 3.25 GPM AT 1.5 PSID (USING MIL-C-7024)

INTERNAL LEAKAGE (CHECKED DIRECTION):
NONE FROM 8" H_2O TO 120 PSID

WEIGHT: .16 LBS MAX

HYDRAULIC SCHEMATIC

CATEGORY 1: SWING CHECK VALVES

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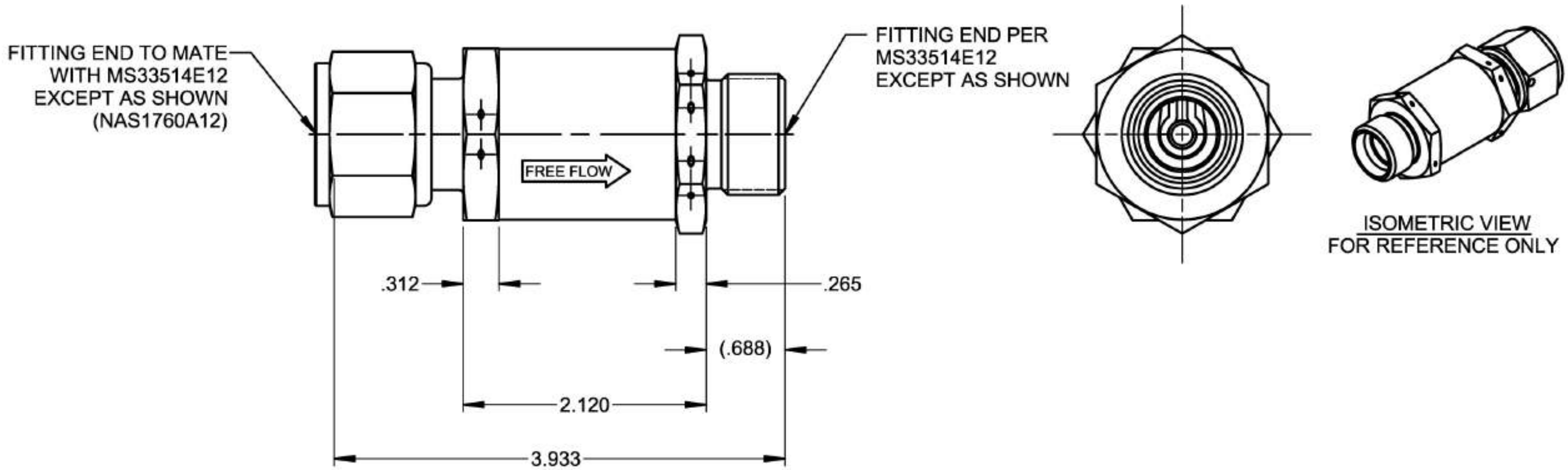
Next Section

CRISSAIR INC.

PART NUMBER: 2S7170, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT FUELS AND AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-R-25897

SWIVEL NUT 2024-T6 AL

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 3.5 PSIG

PROOF PRESSURE: 40 PSIG

CRACKING PRESSURE: 4.5” - 10” H_2O

FLOW: 2 SCFM AT 0.7 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):

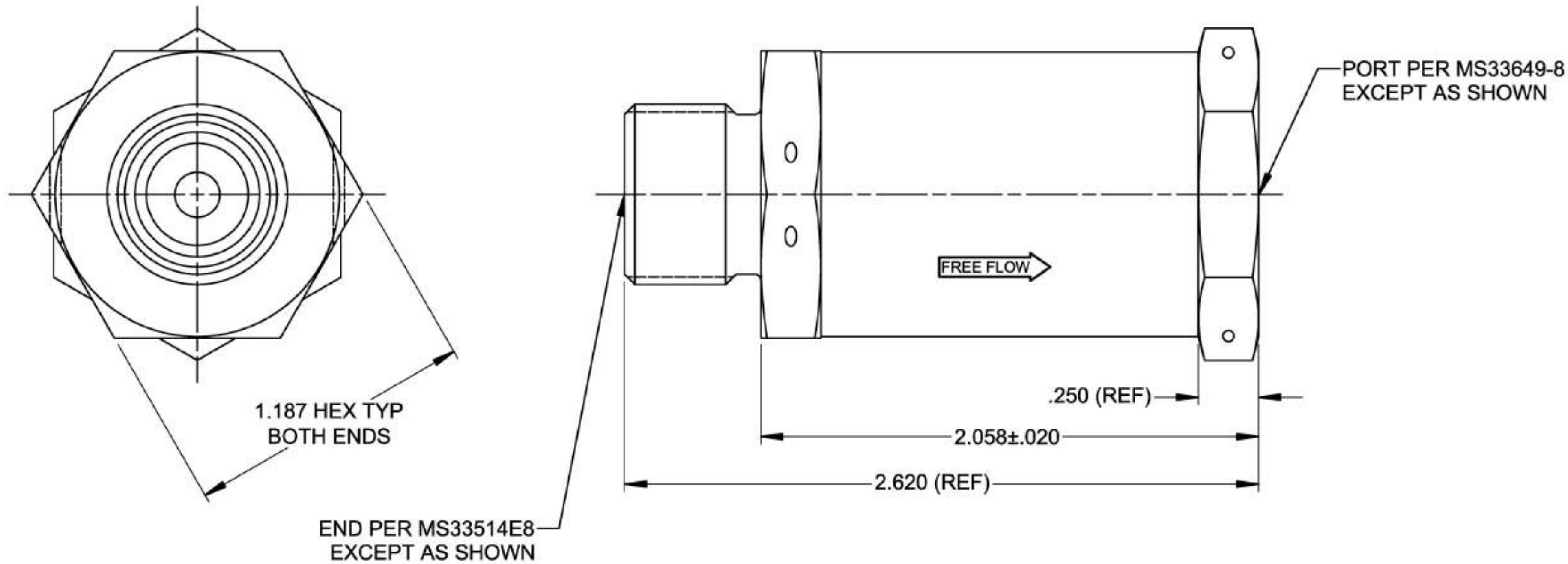
NONE FROM 0 TO 20 PSID

WEIGHT: .40 LBS MAX

HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 2S2566, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT FUELS AND AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-P-5315

TEMPERATURE RANGE: -65°F TO 200°F

OPERATING PRESSURE: 130 PSIG

PROOF PRESSURE: 195 PSIG

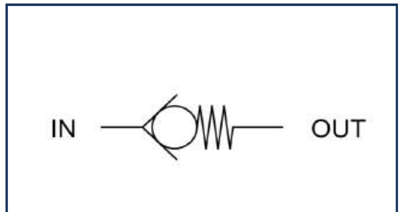
CRACKING PRESSURE: 4” H_2O MAX

FLOW: 6 GPM AT 20” H_2O MAX ΔP

INTERNAL LEAKAGE (CHECKED DIRECTION):

NONE AT 3” H_2O TO 130 PSID WITH WET SEAT

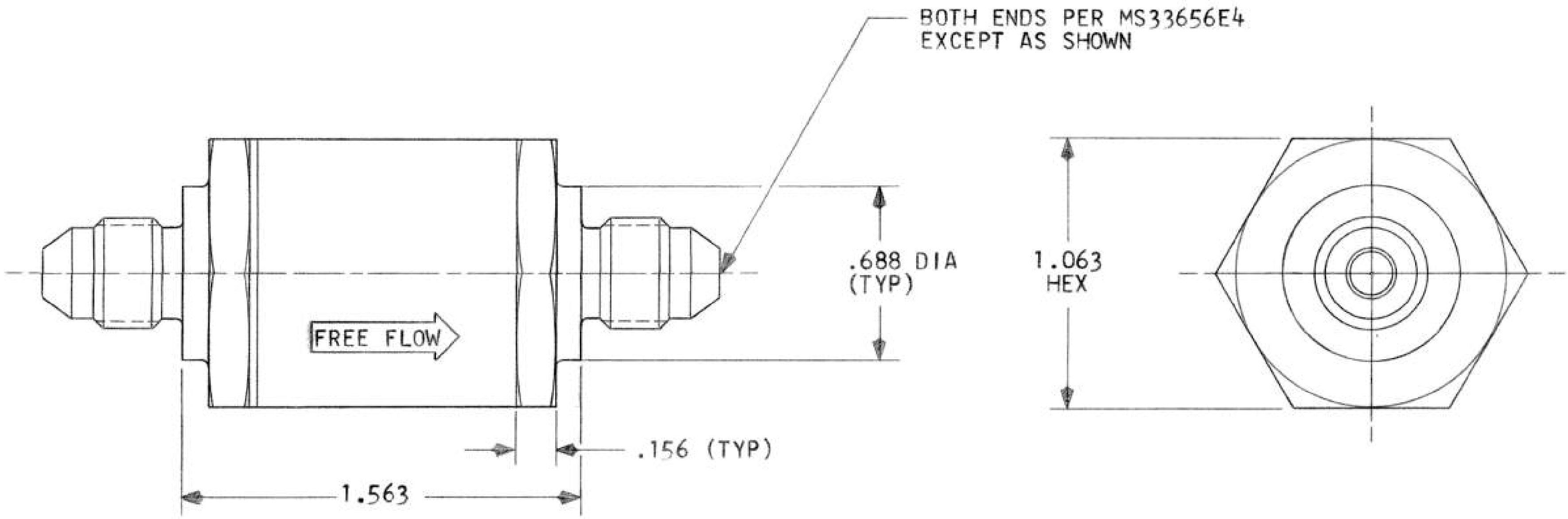
WEIGHT: .22 LBS MAX



HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 2S2914, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT FUELS AND AIR

MATERIAL: BODY 303 CRES

TEMPERATURE RANGE: -65°F TO 560°F

OPERATING PRESSURE: 80 PSIG

PROOF PRESSURE: 107 PSIG

CRACKING PRESSURE: 10” H_2O MAX

FLOW: 0.2 LB/MIN AT 0.5 PSID MAX (AIR AT 38 PSIG INLET & 70°F)

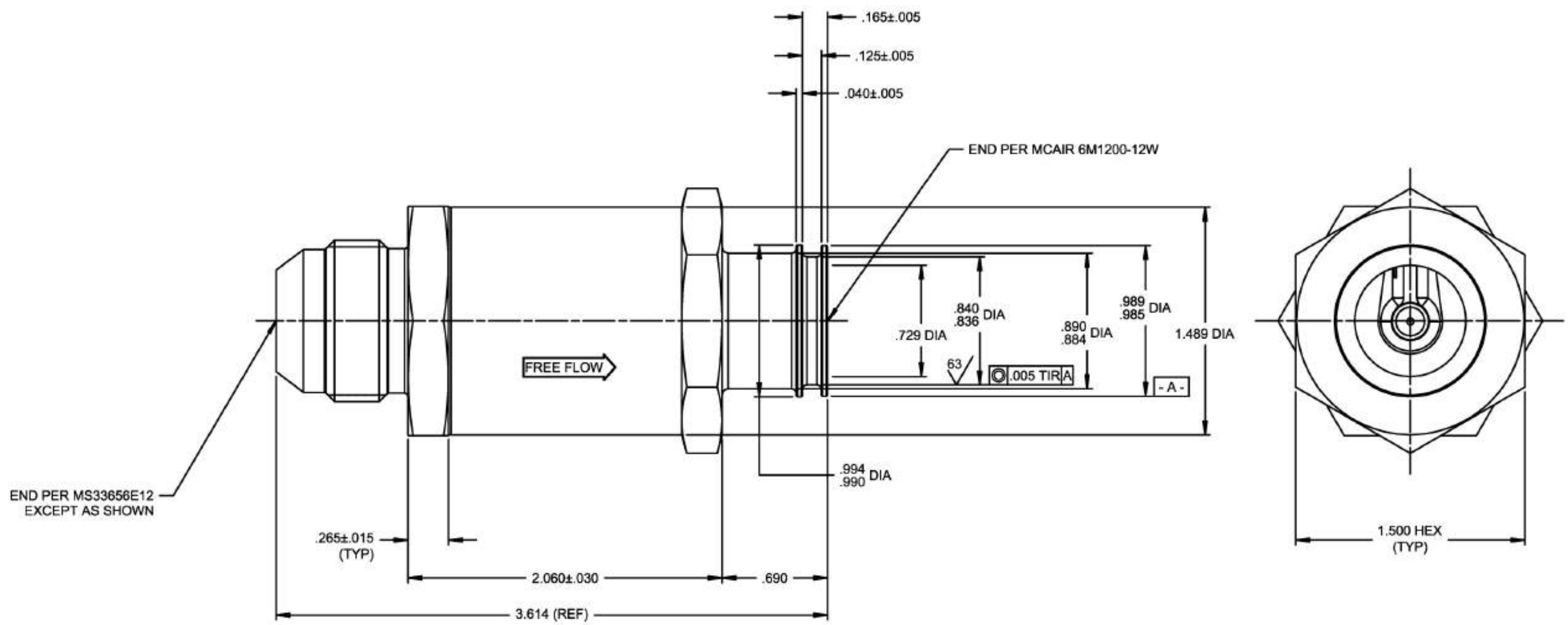
INTERNAL LEAKAGE (CHECKED DIRECTION):
0.01 LB/MIN AT 20 PSID AND 70°F

WEIGHT: .30 LBS MAX

HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 2S7636, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: JP-4 & JP-5 FUELS PER MIL-T-5624

MATERIAL: BODY 2024-T851 AL

ELASTOMER SYN RUBBER

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 225 PSIG

PROOF PRESSURE: 450 PSIG

CRACKING PRESSURE: 8” H_2O MAX

FLOW: 15 GPM AT 45” H_2O MAX ΔP

INTERNAL LEAKAGE (CHECKED DIRECTION):

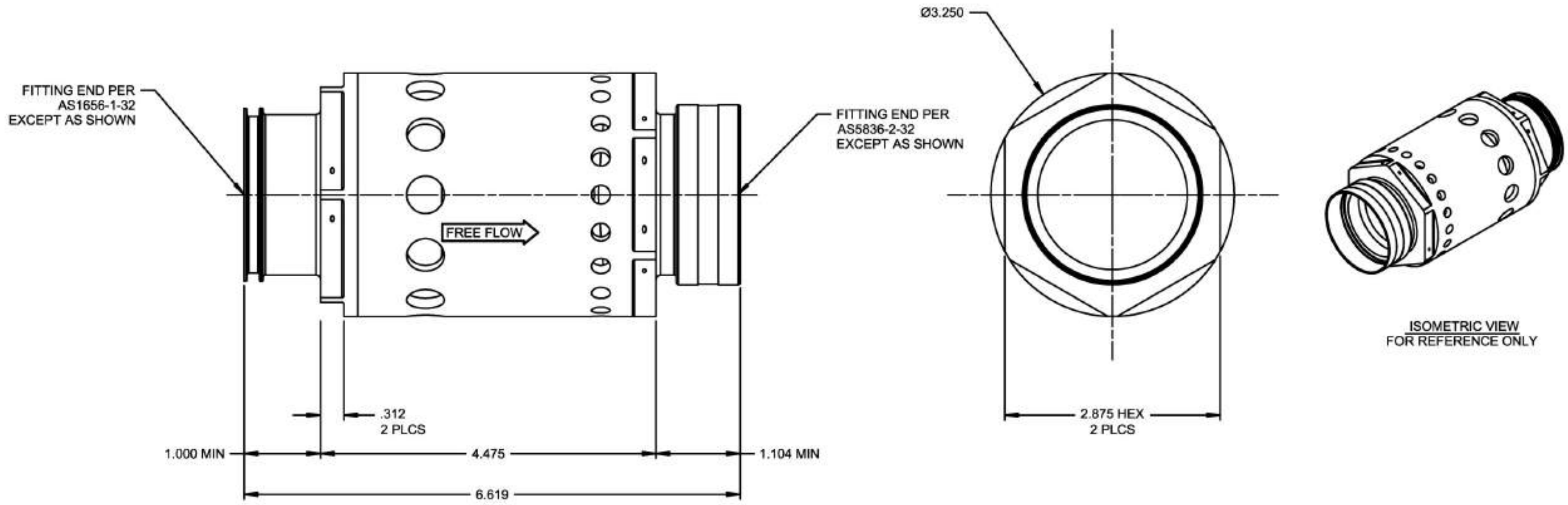
75±25 CC/MIN OF JP-4 AT 60 TO 150 PSID

WEIGHT: .315 LBS MAX

HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 2S7708, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: JET A, JET A-1, JP-4, JP-5, JP-8, TS-1 AND AIR

MATERIAL: BODY 7075-T73511 AL

ELASTOMER MIL-R-83248

TEMPERATURE RANGE: -65°F TO 190°F

OPERATING PRESSURE: 50 PSIG

PROOF PRESSURE: 75 PSIG

CRACKING PRESSURE: 6 TO 8 PSID AT 0.01 LB/MIN FLOW

FLOW: (AIR) 6.0 LB/MIN AT 8 PSIG INLET

(FUEL) 140 GPM AT 11 PSID

INTERNAL LEAKAGE (CHECKED DIRECTION):

5 CC/MIN MAX FROM 0 TO 75 PSID

0.5” Hg MAX PRESSURE LOSS PER 5 MINUTES AT -12.2 PSID

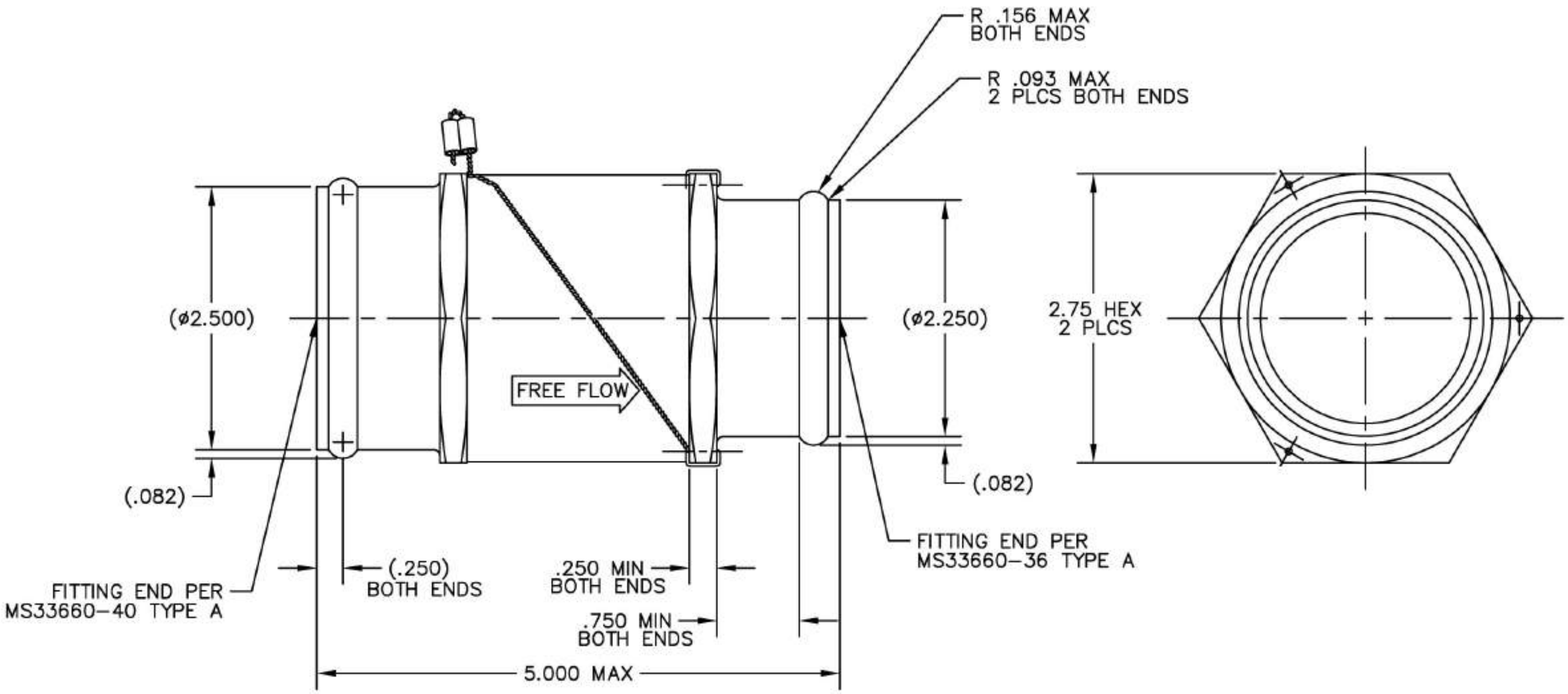
WEIGHT: 2.22 LBS MAX

HYDRAULIC SCHEMATIC

CATEGORY 1: SWING CHECK VALVES

CRISSAIR INC.

PART NUMBER: 2S6440, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR / WATER VAPOR

MATERIAL: BODY DELRIN

ELASTOMER ETHYLENE PROPYLENE

TEMPERATURE RANGE: -65°F TO 165°F

OPERATING PRESSURE: 0 TO 10 PSID VACUUM

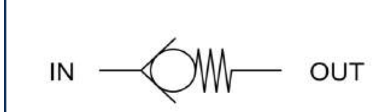
PROOF PRESSURE: 15 PSID VACUUM

CRACKING PRESSURE: 8” H_2O MAX

FLOW: 300 SCFM AT 7 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):

30 CC/MIN MAX FROM 0 TO 10 PSID



HYDRAULIC SCHEMATIC

CATEGORY 1: SWING CHECK VALVES

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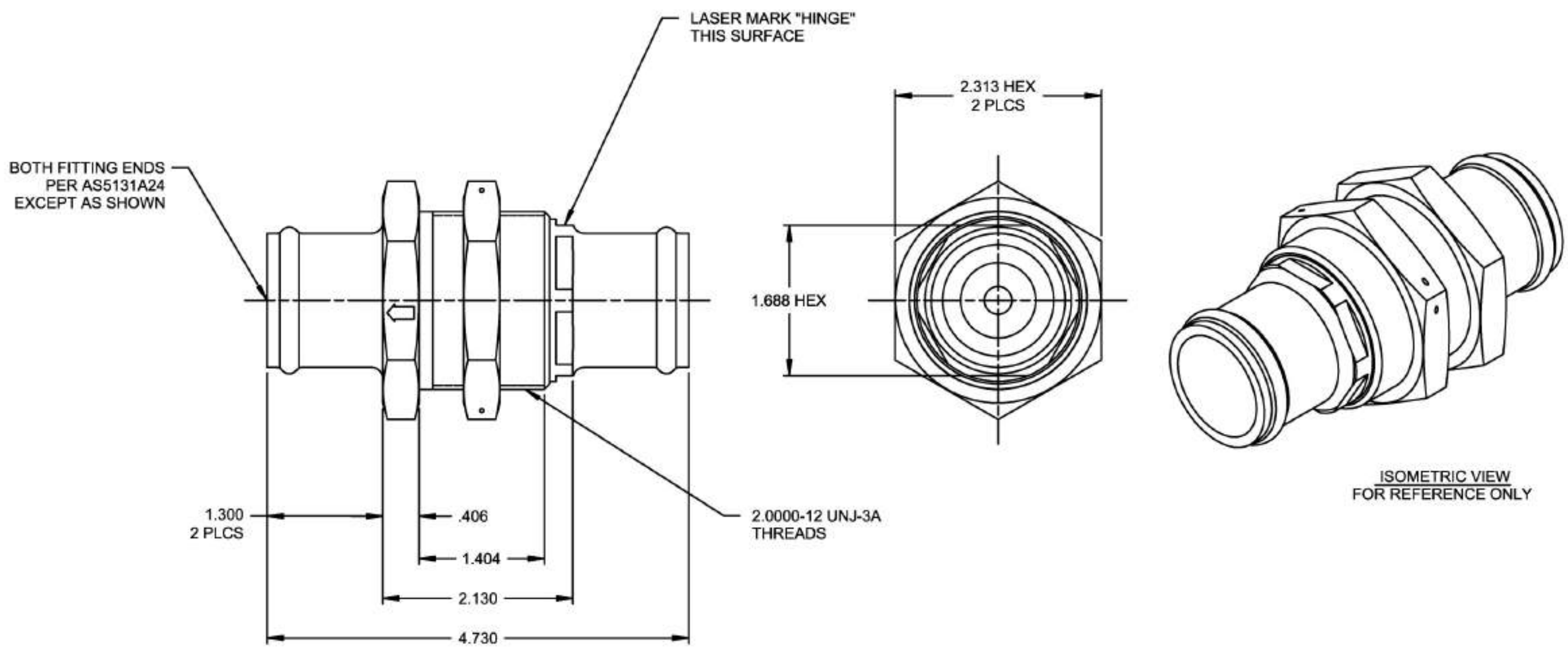
Next Section

CRISSAIR INC.

PART NUMBER: 2S7684,SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER MIL-R-83248

TEMPERATURE RANGE: -40°F TO 350°F

OPERATING PRESSURE: 15 PSIG

PROOF PRESSURE: 30 PSIG

CRACKING PRESSURE: 8” H_2O MAX

FLOW: 6.0 LB/MIN AT 0.2 PSID

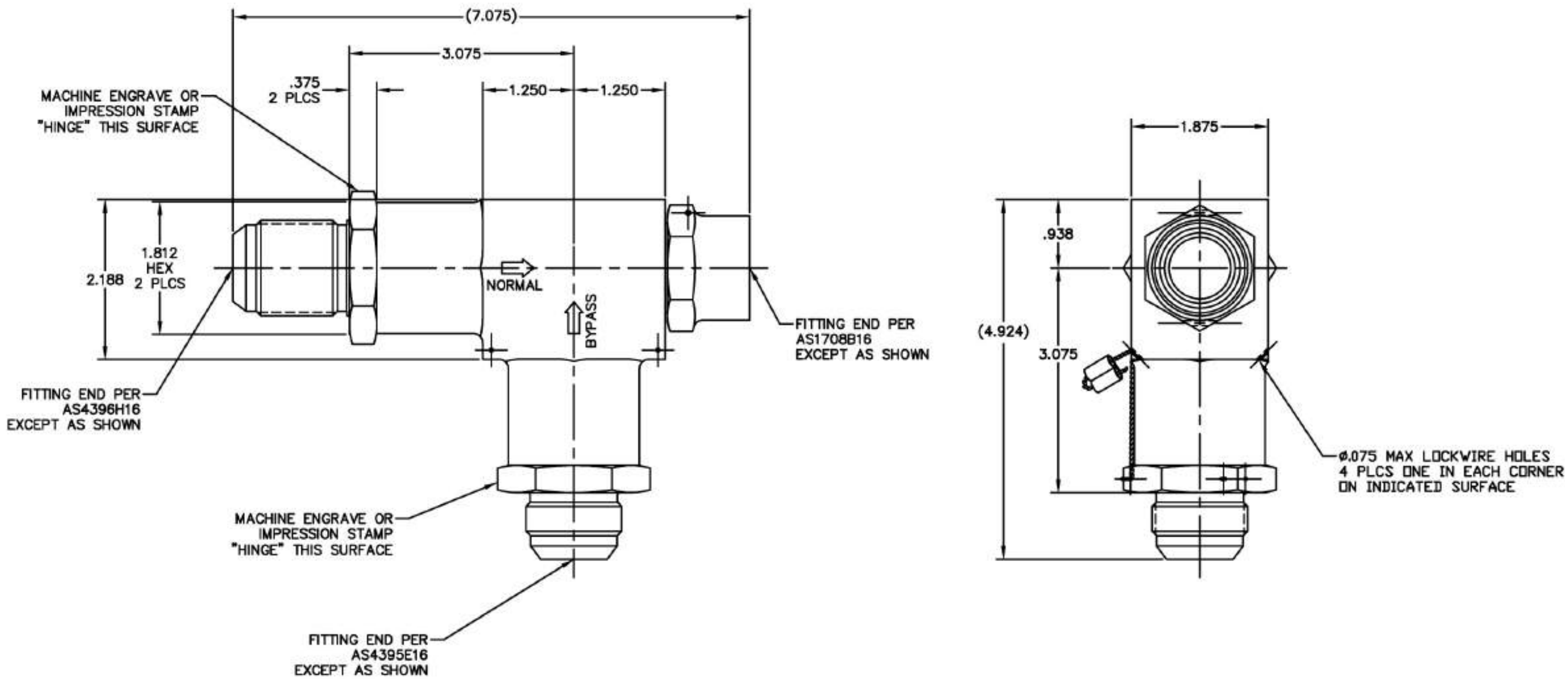
INTERNAL LEAKAGE (CHECKED DIRECTION):

0.2 LB/MIN AT 9 PSID

WEIGHT: .73 LBS MAX

HYDRAULIC SCHEMATIC

PART NUMBER: 2S7674, SWING CHECK VALVE, "TEE"



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT FUELS AND AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER FLUOROCARBON

TEMPERATURE RANGE: -65°F TO 270°F

OPERATING PRESSURE: 80 PSIG

PROOF PRESSURE: 400 PSIG

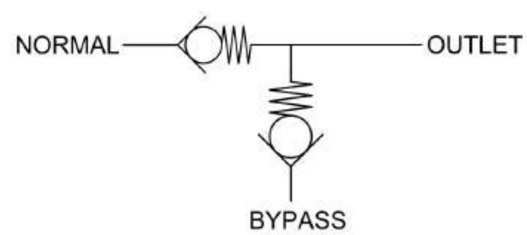
CRACKING PRESSURE: 0.3 PSID MAX

FLOW: 28 GPM AT 2.0 PSID MAX

INTERNAL LEAKAGE: 10 DPM MAX AT 1 PSID

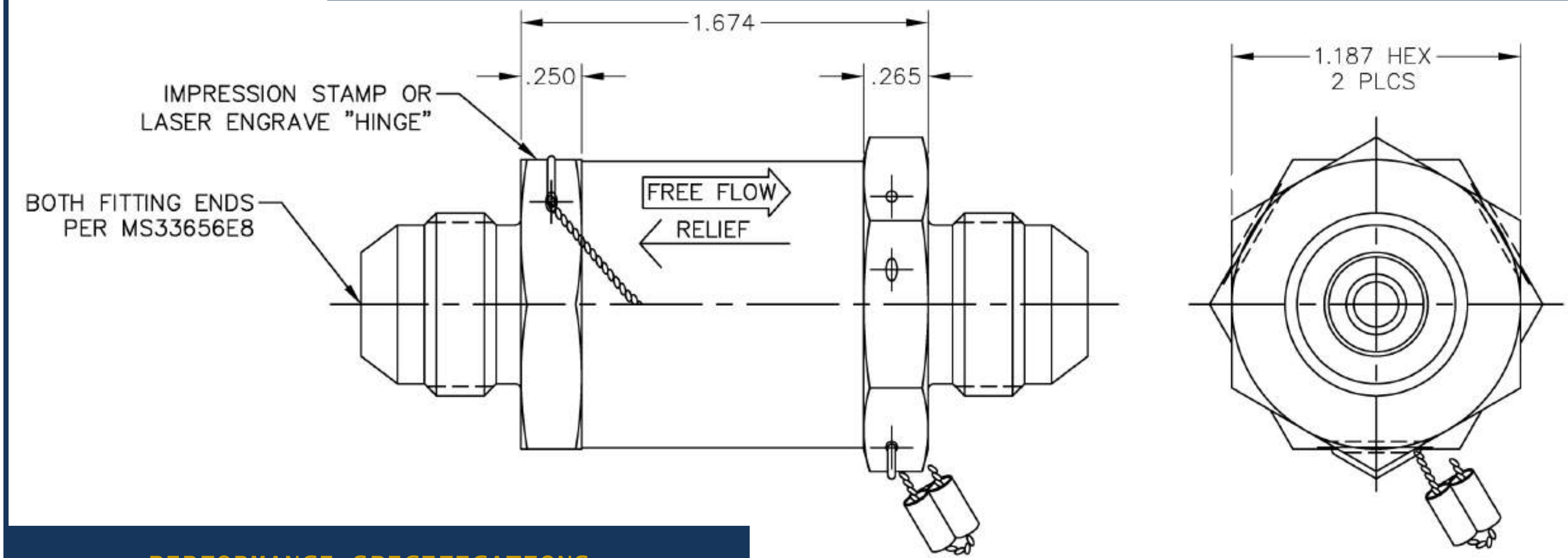
1 DPM MAX FROM 10 TO 120 PSID

WEIGHT: 1.31 LBS MAX



FLOW SCHEMATIC

PART NUMBER: 2S6952, SWING CHECK VALVE WITH THERMAL RELIEF



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT FUELS AND AIR

MATERIAL: BODY 2024-T351 AL

ELASTOMER FLUOROCARBON

TEMPERATURE RANGE: -65°F TO 165°F (AMBIENT)
-65°F TO 135°F (FUEL)

OPERATING PRESSURE: 60 PSIG

PROOF PRESSURE: 120 PSIG

CRACKING PRESSURE: 8” H_2O MAX (CHECK VALVE)

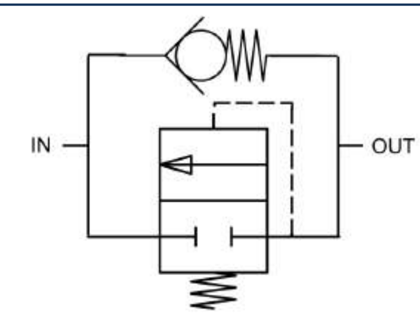
FLOW: 3.25 GPM AT 1.5 PSID MAX (FREE FLOW)
10 CC/MIN AT 65 PSID MAX (THERMAL RELIEF)

RELIEF: 47 TO 55 PSID

RESEAT: 35 PSID MIN

INTERNAL LEAKAGE (CHECKED DIRECTION):
.50 CC/MIN (FUEL) MAX ABOVE 4” H_2O (CHECK VALVE)
2 DPM MAX AT ZERO TO 45 PSIG IN CHECK DIRECTION
(THERMAL RELIEF)

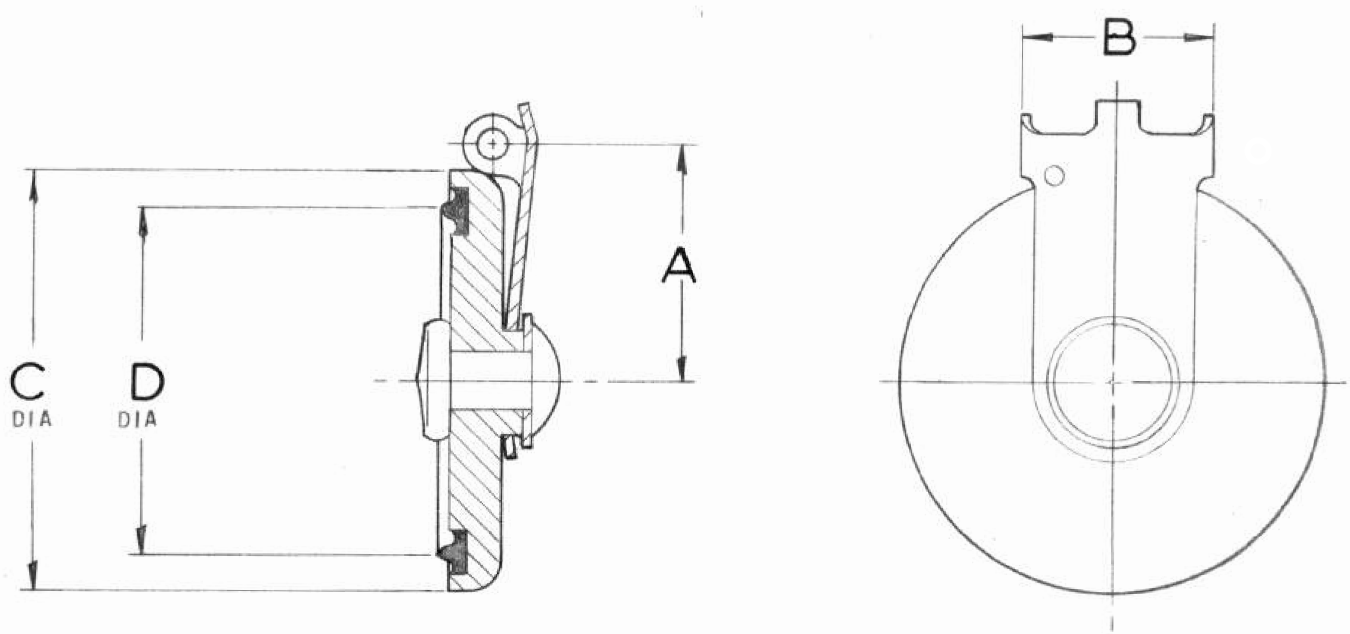
WEIGHT: .16 LBS MAX



FLOW SCHEMATIC

CRISSAIR INC.

PART NUMBER: 2S4800L, SWING CHECK VALVE



PART NO	SIZE NO.	TUBE OD	±.005 A	+.000 -.005 B	±.005 C	REF D
2S4804L	4	1/4	.332	.253	.562	.428
2S4804L	5	5/16	.332	.253	.562	.428
2S4804L	6	3/8	.332	.253	.562	.428
2S4808L	8	1/2	.375	.253	.660	.548
2S4808L	10	5/8	.375	.253	.660	.548
2S4812L	12	3/4	.500	.310	.880	.720
2S4816L	16	1	.625	.440	1.131	.960
2S4820L	20	1 1/4	.800	.557	1.406	-
2S4824L	24	1 1/2	.937	.591	1.688	-
2S4828L	28	1 3/4	1.093	.591	1.980	-
2S4832L	32	2	1.188	.623	2.200	-

PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS AND AIR

MATERIAL: DISC 2024-T351 AL

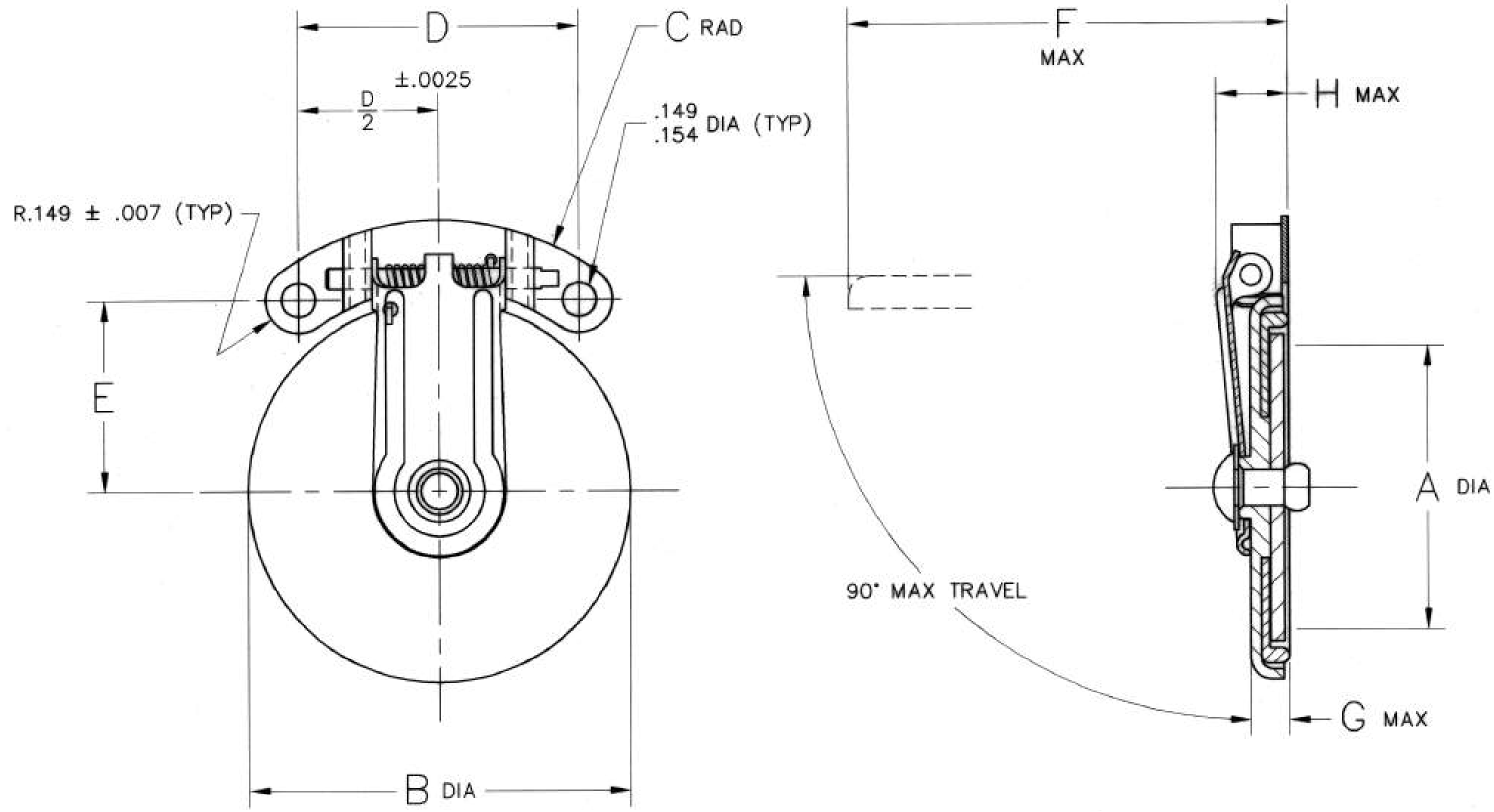
ARM 302 CRES

ELASTOMER MIL-R-25897

TEMPERATURE RANGE: -65°F TO 160°F

CRISSAIR INC.

PART NUMBER: 2S5100, SWING CHECK VALVE, BRACKET-MOUNTED



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS AND AIR

MATERIAL: ELASTOMER MIL-P-5315

TEMPERATURE RANGE: -65°F TO 160°F

CRACKING PRESSURE: 4" H_2O MAX

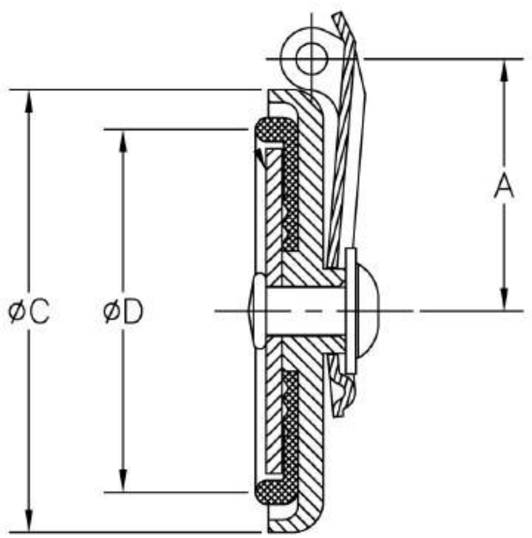
FLOW: SEE TABLE AT 20 INCHES H2O MAX ΔP

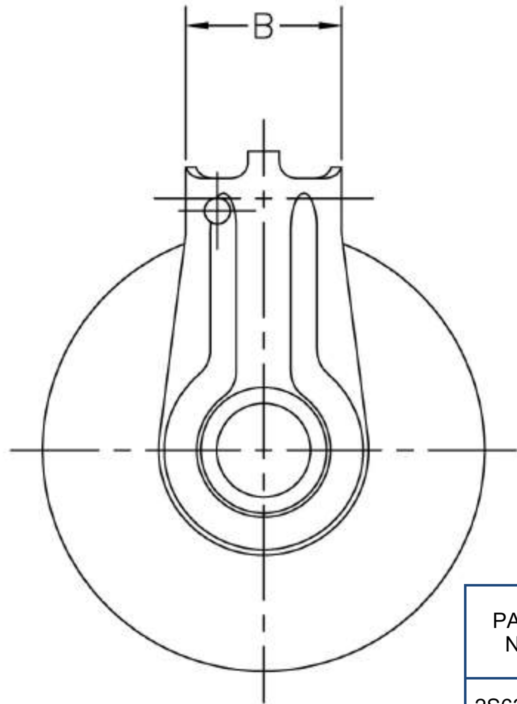
INTERNAL LEAKAGE: .5 CC/MIN (FUEL) OR 10 CC/MIN (AIR) MAX
ABOVE 4" H2O THROUGH SIZE 32
OTHER SIZES 1.0 CC/MIN & 20 CC/MIN RESPECTIVELY

PART NO	±.005 A	±.005 B	±.010 C	±.005 D	±.005 E	MAX F	MAX G	MAX H	FLOW (GPM)	PRESSURES (PSIG)		
										OPER	PROOF	BURST
2S5112	.561	.880	.757	.860	.440	1.076	.152	.282	15	300	500	1000
2S5116	.792	1.131	.903	1.110	.525	1.337	.165	.335	30			
2S5120	1.024	1.406	1.085	1.248	.710	1.687	.180	.373	50	265	400	800
2S5124	1.248	1.688	1.188	1.240	.845	1.965	.187	.362	70			
2S5128	1.483	1.980	1.338	1.240	1.025	2.269	.210	.395	100			
2S5132	1.781	2.200	1.438	1.382	1.100	2.480	.221	.470	130			
2S5140	2.280	2.800	1.795	1.406	1.500	3.150	.280	.550	215	60	120	180
2S5148	2.780	3.300	2.030	1.656	1.703	3.750	.300	.620	320			

CRISSAIR INC.

PART NUMBER: 2S6314, SWING CHECK VALVE





PART NO	SIZE NO.	TUBE OD	A	B	øC	øD
2S6314-4	4	1/4	.337 .327	.253 .248	.567 .557	.418
2S6314-4	5	5/16	.337 .327	.253 .248	.567 .557	.418
2S6314-4	6	3/8	.337 .327	.253 .248	.567 .557	.418
2S6314-8	8	1/2	.380 .370	.253 .248	.665 .655	.523
2S6314-8	10	5/8	.380 .370	.253 .248	.665 .655	.523
2S6314-12	12	3/4	.505 .495	.310 .305	.885 .875	.721
2S6314-16	16	1	.630 .620	.440 .435	1.136 1.126	.957
2S6314-20	20	1 1/4	.805 .795	.557 .552	1.411 1.401	1.206
2S6314-24	24	1 1/2	.942 .932	.591 .586	1.693 1.683	1.455
2S6314-28	28	1 3/4	1.098 1.088	.591 .586	1.985 1.975	1.706
2S6314-32	32	2	1.193 1.183	.623 .618	2.205 2.195	1.929

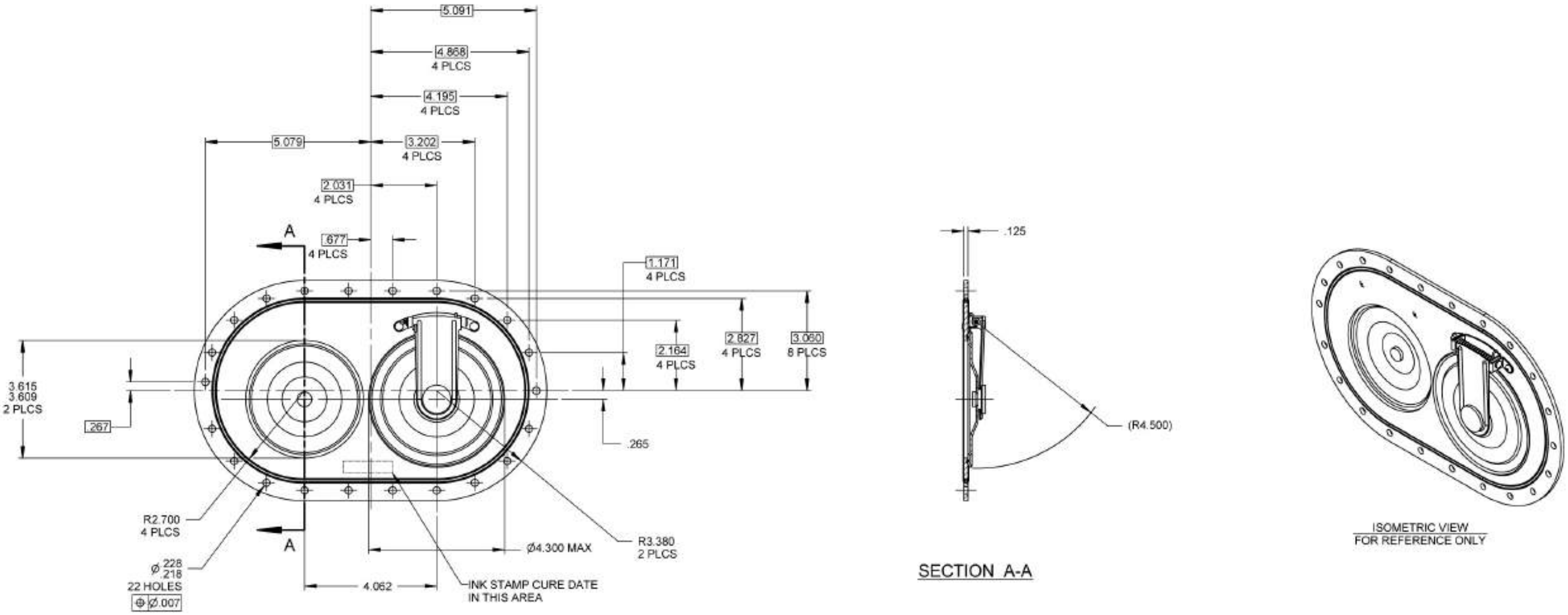
PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS AND AIR

MATERIAL: RETAINER 380 AL
WASHER 2024-T3 AL
ARM 302 CRES
ELASTOMER MIL-R-83248

TEMPERATURE RANGE: -65°F TO 350°F

PART NUMBER: 2S2072, SWING CHECK VALVE, FLANGE MOUNTED



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT FUELS PER MIL-G-5572 AND MIL-J-5624

MATERIAL: BODY 2024-T3 AL

ARM 302 CRES

ELASTOMER MIL-R-6855

TEMPERATURE RANGE: -65°F TO 160°F

PROOF PRESSURE: 10 PSIG

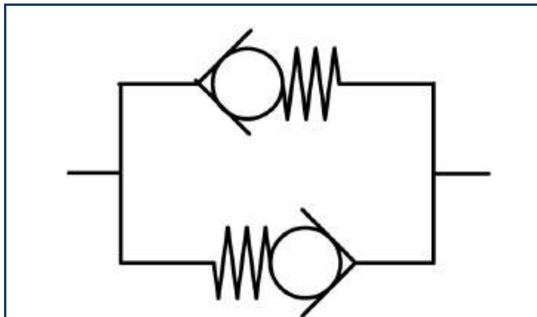
CRACKING PRESSURE: 1.5" TO 4" H_2O WITH AIR FLOW OF 30 CFH

FLOW: 23.0 LBS/MIN AT 0.3 PSID MAX

INTERNAL LEAKAGE (CHECKED DIRECTION):

15 CFH MAX FROM NONE TO 1.5" H_2O

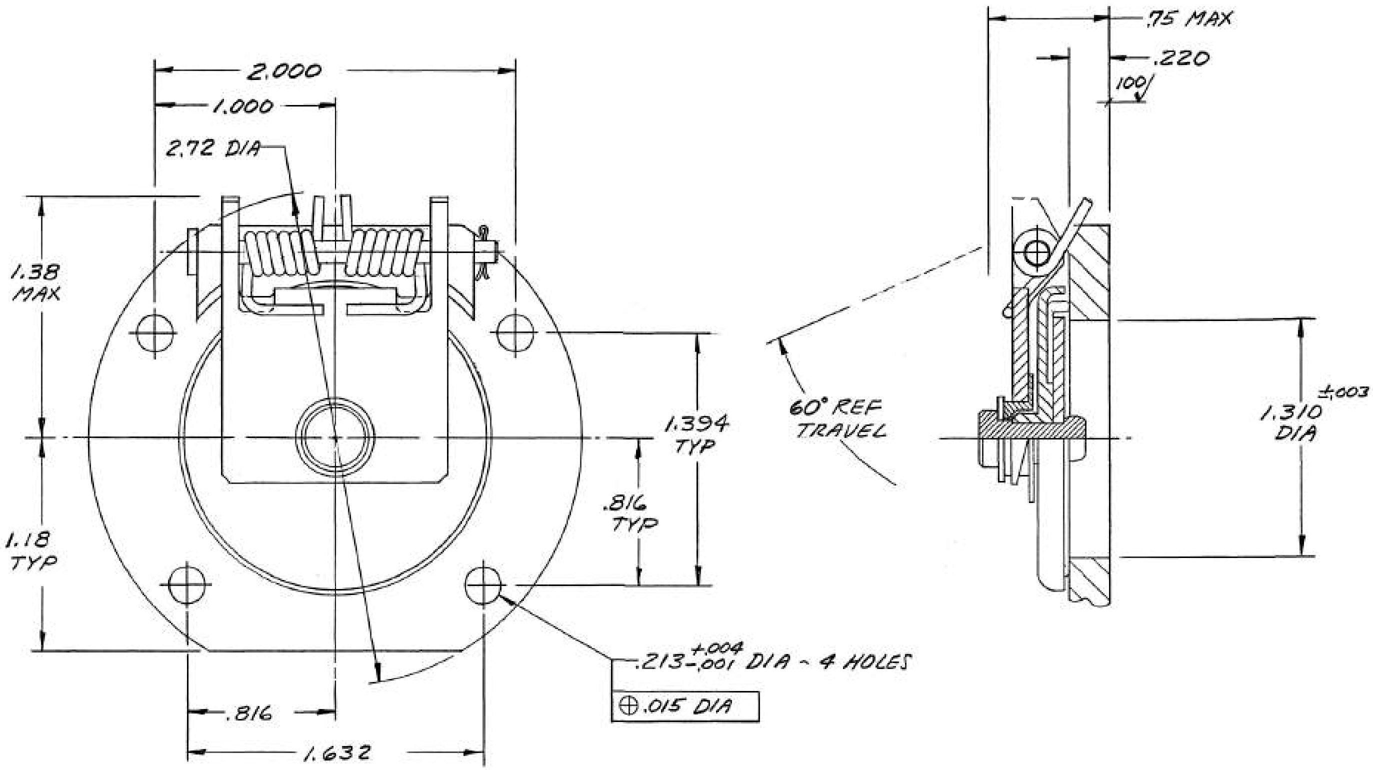
WEIGHT: .95 LBS MAX



FLOW SCHEMATIC

CATEGORY 1: SWING CHECK VALVES

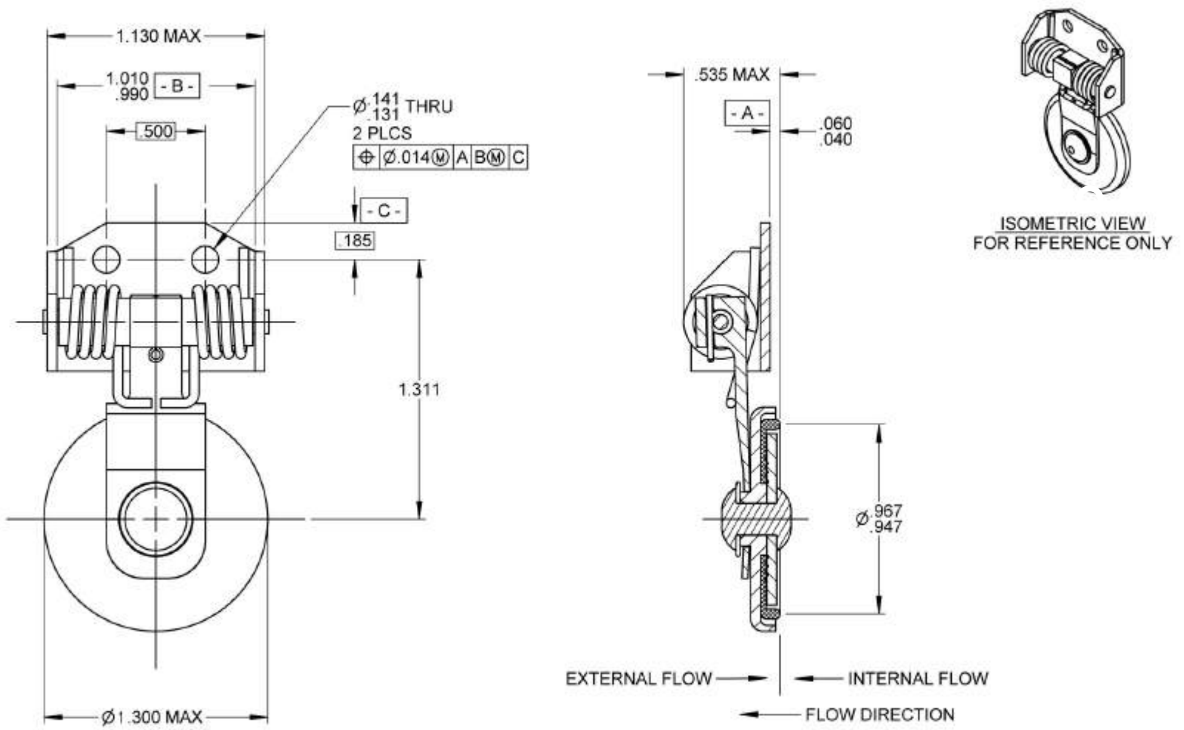
PART NUMBER: 2S2570, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR
MATERIAL: BODY 6061-T6 AL
ELASTOMER MIL-P-5315
TEMPERATURE RANGE: -65°F TO 160°F
OPERATING PRESSURE: 10 PSIG
PROOF PRESSURE: 20 PSIG
CRACKING PRESSURE: 1.5 PSID
FLOW: 26 SCFM AT 0.5 PSID ABOVE CRACK
INTERNAL LEAKAGE (CHECKED DIRECTION):
.05 SCFM AT 10 PSID OR BELOW

PART NUMBER: 2S7682, SWING CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR. JP-10 PER 3123AS1088, SEAWATER
MATERIAL: BRACKET 6061-T6 AL
RETAINER 2024-T851 AL
ARM 304 CRES
ELASTOMER FLUOROSILICONE
TEMPERATURE RANGE: -50°F TO 160°F
OPERATING PRESSURE: 60 PSIG
PROOF PRESSURE: 60 PSIG
CRACKING PRESSURE: 2 TO 3.5 PSID
FLOW: 130 SCFM USING AIR AT 7 PSID
INTERNAL LEAKAGE (CHECKED DIRECTION):
10 CC/MIN MAX PRIOR TO CRACK
WEIGHT: .05 LBS MAX

CRISSAIR HAS HUNDREDS OF OTHER CHECK VALVES NOT LISTED IN THE CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

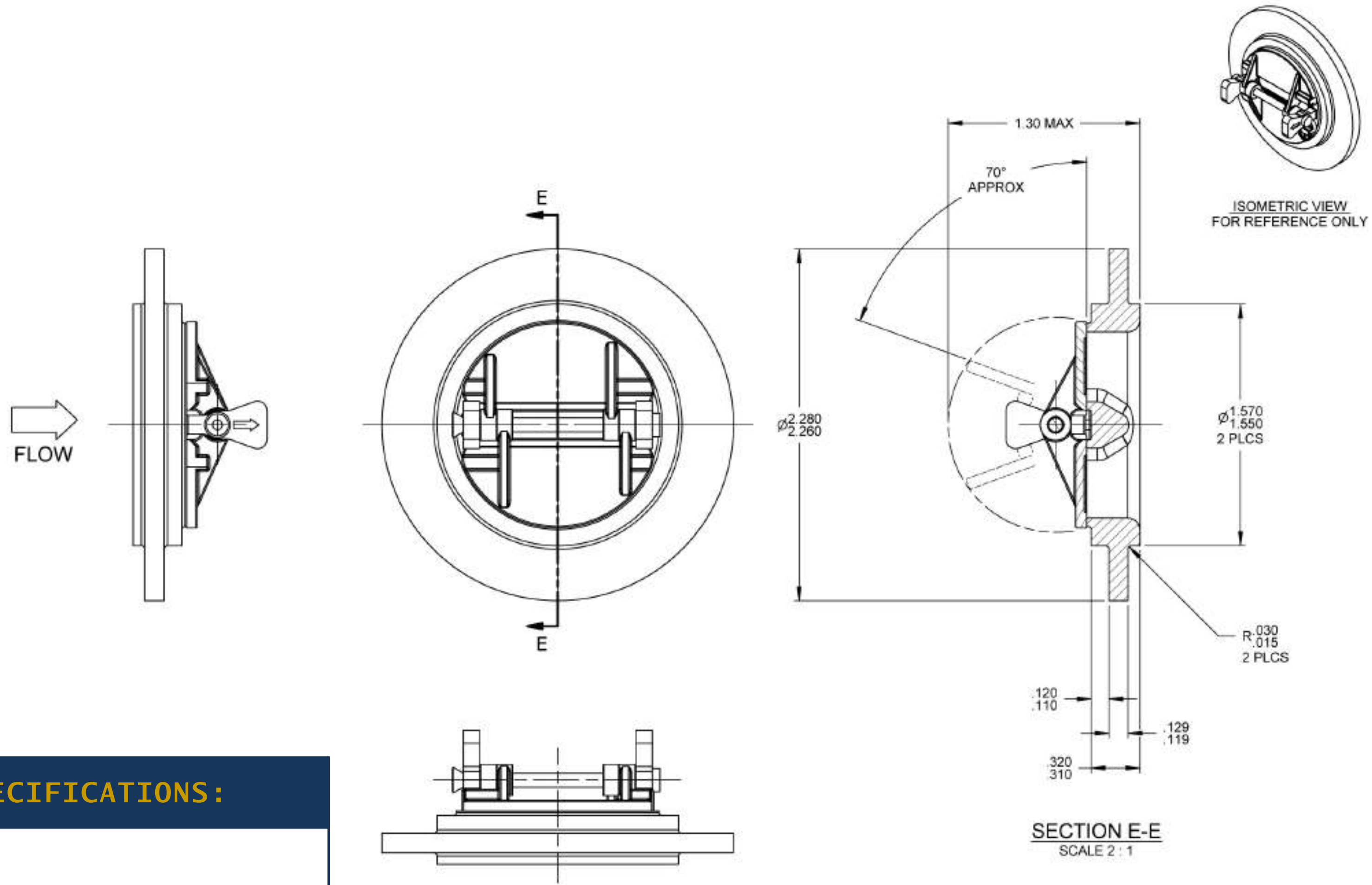
CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT

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

YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

CRISSAIR INC.

PART NUMBER: 2S7694, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 2024-T351 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -65°F TO 171°F (FLUID)

-67°F TO 185°F (AMBIENT)

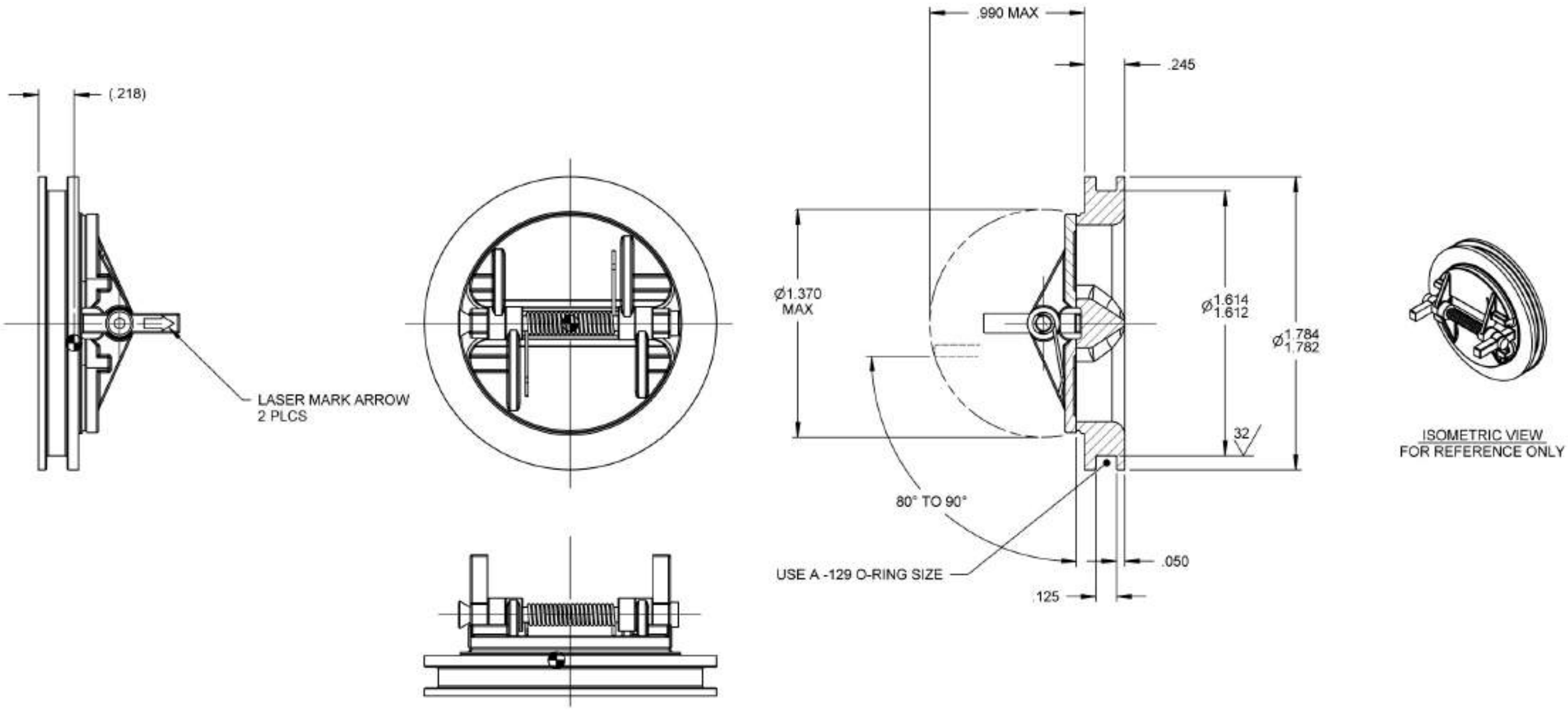
OPERATING PRESSURE: 10 PSIG

PROOF PRESSURE: 15.6 PSIG AT 85°F

FLOW: 4 LB/MIN AT 0.35 PSID MAX AT 10 PSIG INLET AND 171°F

INTERNAL LEAKAGE: 0.10 LB/MIN MAX FROM 0 TO 10 PSIG AT 80°F

WEIGHT: 0.07 LBS MAX



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -40°F TO 212°F

OPERATING PRESSURE: 8.7 PSIG

PROOF PRESSURE: 30.6 PSIG

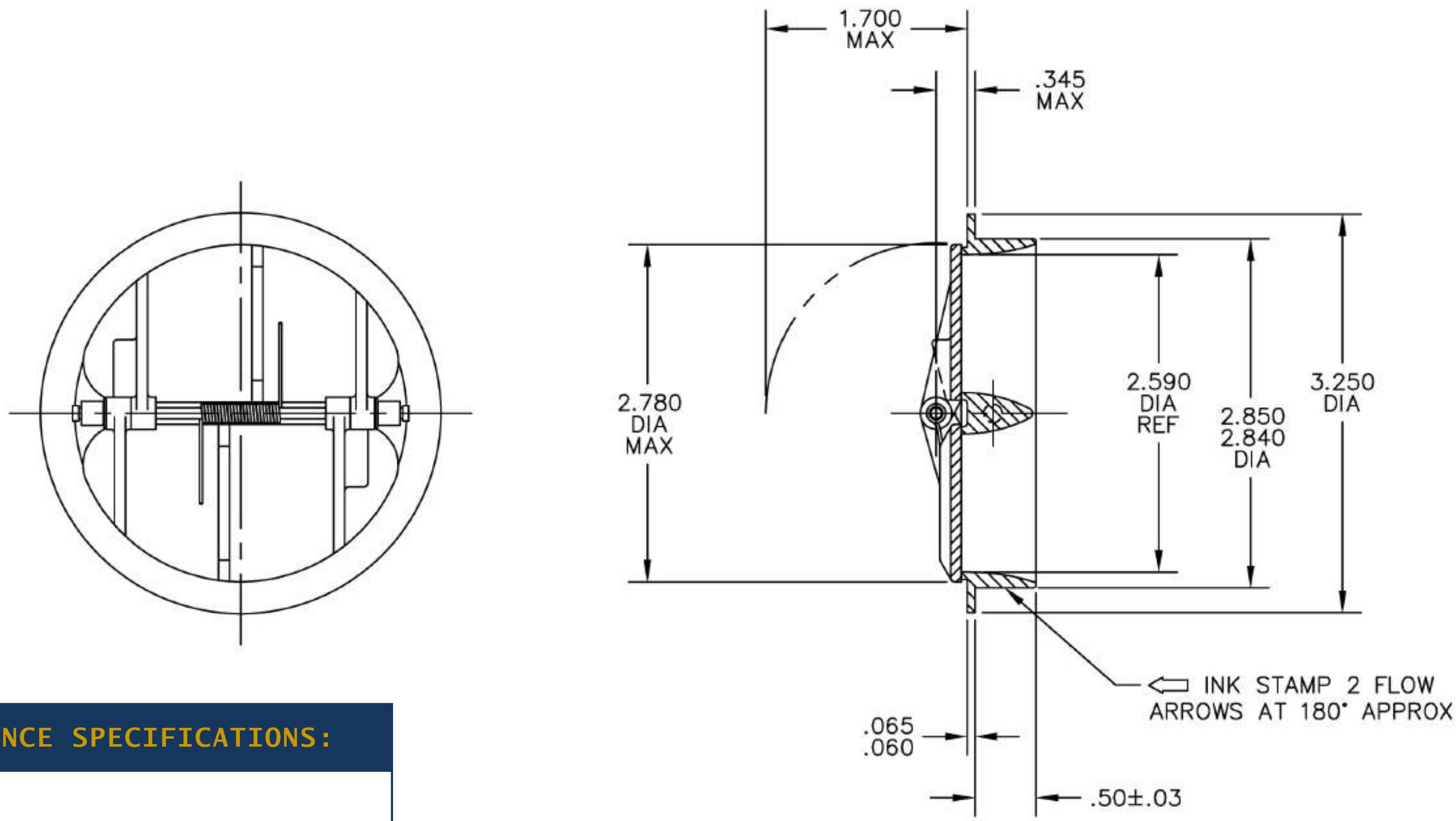
CRACKING PRESSURE: 0.06 PSIG MAX

FLOW: 1.32 TO 3.97 LB/MIN AT 0.2 PSID MAX AT 8.7 PSIG INLET

INTERNAL LEAKAGE: 0.2 LB/MIN MAX FROM 0 TO 8.7 PSIG

WEIGHT: 0.14 LBS MAX

PART NUMBER: 2S2888, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 13 PSIG

PROOF PRESSURE: 37 PSIG

CRACKING PRESSURE: 2” H_2O MAX

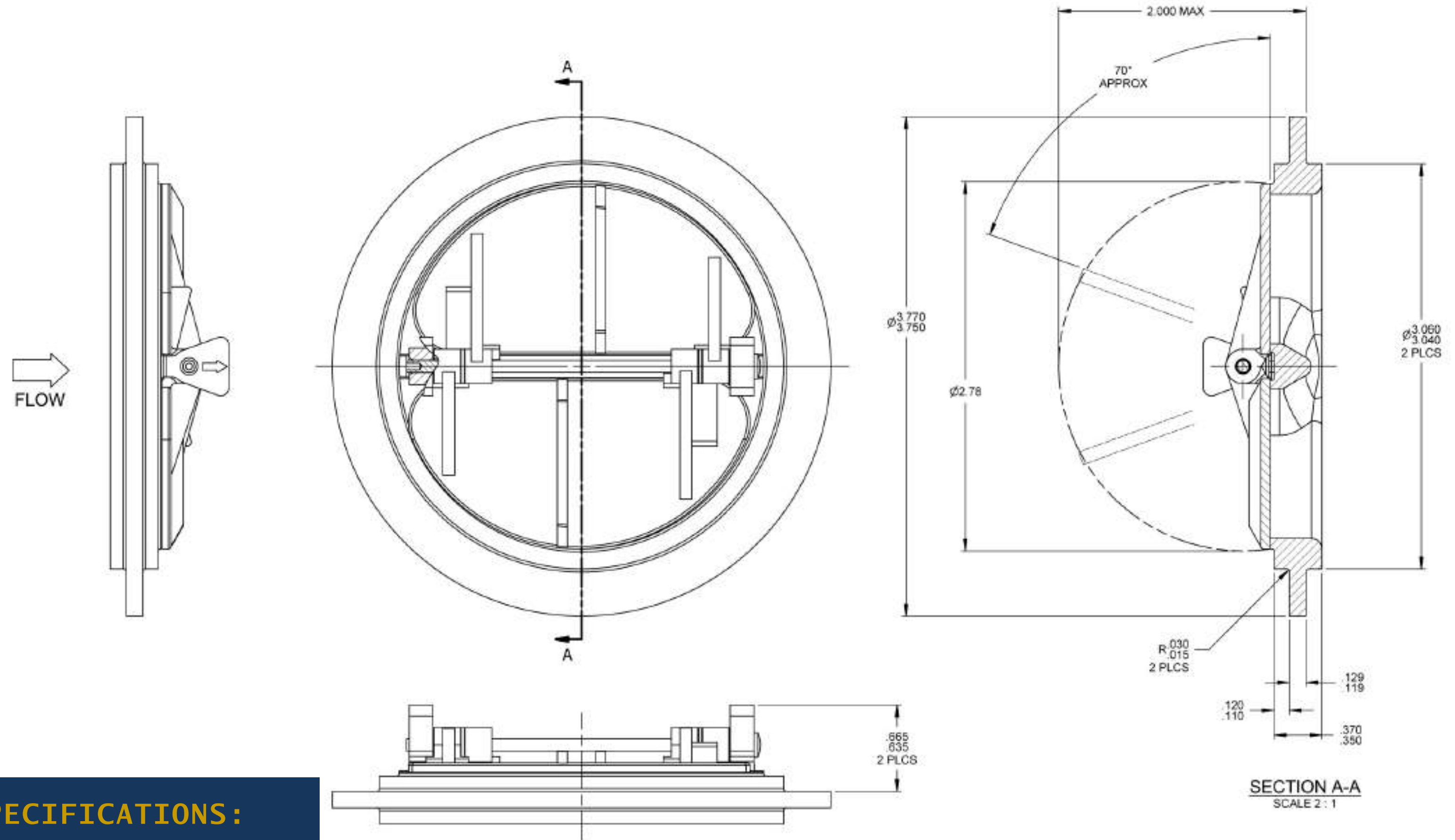
FLOW: 15.5 LB/MIN AT 13 PSID MAX AND 0 PSIG OUTLET

INTERNAL LEAKAGE: .05 LB/MIN MAX AT 27 PSIG

WEIGHT: 0.17 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7698-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 2024-T351 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -65°F TO 300°F

OPERATING PRESSURE: 10 PSIG

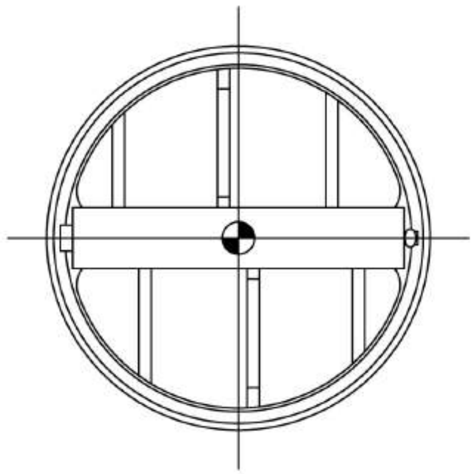
PROOF PRESSURE: 20 PSIG

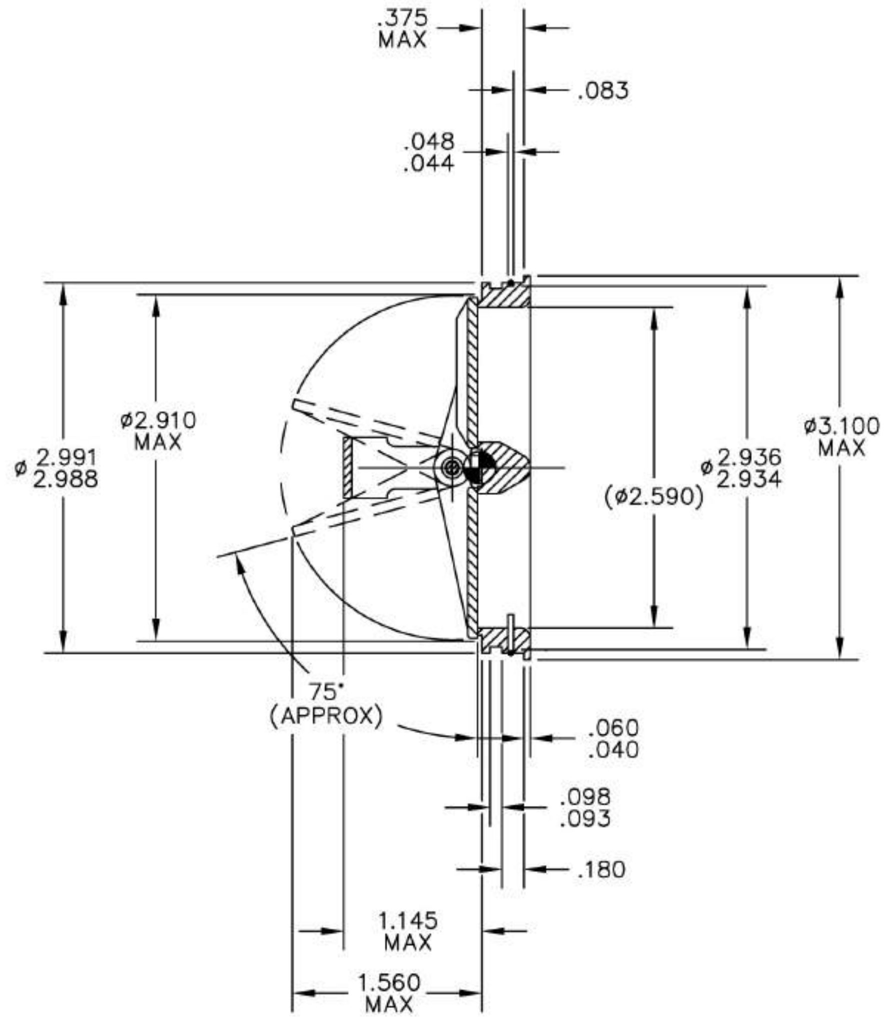
FLOW: 25 LB/MIN AT 0.6 PSID MAX AT 10 PSIG INLET AND 300°F

INTERNAL LEAKAGE: 0.1 LB/MIN FROM NONE TO 10 PSID

WEIGHT: 0.23 LBS MAX

PART NUMBER: 2S6510-1, CHECK VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 2024-T351 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -65°F TO 250°F

OPERATING PRESSURE: 2 PSIG

PROOF PRESSURE: 4 PSIG

CRACKING PRESSURE: 10.0” $H_2$0 MAX

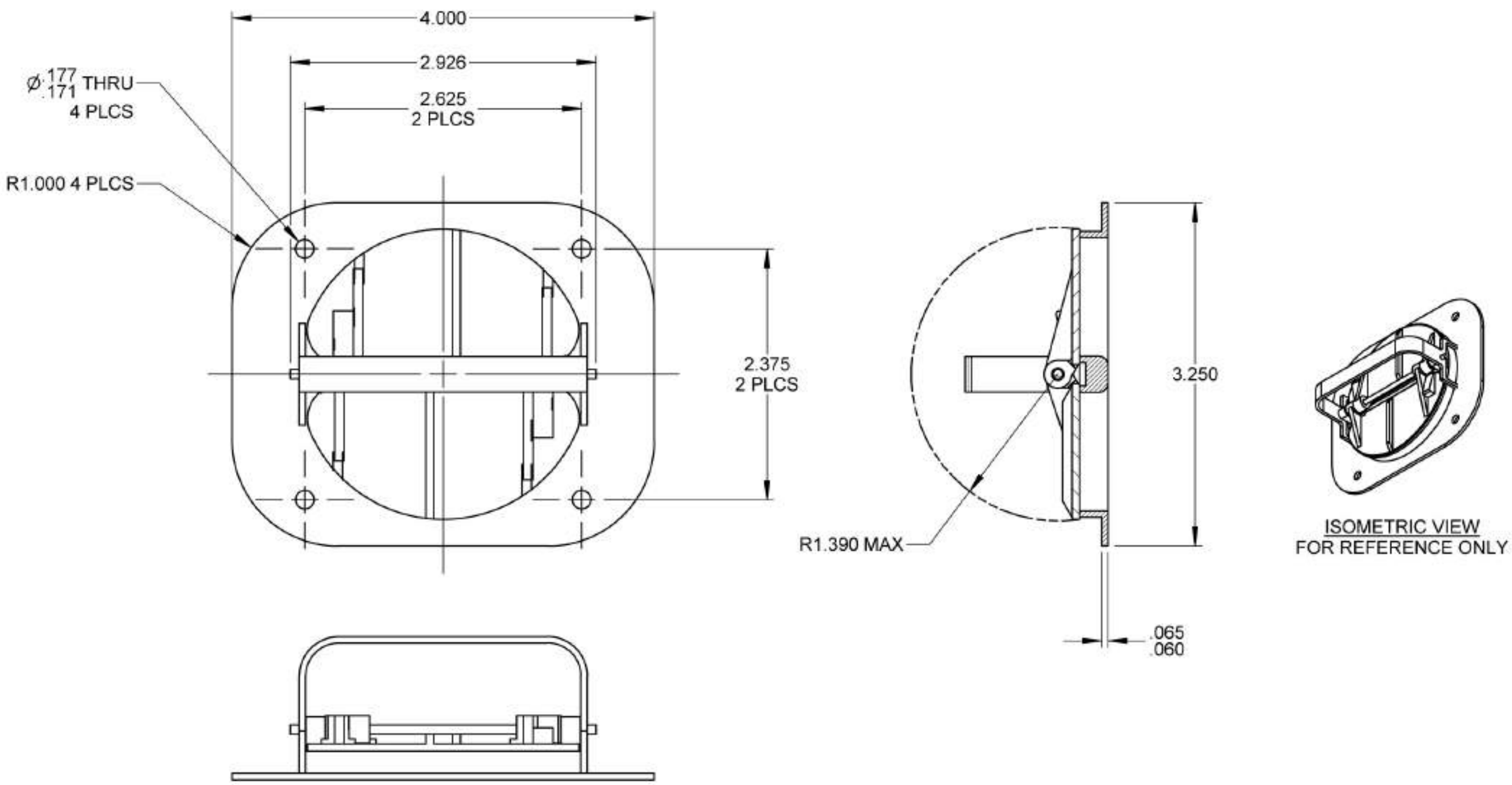
FLOW: 10 LB/MIN AT 3.0” $H_2$0 MAX PSID AT 14.7 PSIA INLET AND 70°F

INTERNAL LEAKAGE: 15,000 CC/MIN MAX AT 2” $H_2$0 AND 70°F

WEIGHT: 0.23 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7250, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: 5°F TO 158°F

OPERATING PRESSURE: 0.290 PSIG

PROOF PRESSURE: 0.435 PSIG

CRACKING PRESSURE: 0.007 PSIG MAX

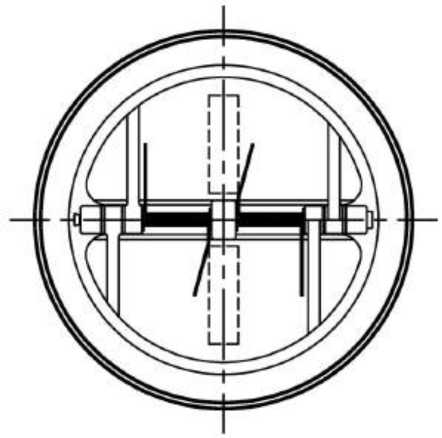
FLOW: 105.9 CFM AT 0.007 PSIG MAX

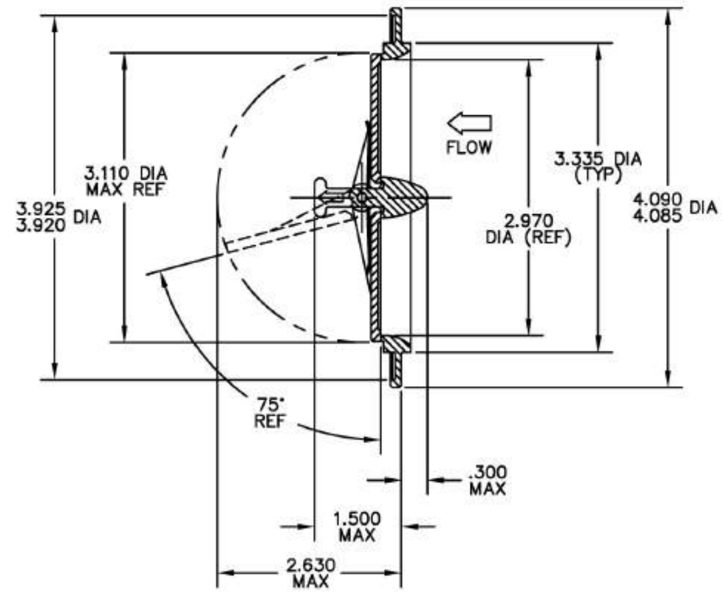
INTERNAL LEAKAGE: 3 g/S MAX AT 0.290 PSIG

WEIGHT: 0.29 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7656-1, CHECK VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -81°F TO 190°F

OPERATING PRESSURE: 12 TO 30 PSIA

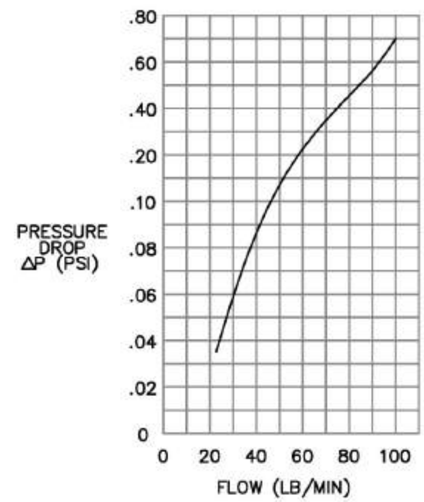
PROOF PRESSURE: 16.5 PSIG

CRACKING PRESSURE: 2” H_2O MAX

FLOW: SEE CHART

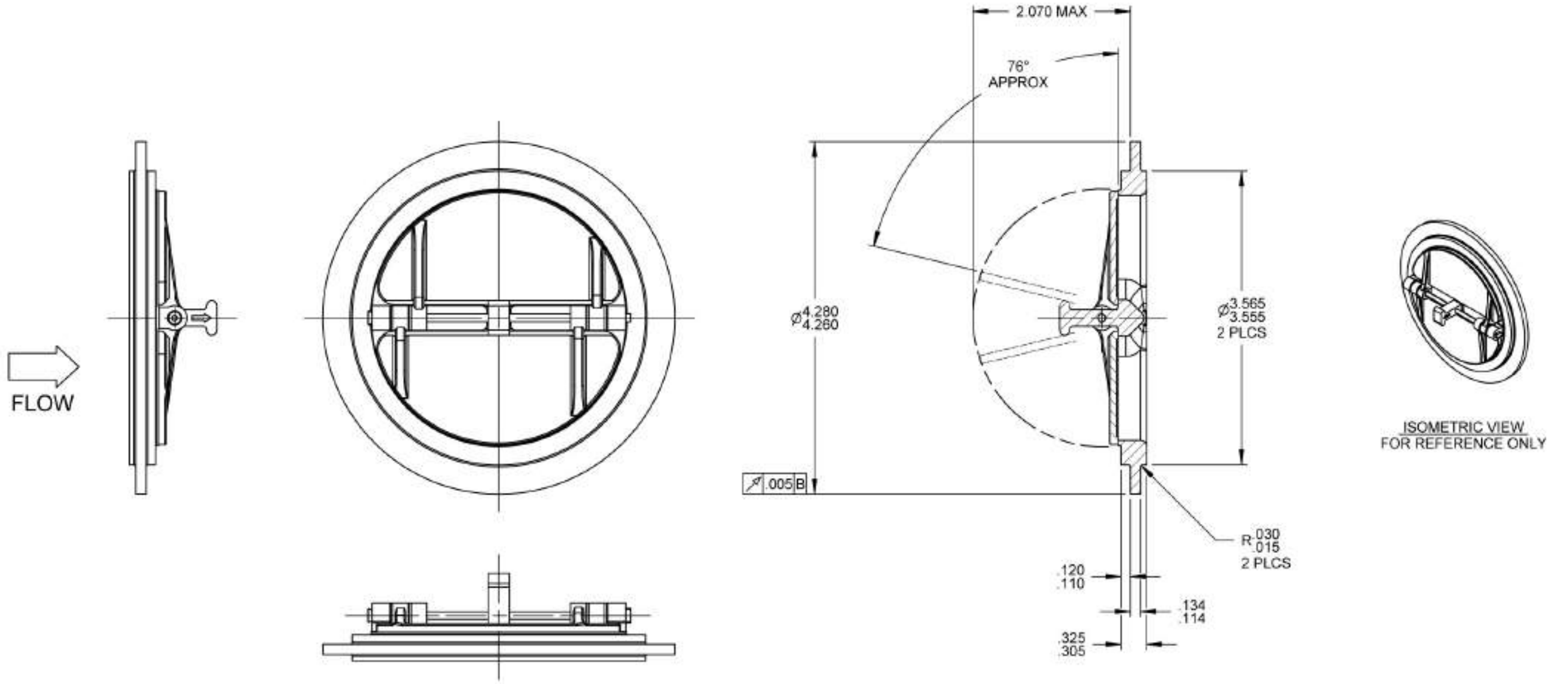
INTERNAL LEAKAGE: 0.064 LB/MIN AT 9 PSIG

WEIGHT: 0.58 LBS MAX



CATEGORY 1: SPLIT FLAPPER CHECK VALVES

PART NUMBER: 2S7696, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 2024-T351 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -65°F TO 165°F

OPERATING PRESSURE: 10 PSIG

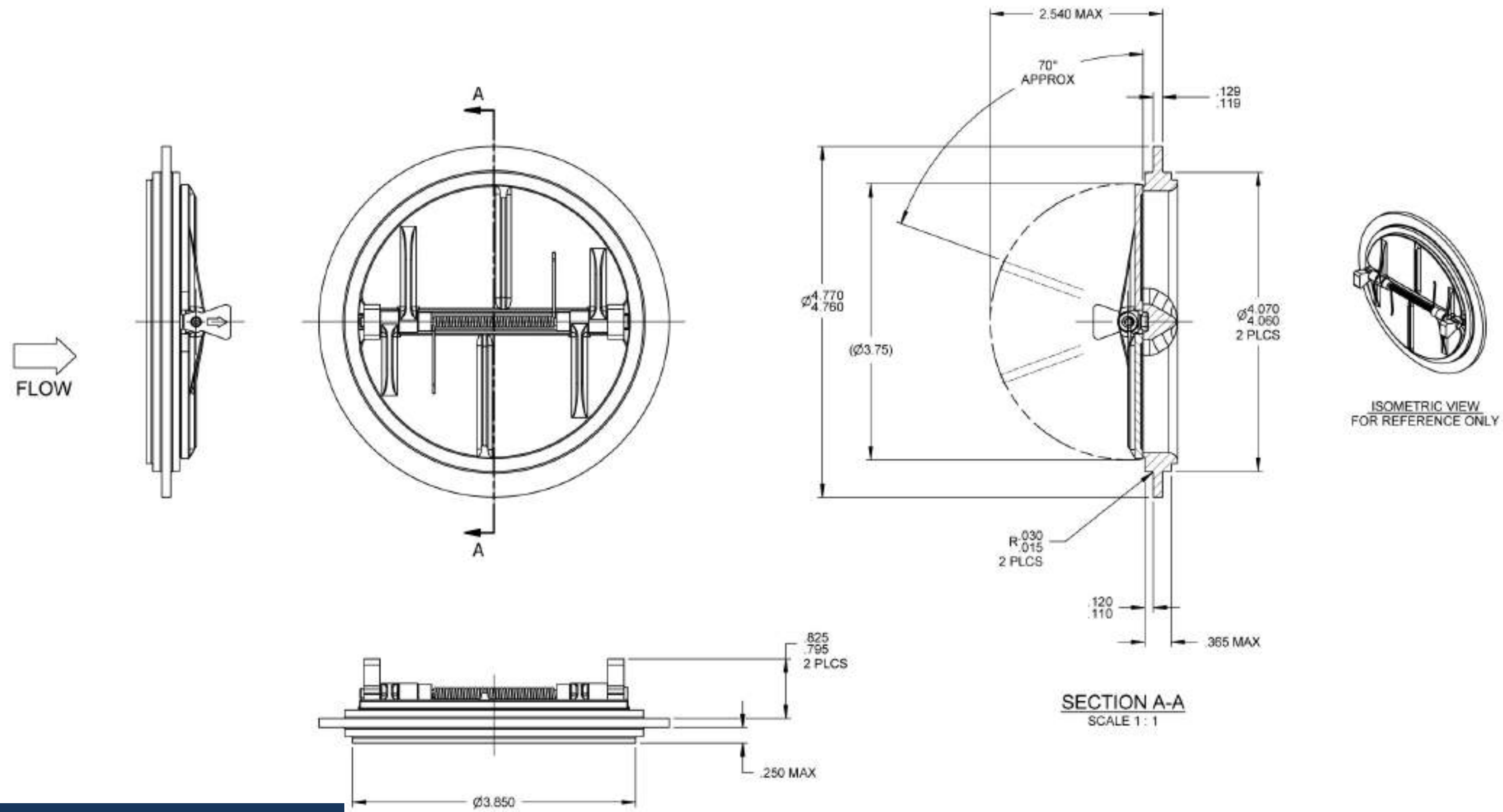
PROOF PRESSURE: 15.6 PSIG

FLOW: 30 LB/MIN AT 0.3 PSID MAX AT 10 PSIG INLET AND 85°F

INTERNAL LEAKAGE: 0.1 LB/MIN FROM 0 TO 10 PSIG AT 80°F

WEIGHT: 0.28 LBS MAX

PART NUMBER: 2S7690-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 2024-T351 AL

FLAPPER 2024-T351 AL

TEMPERATURE RANGE: -65°F TO 165°F

OPERATING PRESSURE: 10 PSIG

PROOF PRESSURE: 20 PSIG

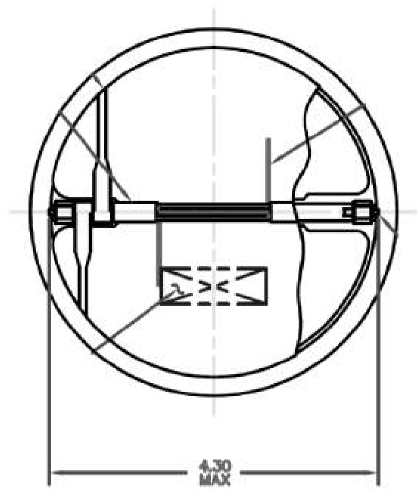
CRACKING PRESSURE: 4” H_2O MAX

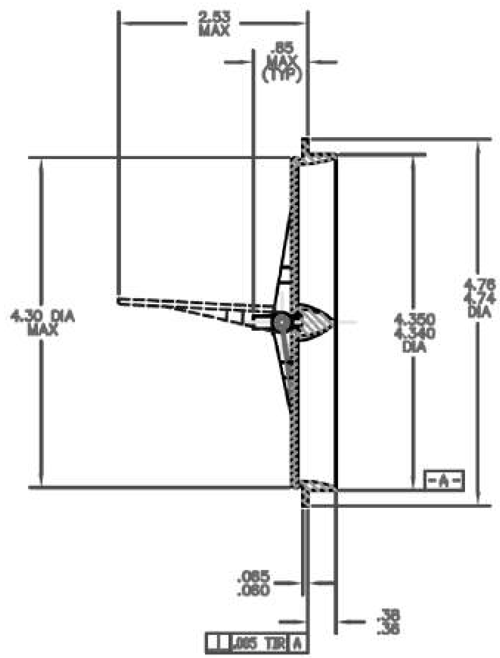
FLOW: 25 LB/MIN AT 0.15 PSID MAX AT 10 PSIG INLET AND 300°F

INTERNAL LEAKAGE: 0.1 LB/MIN FROM 0 TO 10 PSIG AT 80°F

WEIGHT: 0.4 LBS MAX

PART NUMBER: 2S7622, CHECK VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 356-T6 AL

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 200°F

OPERATING PRESSURE: 0 TO 15 PSIG

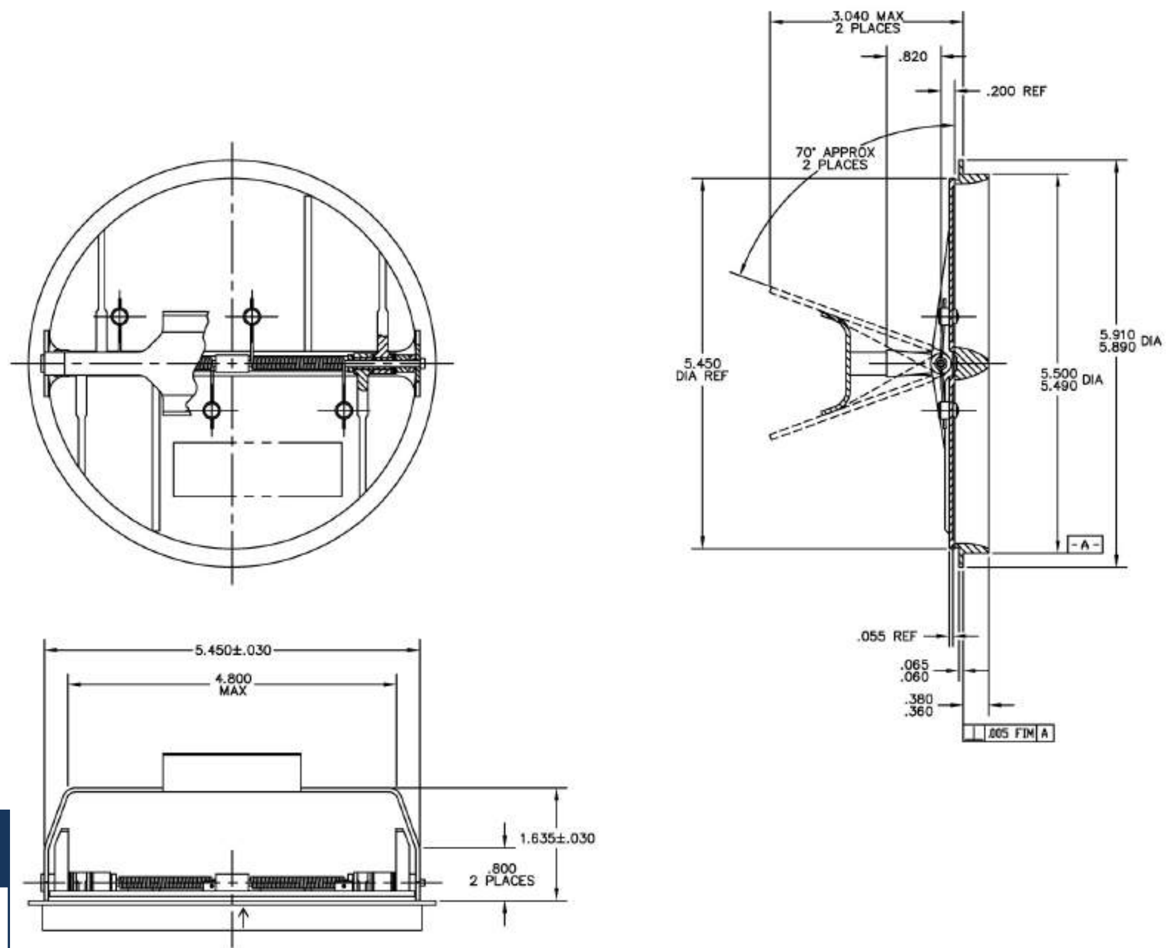
PROOF PRESSURE: 30 PSIG

CRACKING PRESSURE: 2" H_2O MAX

INTERNAL LEAKAGE: 0.10 LB/MIN AT 7.5 PSIG MAX

WEIGHT: 0.45 LBS MAX

PART NUMBER: 2S6258-2, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -60°F TO 160°F

OPERATING PRESSURE: 0 TO 11 PSIG

PROOF PRESSURE: 15 PSIG

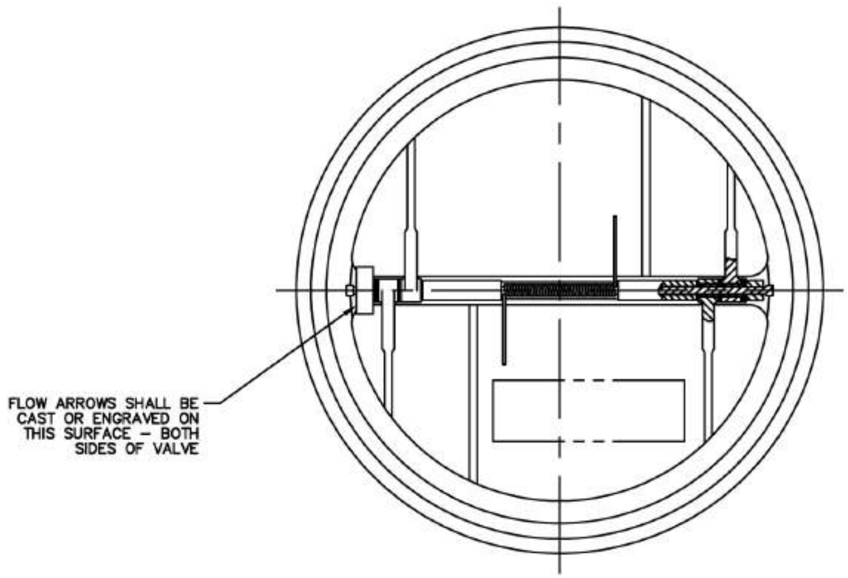
CRACKING PRESSURE: 0.5 PSIG MAX

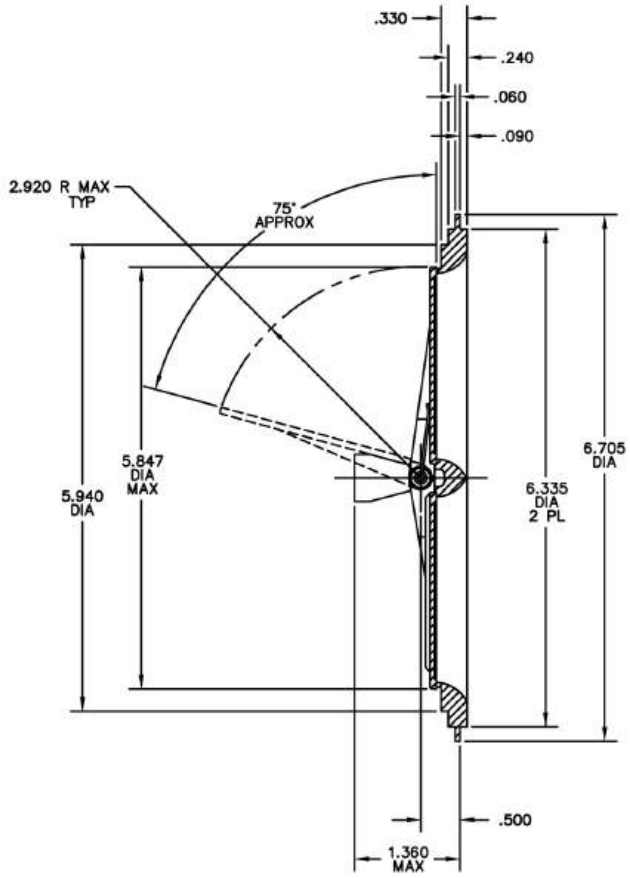
FLOW: 320 LB/MIN MAX AT 15 PSIA INLET AND 0 PSIA OUTLET AT 70°F

INTERNAL LEAKAGE: 0.13 LB/MIN FROM 0 TO 9.75 PSIG

WEIGHT: 0.63 LBS MAX

PART NUMBER: 2S7670, CHECK VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -65°F TO 165°F

OPERATING PRESSURE: 9.32 PSIG

PROOF PRESSURE: 13.98 PSIG

CRACKING PRESSURE: 0.5" H_2O MAX

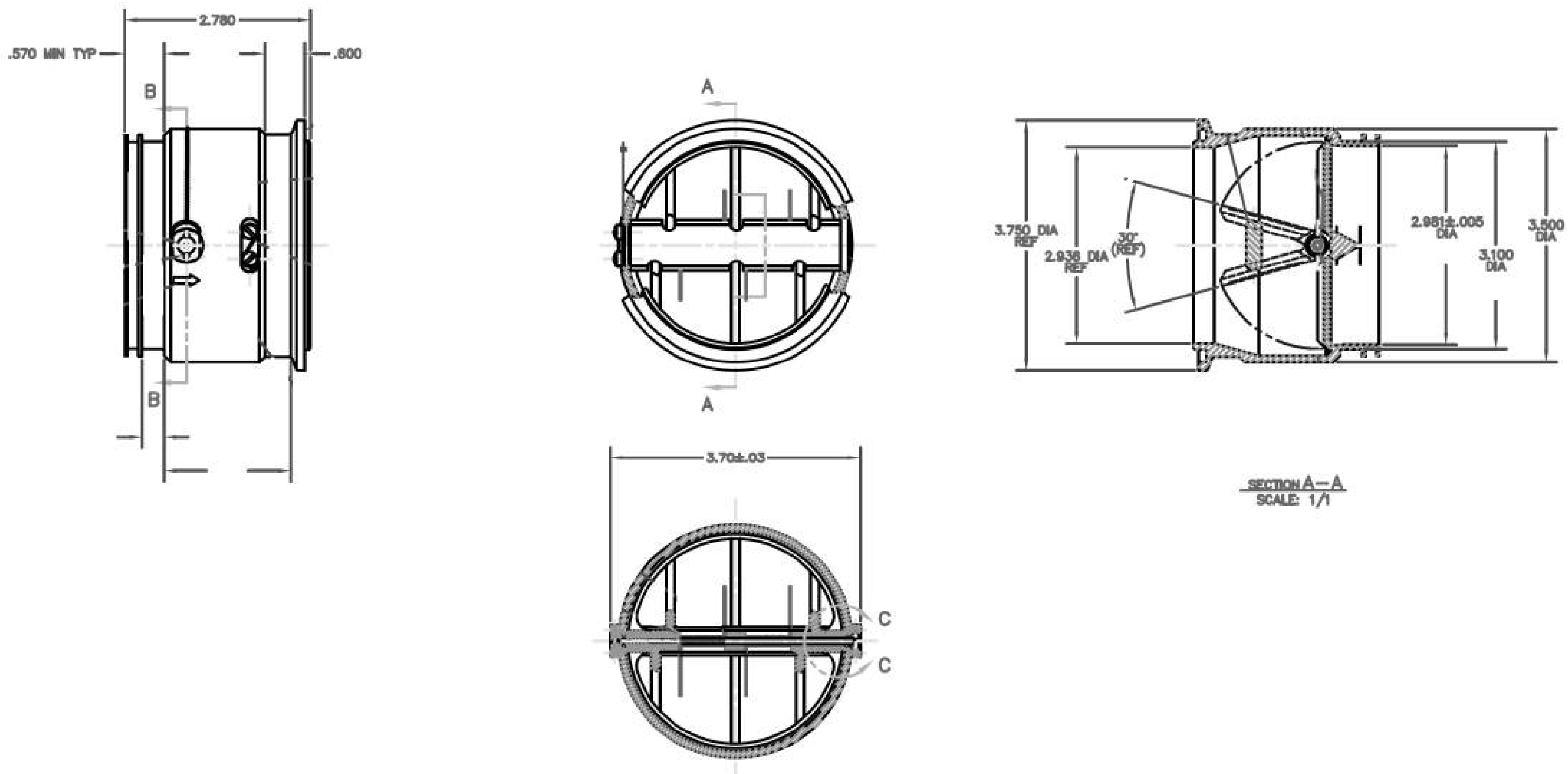
FLOW: 90 LB/MIN MINIMUM AT 1.7" H_2O ΔP AT 15.77 PSIA INLET AND 77°F

INTERNAL LEAKAGE: 0.15 LB/MIN MAX AT 7 PSIG AND 70°F

WEIGHT: 0.65 LBS MAX

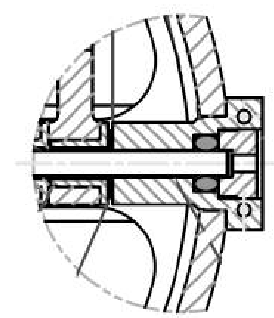
CRISSAIR INC.

PART NUMBER: 2S7634-7, CHECK VALVE



SECTION A—A
SCALE: 1/1

SECTION B—B
SCALE 1/1



DETAIL C—C
SCALE: 4/1

PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

TEMPERATURE RANGE: -65°F TO +240°F

OPERATING PRESSURE: 15.2 PSIG AT 40°F

PROOF PRESSURE: 20 PSIG

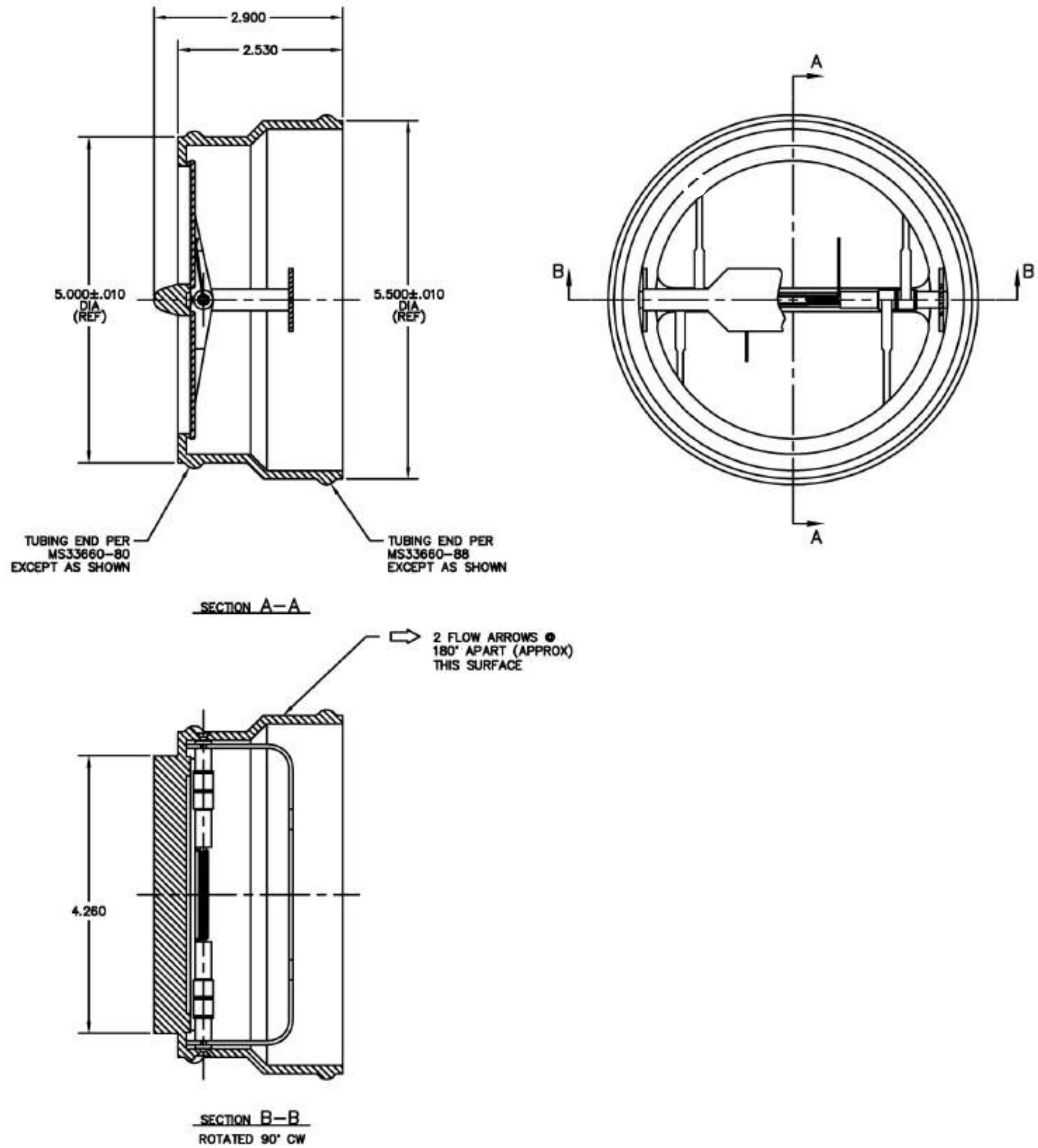
PRESSURE DROP: 0.065 PSID MAX AT 15.2 PSIA INLET AT 40°F AND FLOW OF 21.5 LB/MIN

INTERNAL LEAKAGE: 0.2 LB/MIN MAX AT 1.0 PSIG CHECKED DIRECTION

WEIGHT: 0.60 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S6298, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY A356-T6 AL

FLAPPER A356-T6 AL

TEMPERATURE RANGE: -60°F TO 185°F

OPERATING PRESSURE: 1 PSIG

PROOF PRESSURE: 1 PSIG

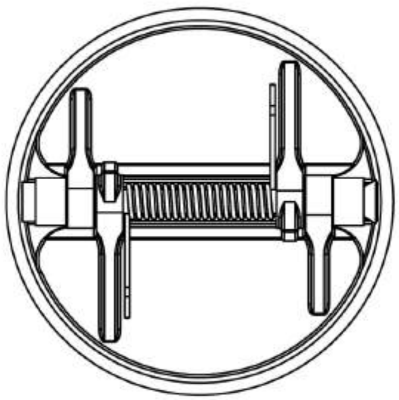
CRACKING PRESSURE: 2” H_2O MAX

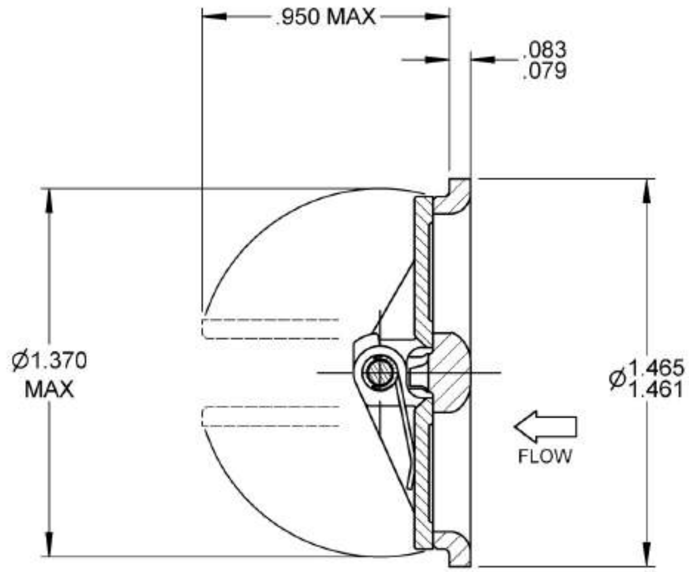
FLOW: 550 SCFM MINIMUM AT 2” H_2O MAX ΔP AND 1 PSIG INLET

INTERNAL LEAKAGE: 0.05 LB/MIN MAX AT 1.0 PSID

WEIGHT: 1.01 LBS (ESTIMATED)

PART NUMBER: 2S7354, CHECK VALVE





ISOMETRIC VIEW
FOR REFERENCE ONLY

PERFORMANCE SPECIFICATIONS:

FLUIDS: TURBO OIL PER MIL-PRF-7808, MIL-PRF-23699 AND AIR

MATERIAL: BODY 17-4PH CRES
FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -67°F TO 400°F

OPERATING PRESSURE: 120 PSIG

PROOF PRESSURE: 180 PSIG

CRACKING PRESSURE: 0.1 PSIG MAX

FLOW: 3.0 GPM AT 2.5” H_2O MAX ΔP
20 GPM AT 1.0 PSID MAX ΔP

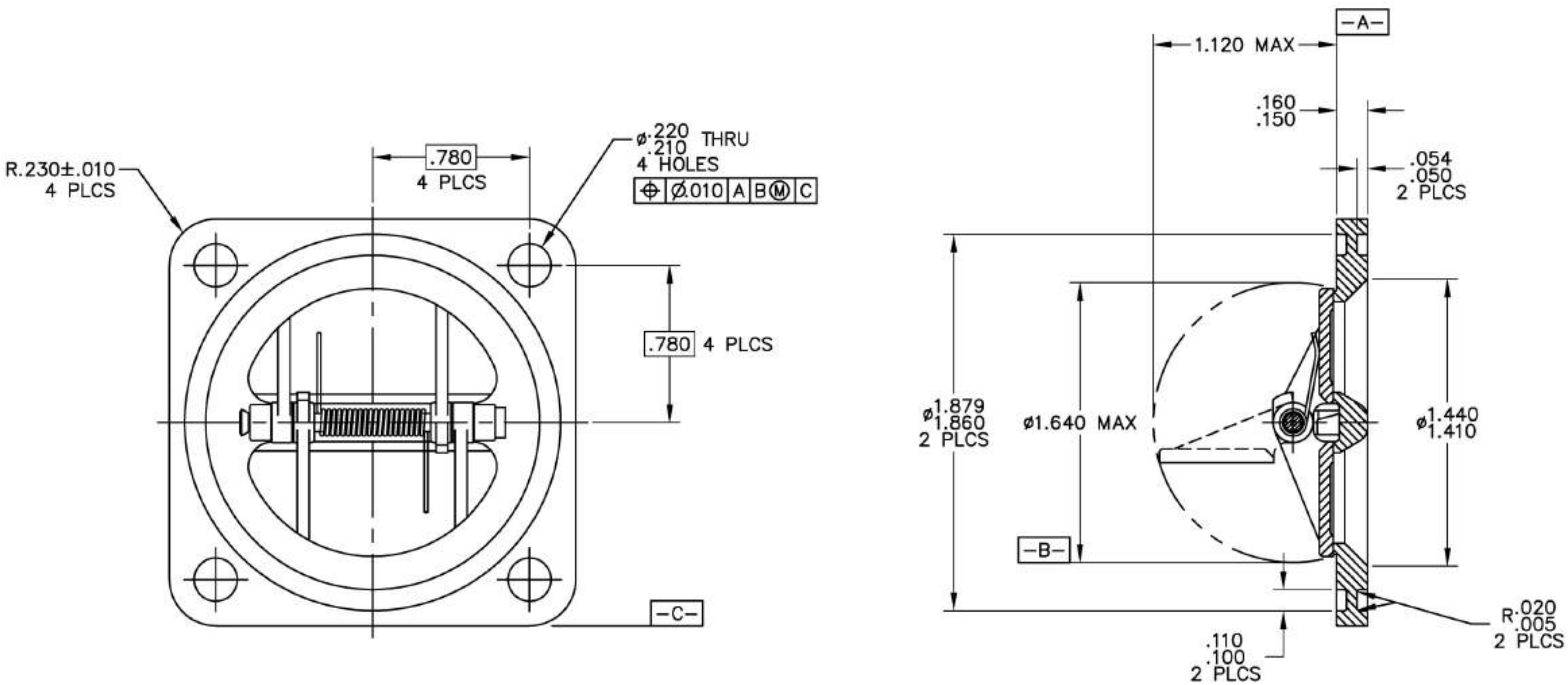
INTERNAL LEAKAGE: 0.5 SCFM MAX AT 6” H_20
5.0 SCFM MAX AT 45 PSIG

WEIGHT: 0.067 LBS MAX

CATEGORY 1: SPLIT FLAPPER CHECK VALVES

CRISSAIR INC.

PART NUMBER: 2S7672, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 347 CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 500°F

OPERATING PRESSURE: 50 PSIG

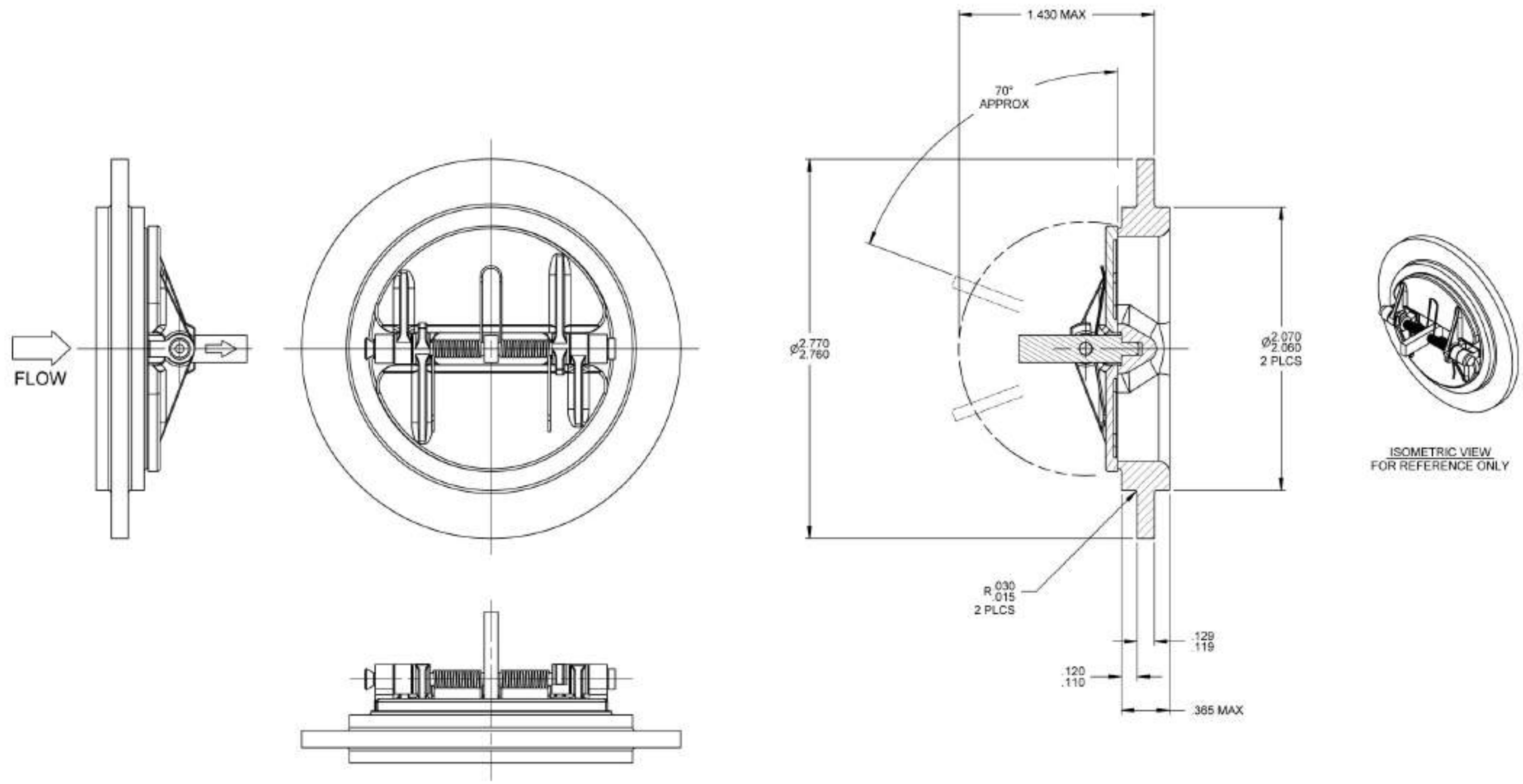
PROOF PRESSURE: 110 PSIG

CRACKING PRESSURE: 3” H_2O MAX

INTERNAL LEAKAGE: 0.1 LB/MIN MAX AT 50 PSIG AND 500°F

WEIGHT: 0.15 LBS MAX

PART NUMBER: 2S7688, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 300°F

OPERATING PRESSURE: 10 PSIG

PROOF PRESSURE: 20 PSIG

CRACKING PRESSURE: 6” H_2O MAX

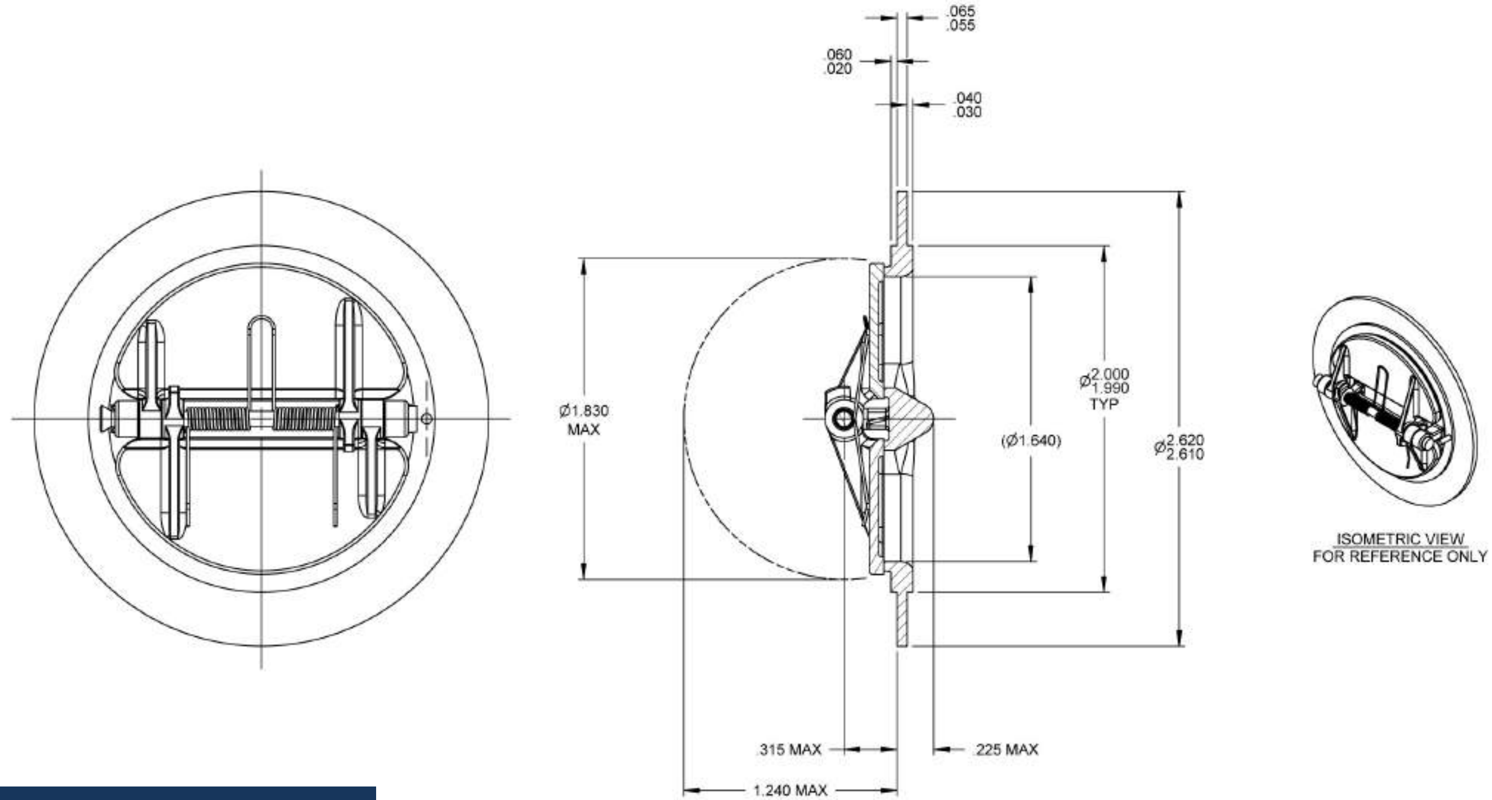
FLOW: 15 LB/MIN AT 1.5 PSIG MAX AND 300°F

INTERNAL LEAKAGE: 0.1 LB/MIN MAX FROM 0 TO 10 PSIG AT 80°F

WEIGHT: 0.33 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S2890-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 700°F

OPERATING PRESSURE: 64 PSIG

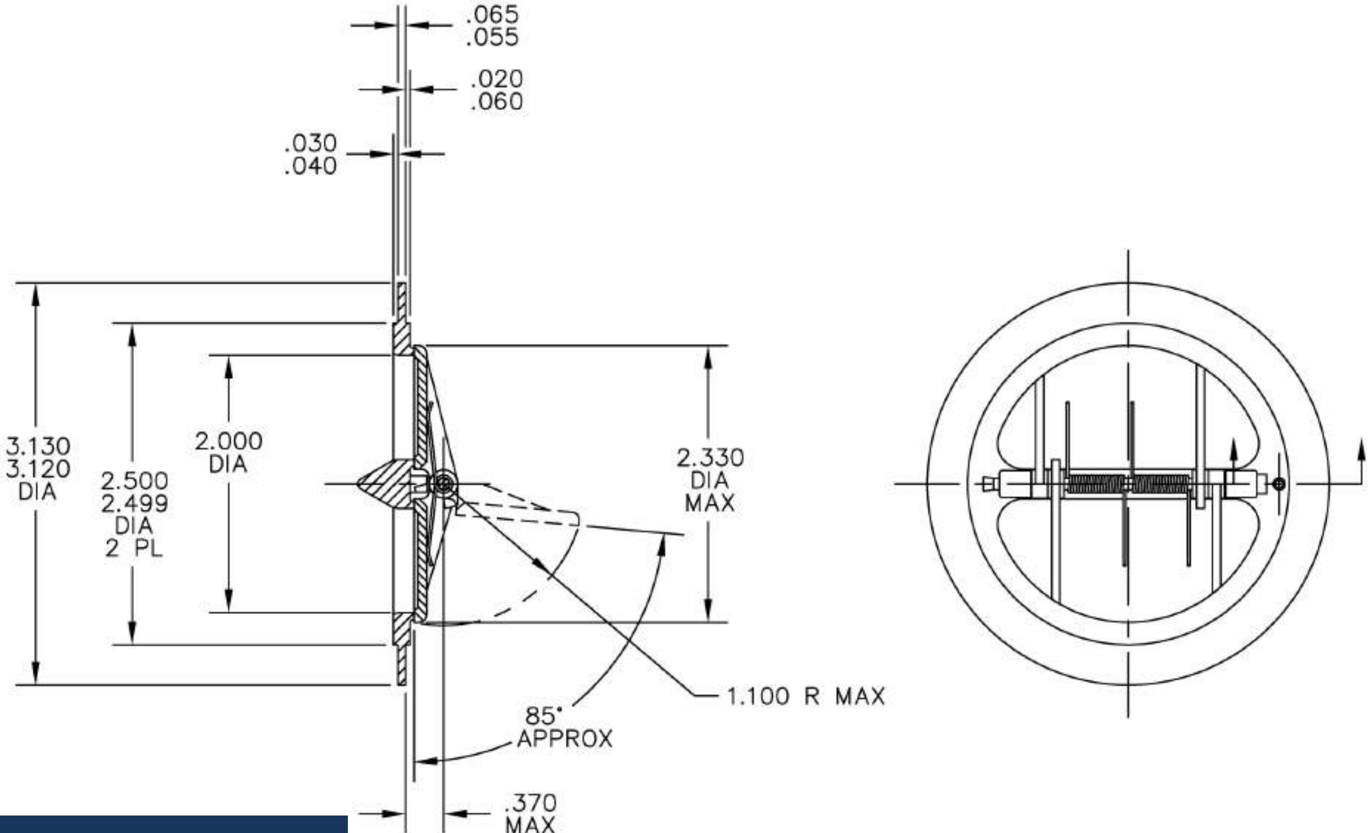
PROOF PRESSURE: 220 PSIG

CRACKING PRESSURE: 0.15 PSIG MAX

INTERNAL LEAKAGE: 0.11 LB/MIN MAX AT 50 PSIG AND 75°F

WEIGHT: 0.38 LBS MAX

PART NUMBER: 2S7668, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 540°F

OPERATING PRESSURE: 47 PSIG

PROOF PRESSURE: 70.5 PSIG

CRACKING PRESSURE: 0.15 PSIG MAX

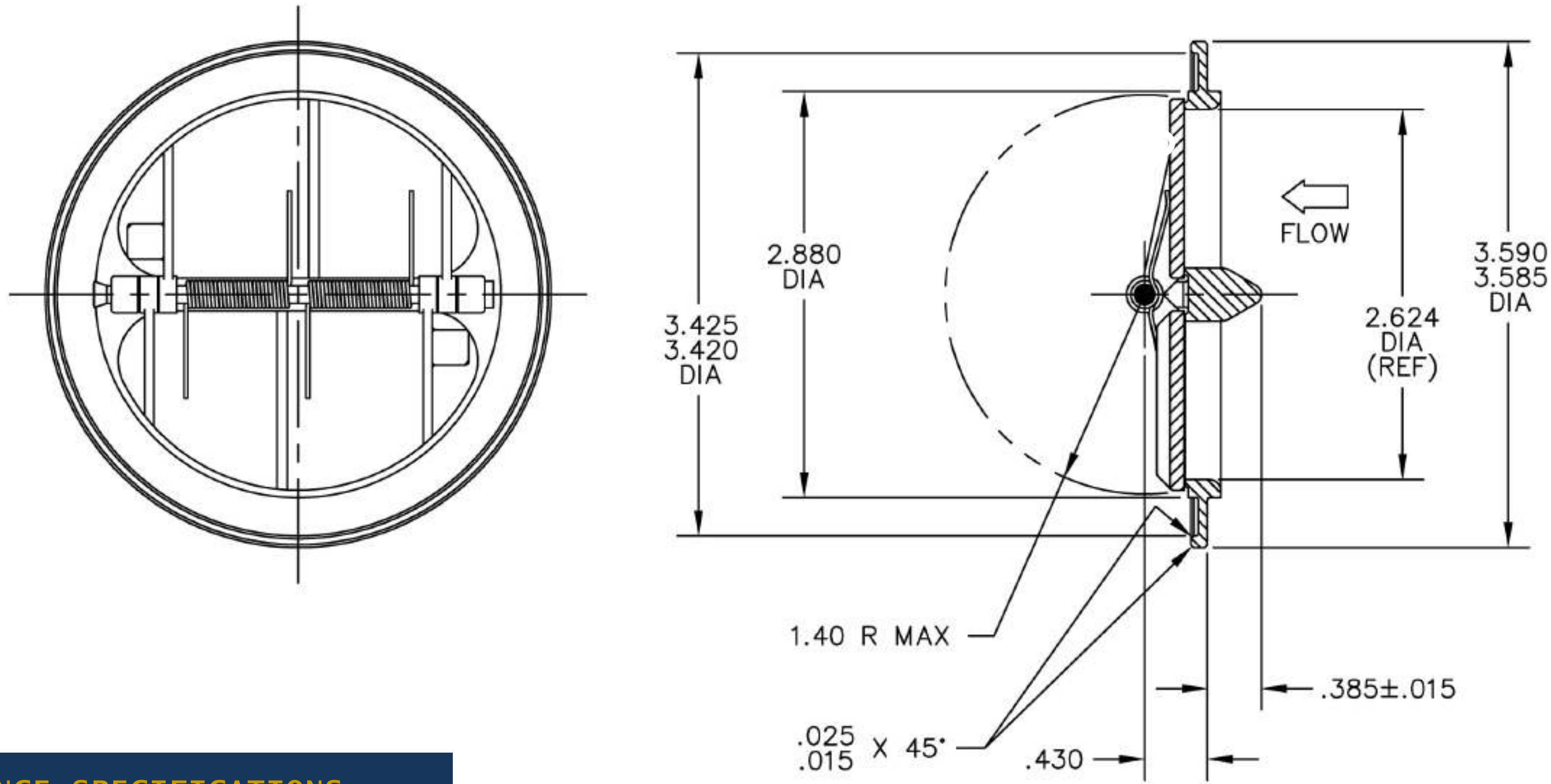
FLOW: 59 LB/MIN AT 33" H_20 MAX ΔP WITH INLET PRESSURE OF 52 PSIA AND 540°F

INTERNAL LEAKAGE: 0.15 LB/MIN MAX AT 47 PSIG AND 540°F

WEIGHT: 0.35 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7642, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 347 CRES

TEMPERATURE RANGE: -65°F TO 700°F

OPERATING PRESSURE: 180 PSIG

PROOF PRESSURE: 345.3 PSIG

CRACKING PRESSURE: 0.2 PSIG MAX

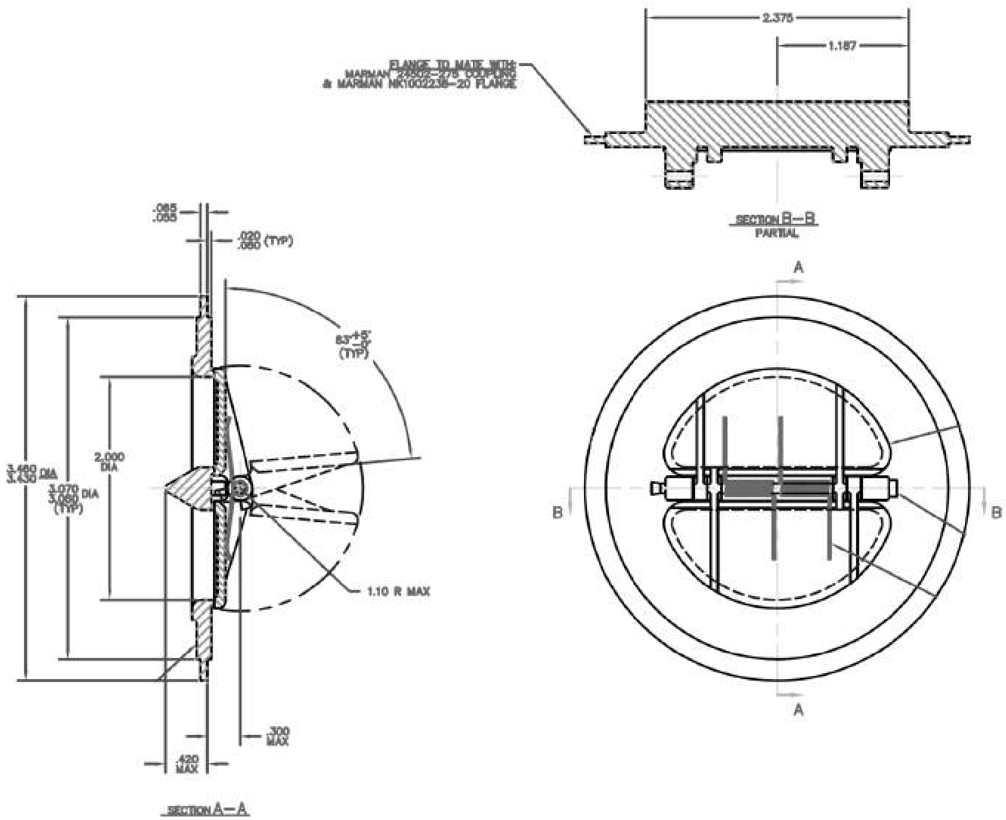
FLOW: 125 LB/MIN AT 1 PSID MAX AT 180 PSIA INLET AND 470°F

INTERNAL LEAKAGE: 0.1 LB/MIN MAX AT 180 PSIG

WEIGHT: 0.53 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7630, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ENGINE BLEED AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 660°F

OPERATING PRESSURE: 120 PSIG

PROOF PRESSURE: 180 PSIG

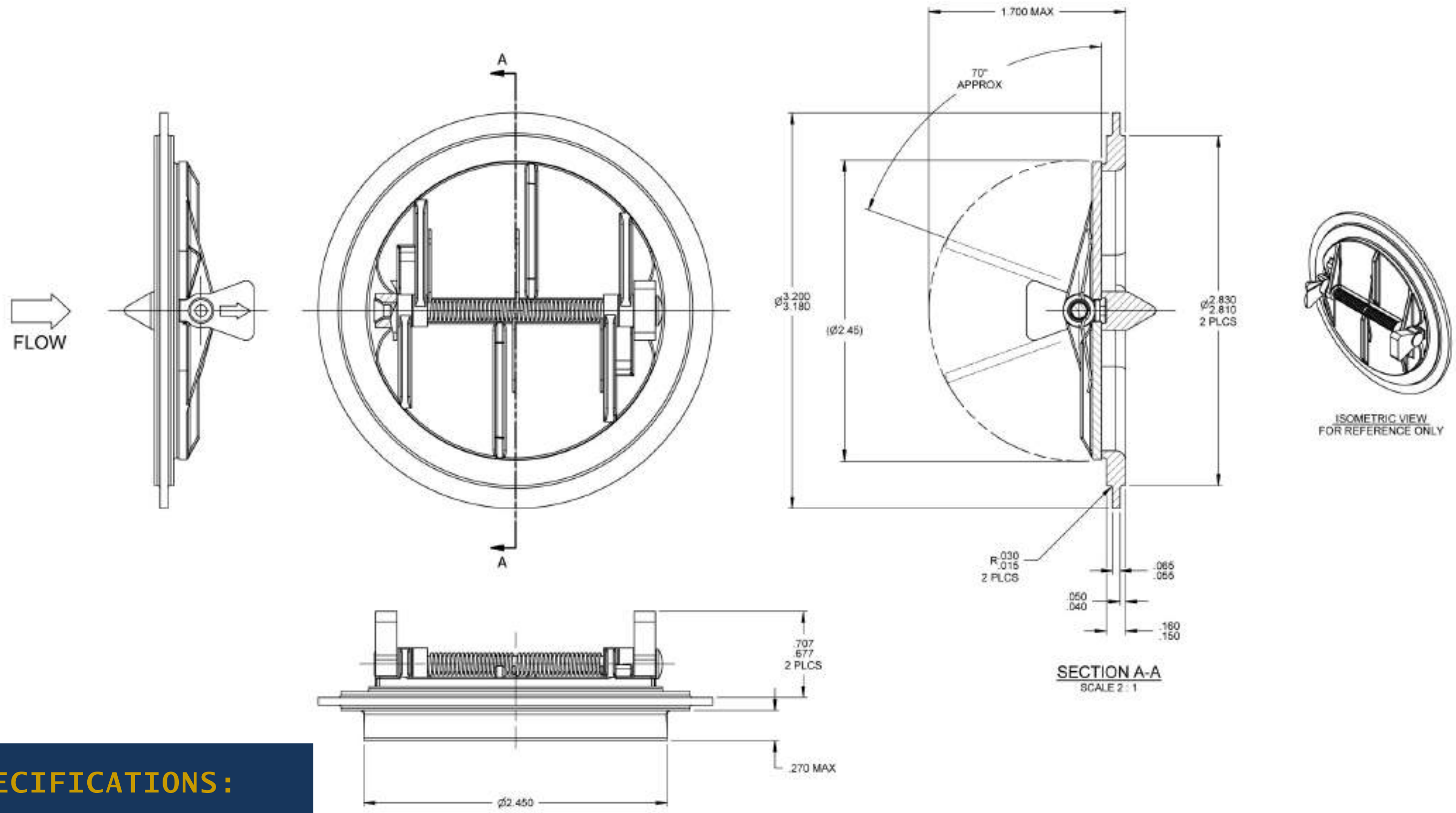
CRACKING PRESSURE: 2" H_2O MAX

INTERNAL LEAKAGE: 0.40 LB/MIN MAX AT 170 PSIG AND 580°F

WEIGHT: 0.40 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7686-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 347 CRES

TEMPERATURE RANGE: -65°F TO 550°F

OPERATING PRESSURE: 95 PSIG

PROOF PRESSURE: 100 PSIG

CRACKING PRESSURE: 6” H_2O MAX

FLOW: 100 LB/MIN AT 7 PSID MAX AT 50 PSIG INLET AND 550°F

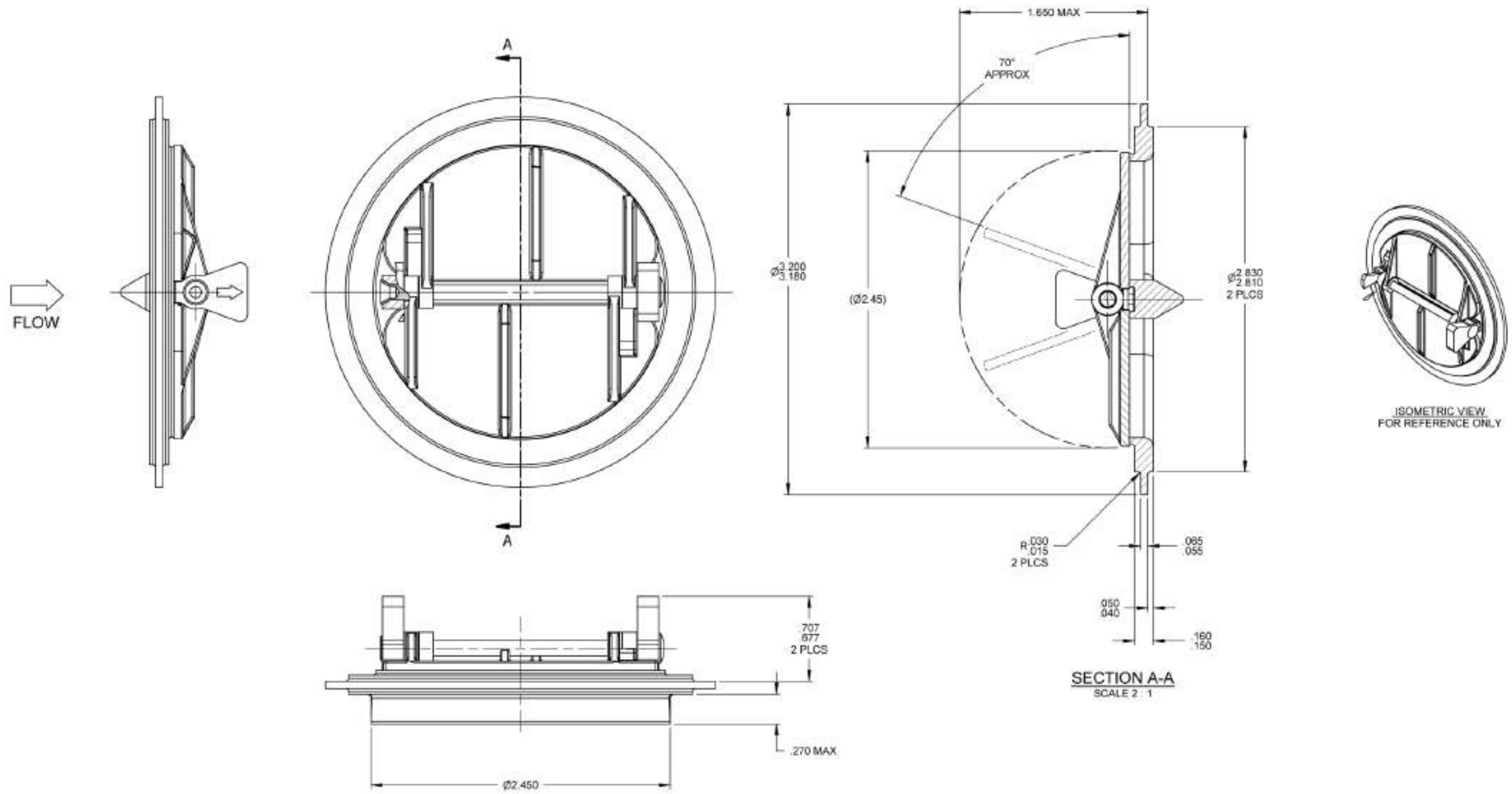
INTERNAL LEAKAGE: 0.30 LB/MIN MAX FROM O TO 95 PSID

WEIGHT: 0.35 LBS MAX

CATEGORY 1: SPLIT FLAPPER CHECK VALVES

CRISSAIR INC.

PART NUMBER: 2S7702-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 347 CRES

TEMPERATURE RANGE: -65°F TO 550°F

OPERATING PRESSURE: 95 PSIG

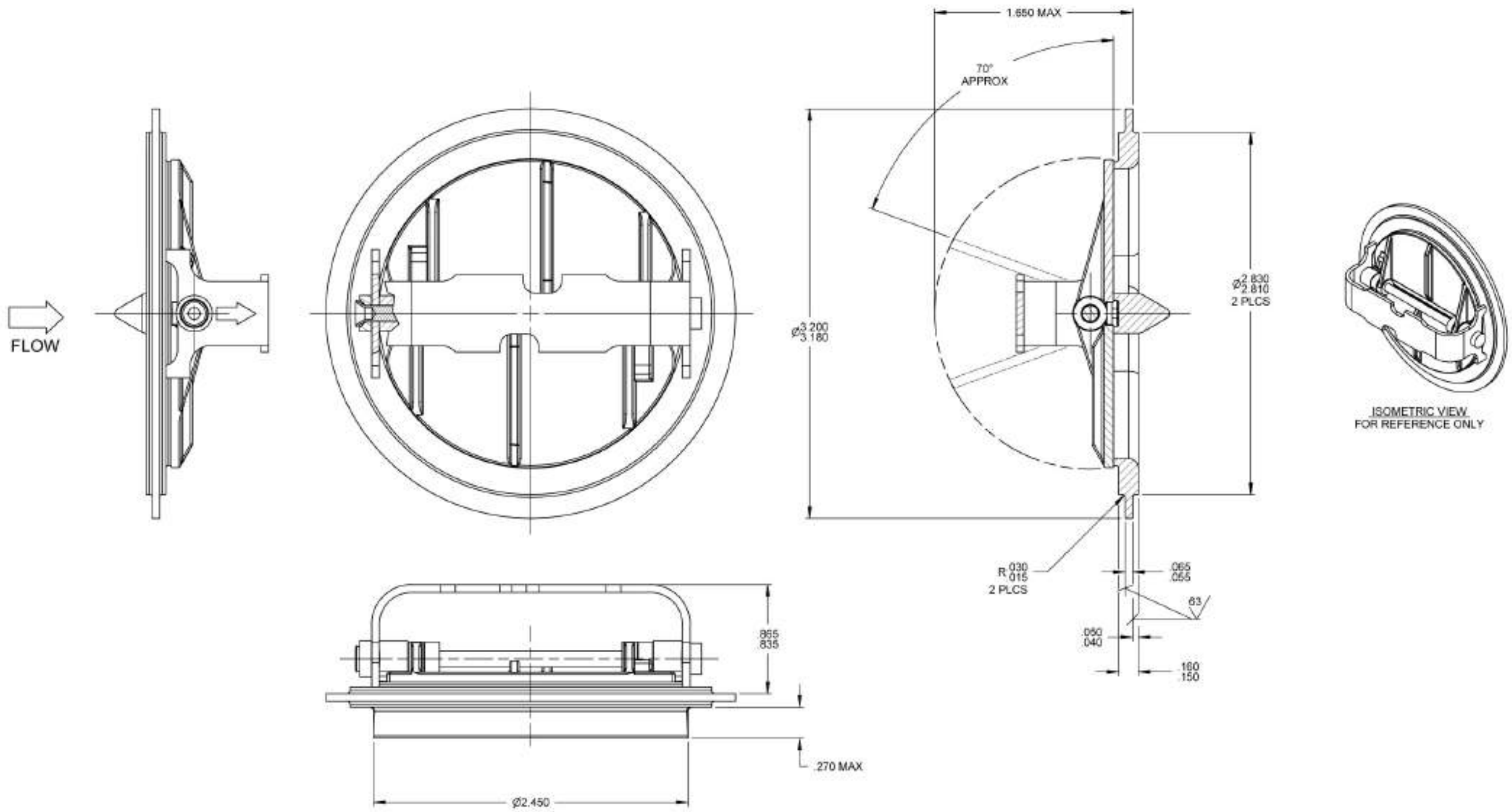
PROOF PRESSURE: 100 PSIG

FLOW: 100 LB/MIN AT 7 PSID MAX AT 50 PSIG INLET AND 550°F

INTERNAL LEAKAGE: 0.1 LB/MIN MAX FROM 0 TO 10 PSIG AT 80°F

WEIGHT: 0.35 LBS MAX

PART NUMBER: 2S7700, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 347 CRES

TEMPERATURE RANGE: -65°F TO 550°F

OPERATING PRESSURE: 95 PSIG

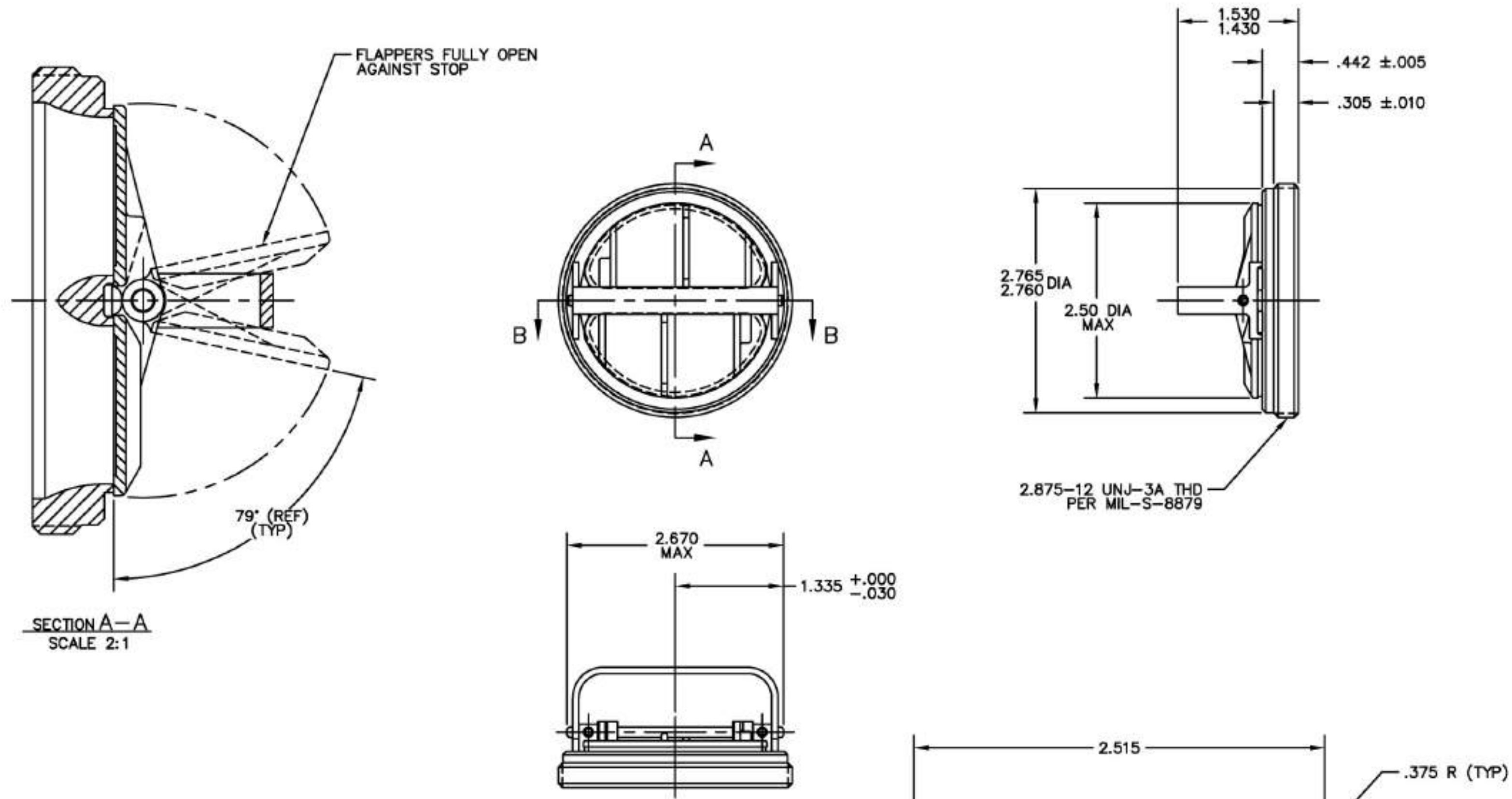
PROOF PRESSURE: 100 PSIG

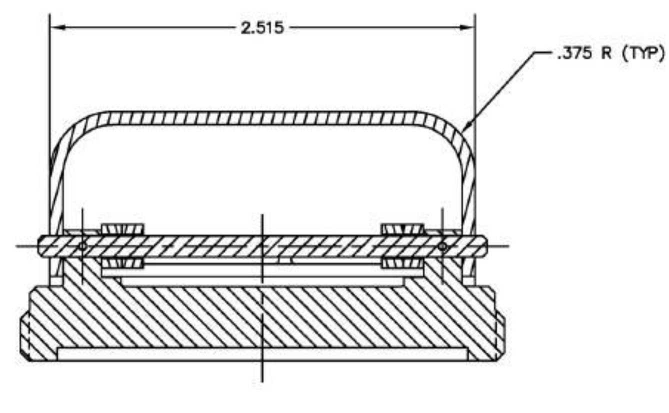
FLOW: 100 LB/MIN AT 7 PSID MAX AT 50 PSIG INLET AND 550°F

INTERNAL LEAKAGE: 0.1 LB/MIN MAX FROM 0 TO 10 PSIG AT 80°F

WEIGHT: 0.38 LBS MAX

PART NUMBER: 2S7638, BLEED AIR CHECK VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR, ENGINE BLEED

MATERIAL: BODY 347 CRES

TEMPERATURE RANGE: -65°F TO 490°F CONTINUOUS,
700°F FOR 10 MIN & 800°F FOR 1 MIN

OPERATING PRESSURE: 20—90 PSIG

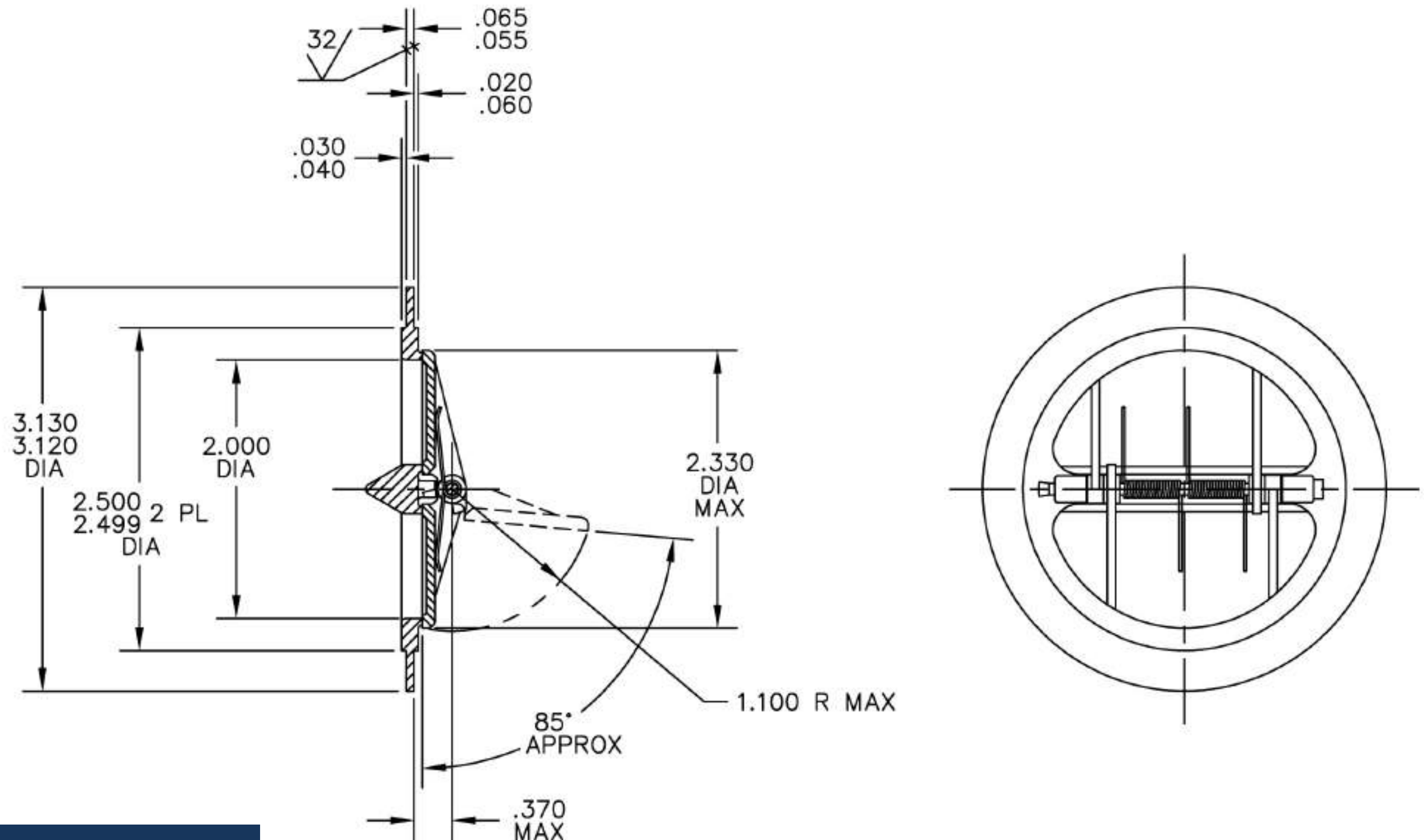
PROOF PRESSURE: 155 PSIG AT 570°F (CHECKED DIRECTION)

INTERNAL LEAKAGE: 0.300 LBS/MIN MAX AT 20—90 PSID & 350°F

CATEGORY 1: SPLIT FLAPPER CHECK VALVES

CRISSAIR INC.

PART NUMBER: 2S6438, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 803°F

OPERATING PRESSURE: 84 PSIG

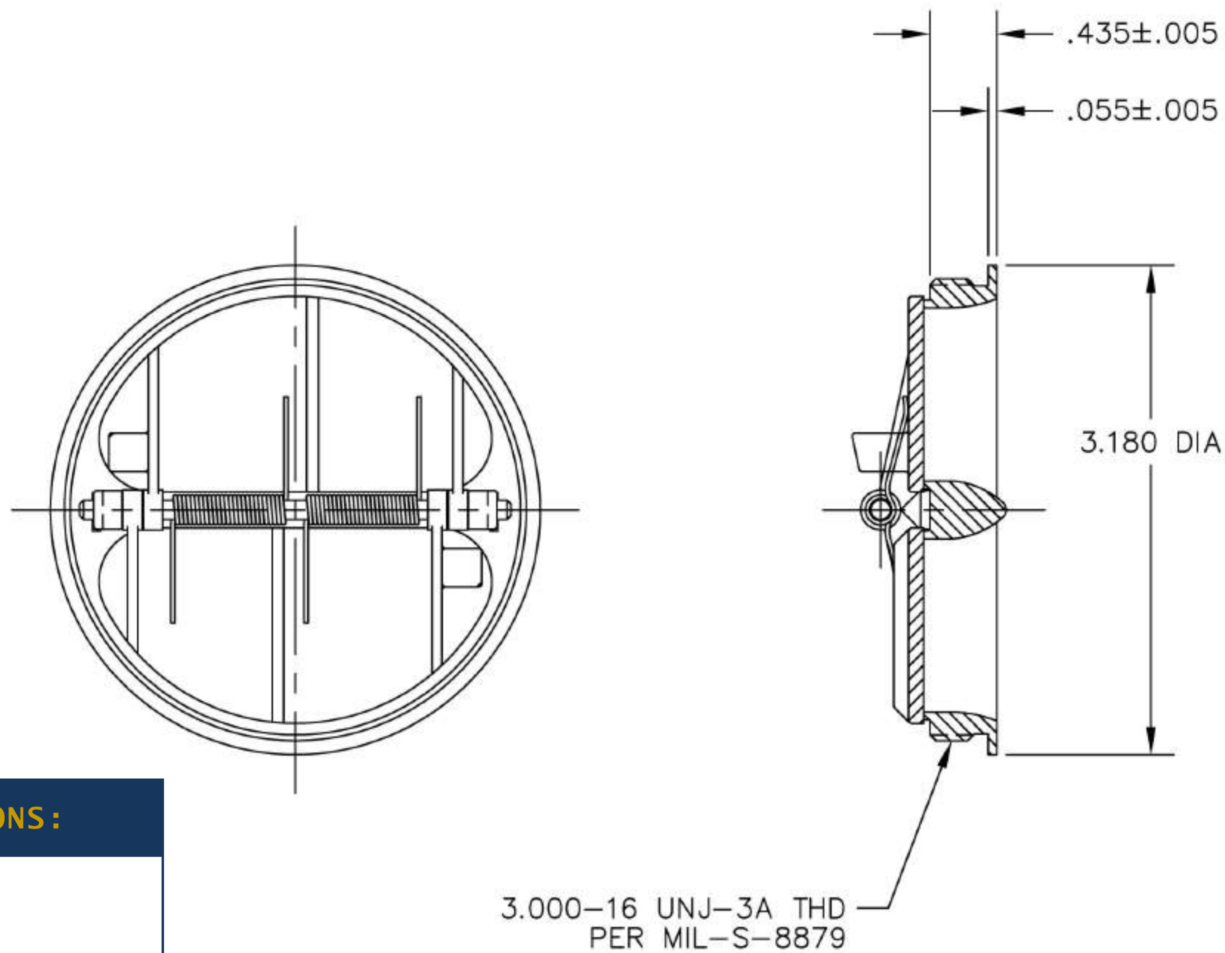
PROOF PRESSURE: 235 PSIG

FLOW: 25 LB/MIN AT 5.5” H_20 ΔP WITH 50 PSIA INLET AND 340°F

INTERNAL LEAKAGE: 0.15 LB/MIN MAX AT 55 PSIG AND 600°F

WEIGHT: 0.35 LBS MAX

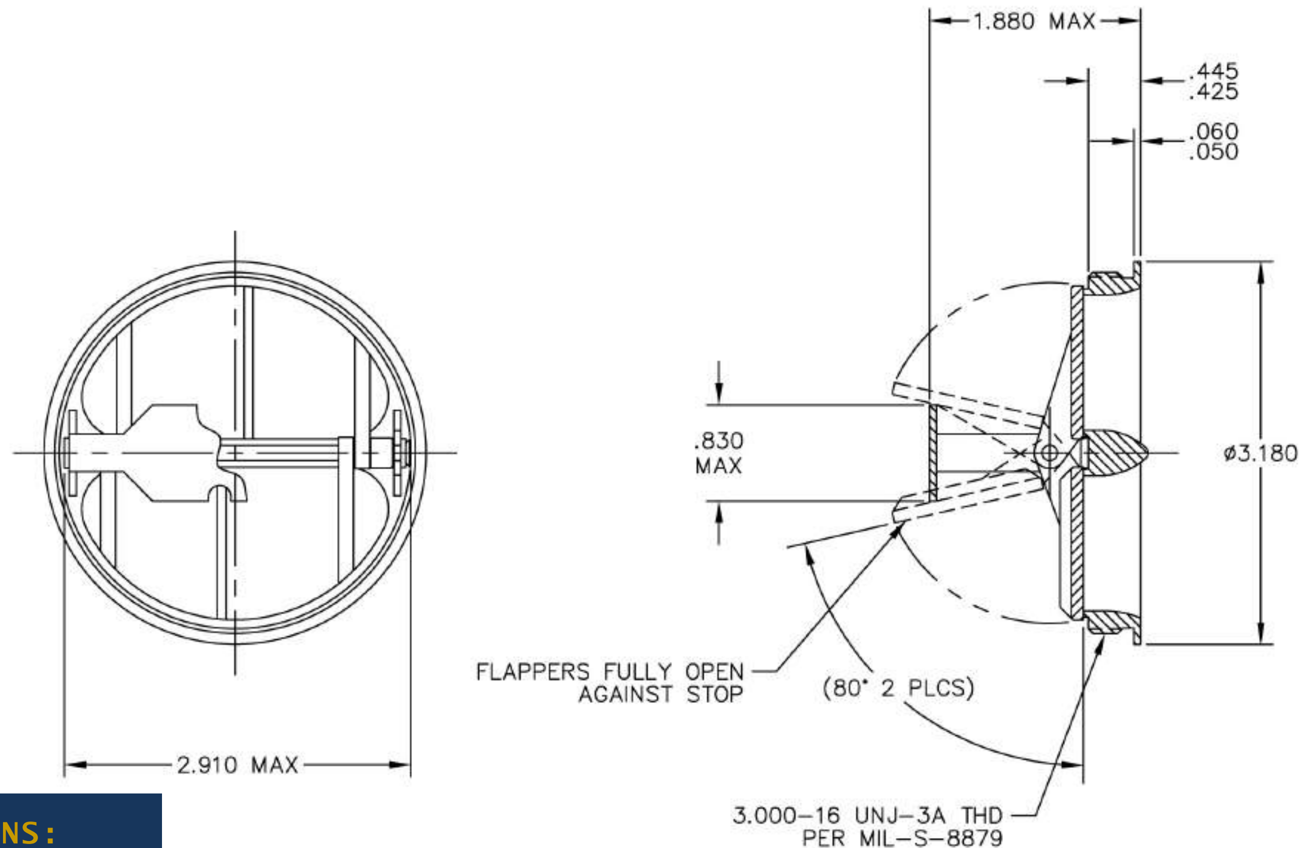
PART NUMBER: 2S7626-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR
MATERIAL: BODY 347 CRES
FLAPPER 347 CRES
TEMPERATURE RANGE: -65°F TO 1215°F
OPERATING PRESSURE: 40 TO 225 PSIG
PROOF PRESSURE: 248 PSIG
CRACKING PRESSURE: 2” $H_2 0$ MAX
FLOW: 150 LB/MIN AT 3.5 PSID MAX WITH 29.7 PSIA INLET AND 200°F
INTERNAL LEAKAGE: 0.25 LB/MIN MAX AT 70 TO 225 PSIG AND 80°F
WEIGHT: 0.65 LBS MAX

PART NUMBER: 2S6252-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 347 CRES

FLAPPER 347 CRES

TEMPERATURE RANGE: -65°F TO 1215°F

OPERATING PRESSURE: 40 TO 225 PSIG

PROOF PRESSURE: 248 PSIG

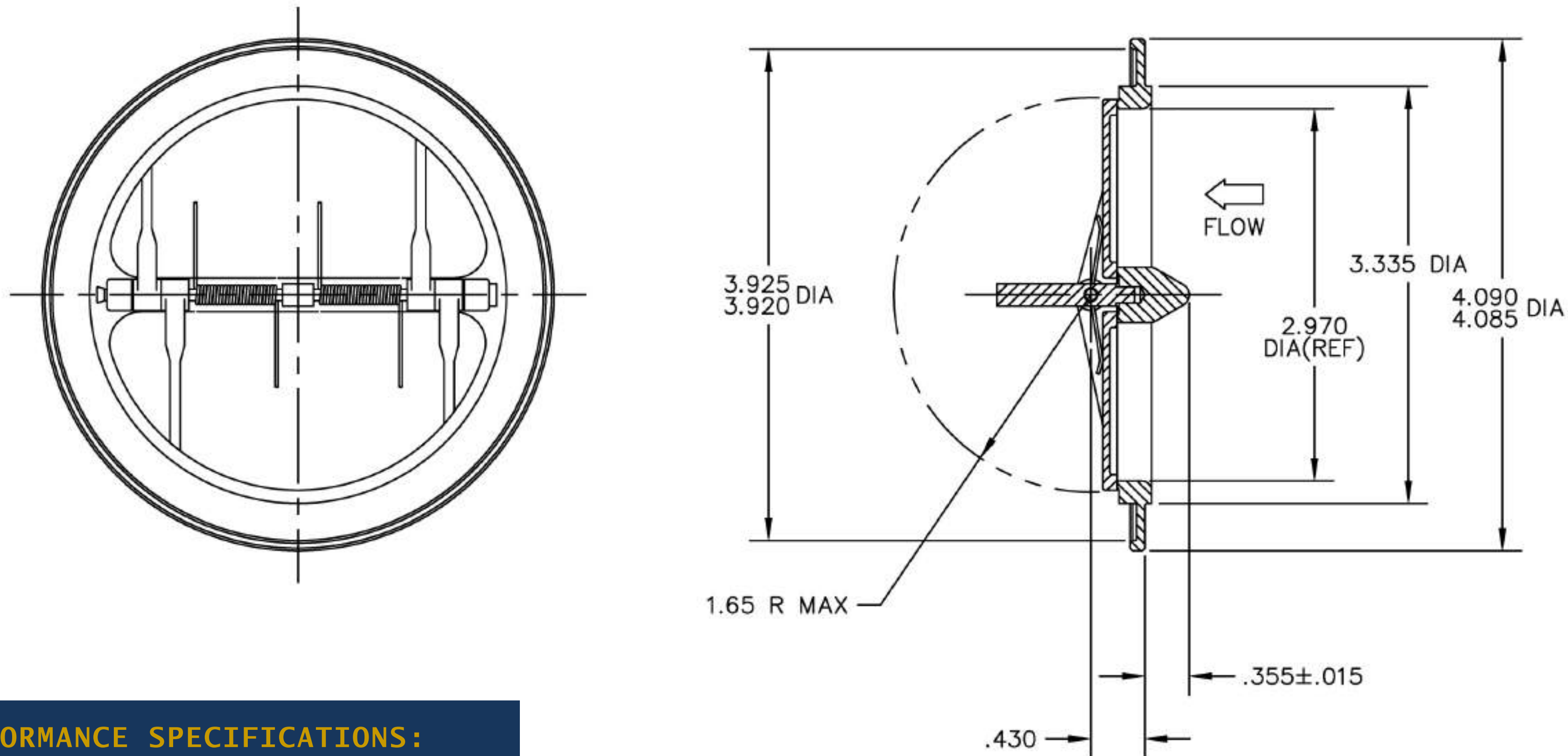
FLOW: 150 LB/MIN AT 3.5 PSID MAX WITH 29.7 PSIA INLET AND 200°F

INTERNAL LEAKAGE: 0.25 LB/MIN MAX AT 70 TO 225 PSIG AND 80°F

WEIGHT: 0.65 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7644 CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 700°F

OPERATING PRESSURE: 180 PSIG

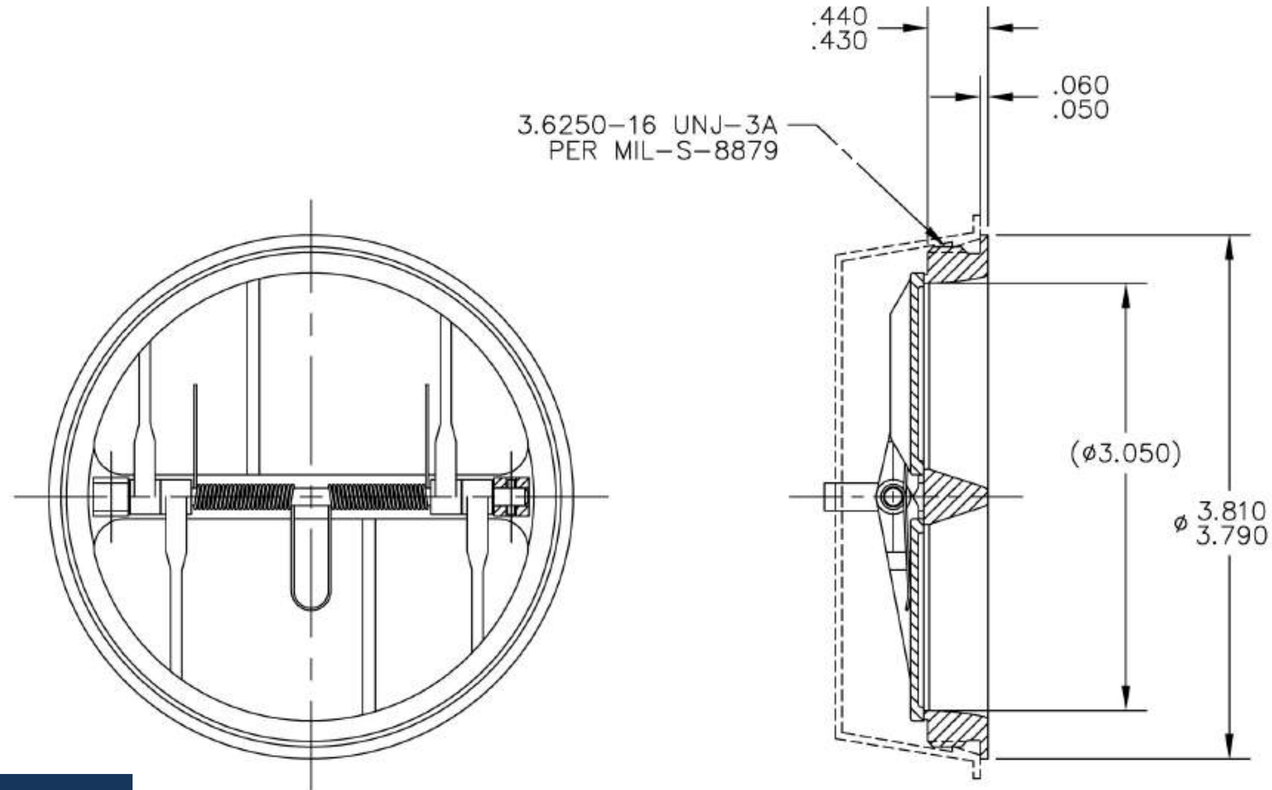
PROOF PRESSURE: 345.3 PSIG

CRACKING PRESSURE: 0.2 PSIG MAX

FLOW: 125 LB/MIN AT 0.6 PSID (REF) WITH 180 PSIA INLET AND 470°F

INTERNAL LEAKAGE: 0.1 LB/MIN MAX AT 180 PSIG

WEIGHT: 0.65 LBS MAX



PART NUMBER: 2S7676, CHECK VALVE

PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 347 CRES

FLAPPER 347 CRES

TEMPERATURE RANGE: -65°F TO 1215°F

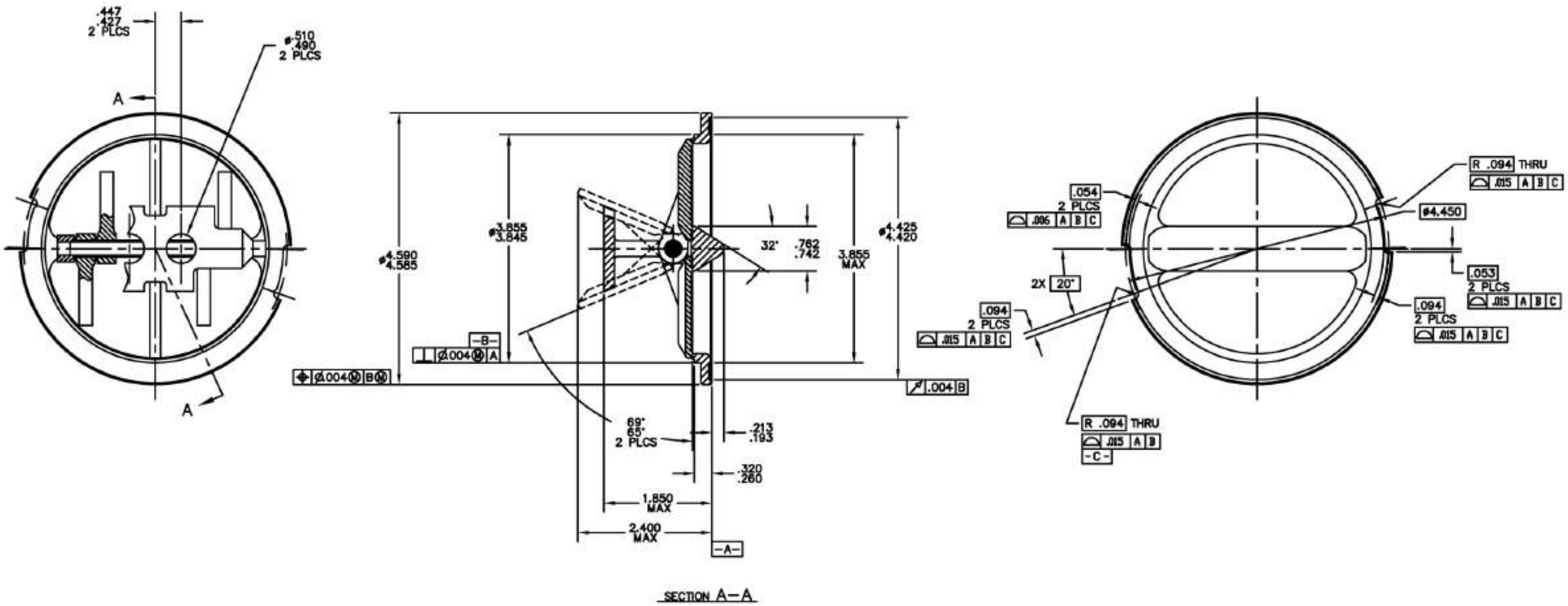
OPERATING PRESSURE: 225 PSIG

PROOF PRESSURE: 248 PSIG

CRACKING PRESSURE: 2” H_20 MAX

INTERNAL LEAKAGE: 0.25 LB/MIN MAX AT 70 TO 225 PSIG AND 80°F

PART NUMBER: 2S7678, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE: 500°F MAX

OPERATING PRESSURE: 73 PSIG

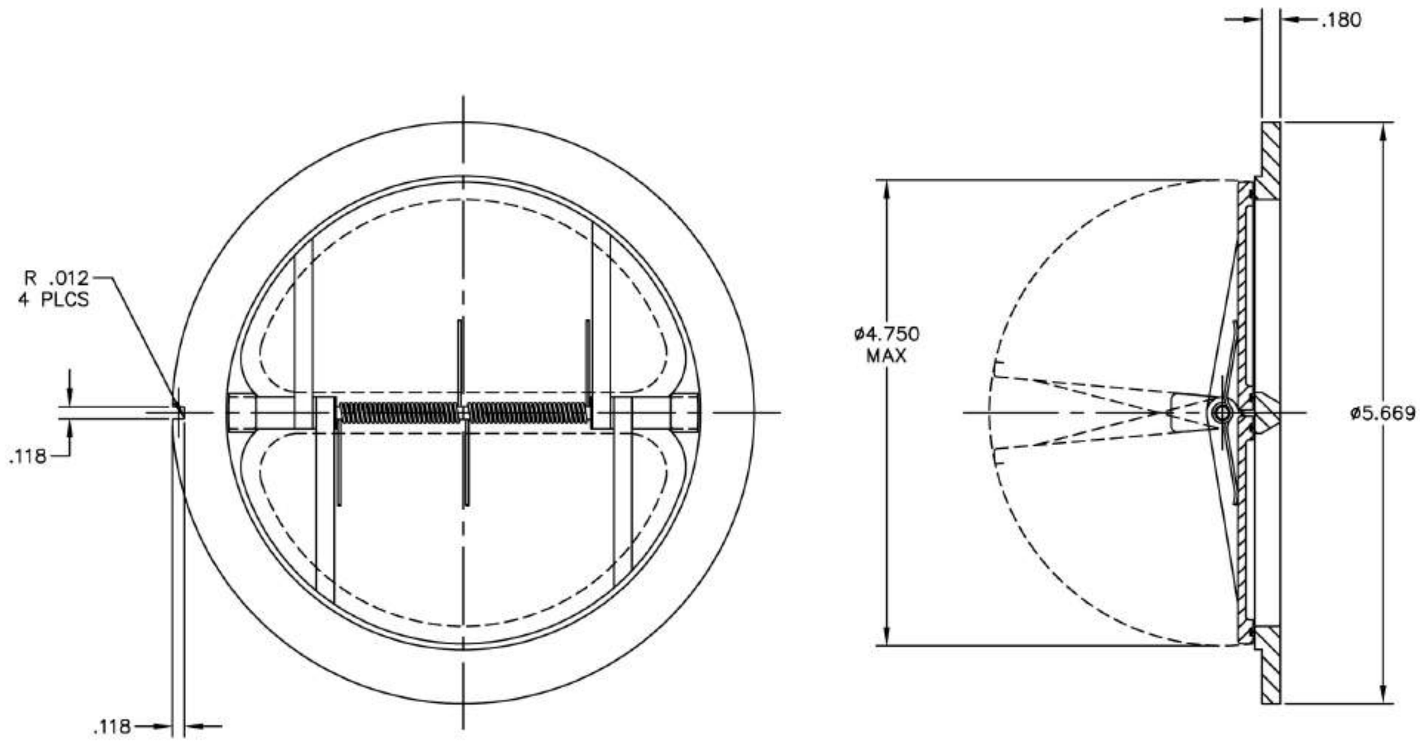
PROOF PRESSURE: 190 PSIG

FLOW: 162 LB/MIN AT 2 PSID MAX WITH 53 PSIA INLET AND 426°F

INTERNAL LEAKAGE: 0.2 LB/MIN MAX AT 70 PSIG AND 80°F

WEIGHT: 1.6 LBS MAX

PART NUMBER: 2S7676, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: JP-4, JP-5 PER MIL-T-5624, JP-8 PER MIL-T-83133, JET A, JET A-1, JET-B

MATERIAL: BODY 15-5PH CRES

FLAPPER 15-5PH CRES

TEMPERATURE RANGE: -85°F TO 140°F

OPERATING PRESSURE: 0 TO 120 PSIG

PROOF PRESSURE: 180 PSIG (CHECKED DIRECTION)

240 PSIG (OPENED DIRECTION)

CRACKING PRESSURE: 0.3 PSID MAX

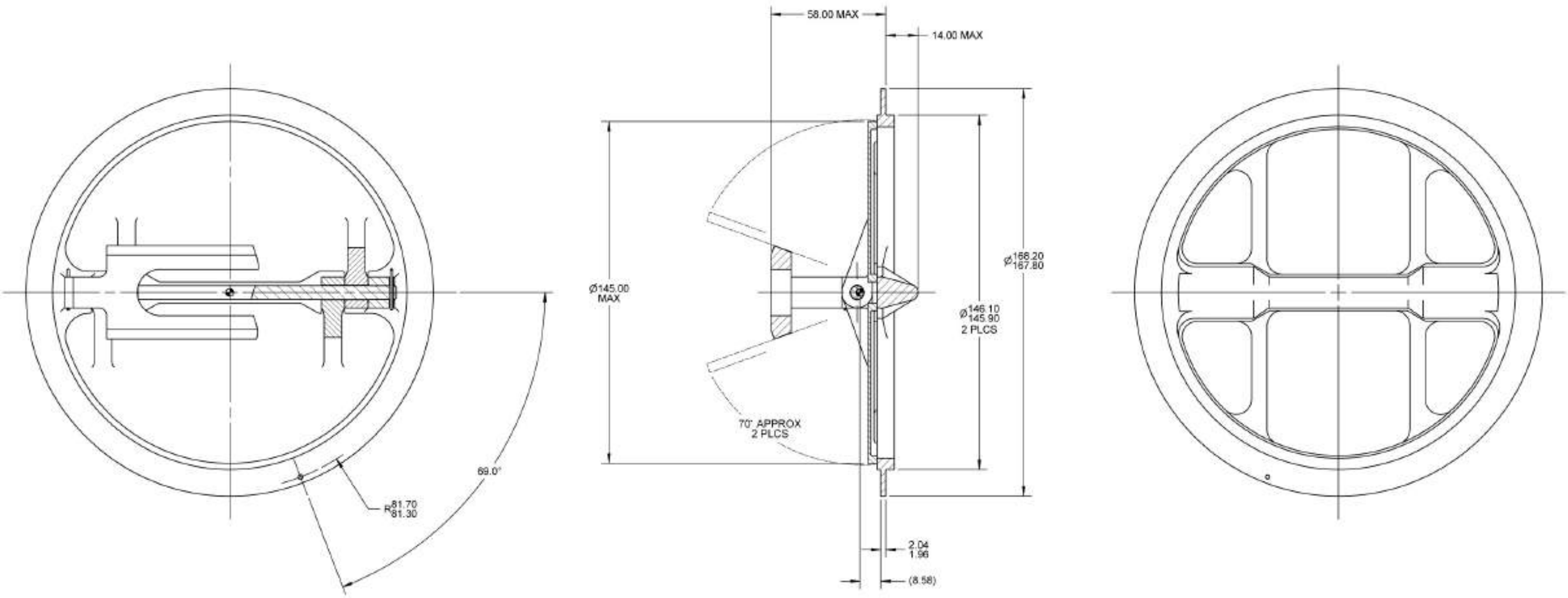
FLOW: 630 GPM AT 1.82 PSID MAX

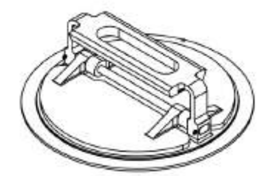
INTERNAL LEAKAGE: 10 DPM FROM NONE TO 120 PSID

WEIGHT: 1.9 LBS MAX

CRISSAIR INC.

PART NUMBER: 2S7138, CHECK VALVE





ISOMETRIC VIEW
FOR REFERENCE ONLY

PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY 17-4PH CRES

FLAPPER 17-4PH CRES

TEMPERATURE RANGE: -67°F TO 500°F

OPERATING PRESSURE: 59.4 PSIG

PROOF PRESSURE: 85.6 PSIG

CRACKING PRESSURE: 2" $H_2$0 MAX

FLOW: 7.06 LB/S AT 58.5 PSIG MAX AND 77°F

INTERNAL LEAKAGE: 0.0079 LB/S MAX AT 59.4 PSIG AND 77°F

WEIGHT: 2.1 LBS MAX

CATEGORY 1: SPLIT FLAPPER CHECK VALVES

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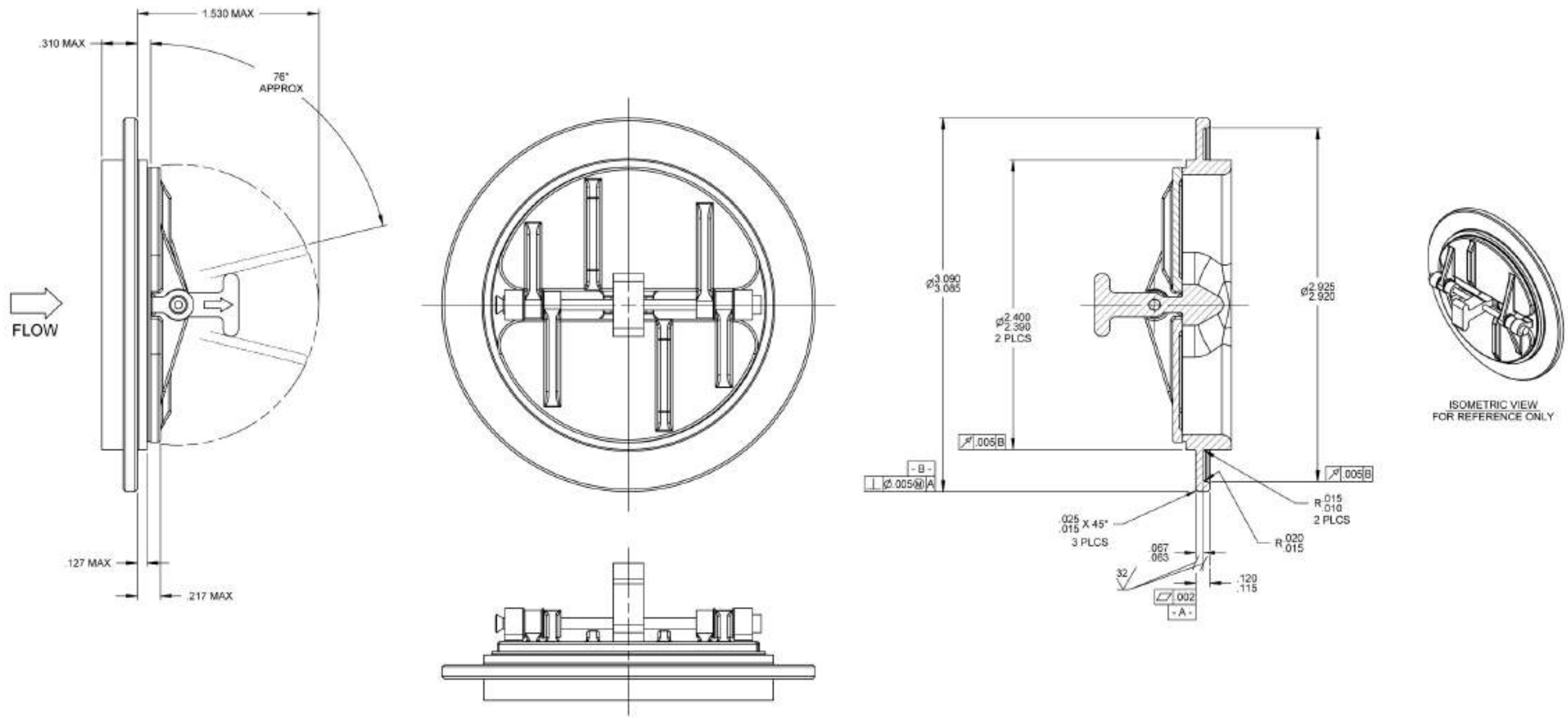
CRISSAIR INC.

PART NUMBER: 2S7692, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR

MATERIAL: BODY INCONEL 718
FLAPPER INCONEL 718

TEMPERATURE RANGE: -65°F TO 985°F

OPERATING PRESSURE: 115 PSIG (INLET)
82 PSIG (OUTLET)

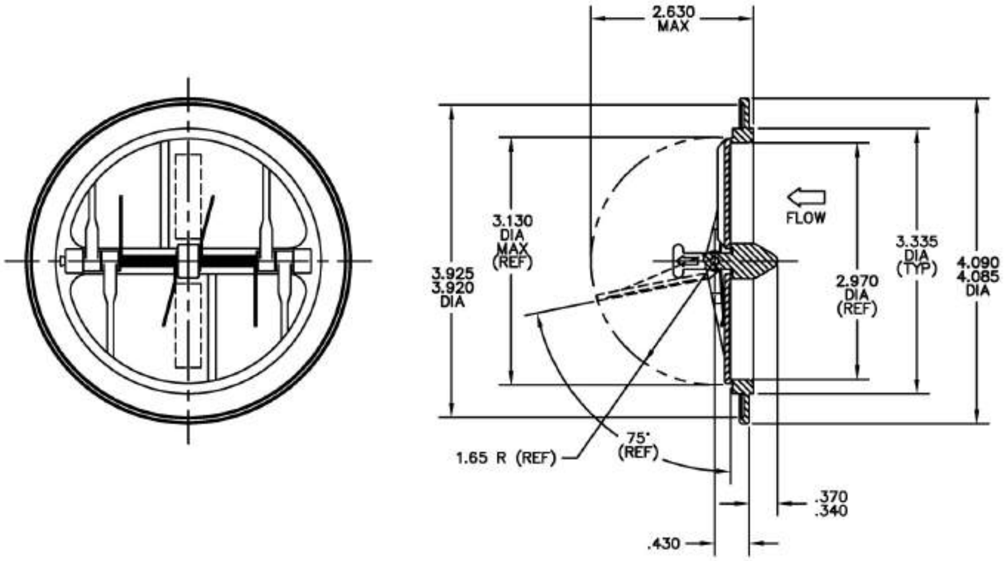
PROOF PRESSURE: 309.6 PSIG

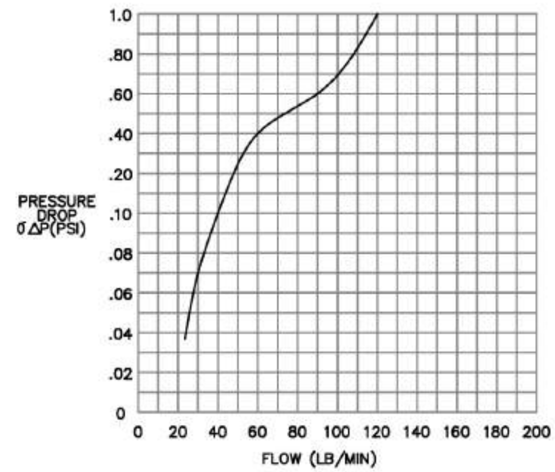
FLOW: 28.8 LB/MIN AT 0.4 PSIG MAX

INTERNAL LEAKAGE: 0.50 LB/MIN MAX FROM 0 TO 81 PSIG AND 80°F

WEIGHT: 0.37 LBS MAX

PART NUMBER: 2S7658-1, CHECK VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY INCONEL 718

FLAPPER INCONEL 718

TEMPERATURE RANGE: -65°F TO 1110°F

OPERATING PRESSURE: 25 TO 184 PSIG

PROOF PRESSURE: 457 PSIG

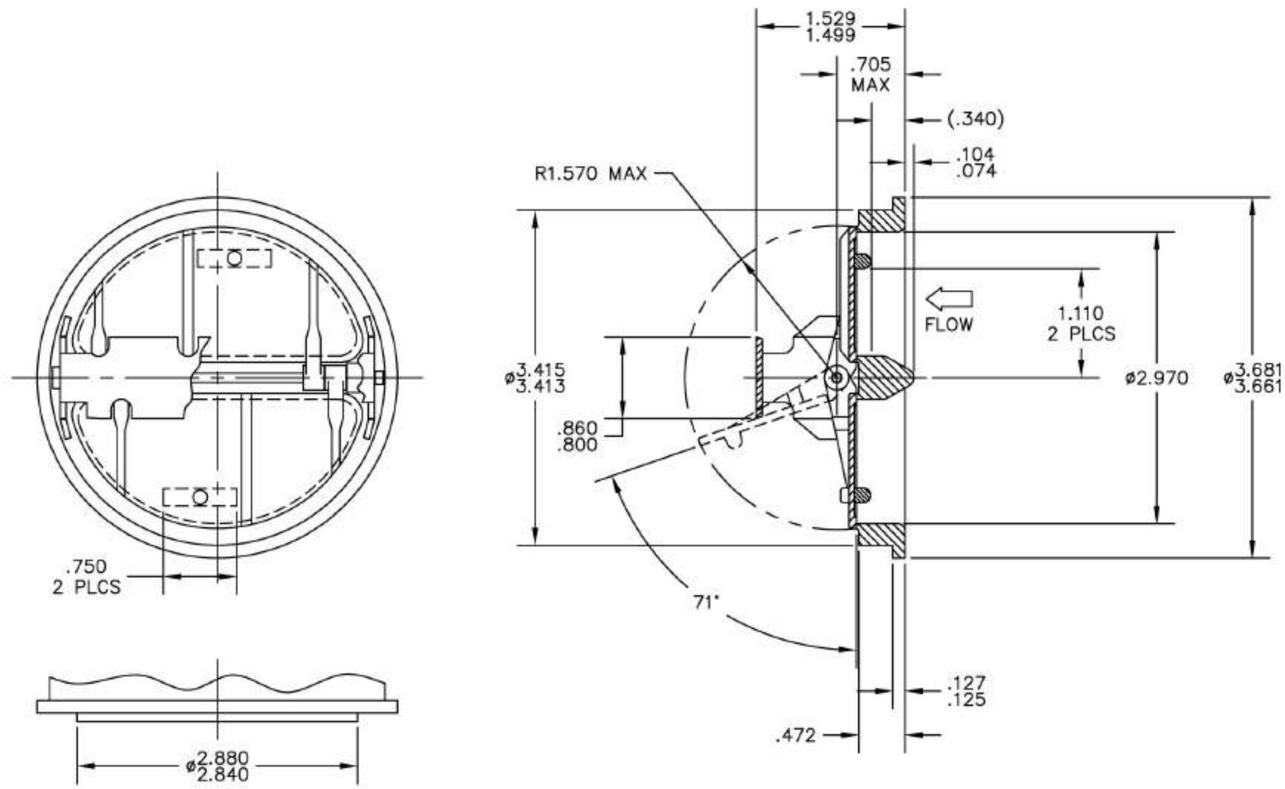
CRACKING PRESSURE: 1” $H_2$0 MAX

FLOW: SEE CHART

INTERNAL LEAKAGE: 0.35 LB/MIN MAX AT 110 PSIG AT 80°F

WEIGHT: 0.65 LBS MAX

PART NUMBER: 2S7680, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY INCONEL 718

FLAPPER INCONEL 718

TEMPERATURE RANGE: -65°F TO 1076°F

OPERATING PRESSURE: 72.5 PSIG

PROOF PRESSURE: 537 PSIG

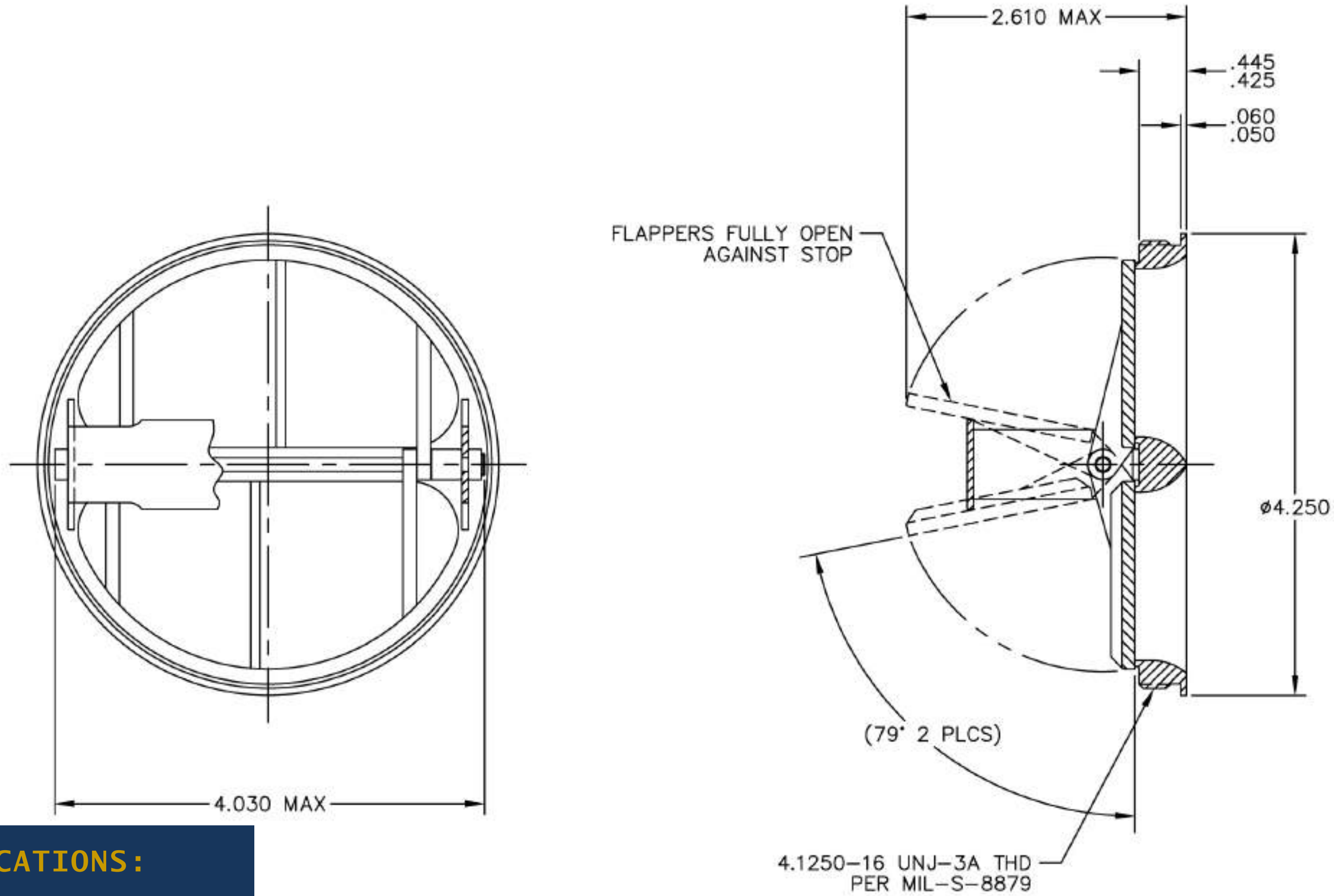
CRACKING PRESSURE: 1" $H_2$0 MAX

FLOW: 110 LB/MIN AT 1.60 PSID MAX WITH 58 PSIA INLET AND 387°F

INTERNAL LEAKAGE: 0.35 LB/MIN MAX AT 72.5 PSIG AND 1040°F

WEIGHT: 0.85 LBS MAX

PART NUMBER: 2S7662-1, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY N155 ALLOY

FLAPPER 347 CRES

TEMPERATURE RANGE: -65°F TO 1215°F

OPERATING PRESSURE: 70 TO 225 PSIG

PROOF PRESSURE: 248 PSIG

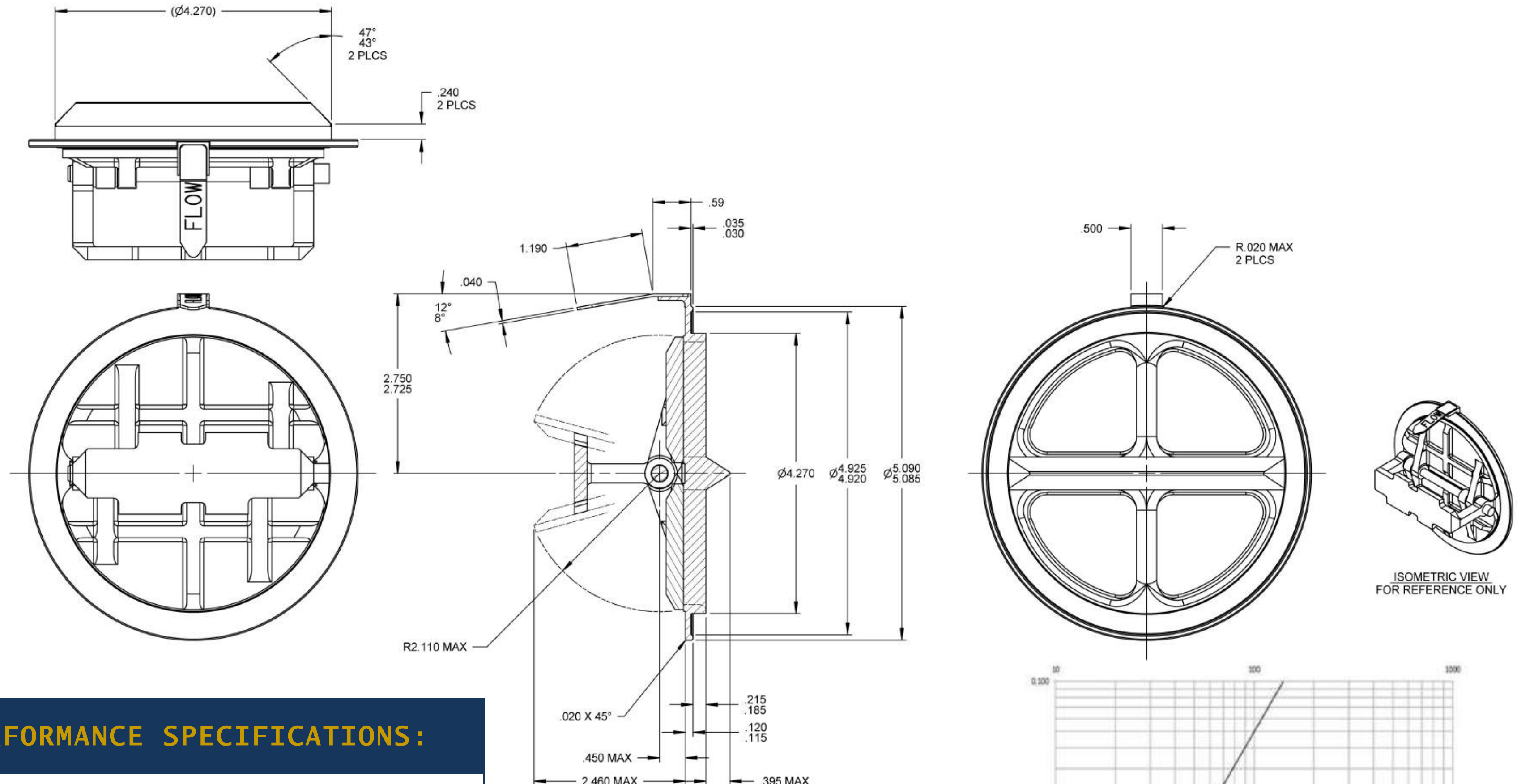
FLOW: 200 LB/MIN AT 5.78 PSID MAX WITH 29.7 PSIA INLET AND 200°F

INTERNAL LEAKAGE: 0.25 LB/MIN MAX FROM 70 TO 225 PSIG AND 80°F

WEIGHT: 1.20 LBS MAX

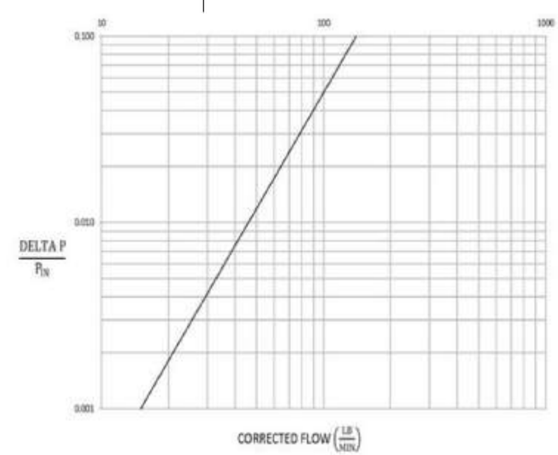
CRISSAIR INC.

PART NUMBER: 2S7710, CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR
MATERIAL: BODY INCONEL 718
FLAPPER INCONEL 718
TEMPERATURE RANGE: -65°F TO 1184°F
OPERATING PRESSURE: 171 PSIG
PROOF PRESSURE: 372 PSIG (FLOW DIRECTION)
352 PSIG (CHECKED DIRECTION)
CRACKING PRESSURE: 2” H_20 MAX
FLOW: SEE CHART
INTERNAL LEAKAGE: 0.30 LB/MIN MAX AT 219 PSIG AND 70°F
WEIGHT: 1.93 LBS MAX



MAXIMUM ALLOWABLE PRESSURE LOSS

CATEGORY 1: SPLIT FLAPPER CHECK VALVES

CRISSAIR INC.

CRISSAIR HAS HUNDREDS OF OTHER CHECK 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.

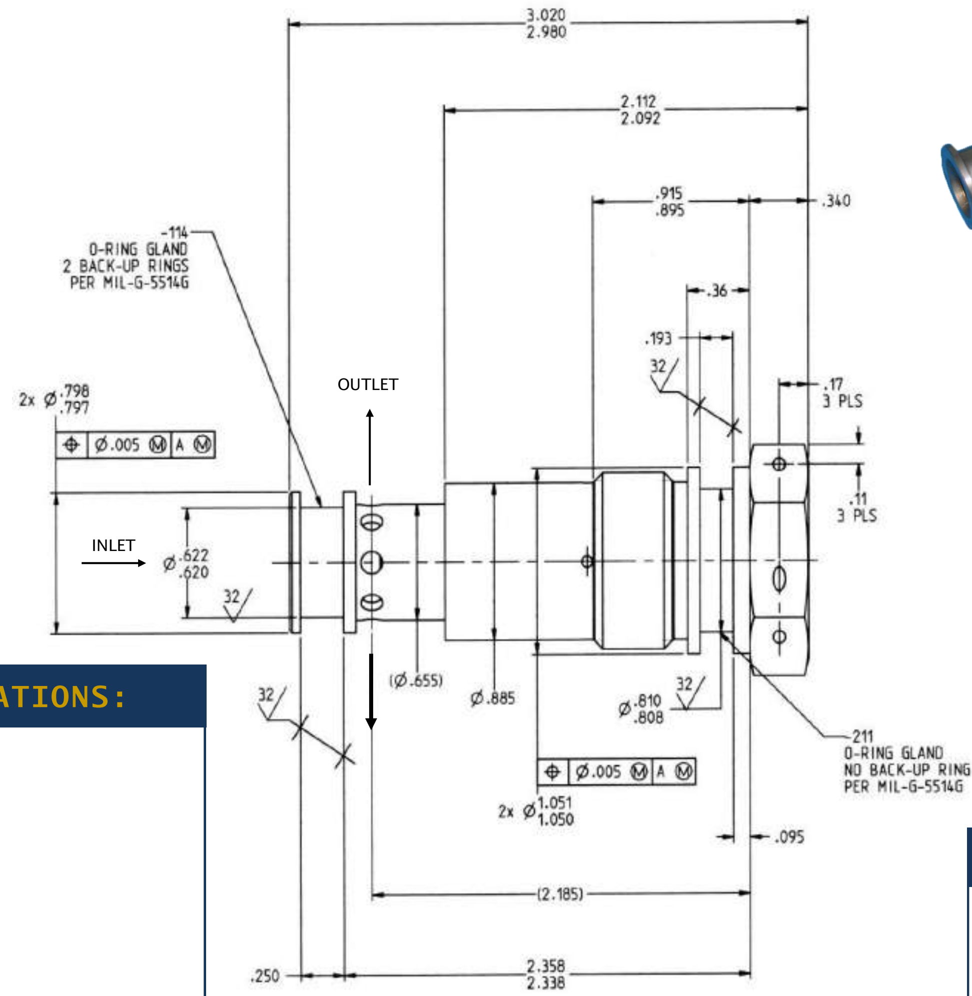
RELIEF VALVES

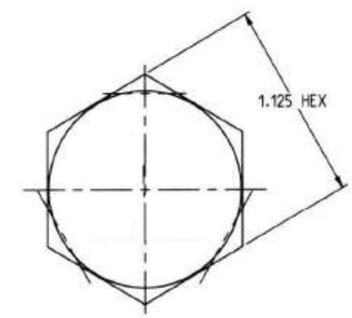
Crissair Inc. designs and manufactures Pilot Operated High Pressure Relief Valves and Direct Acting Relief Valves.

- Pilot Operated High Pressure Relief Valves offer very high flow rates and low leakage rates with a tight window (steep performance curve) between cracking pressure, full flow pressure, and reseat pressure; utilizing relatively small packages.
- Direct Acting Relief Valves are less complex and more suitable for systems with lower pressures (less than 3000 PSI) or high pressure systems with larger envelope availability and larger window between cracking pressure, full flow pressure, and reseat pressure.

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

PART NUMBER: 4R0062 SYSTEM PRESSURE RELIEF VALVE





PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: HOUSING 6061-T6/CF AL

SEAT / POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 3400—3600 PSID*

FLOW: 3800 PSID MAX AT 63 GPM*

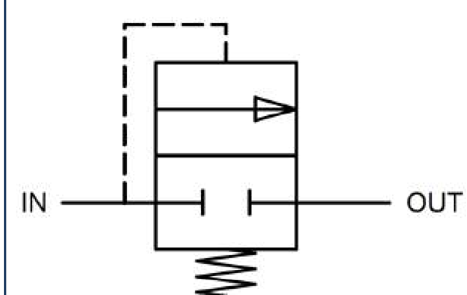
RESEAT: 3300 PSID MINIMUM*

INTERNAL LEAKAGE: 10 CC/MIN MAXIMUM AT 3000 PSID

WEIGHT: 0.240 LBS MAX

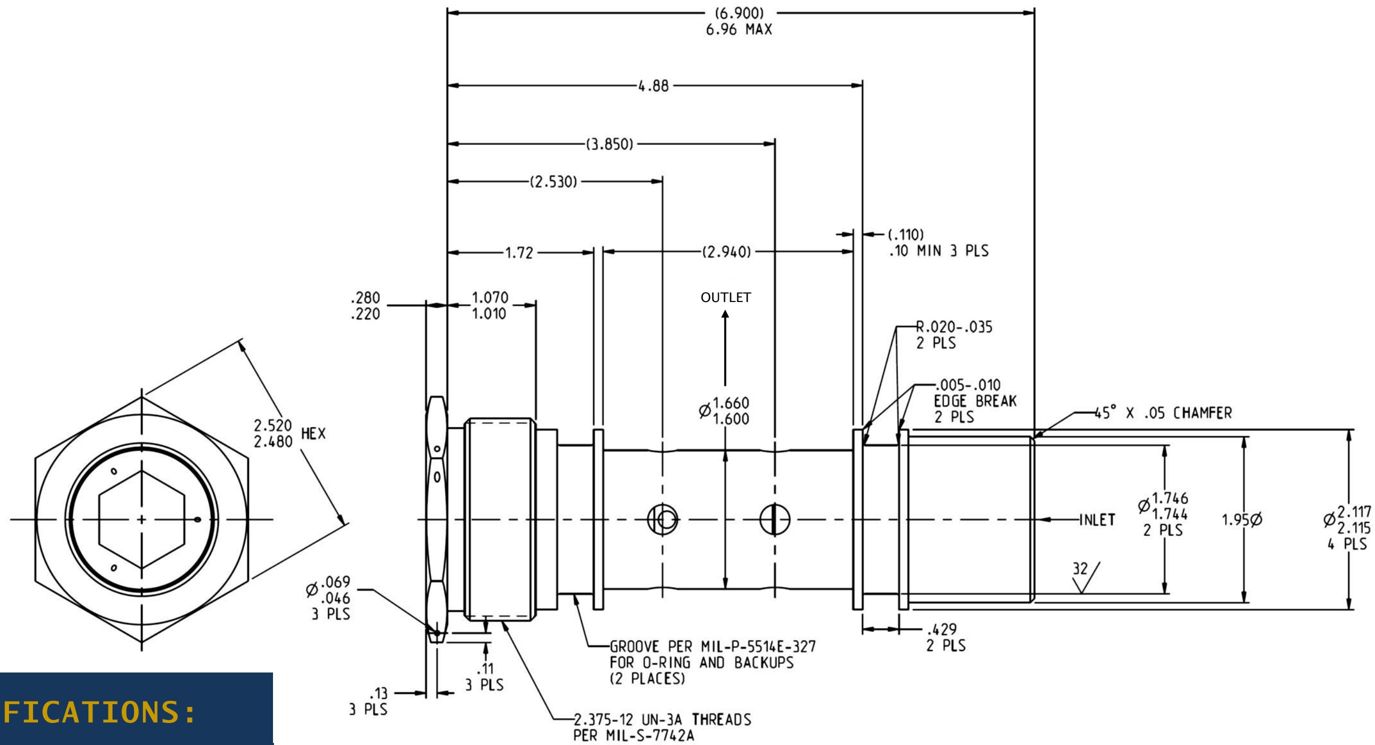
*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, HIGH PRESSURE, PILOT OPERATED

PART NUMBER: 4R0064 SYSTEM PRESSURE RELIEF VALVE/CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: HOUSING 6061-T6/CF AL

SEAT / POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE (RELIEF): 3450 TO 3650 PSID*

FLOW (RELIEF): 3850 PSID MAX AT 40 GPM*

RESEAT (RELIEF): 3350 PSID MINIMUM*

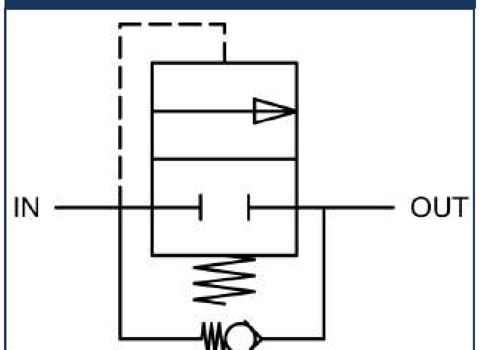
INTERNAL LEAKAGE: 10 CC/MIN MAX AT 3000 PSID

REVERSE FLOW (CHECK VALVE): 500 PSID MAX @ 40 GPM

WEIGHT: 2.20 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, HIGH PRESSURE, PILOT OPERATED

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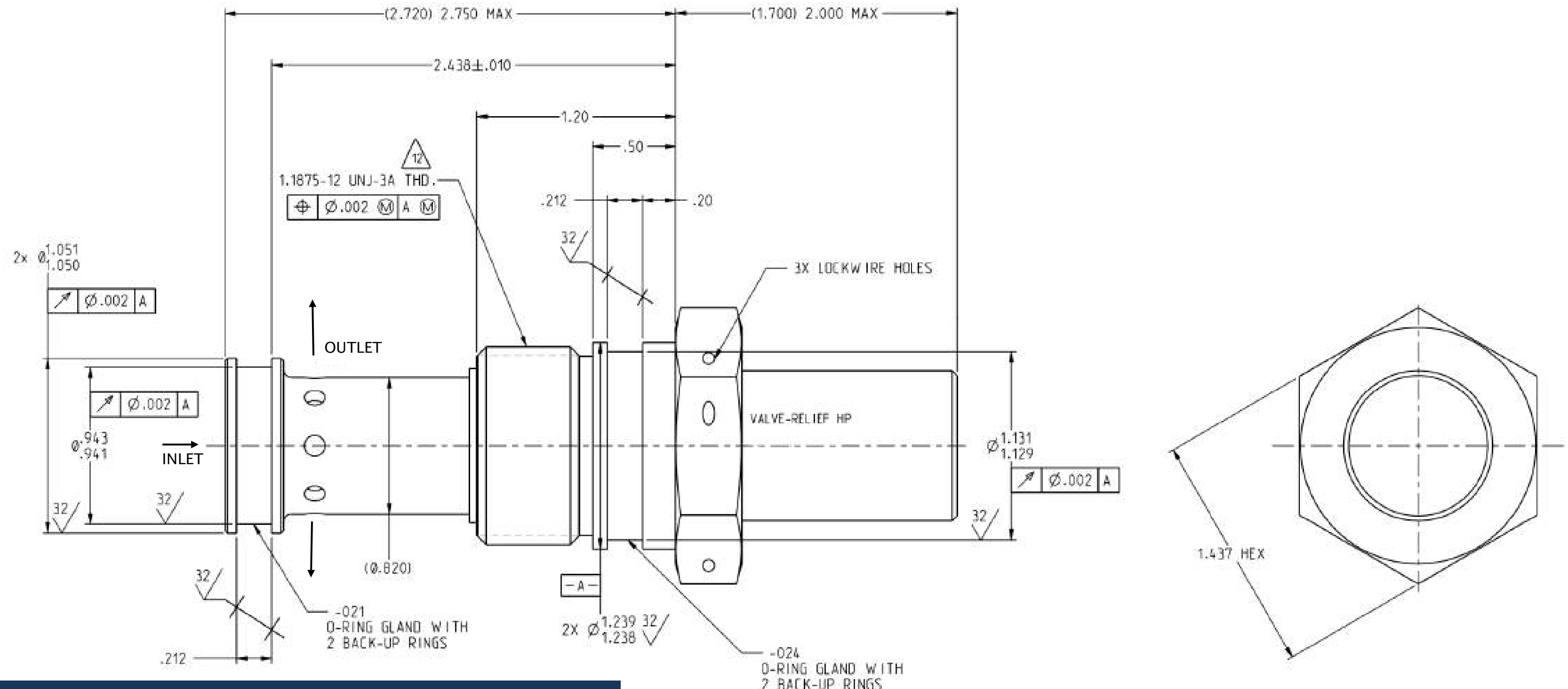
PART NUMBER: 4R0066 SYSTEM PRESSURE RELIEF VALVE

CRISSAIR INC.



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: HOUSING 17-4 PH

SEAT / POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 5000 PSIG MINIMUM

PROOF PRESSURE: 7500 PSIG MINIMUM

CRACKING PRESSURE: 5650 PSID MINIMUM*

FLOW: 56 GPM MINIMUM AT 6150 PSID MAXIMUM*

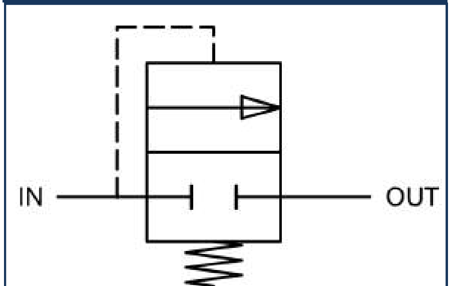
RESEAT: 5400 PSID MINIMUM*

INTERNAL LEAKAGE: 10 CC/MIN MAXIMUM AT 5000 PSID

WEIGHT: 1.00 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, HIGH PRESSURE, PILOT OPERATED

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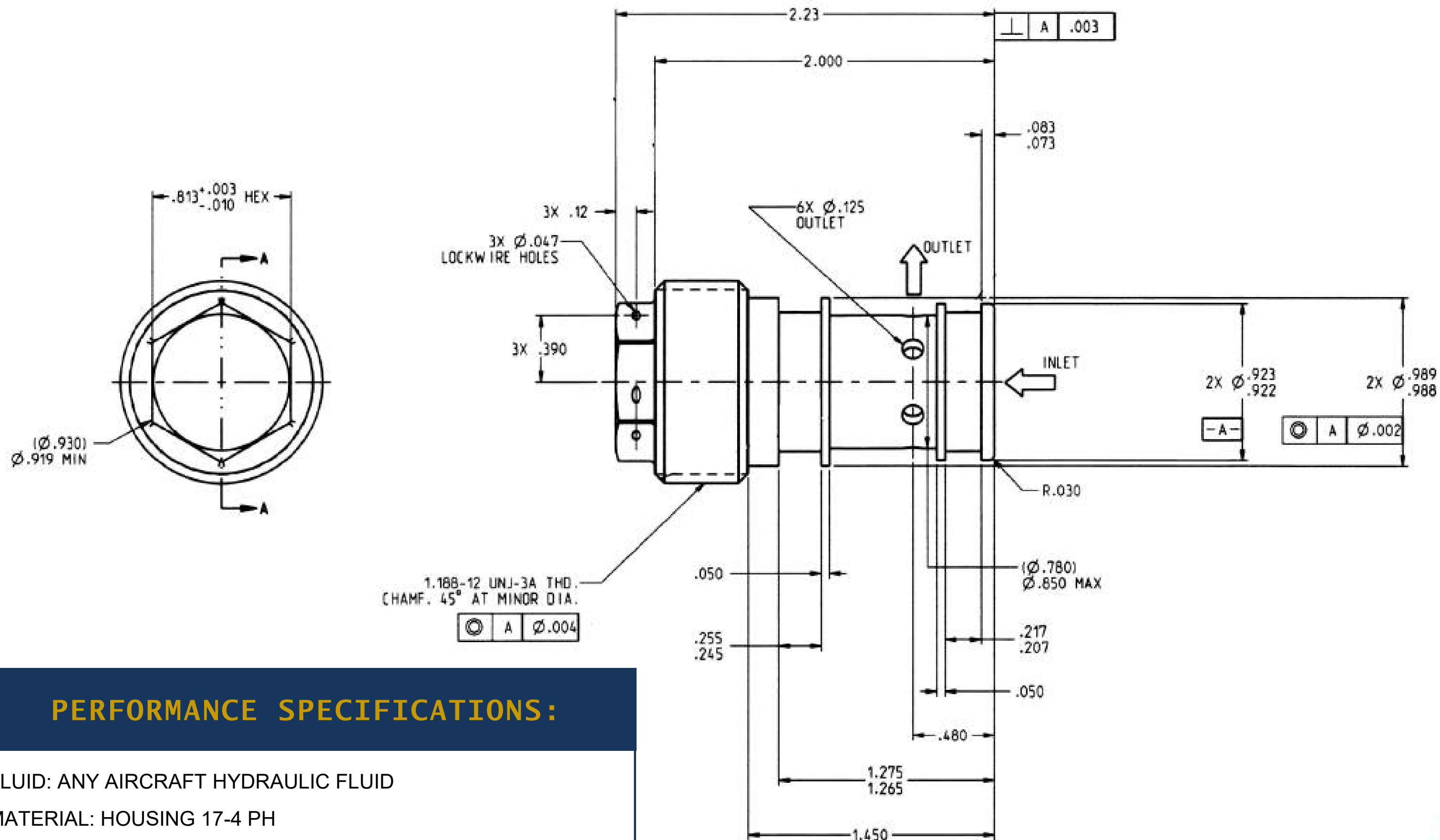
CRISSAIR INC.

PART NUMBER: 4R0068 SYSTEM PRESSURE RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: HOUSING 17-4 PH

SEAT / POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

PROOF PRESSURE: 6000 PSIG

CRACKING PRESSURE: 4200—4750 PSID*

FLOW: 38 GPM AT 4750 PSID MAXIMUM*

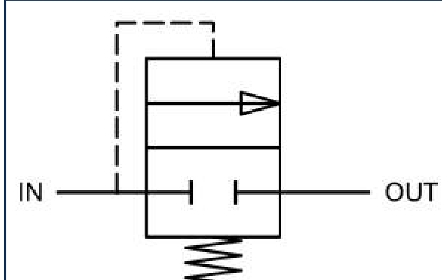
RESEAT: 4200 PSID MINIMUM*

INTERNAL LEAKAGE: 3 CC/MIN MAXIMUM AT 4000 PSID

WEIGHT: 0.35 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

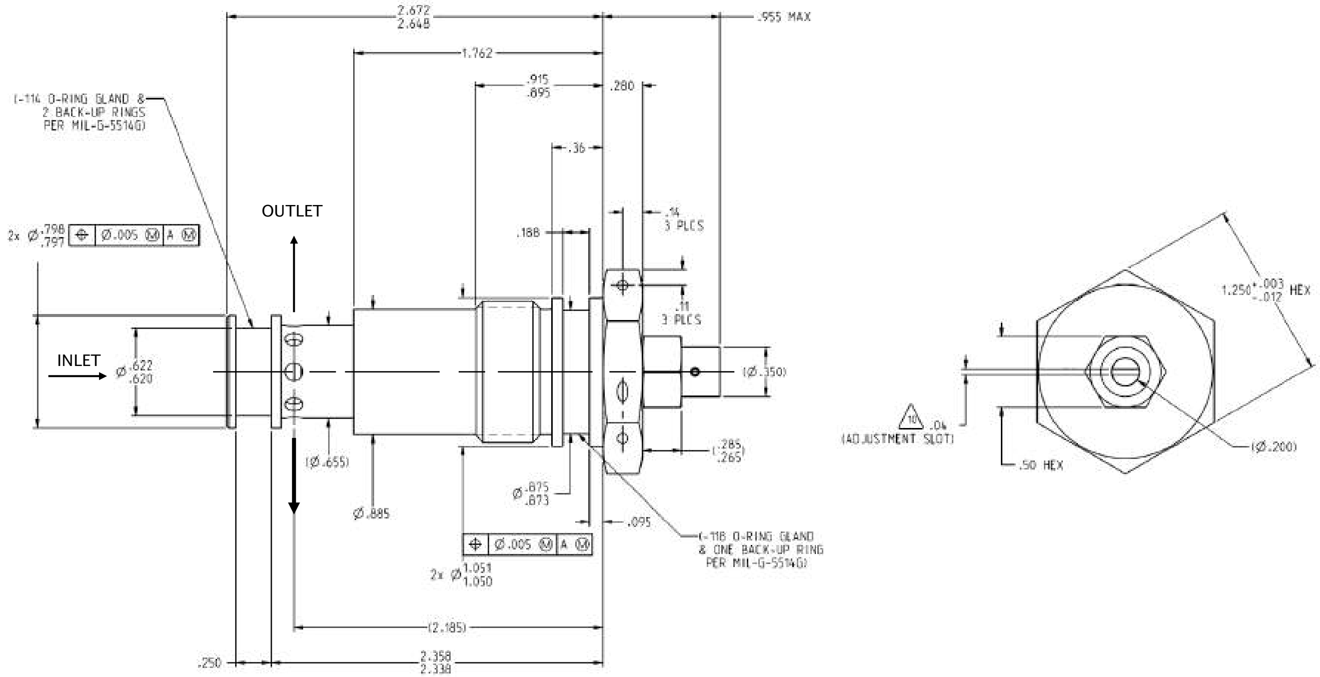
HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, HIGH PRESSURE, PILOT OPERATED

CRISSAIR INC.

PART NUMBER: 4R0060 SYSTEM PRESSURE RELIEF VALVE, ADJUSTABLE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC, LUBRICATION, OR FUEL FLUID

MATERIAL: HOUSING 15-5PH

POPPET 440C CRES

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 3200 PSIG MAX AT PRESSURE PORT AND 215 PSIG MAX AT RETURN PORT

PROOF PRESSURE: 4800 PSIG AT PRESSURE AND RETURN PORT

CRACKING PRESSURE: 3600 TO 3800 PSID*

FLOW: 72 GPM AT 3745 PSID MAX* (WITH RETURN PRESSURE BETWEEN 55 PSID TO 215 PSID)

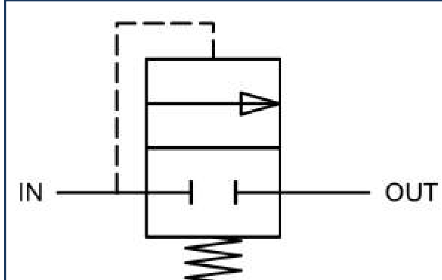
RESEAT: 3350 PSID MINIMUM AT 15 CC/MIN MAX)*

INTERNAL LEAKAGE: 15 CC/MIN MAX FROM 0 TO 3200 PSID AND FROM 3200 TO 0 PSID

WEIGHT: 0.50 LBS MAX

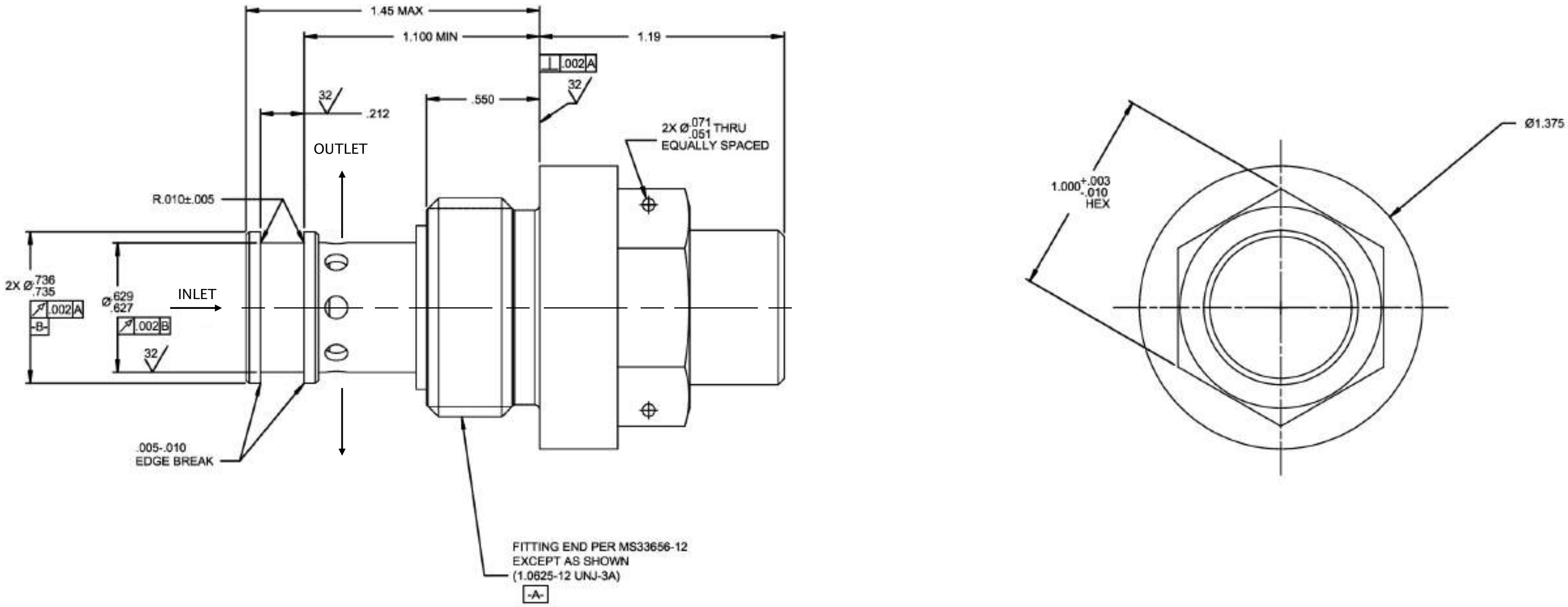
*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CRISSAIR INC.

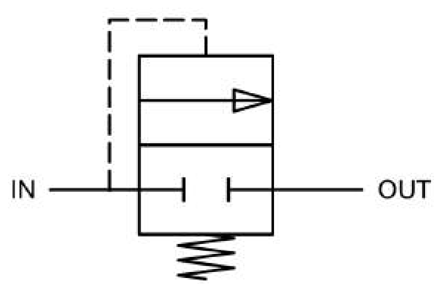
PART NUMBER: 4R0070 SYSTEM RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

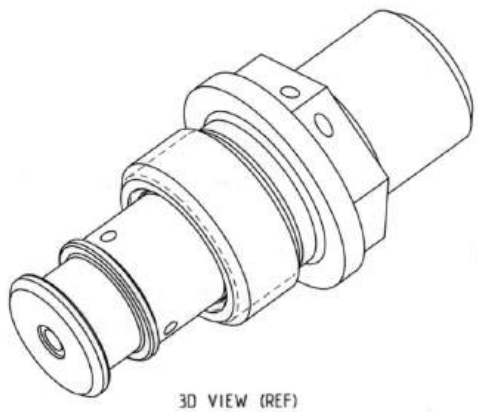
FLUID: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: HOUSING 2024 AL
BODY 15-5 PH
POPPET 440C CRES
TEMPERATURE RANGE: -40°F TO 275°F (FLUID)
-67°F TO 200°F (AMBIENT)
OPERATING PRESSURE: 3050 PSIG NOMINAL
PROOF PRESSURE: 4575 PSIG
CRACKING PRESSURE: 3640 PSID MAX AT 20 CC/MIN*
FLOW: 32.7 GPM 3640 PSID MAX*
RESEAT: 3200 PSIG MINIMUM AT 12 CC/MIN*
INTERNAL LEAKAGE: 4 CC/MIN MAX AT ANY DIFFERENTIAL PRESSURE
FROM 0 TO 3000 PSID
(FLUID TEMP UP TO 275°F)
WEIGHT: 0.50 LBS MAX
*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

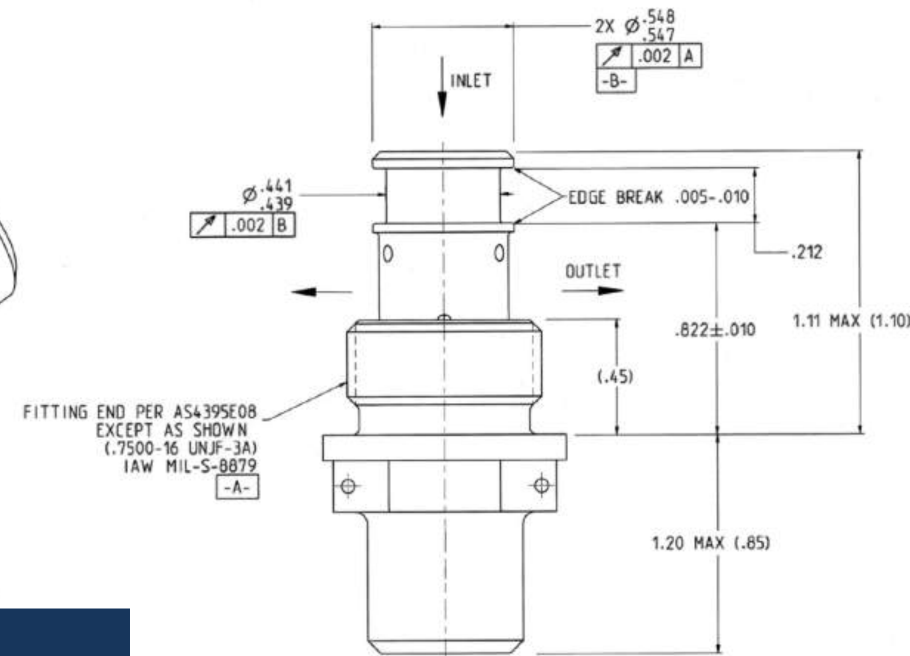
HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, PILOT OPERATED

PART NUMBER: 2R4878 RELIEF VALVE





PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: SEAT 440C CRES
POPPET PH13-8MO CRES
CAP 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 3425 ± 175 PSID*

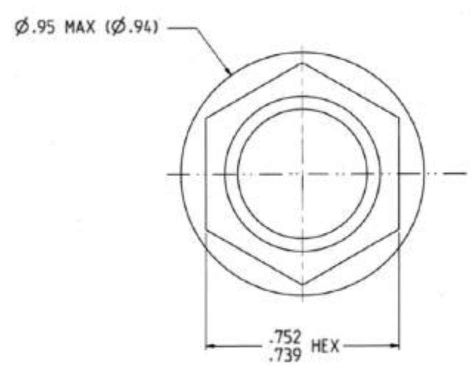
FLOW: 3.7 GPM AT 3600 PSID MAX*

RESEAT: 3250 PSID MIN*

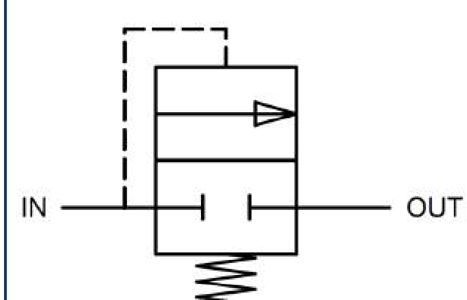
INTERNAL LEAKAGE: 4 CC/MIN MAX AT 0 TO 3000 PSID (INLET)
12 CC/MIN MAX AT 3000 TO 3250 PSID (INLET)
12 CC/MIN MAX AT 150 PSID (OUTLET)

WEIGHT: 0.165 LBS MAX

*CRACK, FLOW AND RESEAT CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING



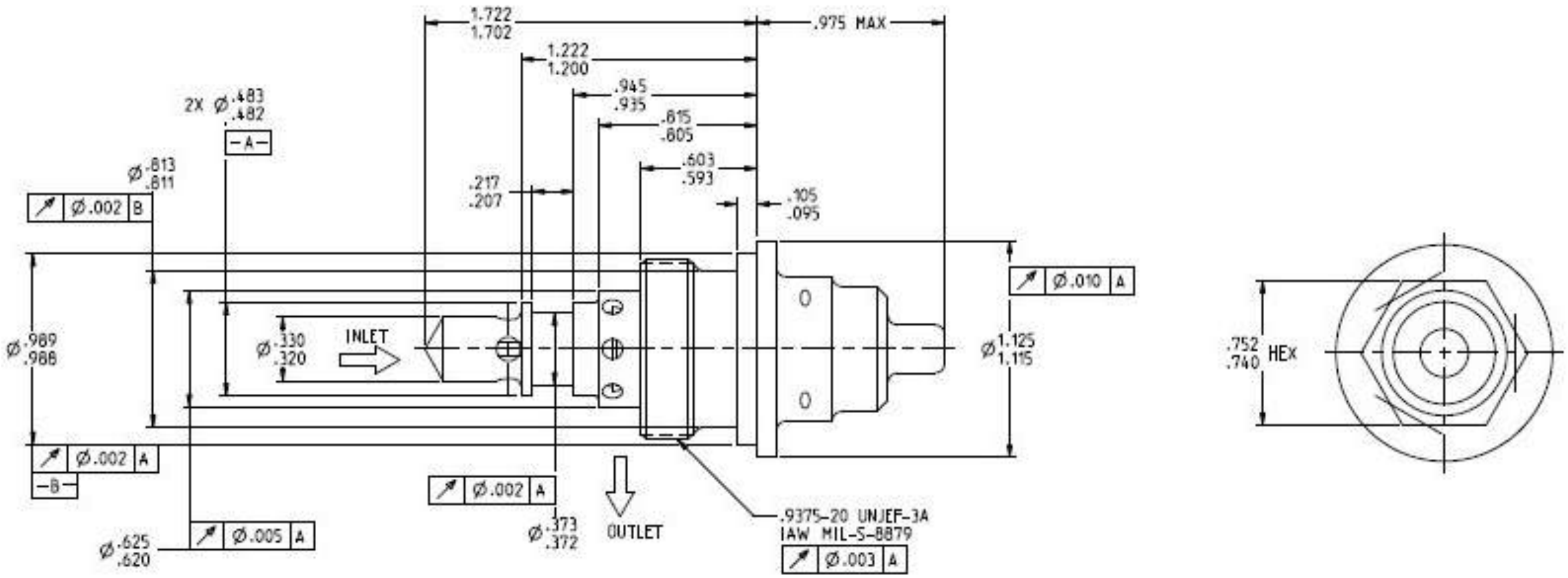
HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES

CRISSAIR INC.

PART NUMBER: 4R0058 PRESSURE RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5 CRES

SEAT / POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

PROOF PRESSURE: 7500 PSIG

CRACKING PRESSURE: 6000 PSID*

FLOW: 5 GPM MINIMUM AT 6650 PSID MAXIMUM*

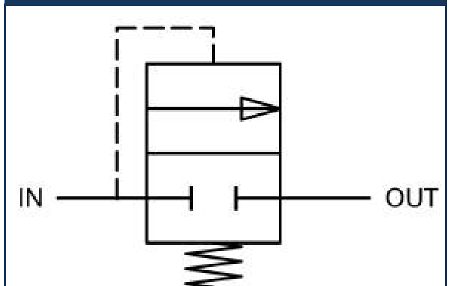
RESEAT: 5800 PSID MINIMUM*

INTERNAL LEAKAGE: INCREASING—2 DPM MAXIMUM AT 5000 PSID
DECREASING—20 CC/MIN MAXIMUM AT 5800 PSID

WEIGHT: 0.20 LBS MAX.

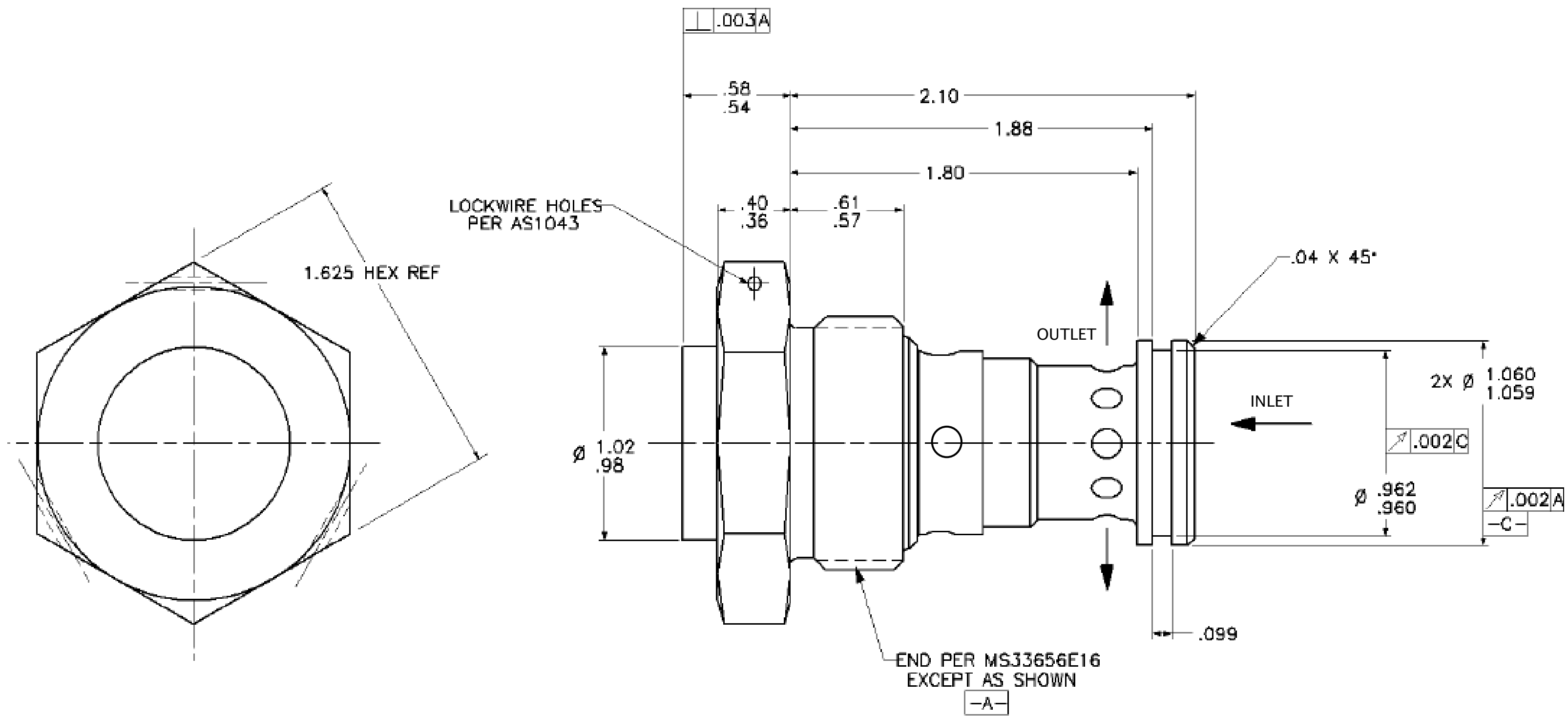
*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

PART NUMBER: 2R4858 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC, LUBRICATION OR FUEL FLUID

MATERIAL: HOUSING 2024-T351 AL

POPPET 15-5 PH CRES

TEMPERATURE RANGE: -65°F TO 400°F

PROOF PRESSURE: 710 PSIG

CRACKING PRESSURE: 480 PSID MINIMUM*

FLOW: 36 GPM AT 635 PSID MAX*

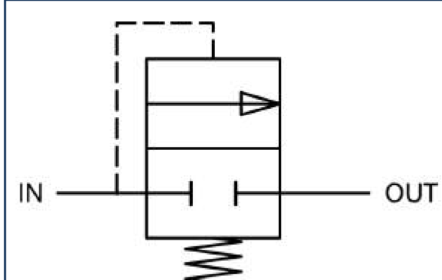
RESEAT: 480 PSID MINIMUM*

INTERNAL LEAKAGE: 300 CC/MIN MAX AT LESS THAN 480 PSID

WEIGHT: 0.35 LBS MAX

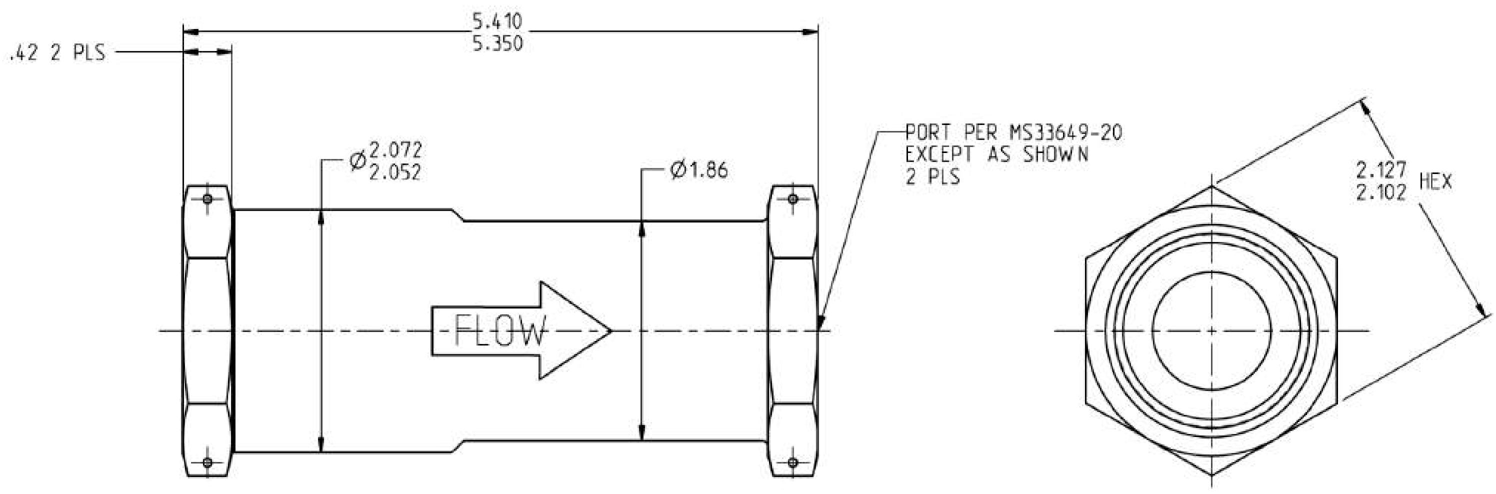
*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

PART NUMBER: 3R2384 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ETHYLENE GLYCOL/WATER

MATERIAL: BODY 6061-T6 AL

POPPET 6061-T6 AL

TEMPERATURE RANGE: -65 TO 185°F

PROOF PRESSURE: 185 PSIG

CRACKING PRESSURE: 83±4 PSID*

FLOW: 26 GPM AT 95 PSID MAX*

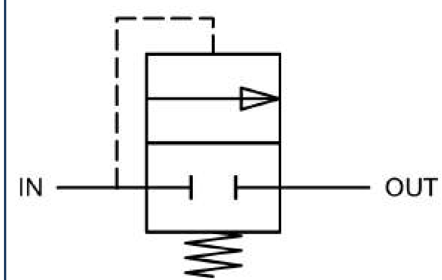
RESEAT: 75 PSID MINIMUM*

INTERNAL LEAKAGE: 0 DPM AT 70 PSID

WEIGHT: 0.88 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

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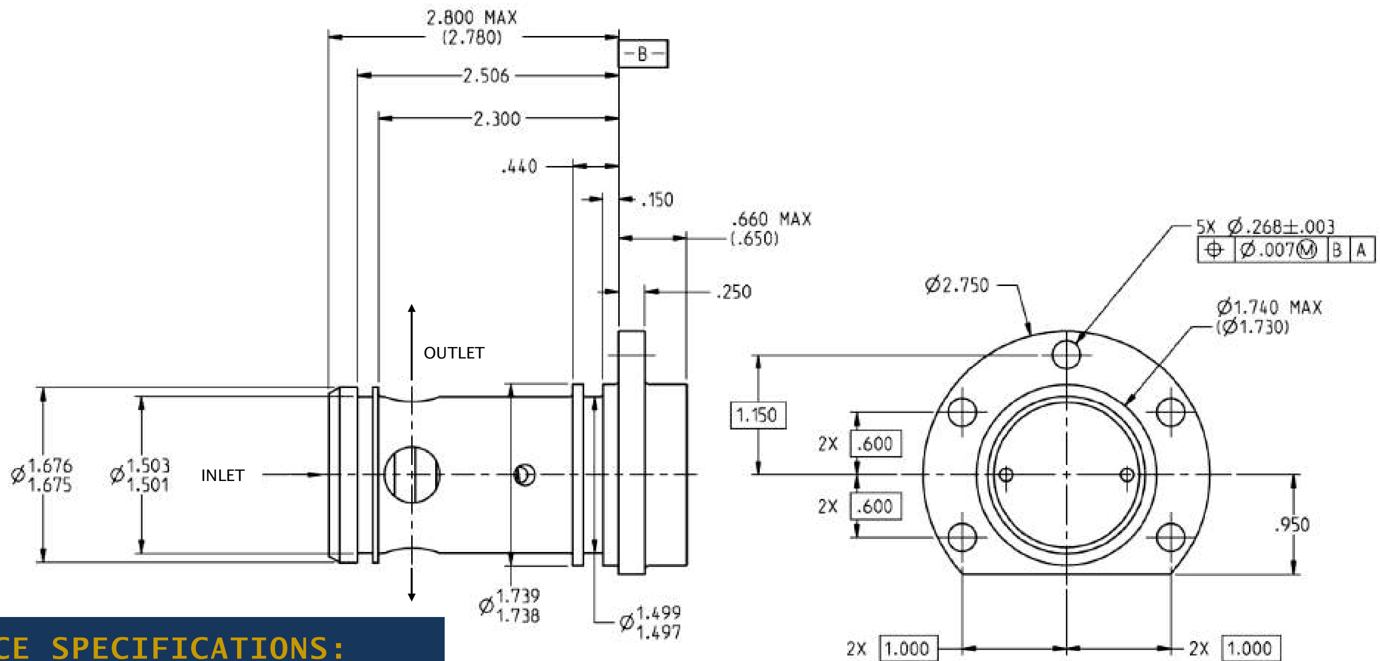
CRISSAIR INC.

PART NUMBER: 2R4876 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 2024-T851 AL

POPPET 440C CRES

TEMPERATURE RANGE: -65 TO 275°F

OPERATING PRESSURE: 1015 PSIG

PROOF PRESSURE: 1500 PSIG

CRACKING PRESSURE: 116 TO 130 PSID*

FLOW: 66 GPM AT 170 PSID MAX*

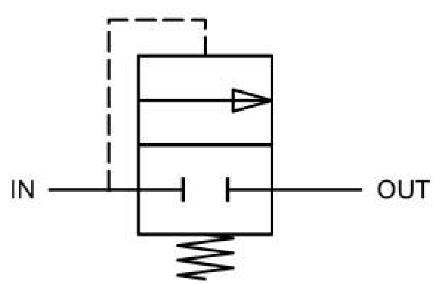
RESEAT: 94 PSID MINIMUM*

INTERNAL LEAKAGE (CHECKED): 1 DPM MAX AT 5 PSID
0 DPM AT 1015 PSID

WEIGHT: 0.74 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

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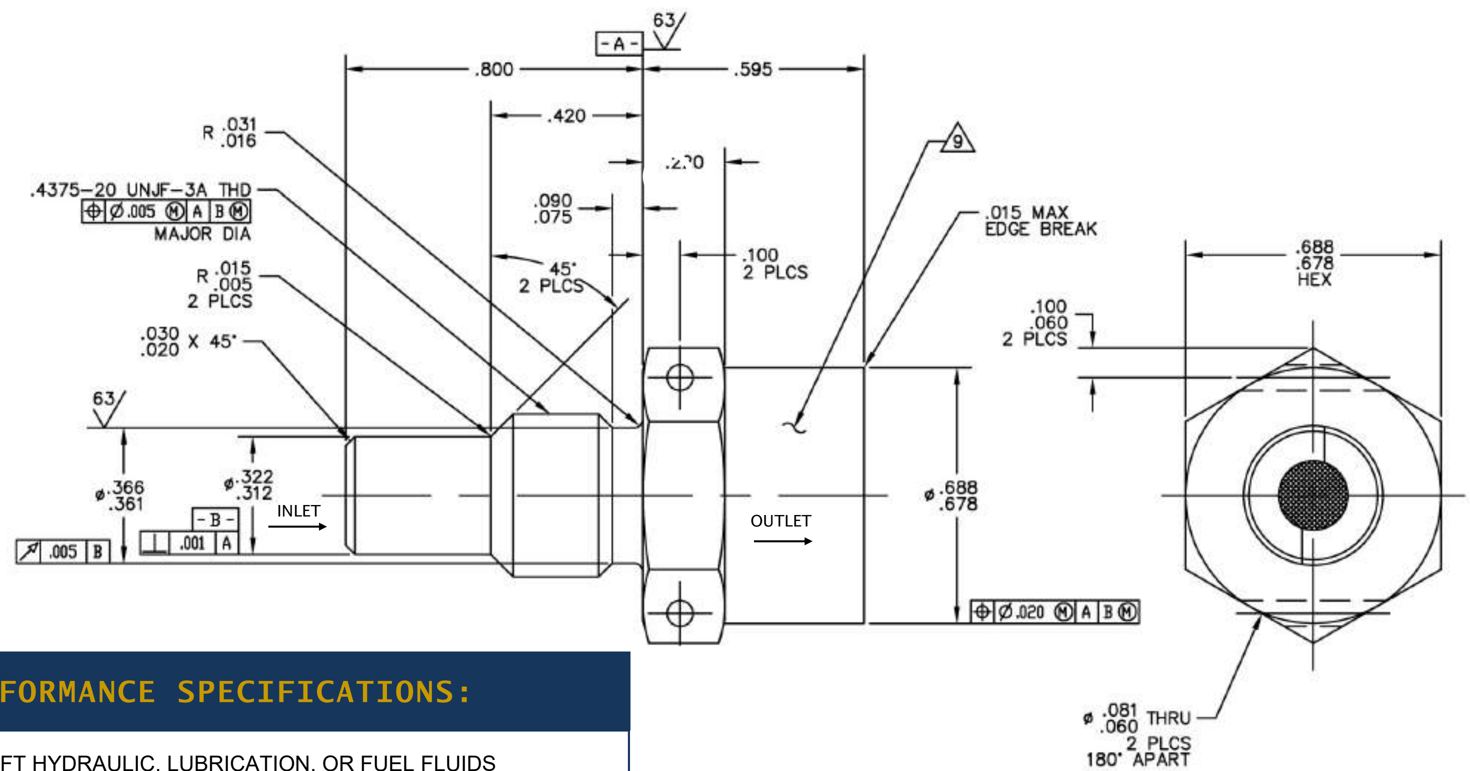
CRISSAIR INC.

PART NUMBER: 2R4862 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC, LUBRICATION, OR FUEL FLUIDS

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: –40°F TO 370°F

OPERATING PRESSURE: 5000 PSIG

PROOF PRESSURE: 7500 PSIG

CRACKING PRESSURE: 3460—3860 PSID*

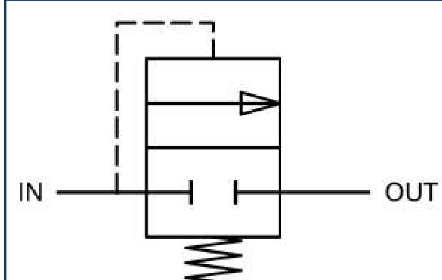
FLOW: .10 GPM AT 4800 PSID MAX AT 70°F TO 90°F*

RESEAT: 2660 PSID MIN*

INTERNAL LEAKAGE: INCREASING 1) NONE FROM 0 TO 2600 PSID
INCREASING 2) 3 DPM MAX FROM 2601 TO 3204 PSID
DECREASING 1) 3 DPM MAX AT 2660 PSID MIN (RESEAT)
DECREASING 2) 1 DPM MAX FROM 2660 TO 0 PSID

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

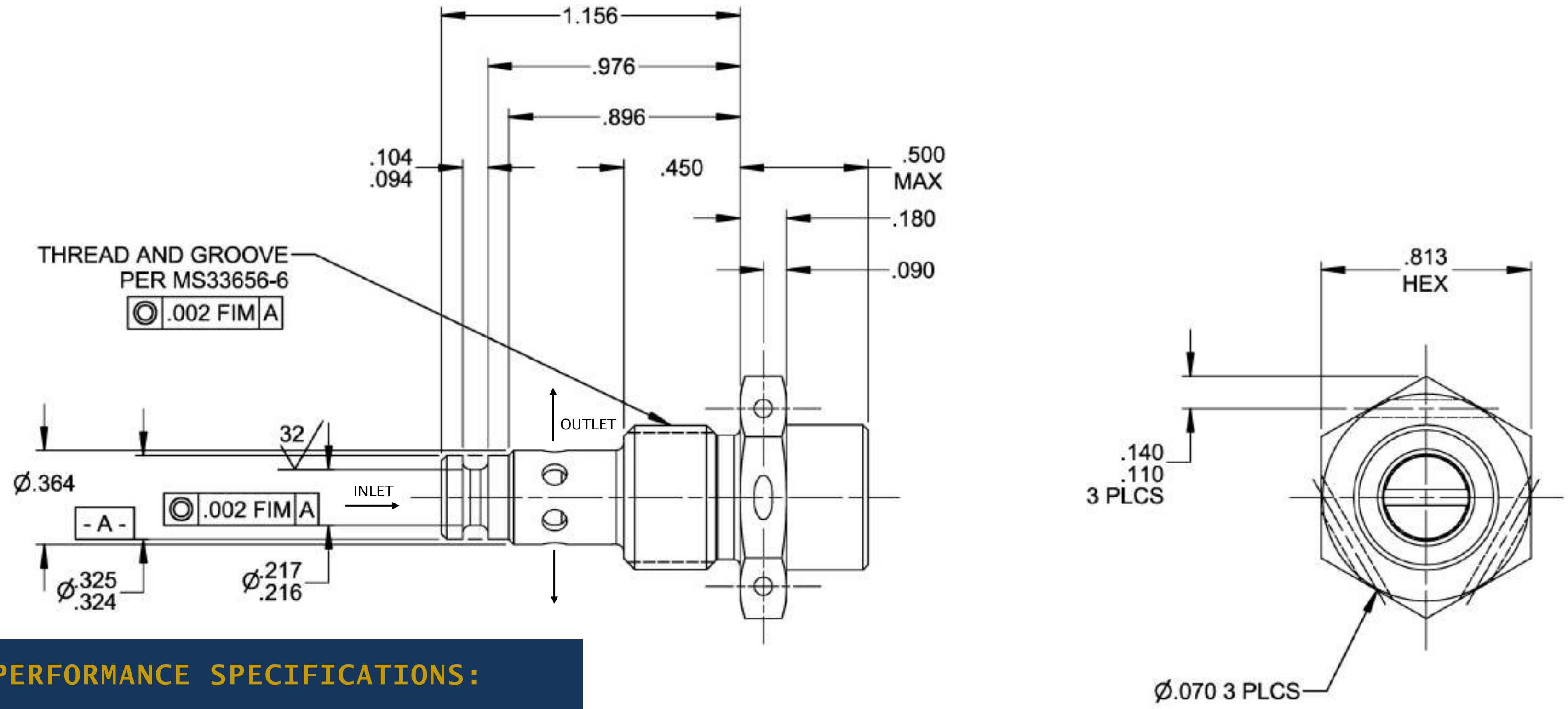
HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

CRISSAIR INC.

PART NUMBER: 2R3634-X RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 2024-T351 AL

POPPET 440C CRES

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: SEE TABULATION*

FLOW: .06 LIT/MIN AT 1200 PSID MAX*

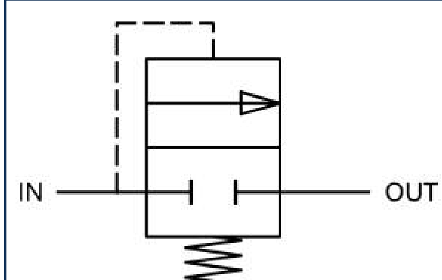
RESEAT: SEE TABULATION*

INTERNAL LEAKAGE: 1 CC/MIN MAX AT MINIMUM RESEAT PRESSURE ON DECREASING PRESSURE

WEIGHT: .035 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



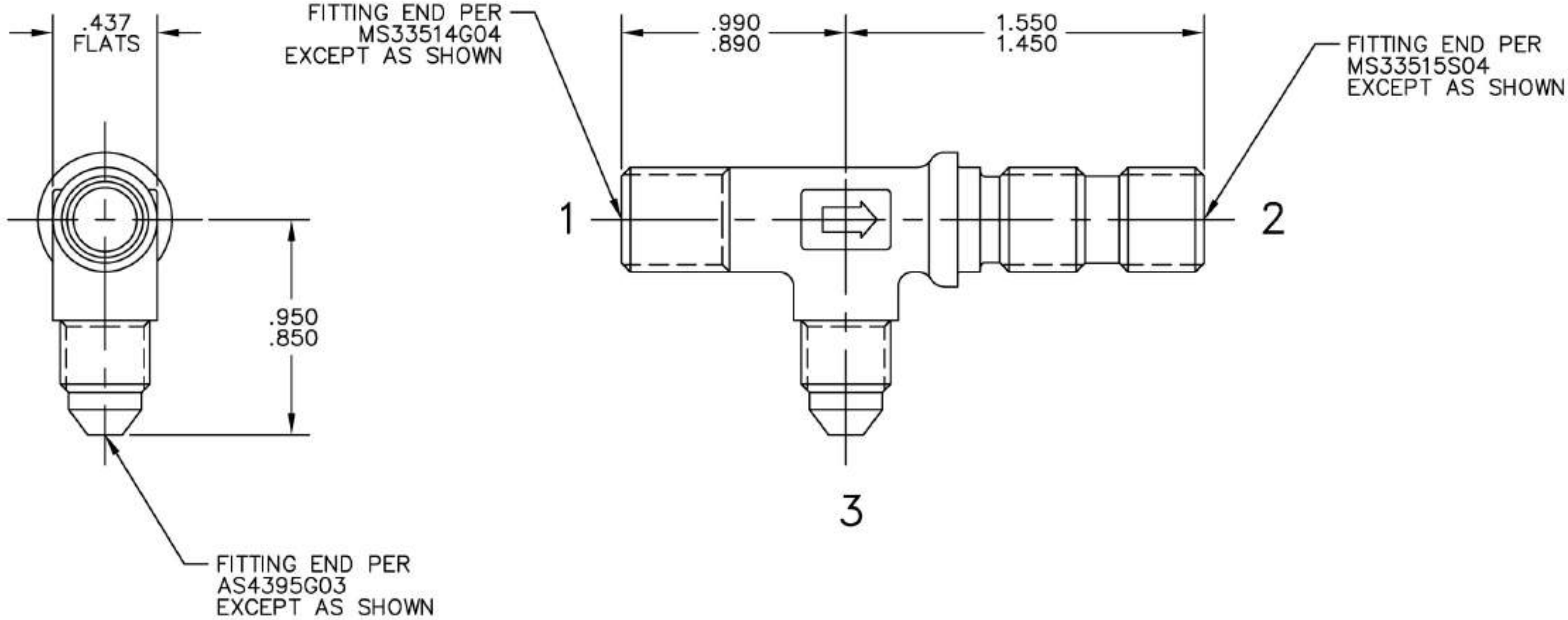
PART NO. OF TABULATION

DASH NO	CRACKING PRESSURE	RESEAT PRESSURE
-1	900 ± 100 PSID	720 PSID MIN
-2	1100 ± 100 PSID	720 PSID MIN
-3	250 ± 50 PSID	180 PSID MIN
-4	700 ± 50 PSID	560 PSID MIN
-5	180 ± 50 PSID	120 PSID MIN

CATEGORY 2: RELIEF VALVES, DIRECT ACTING

CRISSAIR INC.

PART NUMBER: 2R4864 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUIDS OR FUELS

MATERIAL: BODY 304 CRES
POPPET 440C CRES

TEMPERATURE RANGE: –65°F TO 400°F

OPERATING PRESSURE: 900 PSIG

PROOF PRESSURE: 2000 PSIG

CRACKING PRESSURE: 125 ± 10 PSID*

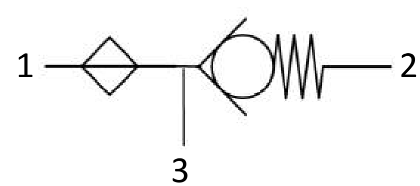
FLOW: 0.05 GPM MIN AT 135 PSID (PORT 1 TO PORT 2)*
0.5 GPM MIN AT 200 PSID (PORT 1 TO PORT 2)*

INTERNAL LEAKAGE: 20 DPM MAX AT 100 PSID
2 CC/MIN MAX AT 115 PSID

FILTER: SINTERED WOVEN MESH 40 MICRON NOMNINAL
60 MICRON ABSOLUTE

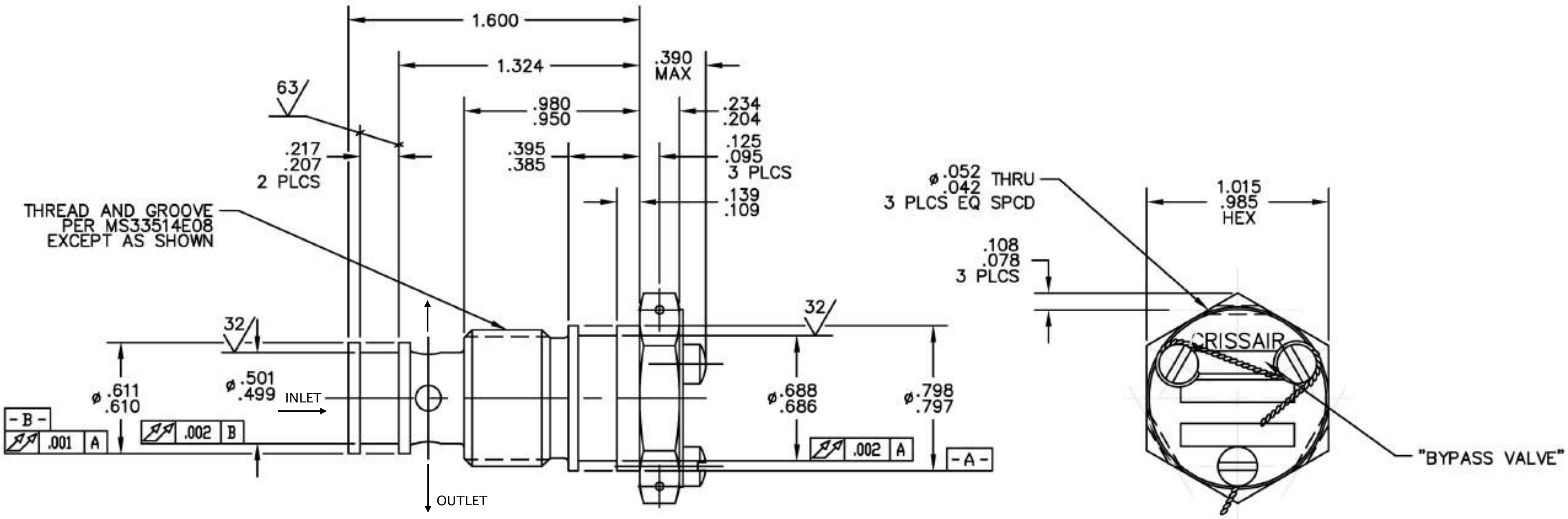
*CRACK AND FLOW CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

PART NUMBER: 2R4866 RELIEF VALVE, BYPASS



PERFORMANCE SPECIFICATIONS:

FLUID: HYDRAULIC FLUIDS PER MIL-H-5606

MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES

TEMPERATURE RANGE: FLUID: -67°F TO +230°F (NORMAL OPERATING)
AMBIENT: -67°F TO +158°F (NORMAL OPERATING)

OPERATING PRESSURE: 1550 PSIG

PROOF PRESSURE: 3100 PSIG

CRACKING PRESSURE: 21 TO 25 PSID*

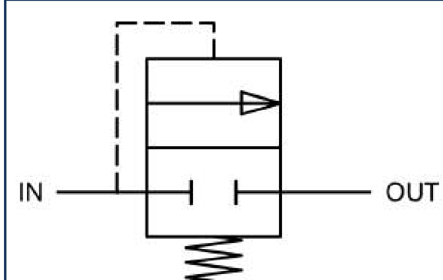
FLOW: 1.0 GPM AT 32 PSID MAX AND 90°F ± 10°F*

INTERNAL LEAKAGE: 3.0 DPM MAX AT 5 PSID
2.0 DPM AT 1000 TO 3000 PSID AT 70°F

WEIGHT: .15 LBS MAXIMUM DRY

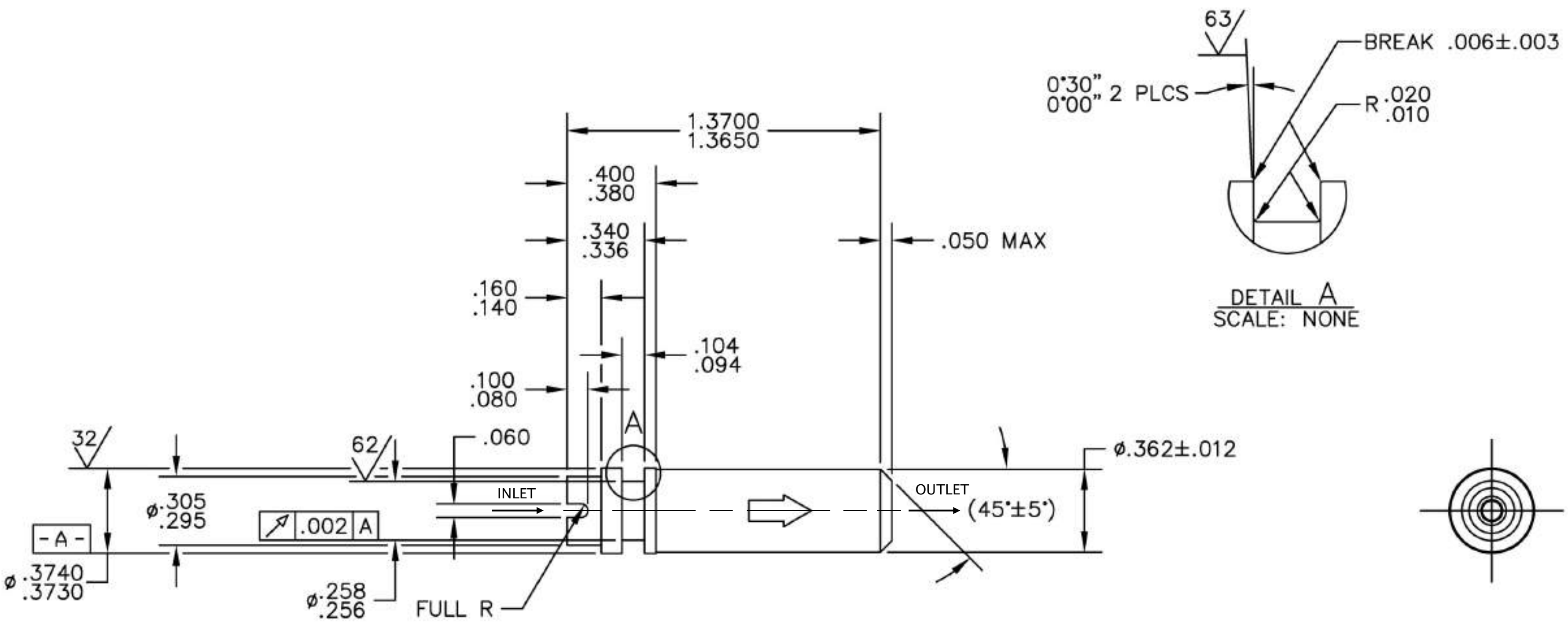
*CRACK AND FLOW CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

PART NUMBER: 2R4868 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: JET A/A-1, JP4, JP8 AND MIL-C-7024 AVIATION FUEL

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 400°F

OPERATING PRESSURE: 900 PSIG

PROOF PRESSURE: 2000 PSIG

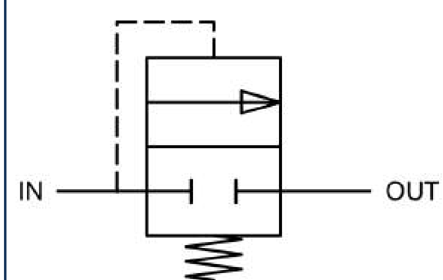
CRACKING PRESSURE: 125 ± 10 PSID*

FLOW: 20 DPM MAX AT 100 PSID*
2 CC/MIN MAX AT 115 PSID*
20 LB/HR MIN AT 135 PSID*
200 LB/HR MIN (0.5 GPM) AT 210 PSID*

INTERNAL LEAKAGE: 20 DPM MAX AT 100 PSID

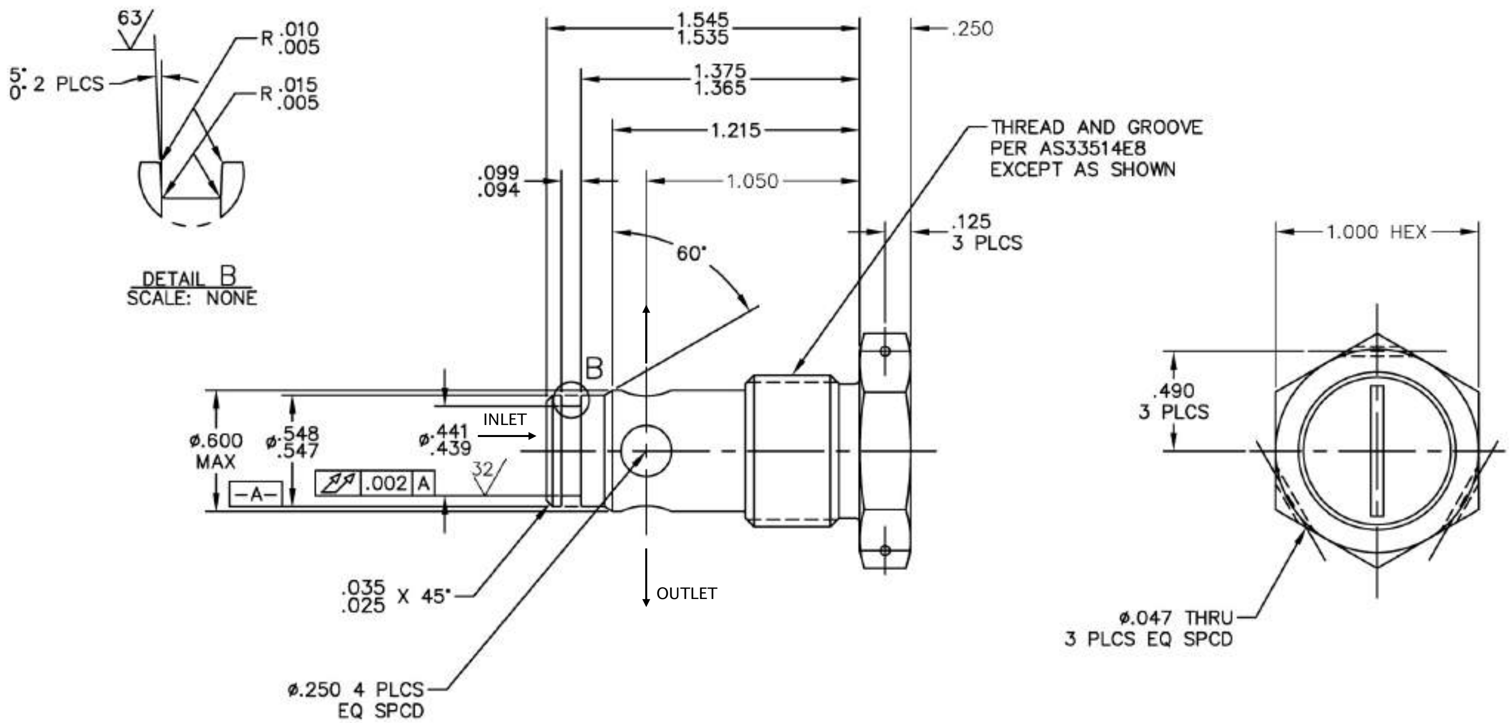
*CRACK AND FLOW CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

PART NUMBER: 2R4872 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: HYDRAULIC FLUIDS PER MIL-H-5606 OR MIL-H83282

MATERIAL: BODY 2024-T351 AL

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 1000 PSIG

PROOF PRESSURE: 1500 PSIG

CRACKING PRESSURE: 130 TO 170 PSID*

FLOW: 30 GPM AT 720 PSID MAX*

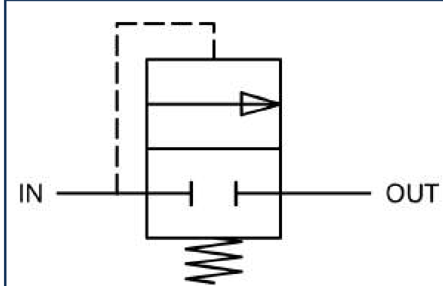
RESEAT: 90 PSID MIN*

INTERNAL LEAKAGE: 1 CC/MIN MAX AT 90 PSID (DECREASING PRESSURE)

WEIGHT: .069 LBS MAX

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

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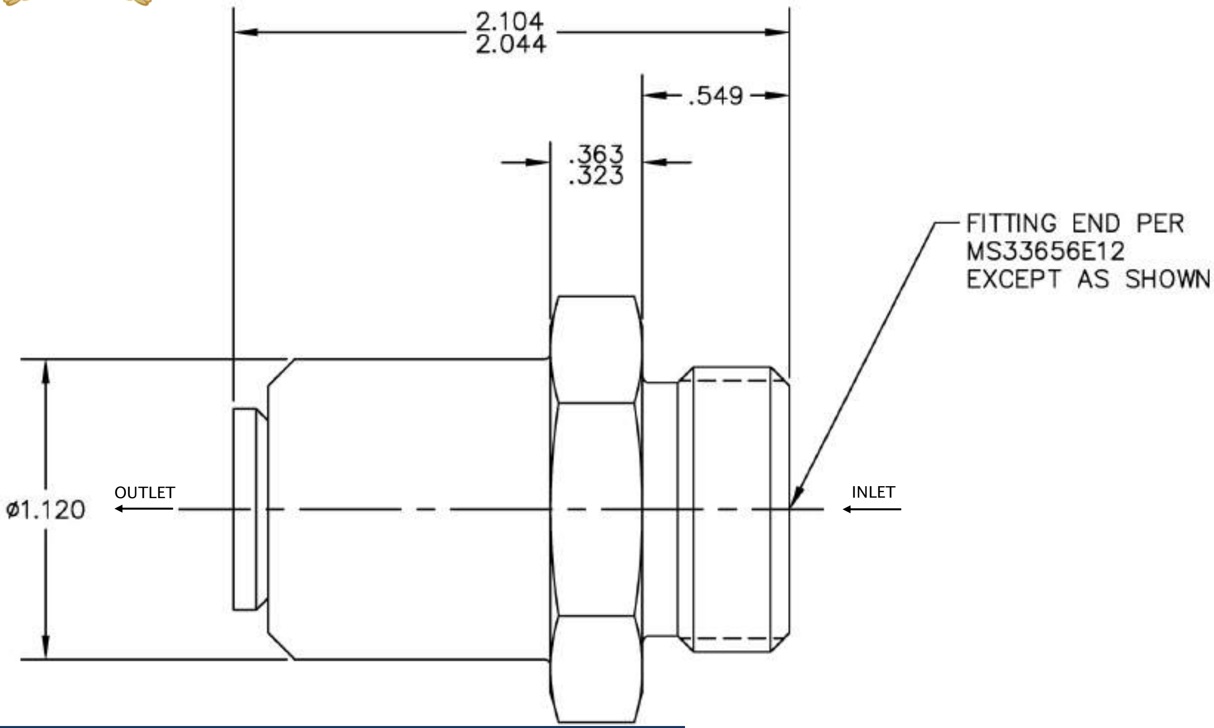
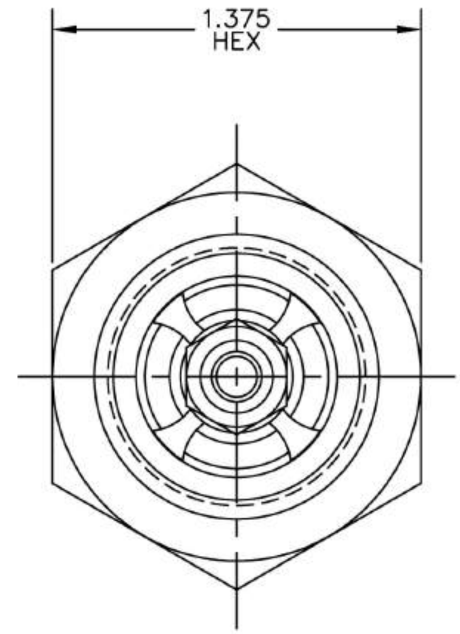
CRISSAIR INC.

PART NUMBER: 3R2382 RELIEF VALVE





PERFORMANCE SPECIFICATIONS:

FLUID: AIR

MATERIAL: BODY 2024-T351 AL
POPPET 2024-T351 AL

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 100 PSIG

PROOF PRESSURE: 150 PSIG

CRACKING PRESSURE: 5 TO 8 PSID*

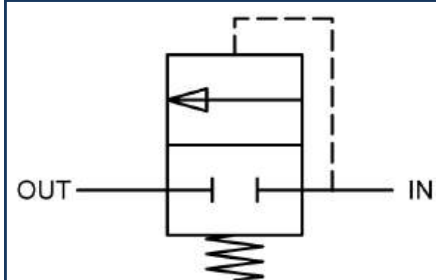
FLOW: 6.0 PPM MIN AT 60 PSID MAX AT 180°F*

INTERNAL LEAKAGE: .038 PPM AT 4 PSID

WEIGHT: .175 LBS MAX

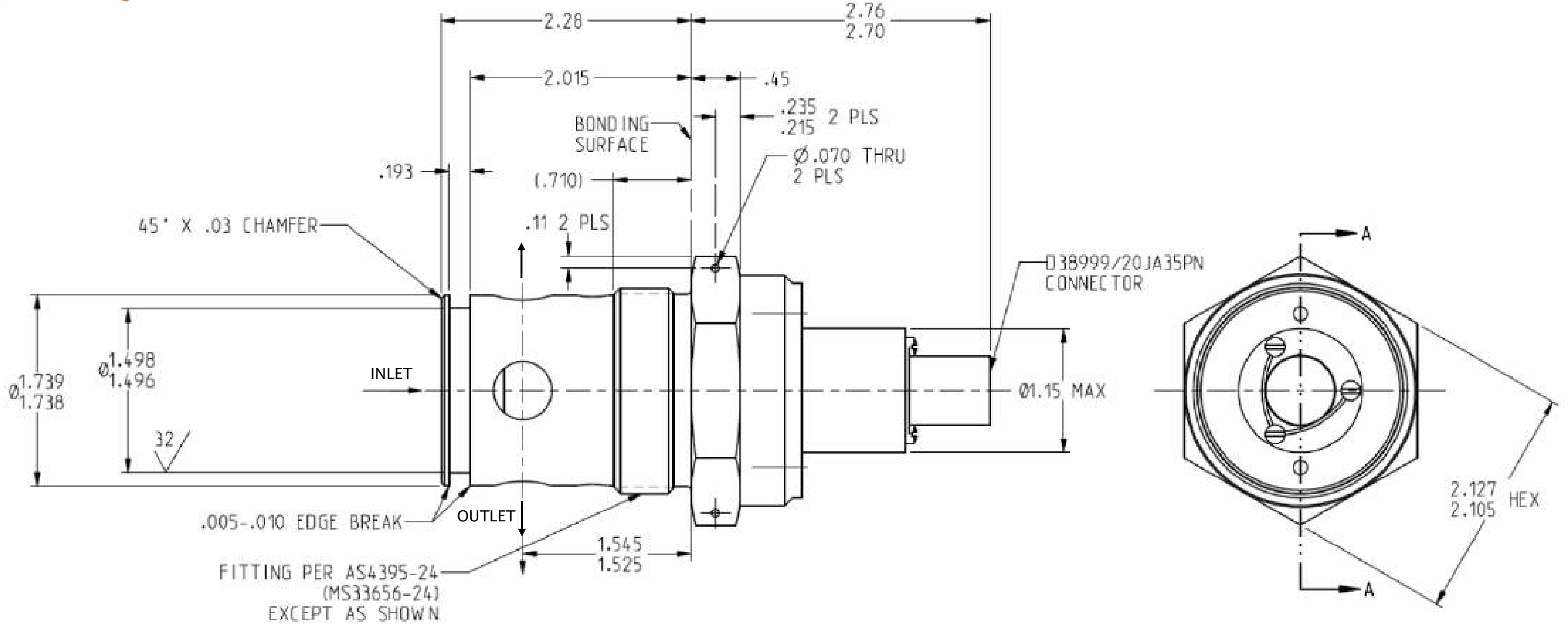
*CRACK AND FLOW CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CATEGORY 2: RELIEF VALVES, DIRECT ACTING

PART NUMBER: 2R4872 BYPASS RELIEF VALVE WITH INDICATION



PERFORMANCE SPECIFICATIONS:

FLUID: ETHYLENE GLYCOL/WATER*

MATERIAL: BODY 6061-T6 AL
POPPET 6061-T6 AL

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 123 PSIG

PROOF PRESSURE: 185 PSIG

CRACKING PRESSURE: 2.90 ± 0.14 PSID**

FLOW: 22 GPM AT 4.5 PSID MAX**

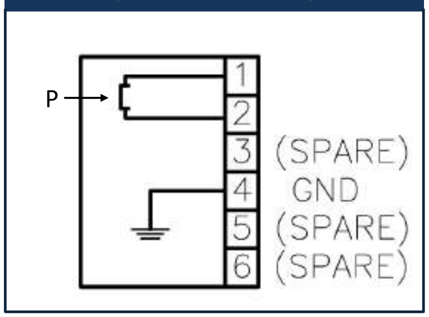
RESEAT: 2.3 PSID MINIMUM**

SWITCHING: CONTACTS (1 & 2) OPEN AT 2.6 ± 0.15 PSID (INCREASING PRESSURE)
CONTACTS (1 & 2) CLOSE AT 2.30-2.75 PSID (DECREASING PRESSURE)

WEIGHT: .79 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE
**CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

ELECTRICAL SCHEMATIC
(NORMALLY CLOSED)



CATEGORY 2: RELIEF VALVES: FILTER BYPASS VALVES

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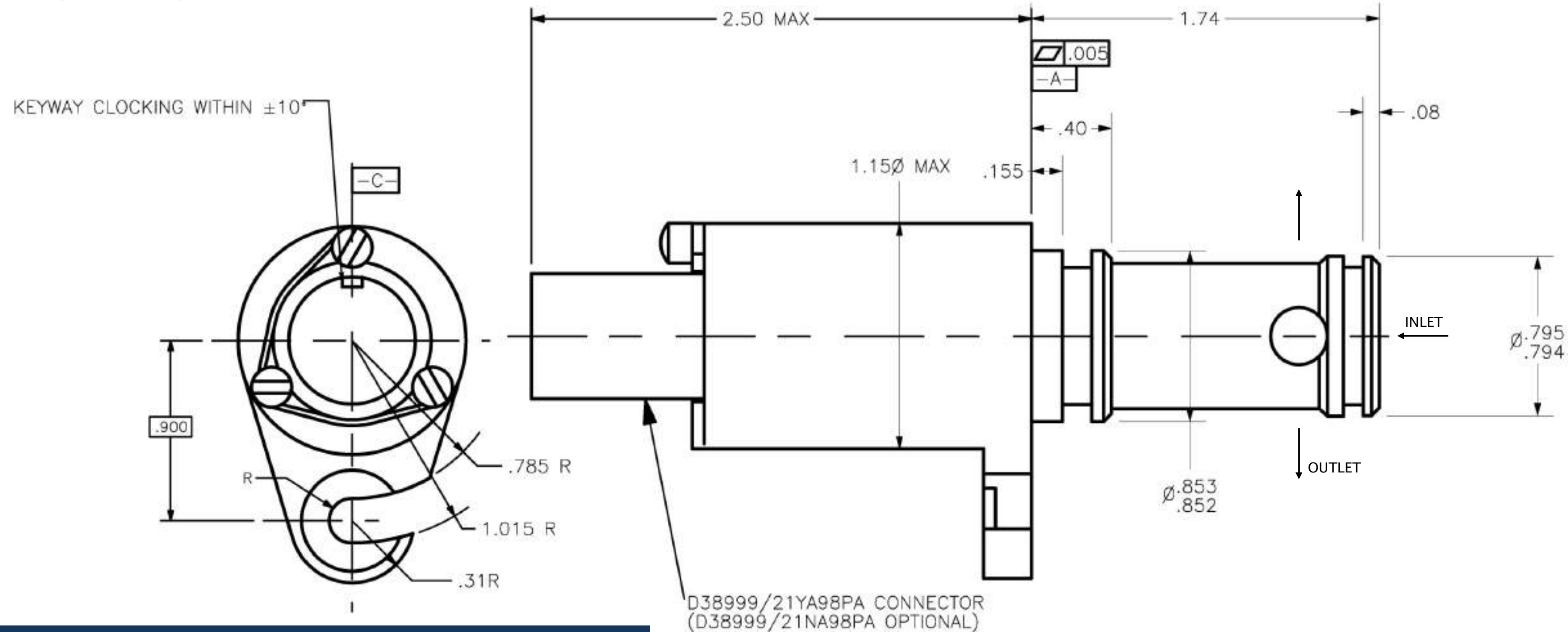
PART NUMBER: 3R2388 BYPASS RELIEF VALVE WITH INDICATION



PERFORMANCE SPECIFICATIONS:

FLUID: MIL-L-7808 OR MIL-PRF-23699*

MATERIAL: BODY 6061-T6 AL

POPPET 6061-T6 AL

TEMPERATURE RANGE: -65°F TO 350°F

CRACKING PRESSURE: 50 PSID MINIMUM**

FLOW: 100 PSID MAX @ 12 GPM AT 100 PSID MAX**

RESEAT: 40 PSID MINIMUM**

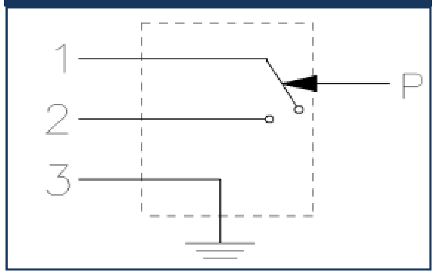
SWITCHING: CONTACTS CLOSE AT 35 ± 5 PSID (INCREASING PRESSURE);
CONTACTS OPEN BELOW 30 PSID (DECREASING PRESSURE)

WEIGHT: .25 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

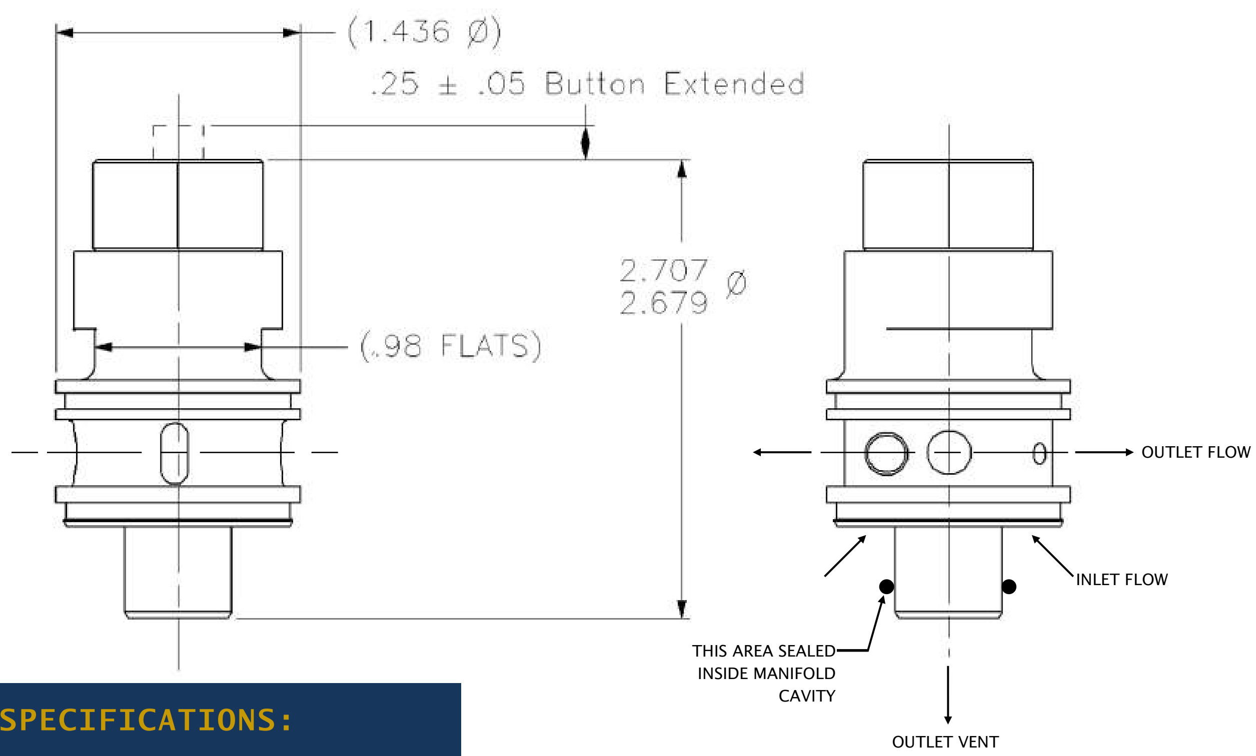
**CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

ELECTRICAL SCHEMATIC



CATEGORY 2: RELIEF VALVES:FILTER BYPASS VALVES

PART NUMBER:2R4878 BYPASS VALVE WITH DELTA P INDICATION AND THERMAL LOCKOUT

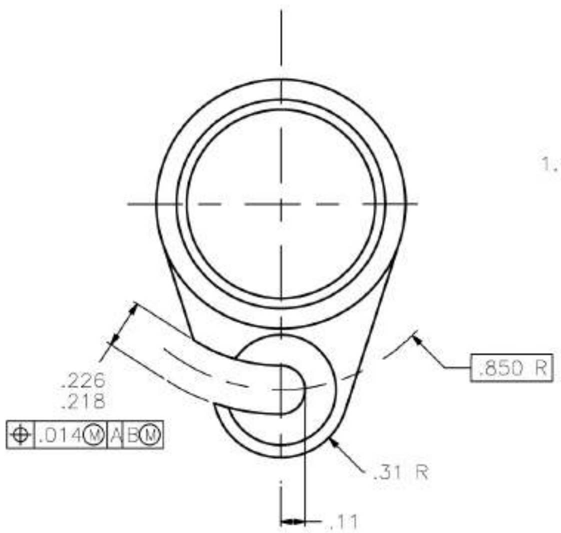


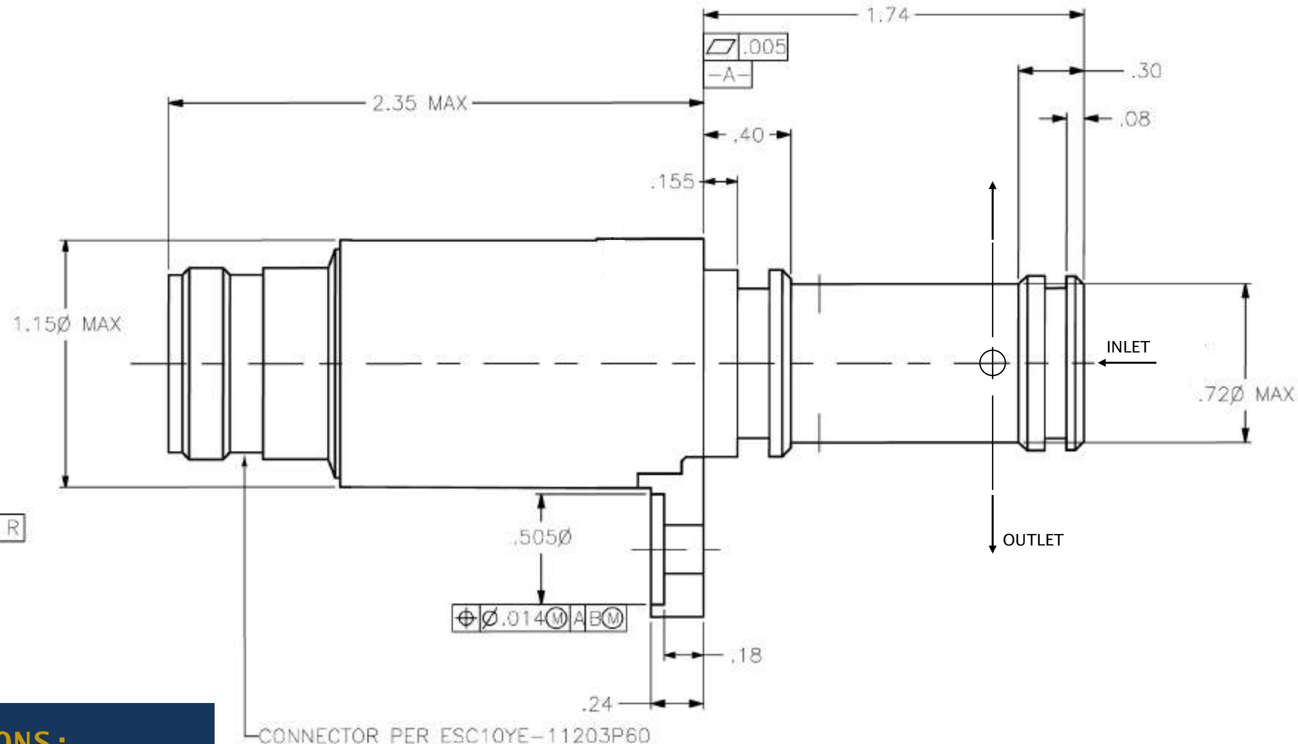
PERFORMANCE SPECIFICATIONS:

FLUID: MIL-C-7024*
MATERIAL: HOUSING 6061-T4 AL
POPPET 6061-T6 AL
TEMPERATURE RANGE: -55°F TO 325°F
OPERATING PRESSURE: 200 PSIG
PROOF PRESSURE: 300 PSIG
BUTTON ACTION: 70 ± 10 PSID (TO BE RESET BY HAND)
BYPASS PRESSURE: 116 ± 10 PSID
FLOW: 2.5 GPM MINIMUM @ 200 PSID
INTERNAL LEAKAGE: 5 CC/MIN MAXIMUM @ 60 PSID
THERMAL LOCKOUT WILL PREVENT DELTA P INDICATION AT COLD TEMPERATURES (BELOW 170°F)
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CRISSAIR INC.

PART NUMBER: 3R2386-3 BYPASS RELIEF VALVE WITH INDICATION





PERFORMANCE SPECIFICATIONS:

FLUID: MIL-PRF-23699*

MATERIAL: BODY 6061-T6 AL
POPPET 6061-T6 AL

TEMPERATURE RANGE: -65°F TO 350°F

CRACKING PRESSURE: 50 PSID MINIMUM**

FLOW: 12 GPM AT 100 PSID MAX**

RESEAT: 40 PSID MINIMUM**

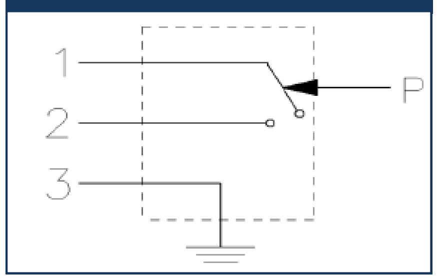
SWITCHING: CONTACTS CLOSE AT 35 ± 5 PSID (INCREASING PRESSURE);
CONTACTS OPEN BELOW 30 PSID (DECREASING PRESSURE)

WEIGHT: .25 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

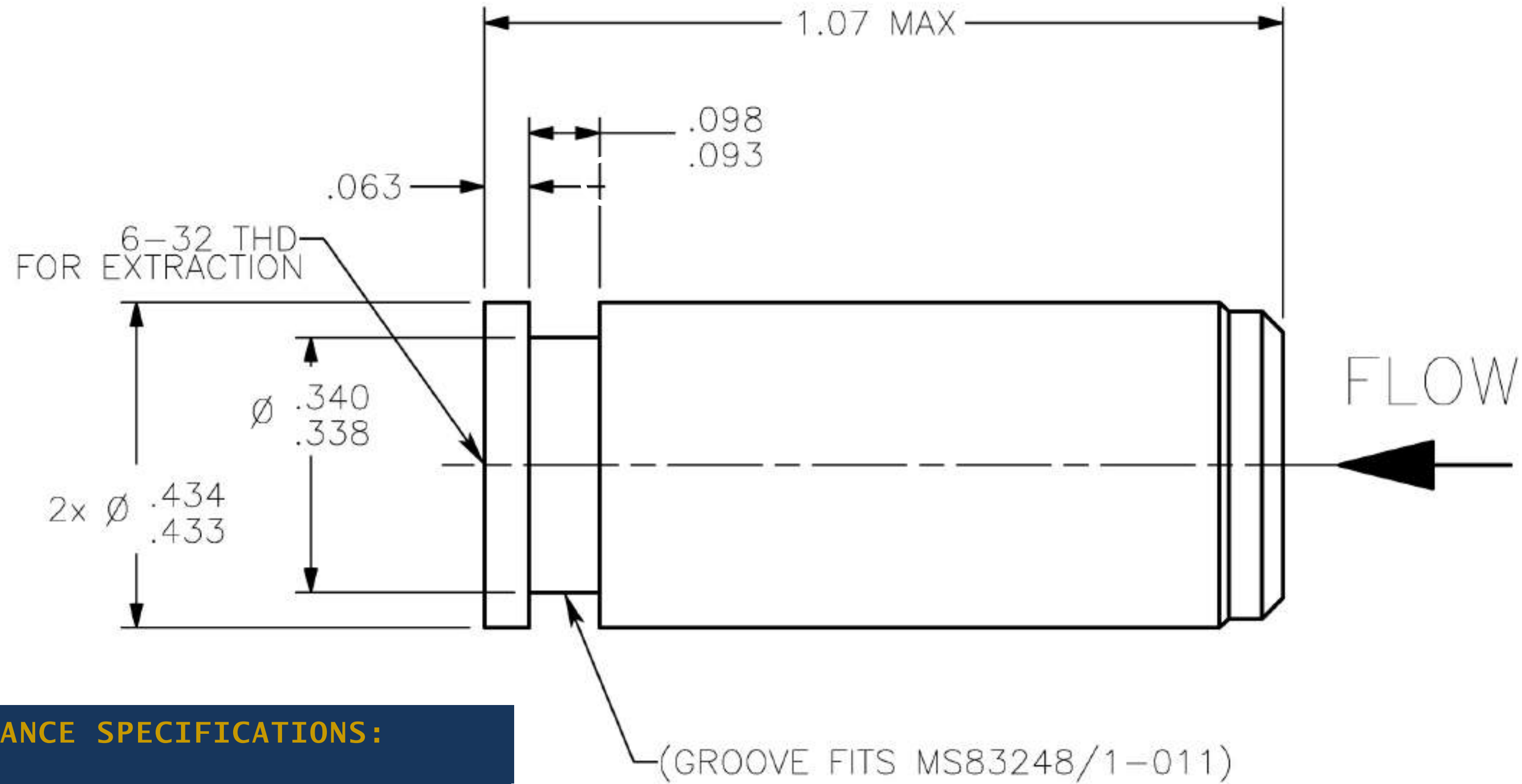
**CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

ELECTRICAL SCHEMATIC



CATEGORY 2: RELIEF VALVES:FILTER BYPASS VALVES

PART NUMBER: 32140-X RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC, LUBRICATION OR FUEL FLUID

MATERIAL: BODY 303 CRES

POPPET 303 CRES

TEMPERATURE RANGE: -40°F TO 350°F

PROOF PRESSURE: 3000 PSIG

CRACKING PRESSURE: 500±10 PSID*

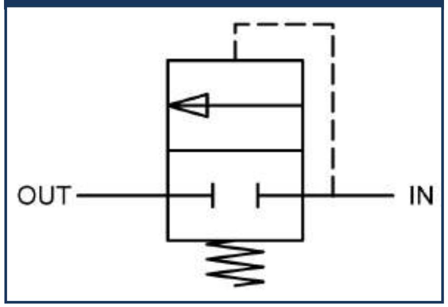
FLOW: 5 GPM AT 1500 PSID MAX*

RESEAT: 400 PSID MINIMUM*

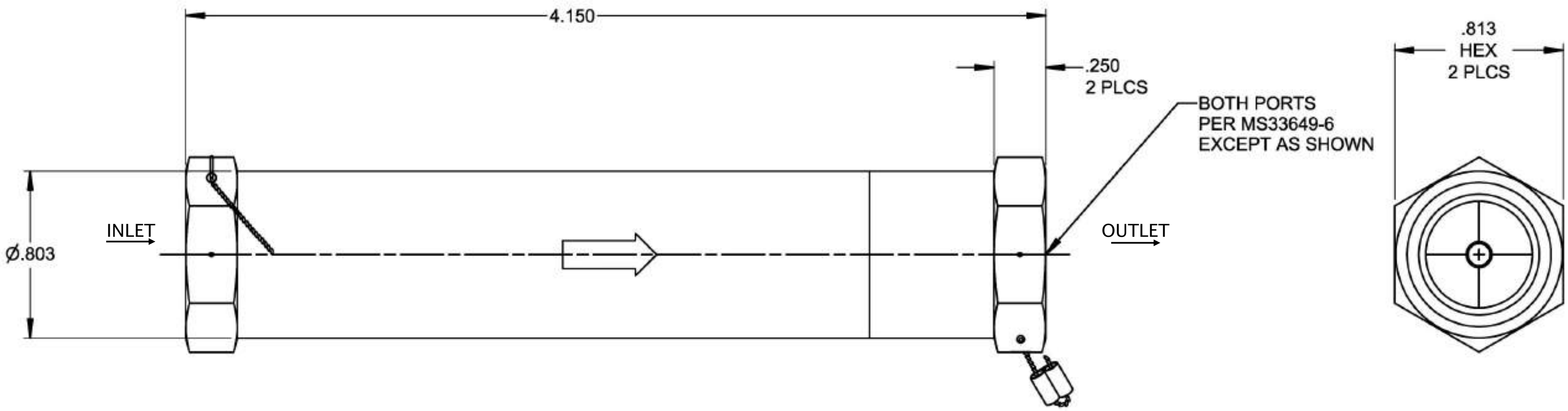
INTERNAL LEAKAGE: 0 DPM AT 250 PSID

*CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN
BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



PART NUMBER: 2R4266 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: HYDRAULIC FLUID PER MIL-H-5606*

MATERIAL: BODY 15-5PH CRES
POPPET PH13-8MO CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4900 PSIG

CRACKING PRESSURE: 3480 PSID**

FLOW: 4.4 GPM AT 4100 PSID MAX**

RESEAT: 3260 PSID MIN**

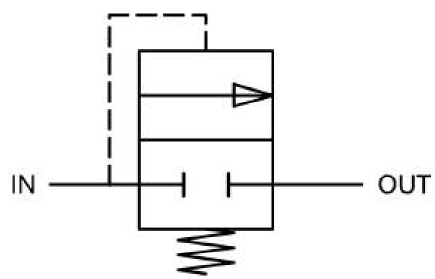
INTERNAL LEAKAGE: 1.5 CC/MIN AT 3075 PSID (INCREASING PRESSURE)
4.5 CC/MIN AT 3263 PSID (DECREASING PRESSURE)

WEIGHT: 0.52 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

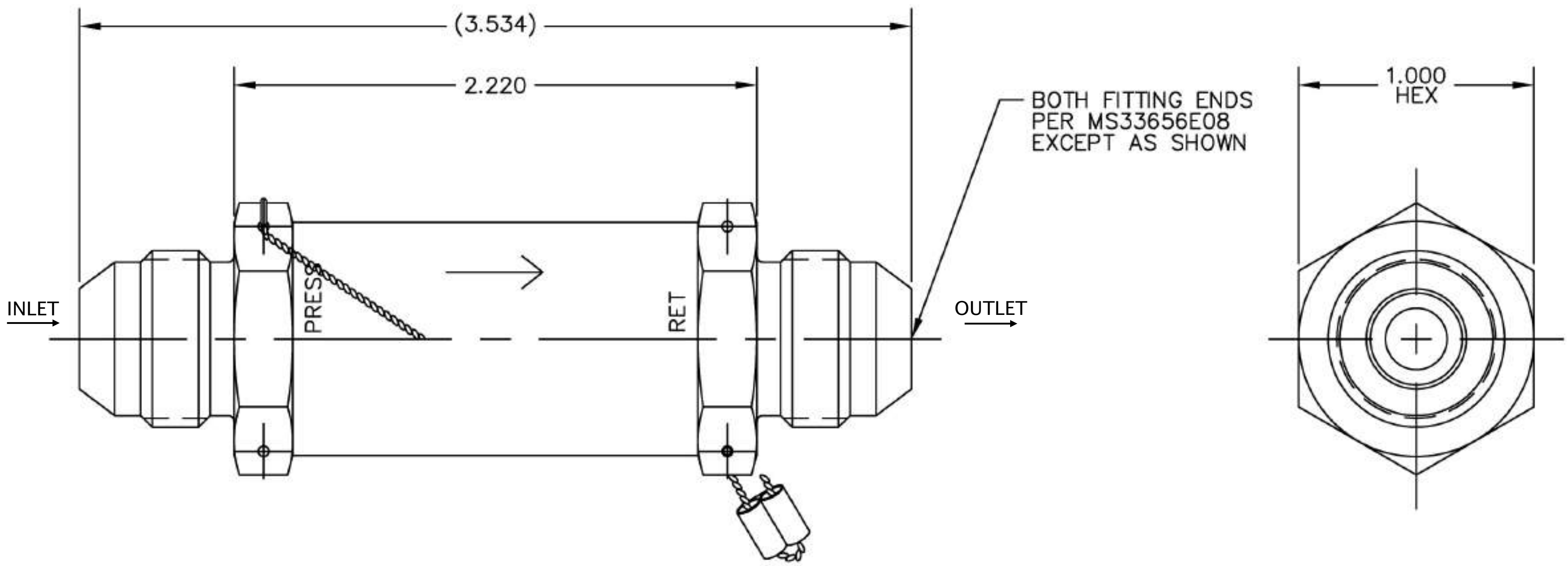
**CRACK, FLOW, AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 2R3896 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: HYDRAULIC FLUID PER MIL-H-5606*

MATERIAL: BODY 2024-T351 AL
POPPET 440C CRES

TEMPERATURE RANGE: 23°F TO 275°F

OPERATING PRESSURE: 600 PSIG

PROOF PRESSURE: 900 PSIG

CRACKING PRESSURE: 95 TO 105 PSID**

FLOW: 4.75 GPM AT 140 PSID MAX AT ROOM TEMPERATURE**

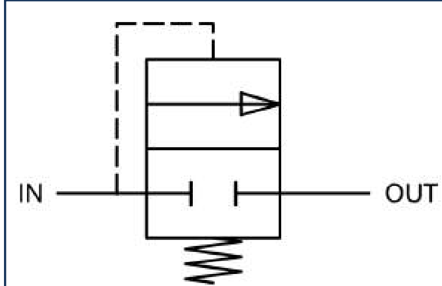
RESEAT: 70 PSID MIN**

INTERNAL LEAKAGE: 3 CC/MIN MAX AT 0 TO 70 PSID

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

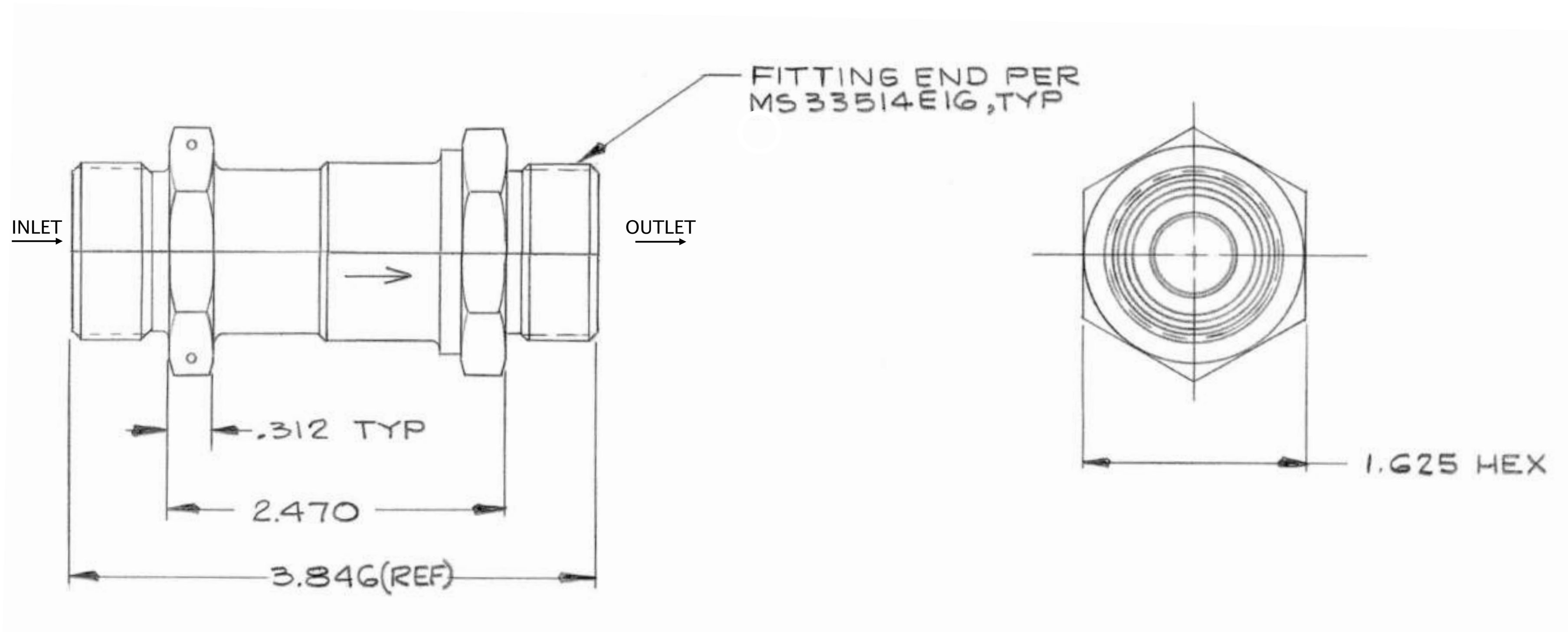
**CRACK, FLOW, AND RESEAT CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 2R2766 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 303 CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 60 PSIG

PROOF PRESSURE: 90 PSIG

CRACKING PRESSURE: 50 PSID*

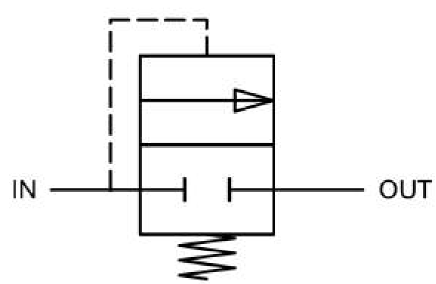
FLOW: 20 GPM AT 60 PSID MAX*

INTERNAL LEAKAGE: 2 CC/MIN AT 30 PSID

WEIGHT: 1.2 LBS MAX

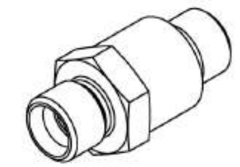
*CRACK AND FLOW CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC

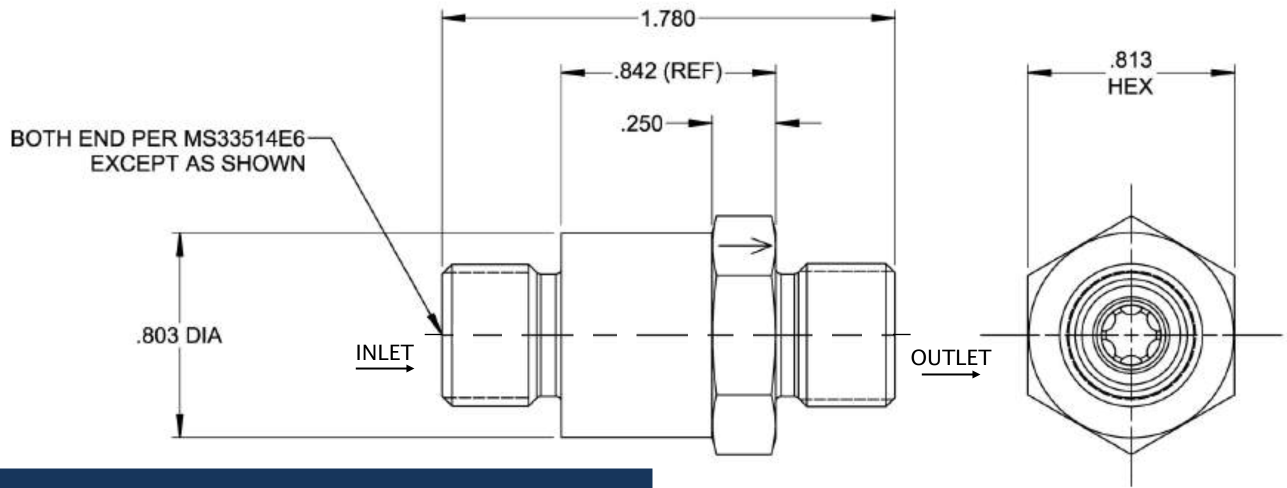


CRISSAIR INC.

PART NUMBER: 2R2606 RELIEF VALVE



ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 2024-T351 AL
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 65 ± 5 PSID*

FLOW: 2.0 GPM AT 80 PSID MAX*

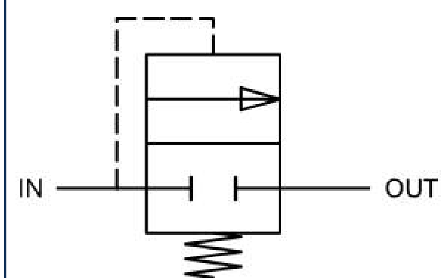
RESEAT: 45 PSID MIN*

INTERNAL LEAKAGE: NONE AT 0 TO 50 PSID (INCREASING PRESSURE)
NONE BELOW 45 PSID (DECREASING PRESSURE)

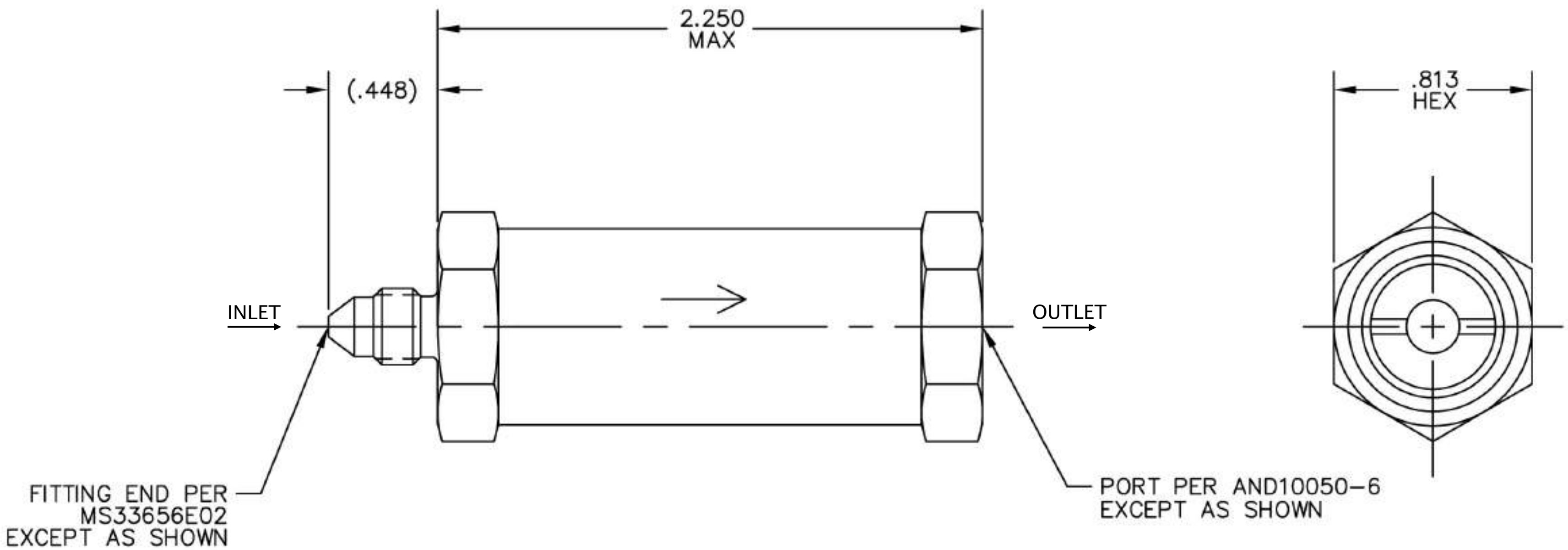
WEIGHT: 0.07 LBS MAX

*CRACK, FLOW AND RESEAT CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



PART NUMBER: 2R4860 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: HYDRAULIC FLUID PER MIL-H-5606*

MATERIAL: BODY 2024-T351 AL
POPPET 303 CRES

TEMPERATURE RANGE: -20°F TO 160°F

PROOF PRESSURE: 2000 PSIG

CRACKING PRESSURE: 450 TO 500 PSID**

FLOW: 0.10 GPM AT 600 PSID MAX**

RESEAT: 400 PSID MIN**

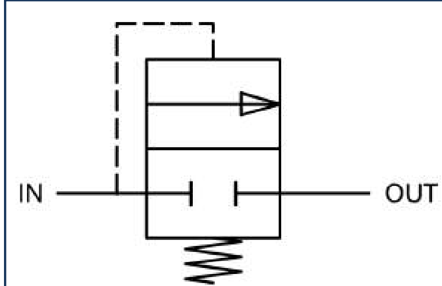
INTERNAL LEAKAGE: NONE AT 0 TO 400 PSID

WEIGHT: 0.10 LBS MAX

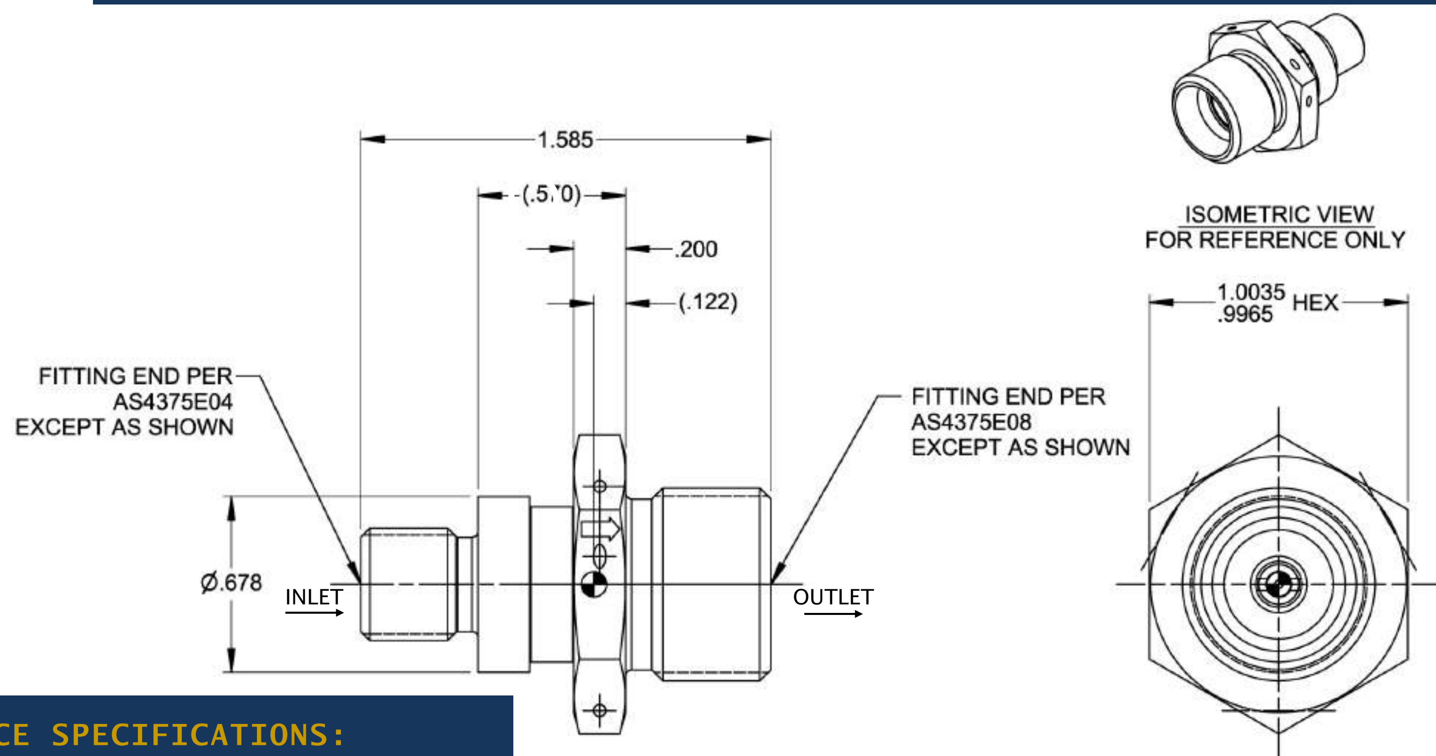
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

**CRACK, FLOW, AND RESEAT CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



PART NUMBER: 2R4874 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 6000 PSIG

CRACKING PRESSURE: 3900-4050 PSID*

FLOW: 15 mL/MIN MINIMUM AT 4300 PSID*

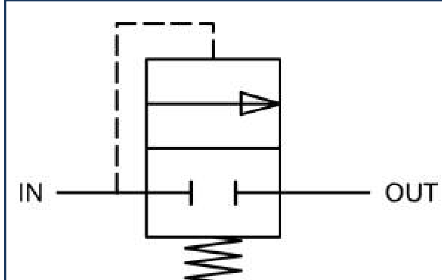
RESEAT: 3285 PSID MIN*

INTERNAL LEAKAGE: 10 DPM MAX AT 3900 PSID
1 DPM MAX AT 3285 PSID (INCREASING PRESSURE)
10 DPM MAX AT 3285 PSID (DECREASING PRESSURE)

WEIGHT: 0.149 LBS MAX

*CRACK, FLOW AND RESEAT CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING

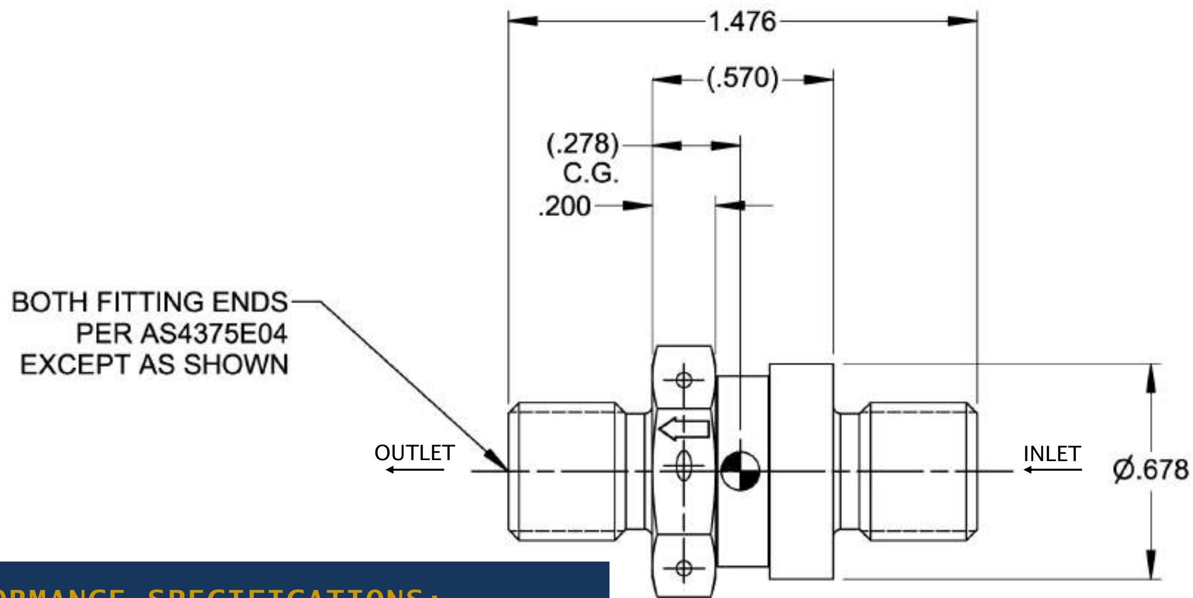
HYDRAULIC SCHEMATIC

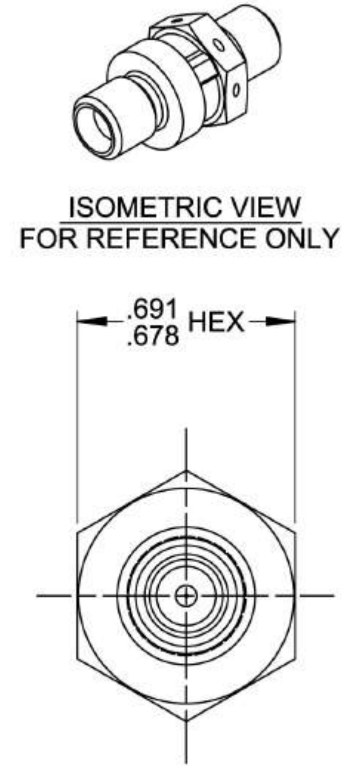


CATEGORY 2: RELIEF VALVES

CRISSAIR INC.

PART NUMBER: 2R4876 RELIEF VALVE



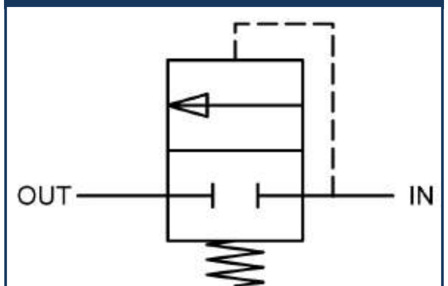


PERFORMANCE SPECIFICATIONS:

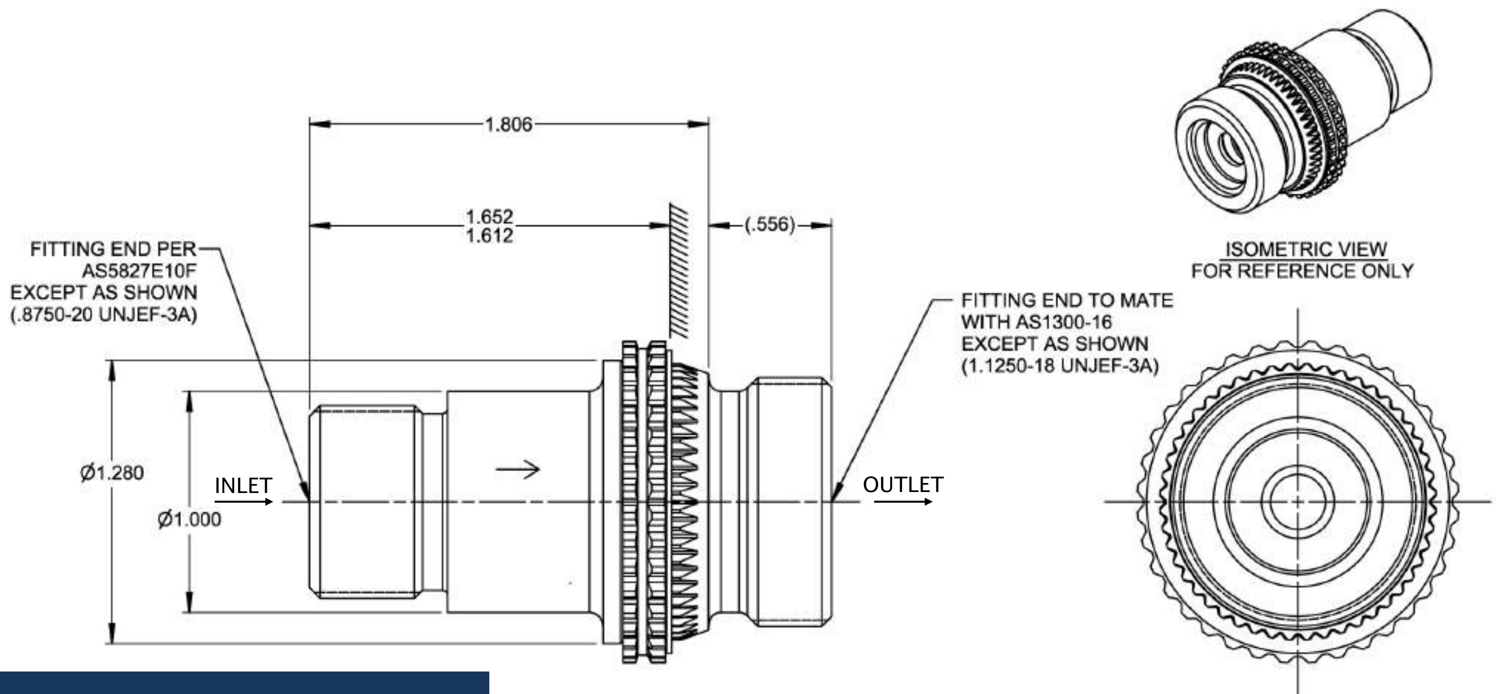
FLUID: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 15-5PH CRES
POPPET 440C CRES
TEMPERATURE RANGE: -65°F TO 185°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 6250 PSIG
CRACKING PRESSURE: 3900-4050 PSID*
FLOW: 15 mL/MIN MINIMUM AT 4300 PSID*
RESEAT: 3285 PSID MIN*
INTERNAL LEAKAGE: 1 DPM MAX AT 3285 PSID (INCREASING DIRECTION)
10 DPM MAX AT 3900 PSID (INCREASING PRESSURE)
10 DPM MAX AT 3285 PSID (DECREASING PRESSURE)
WEIGHT: 0.086 LBS MAX

*CRACK, FLOW AND RESEAT CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC



PART NUMBER: 2R4880 RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

FLUID: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI
POPPET PH13-8MO CRES
LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 5076 PSIG

PROOF PRESSURE: 7614 PSIG

CRACKING PRESSURE: 101 PSID*

FLOW: 1.3 GPM AT 125 PSID MAX*
10.6 GPM AT 140 PSID MAX*

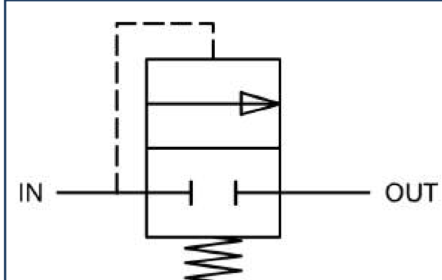
RESEAT: 70 PSID MIN*

INTERNAL LEAKAGE: 1 CC/MIN MAX AT 5 PSID
5 DPM MAX AT 5076 PSID

WEIGHT: 0.300 LBS MAX

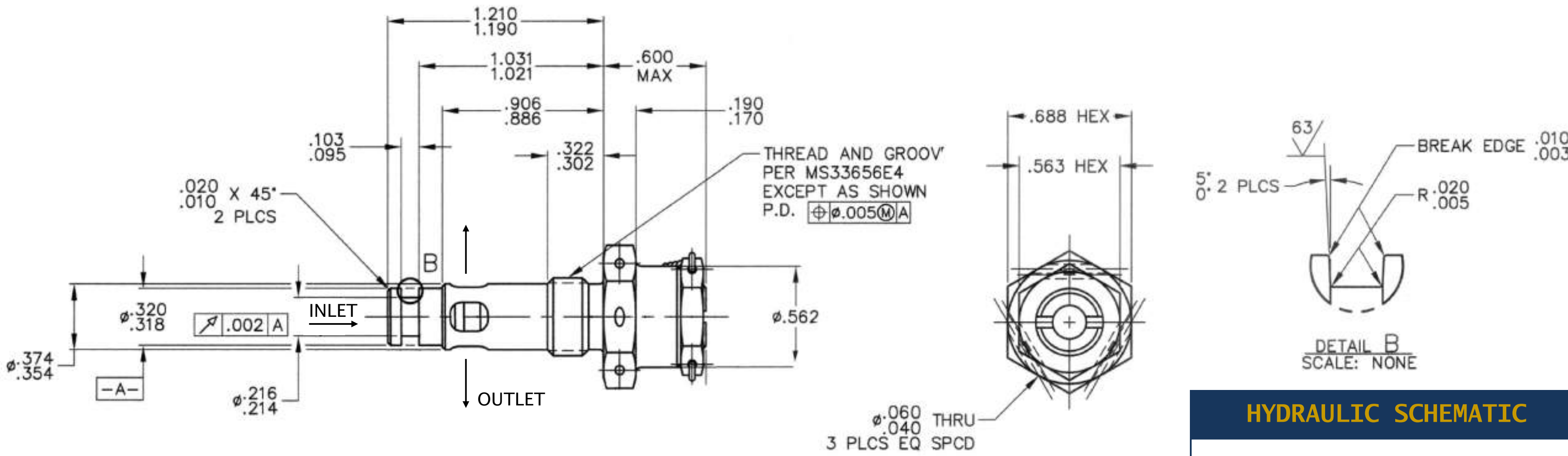
*CRACK, FLOW AND RESEAT CAN MOVE UP OR DOWN BY USING SHIMS OR REPLACING THE SPRING

HYDRAULIC SCHEMATIC

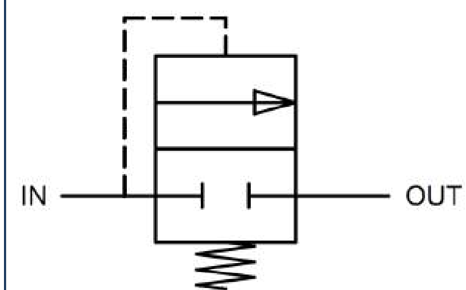


CATEGORY 2: RELIEF VALVES

PART NUMBER: 2R4870-X RELIEF VALVE



HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUID: JP-4 & JP-5 PER MIL-DTL-5624, JET A, A-1 AND B PER ASTM D1655*
MATERIAL: BODY 304 CRES
POPPET 440C CRES
TEMPERATURE RANGE: -65°F TO 225°F
OPERATING PRESSURE: 1000 PSIG
PROOF PRESSURE: 2000 PSIG
CRACKING PRESSURE: SEE TABULATION**
FLOW: 350 PPH AT TABULATION**
INTERNAL LEAKAGE: 0.5 CC/MIN MAX AT TABULATION (INCREASING PRESSURE)
WEIGHT: 0.10 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

**CRACK AND FLOW CAN MOVE UP OR
DOWN BY USING SHIMS OR REPLACING THE SPRING

PART NO. OF TABULATION

DASH NO	CRACKING PRESSURE	FLOW-PRESSURE DROP	LEAKAGE AT
-1	125 - 130 PSID	145 - 160 PSID	115 PSID
-2	150 - 155 PSID	170 - 185 PSID	140 PSID

CATEGORY 2: RELIEF VALVES

CRISSAIR HAS VARIOUS OTHER RELIEF 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.

RESTRICTOR VALVES

Crissair Inc. designs and manufactures a variety of One-Way and 2-Way Restrictor Valves and configurations which enable system designers to control/reduce the flow through certain circuits. Both groups may be packaged as inline configurations to connect directly to tubing or cartridge configurations that can go into manifolds.

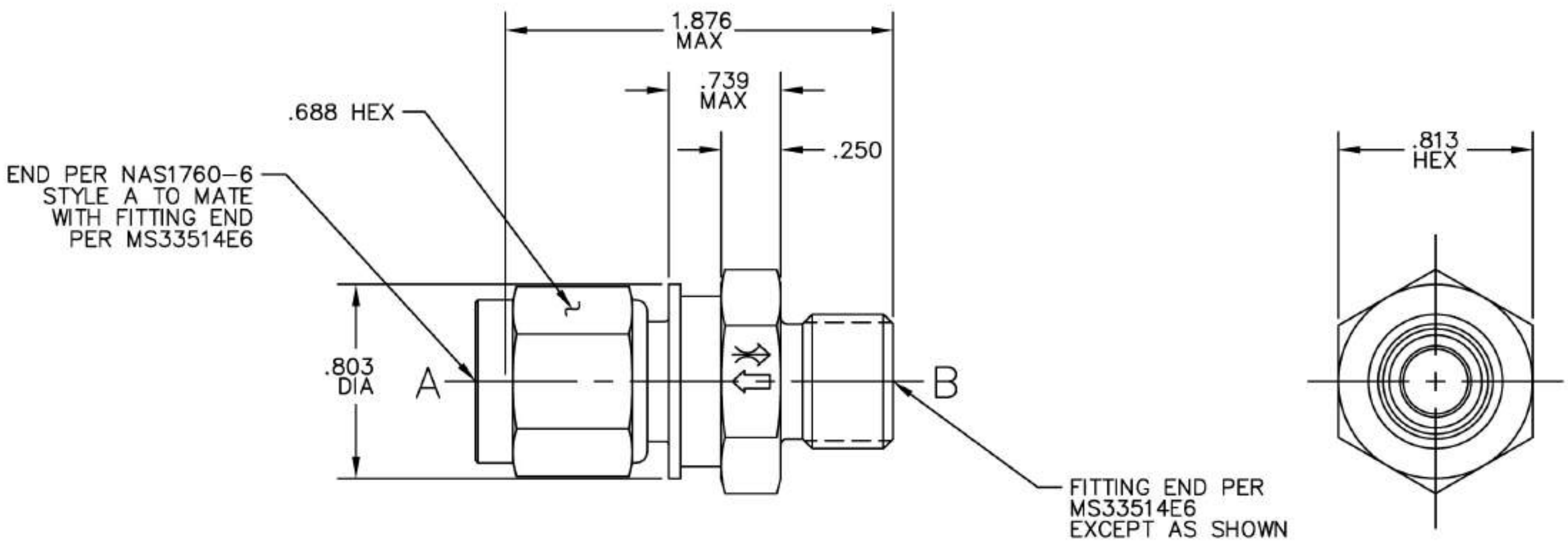
- One-Way Restrictor Valves offer restricted flow in one direction and relatively unrestricted flow in the other direction. Higher restriction restrictors may utilize filters or screens to protect sensitive orifices from damage and contamination.

- 2-Way Restrictor Valves offer restricted flow in both directions, although not always of the same restriction value. High/Low 2-Way Restrictor Valves offer unique restriction values for each direction. Higher restriction restrictors may utilize filters or screens to protect sensitive orifices from damage and contamination.

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

CRISSAIR INC.

PART NUMBER: 9R4318 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

SWIVEL NUT 6AL-4V TI

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

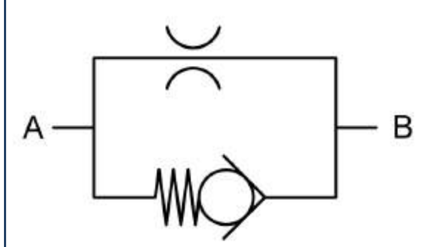
PROOF PRESSURE: 8000 PSIG

RESTRICTED FLOW: SEE TAB BLOCK

FREE FLOW: 1.2 GPM AT 15 PSID MAX

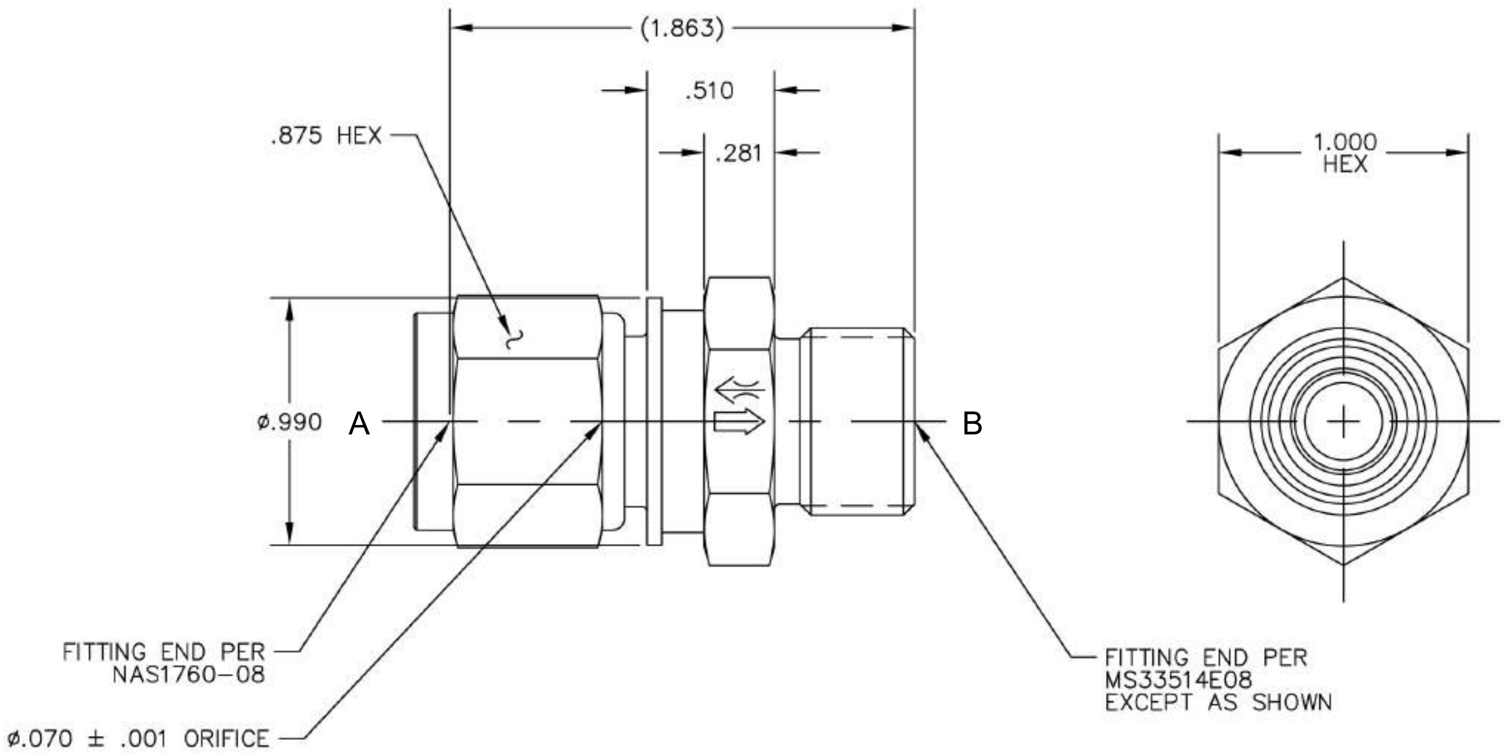
WEIGHT: 0.143 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW RATE (GPM)	ORIFICE SIZE (REF)
9R4318-040	2.2	.040
9R4318-045	2.8	.045
9R4318-050	3.4	.050
9R4318-055	4.2	.055
9R4318-060	5.0	.060

PART NUMBER: 9R3690 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET 440C CRES

SWIVEL NUT 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

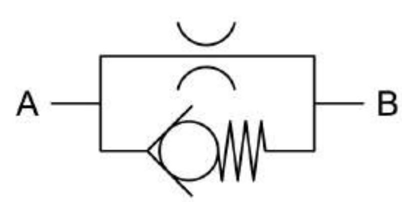
PROOF PRESSURE: 6000 PSIG

RESTRICTED FLOW: 0.070 ± 0.001 ORIFICE

FREE FLOW: 6 GPM AT 15 PSID MAX

WEIGHT: 0.256 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

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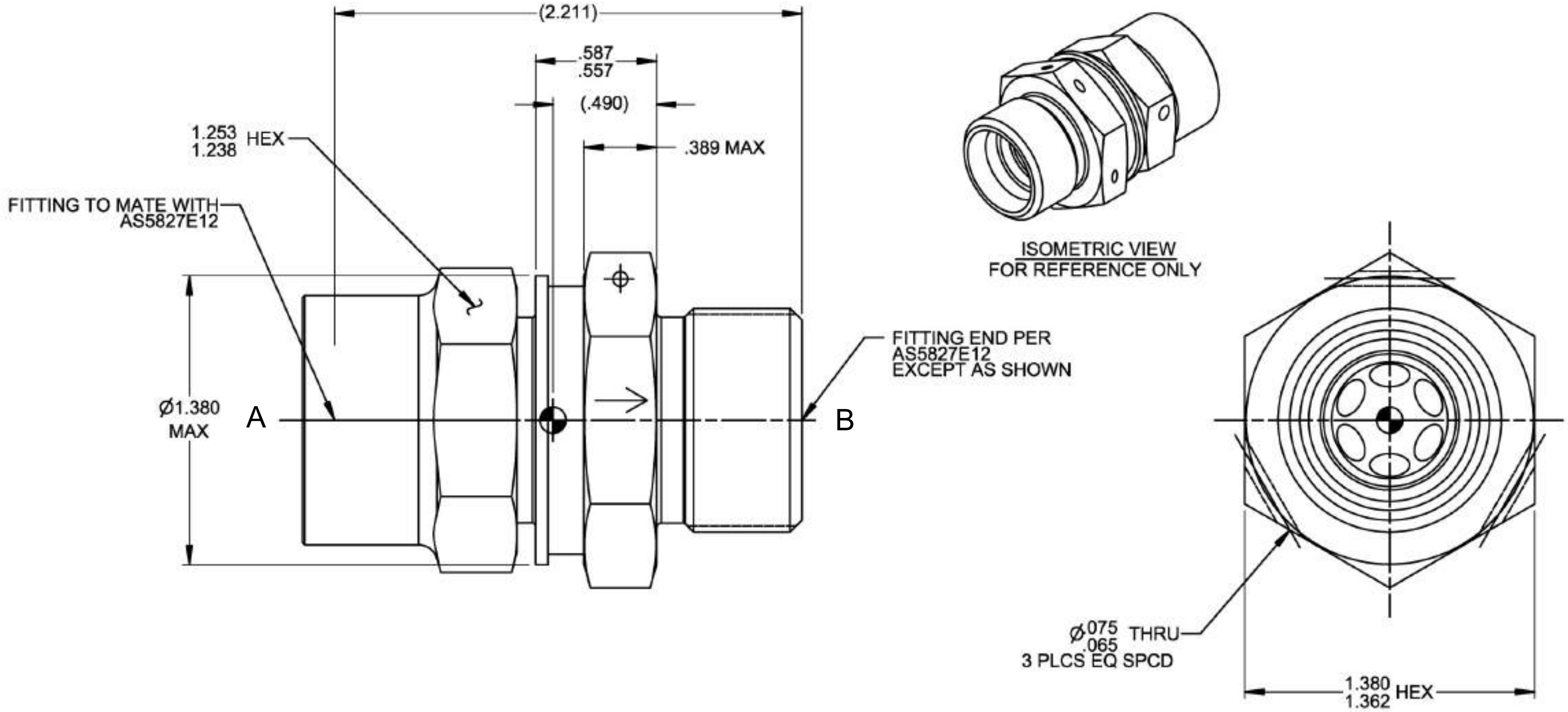
CRISSAIR INC.

PART NUMBER: 9R4310 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET PH13-8MO CRES

SWIVEL NUT 15-5PH CRES

TEMPERATURE RANGE: AIR –40°F TO 250°F

FLUID –40°F TO 225°F

OPERATING PRESSURE: 5000 PSIG

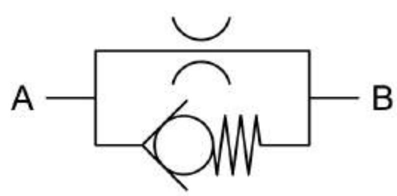
PROOF PRESSURE: 7500 PSIG

RESTRICTED FLOW: 0.43 TO 1.08 GPM AT 5000 PSID AT 100°F

FREE FLOW: 37 GPM AT 65 PSID MAX

WEIGHT: 0.53 LBS MAX

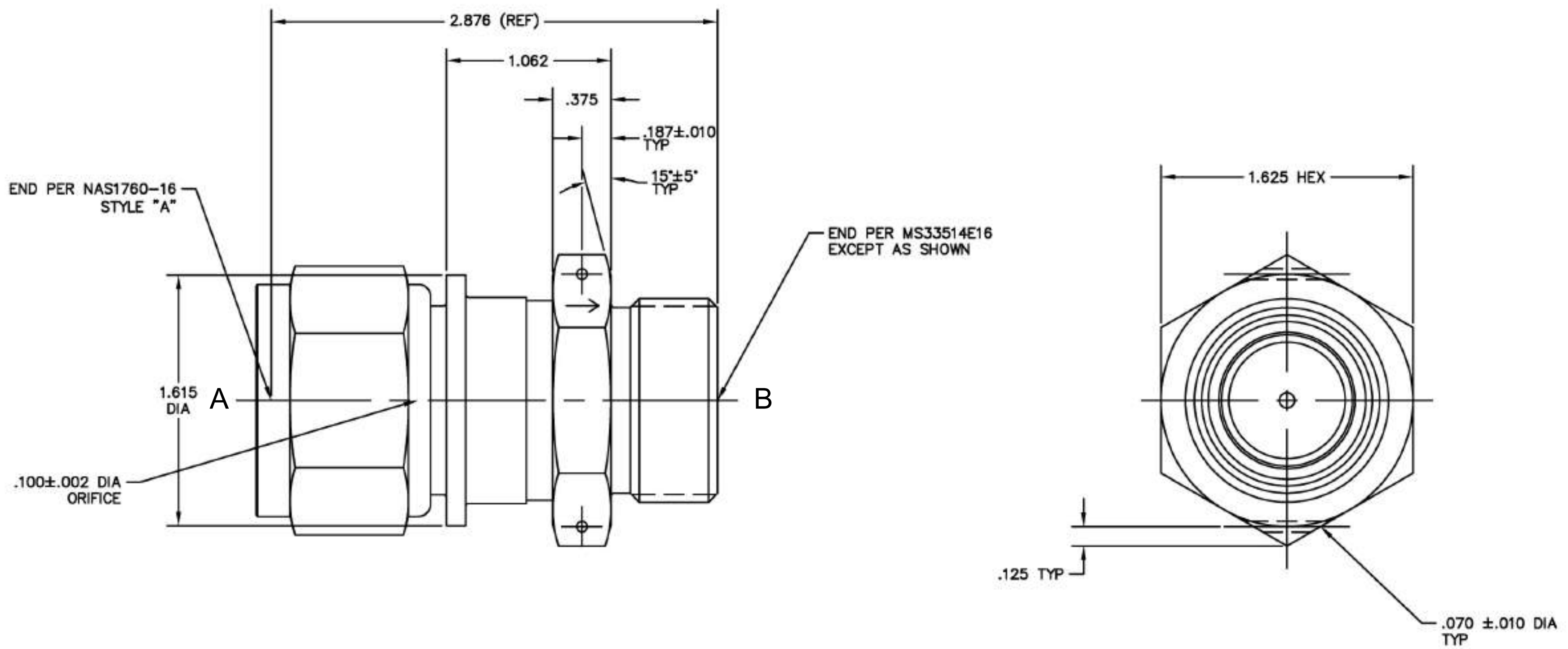
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

CRISSAIR INC.

PART NUMBER: 9R4304 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 304 CRES

POPPET 440C CRES

SWIVEL NUT 304 CRES

TEMPERATURE RANGE: –65°F TO 275°F

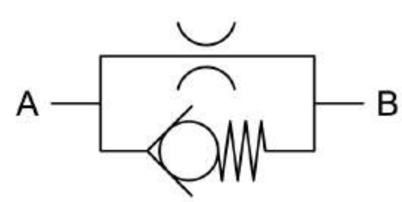
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

RESTRICTED FLOW: 0.100 ± 0.002 DIA ORIFICE

FREE FLOW: 29 GPM AT 40 PSID MAX

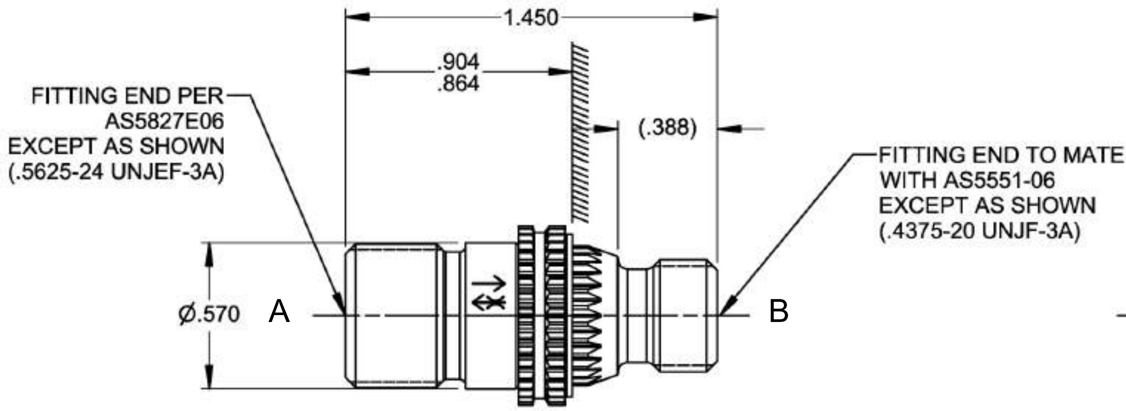
HYDRAULIC SCHEMATIC



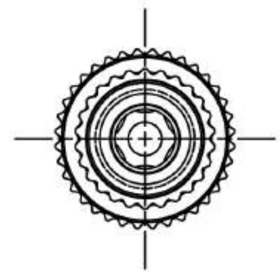
CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

PART NUMBER: 9R4186-X RESTRICTOR VALVE, ONE-WAY, UNFILTERED

CRISSAIR INC.



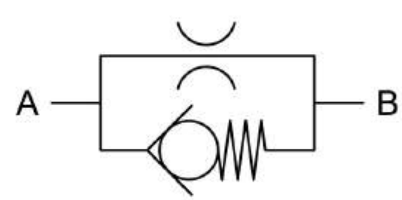
ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 6AL-4V TI
POPPET 440C CRES
LOCKRING A-286 CRES
TEMPERATURE RANGE: –40°F TO 201°F
OPERATING PRESSURE: 5075 PSIG
PROOF PRESSURE: 9990.5 PSIG
RESTRICTED FLOW: SEE TAB BLOCK AT 5000 PSID
FREE FLOW: 3.1 GPM AT 25 PSID MAX
WEIGHT: 0.045 LBS MAX

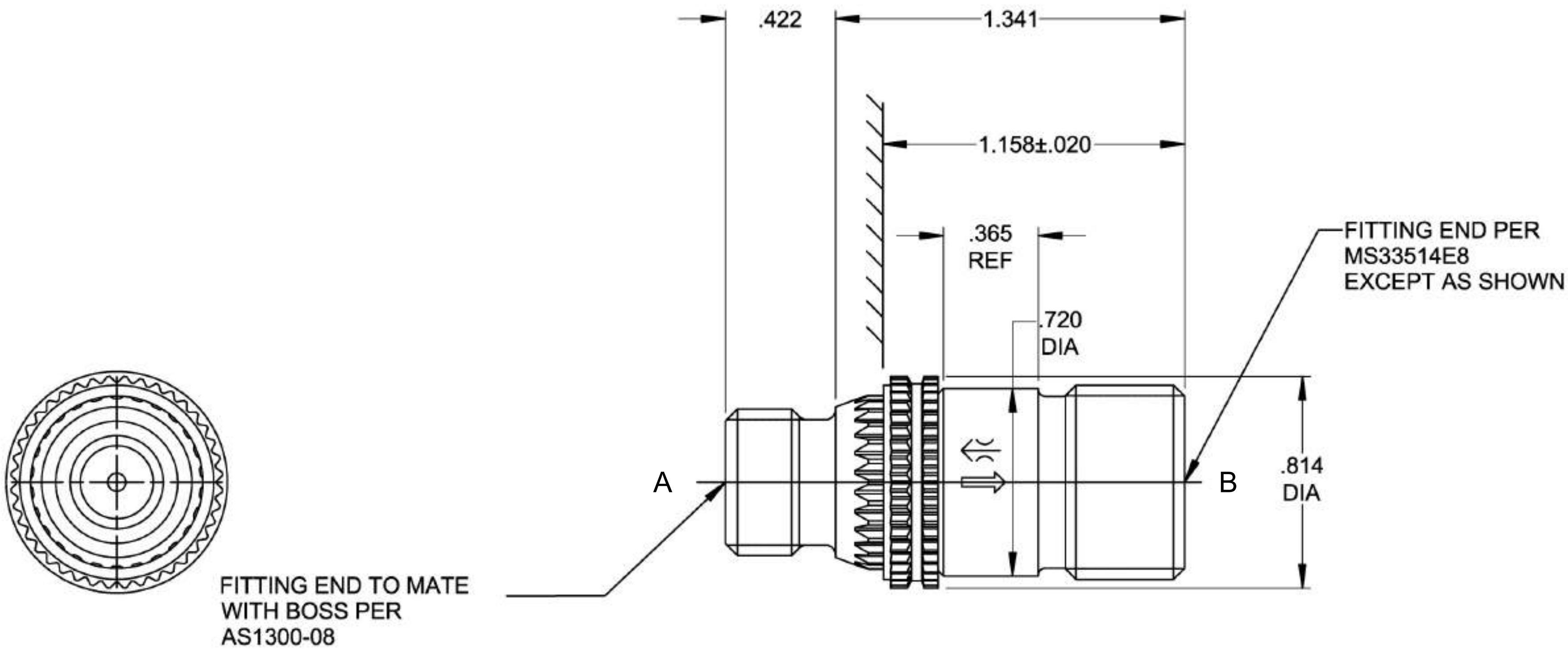
HYDRAULIC SCHEMATIC



DASH NO.	LOHM (REF)	FLOW (GPM)	ORIFICE (REF)
-1	60	23.9	Ø.131
-2	70	20.5	Ø.121
-3	80	17.7	Ø.113
-4	95	14.9	Ø.104
-5	110	12.85	Ø.096
-6	130	11.00	Ø.089
-7	150	9.43	Ø.082

CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

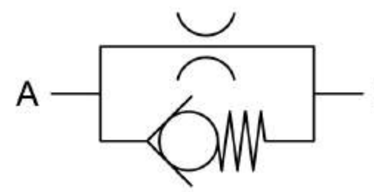
PART NUMBER: 9R3454 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

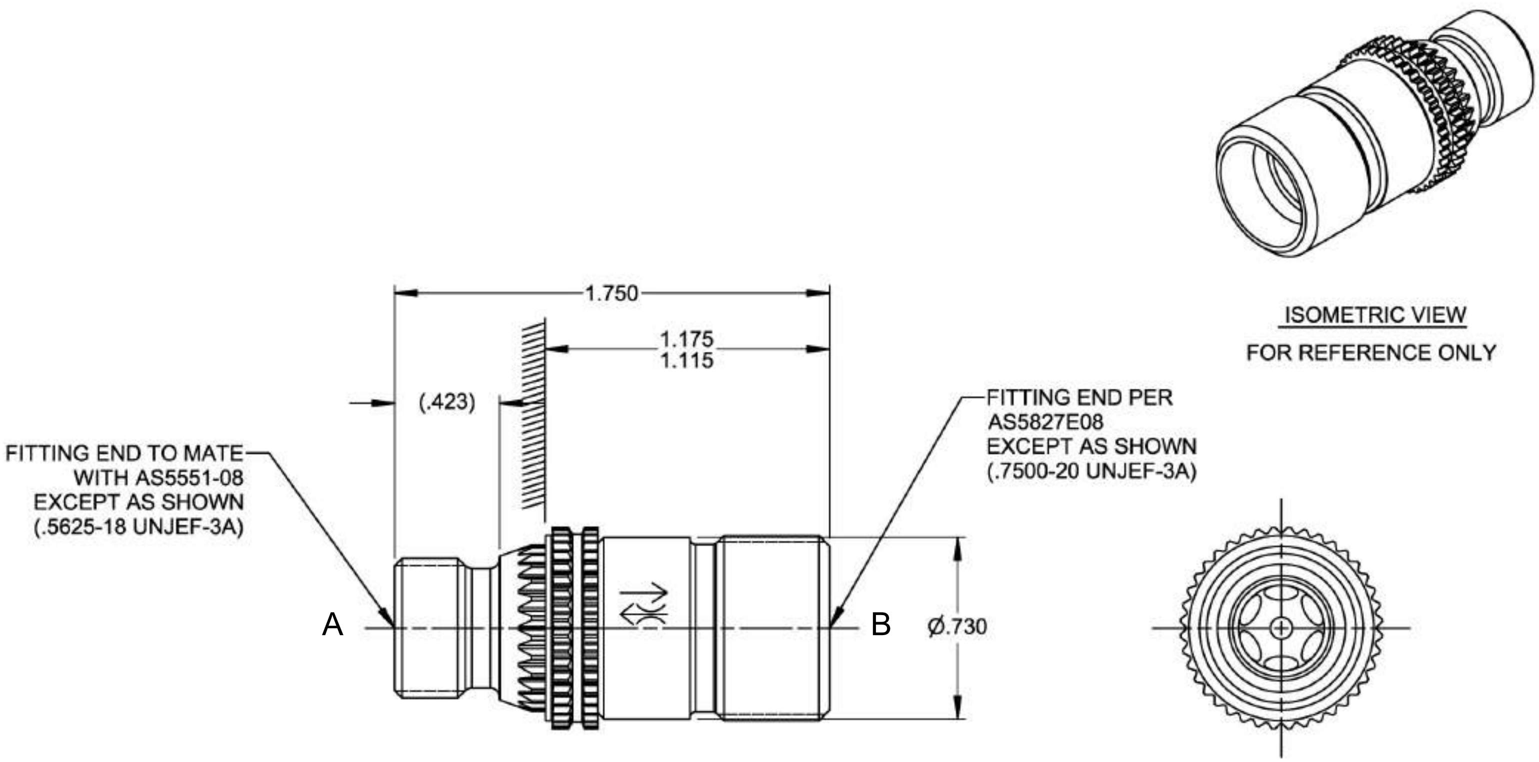
FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 6AL-4V TI
POPPET 440C CRES
LOCKRING A-286 CRES
TEMPERATURE RANGE: –65°F TO 275°F
OPERATING PRESSURE: 4000 PSIG
PROOF PRESSURE: 5000 PSIG
RESTRICTED FLOW: 5.6 ± 10% GPM AT 3000 PSID MAX (0.070 DIA ORIFICE REF)
FREE FLOW: 6.0 ± 10% GPM AT 15 PSID MAX
WEIGHT: 0.126 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

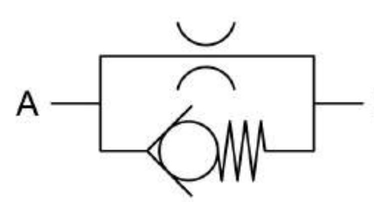
PART NUMBER: 9R4152-X RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 6AL-4V TI
POPPET 440C CRES
LOCKRING A-286 CRES
TEMPERATURE RANGE: –40°F TO 201°F
OPERATING PRESSURE: 5075 PSIG
PROOF PRESSURE: 9990.5 PSIG
RESTRICTED FLOW: SEE TAB BLOCK AT 5000 PSID
FREE FLOW: 6 GPM AT 20 PSID MAX
WEIGHT: 0.082 LBS MAX

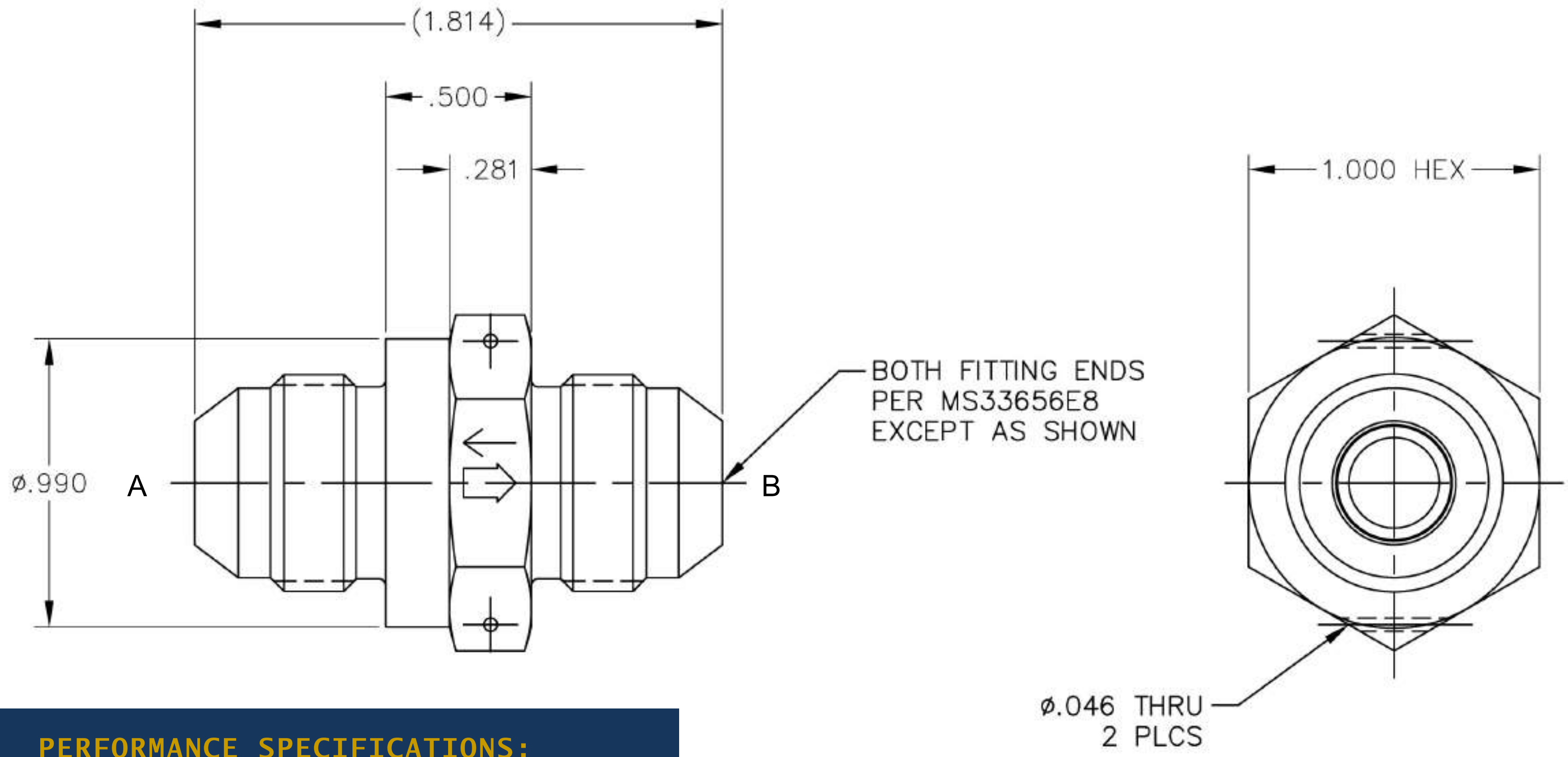
HYDRAULIC SCHEMATIC



DASH NO.	LOHM (REF)	FLOW (GPM)	ORIFICE (REF)
-1	150	9.43	Ø.082
-2	110	12.85	Ø.096
-3	95	14.90	Ø.104
-4	130	11.00	Ø.089

CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

PART NUMBER: 9R3928 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 2024-T351 AL

POPPET 440C CRES

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 1500 PSIG

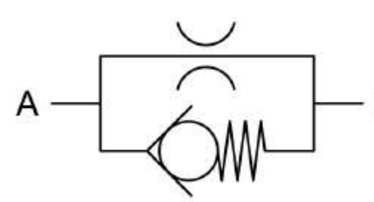
PROOF PRESSURE: 3750 PSIG

RESTRICTED FLOW: 1.6 ± 10% GPM AT 350 PSID MAX (0.066 DIA ORIFICE REF)

FREE FLOW: 2 GPM AT 15 PSID MAX

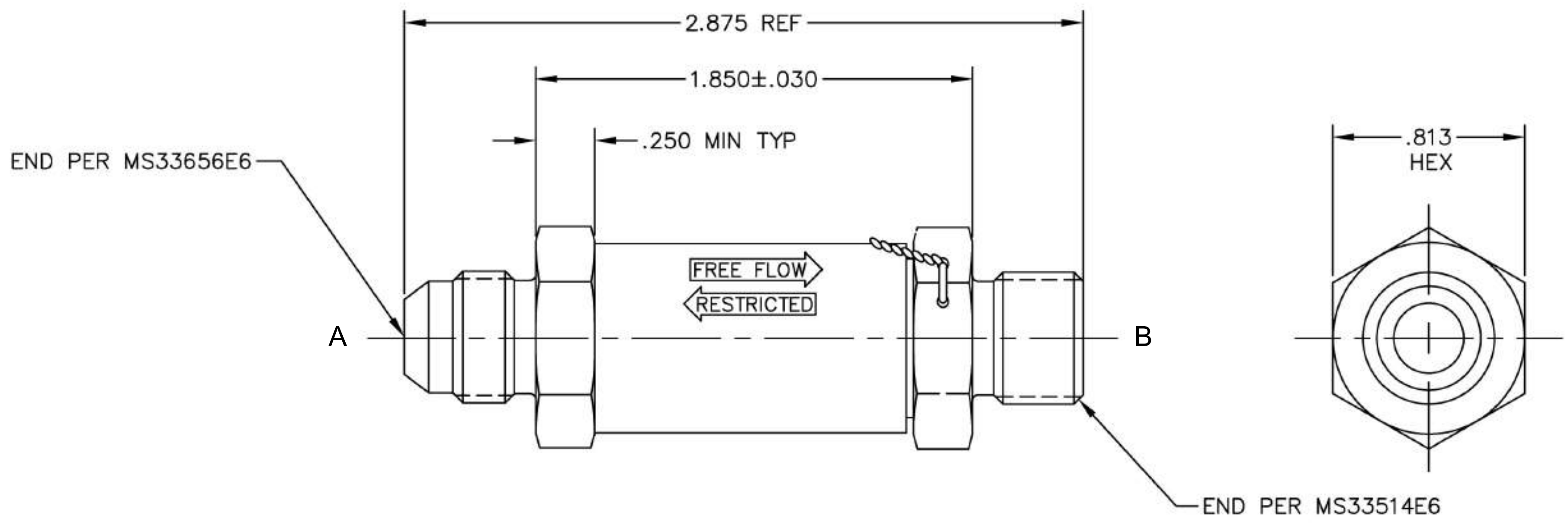
WEIGHT: 0.077 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR INC.

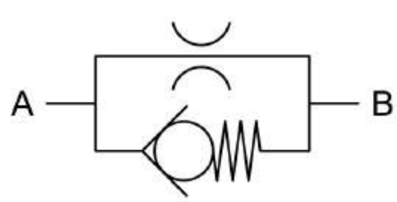
PART NUMBER: 6F5114 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

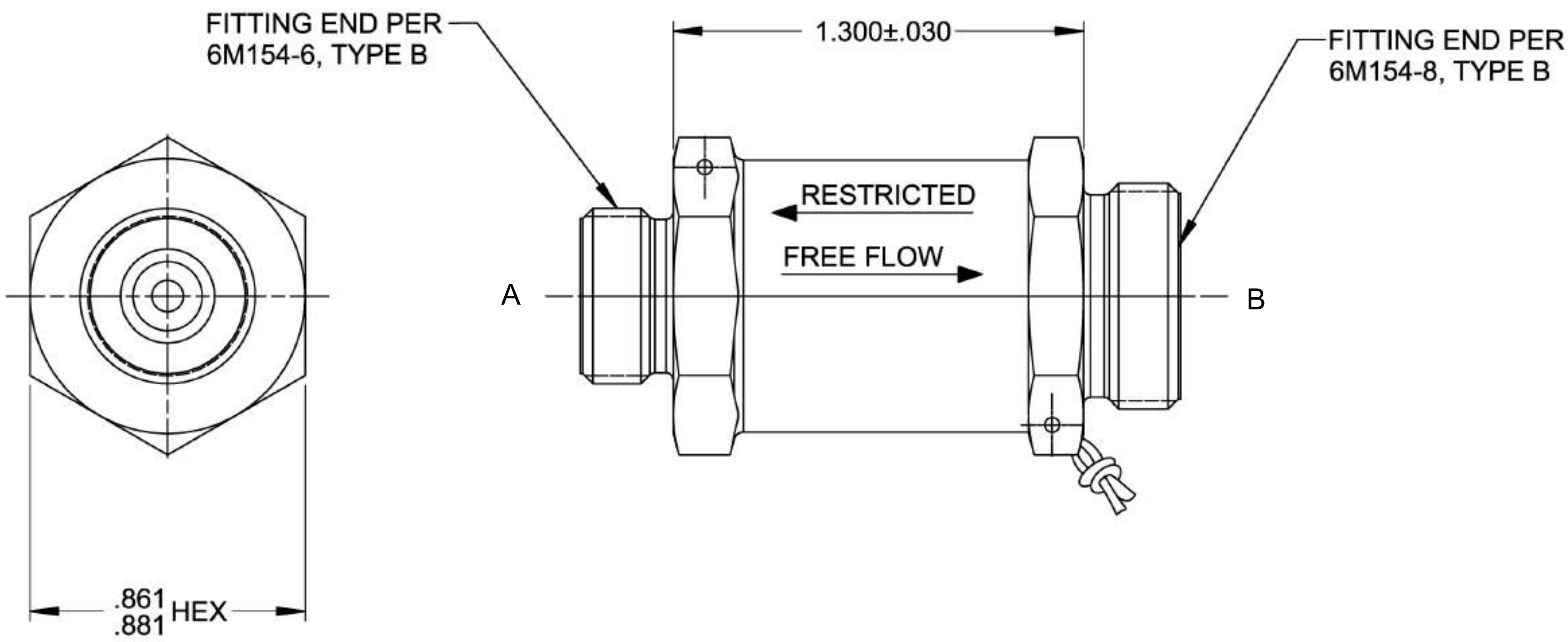
FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES
TEMPERATURE RANGE: –40°F TO 275°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
RESTRICTED FLOW: 6.5 ± .5% GPM AT 1050 PSID MAX (0.098 DIA ORIFICE REF)
FREE FLOW: 1.2 GPM AT 10 PSID MAX
WEIGHT: 0.30 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

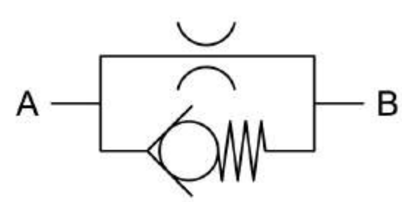
PART NUMBER: 9R4302 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



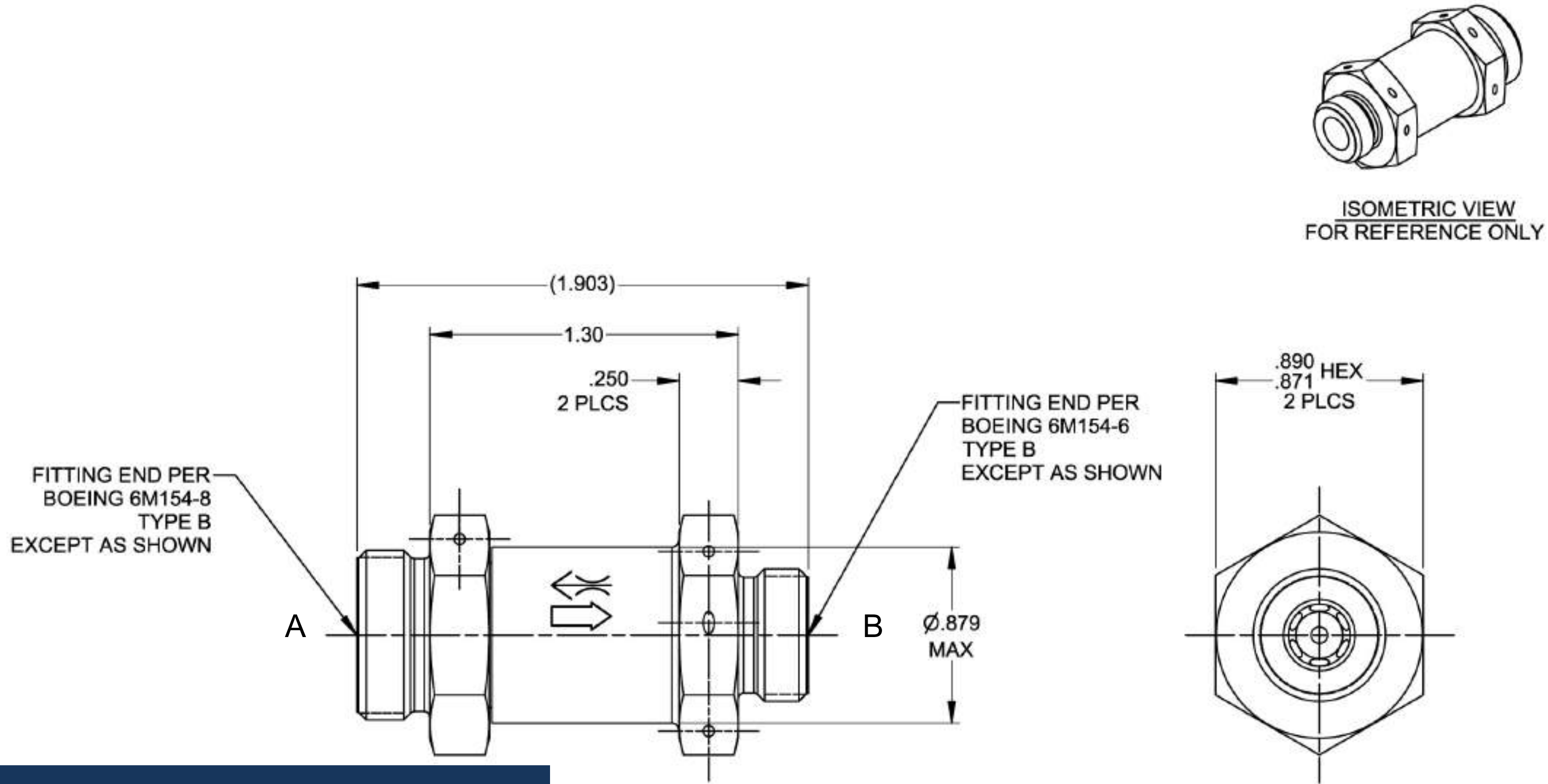
PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES
TEMPERATURE RANGE: –65°F TO 275°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
RESTRICTED FLOW: 12 ± 10% GPM AT 3000 PSID MAX
FREE FLOW: 10 GPM AT 20 PSID MAX
WEIGHT: 0.21 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 9R4314 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: –40°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

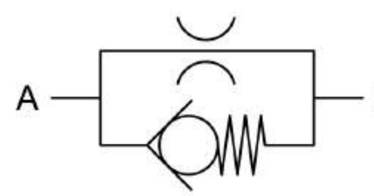
PROOF PRESSURE: 4500 PSIG

RESTRICTED FLOW: 6.25 ± 0.25% GPM AT 3000 PSID MAX (Ø.071 ORIFICE)

FREE FLOW: 3.5 GPM AT 15 PSID MAX

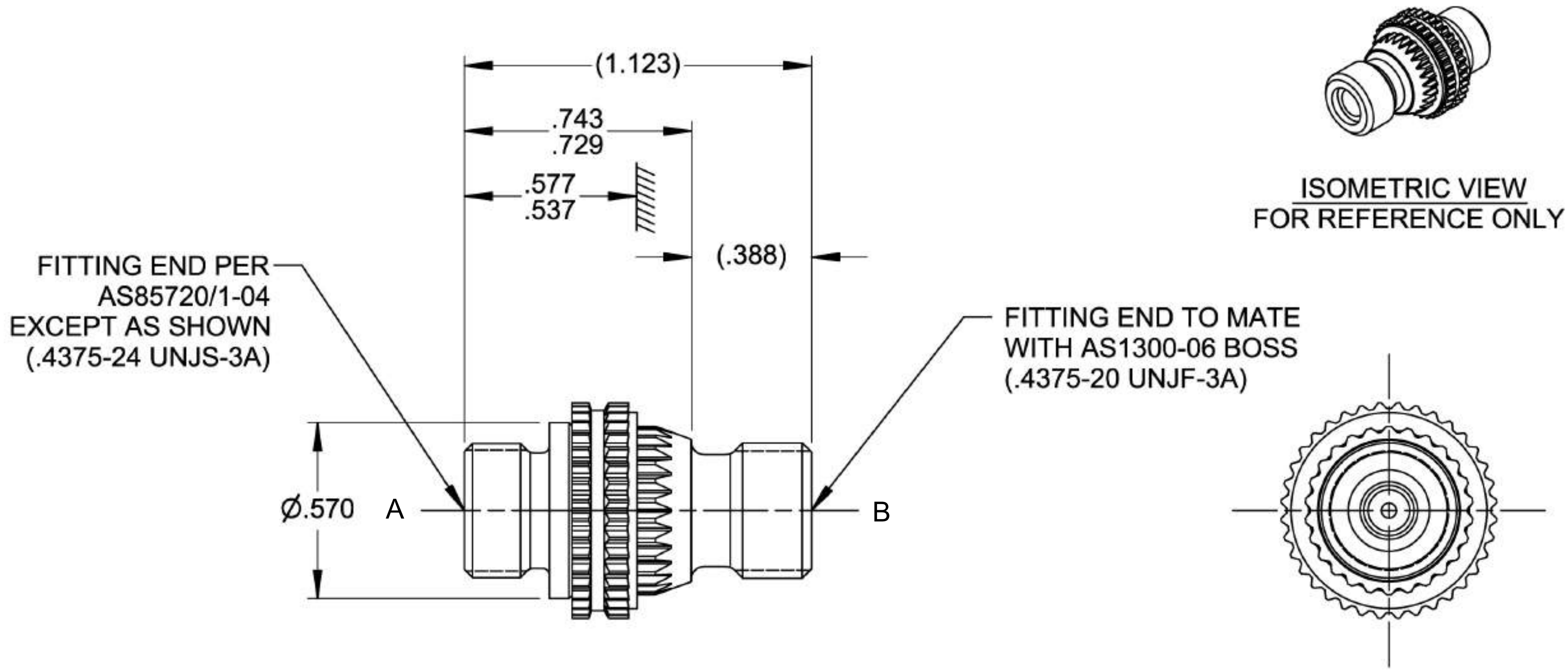
WEIGHT: 0.21 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

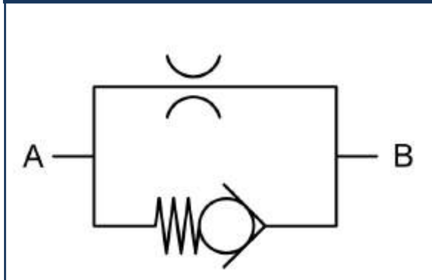
PART NUMBER: 9R4308 RESTRICTOR VALVE, ONE-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 15-5PH CRES
POPPET 440C CRES
LOCKRING A-286 CRES
TEMPERATURE RANGE: –65°F TO 275°F
OPERATING PRESSURE: 4000 PSIG
PROOF PRESSURE: 8000 PSIG
FLOW: A TO B 1.6 ± 0.1 GPM AT 1000 PSID MAX (Ø.049 ORIFICE)
B TO A 11.9 TO 15.9 GPM AT 1000 PSID MAX (Ø.134 ORIFICE)
WEIGHT: 0.056 LBS MAX

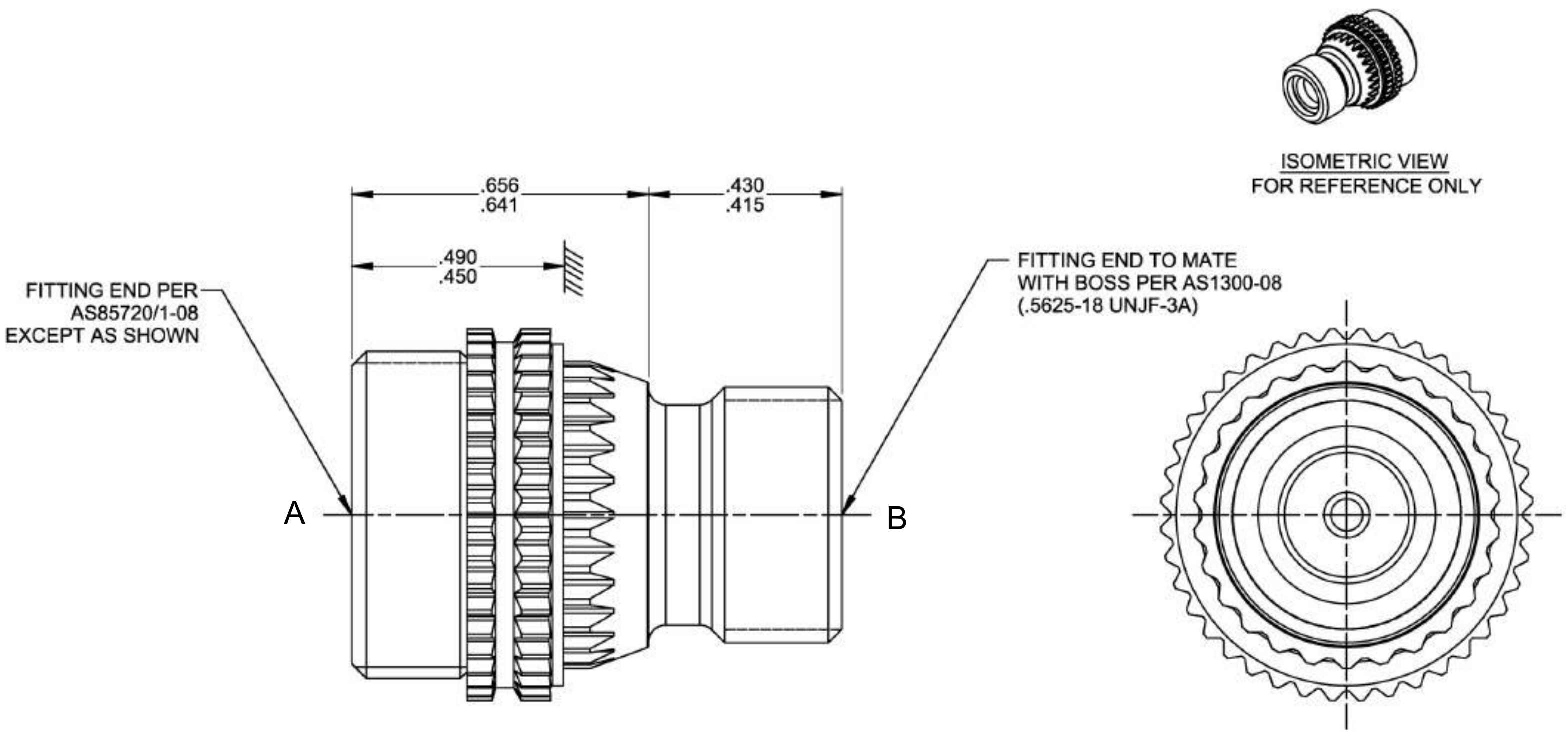
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

PART NUMBER: 9R4312 RESTRICTOR VALVE, ONE-WAY, UNFILTERED

CRISSAIR INC.



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: –40°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

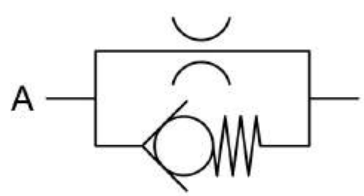
PROOF PRESSURE: 8600 PSIG

FLOW: A TO B 6.00 ± .12 GPM AT 1000 PSID MAX (Ø.100 ORIFICE)

B TO A 2.95 ± .06 GPM AT 1000 PSID MAX (Ø.070 ORIFICE)

WEIGHT: 0.056 LBS MAX

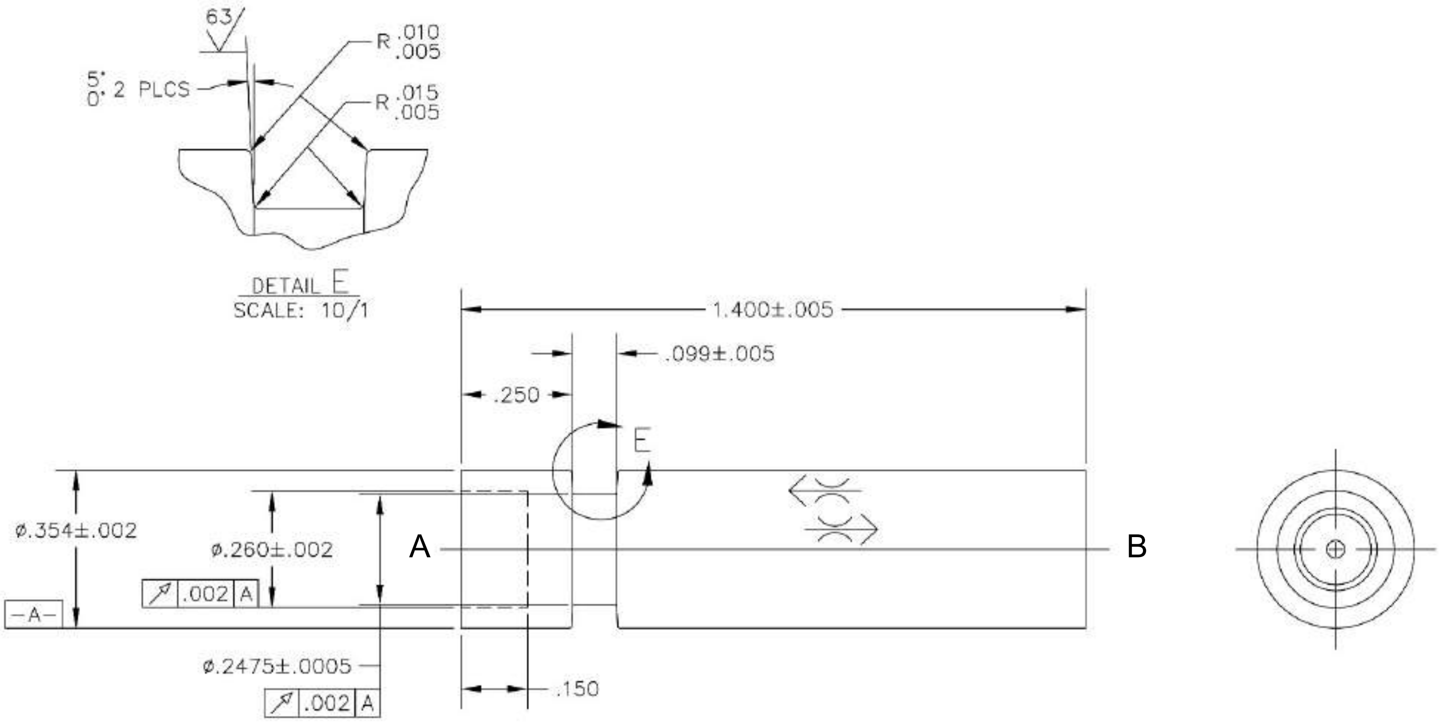
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES UNFILTERED

PART NUMBER: 9R4322 RESTRICTOR VALVE, ONE-WAY, UNFILTERED

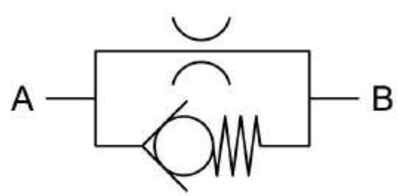
CRISSAIR INC.



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR
MATERIAL: BODY 17-4PH CRES
POPPET 440C CRES
TEMPERATURE RANGE: –65°F TO 400°F
OPERATING PRESSURE: 100 PSIG
PROOF PRESSURE: 250 PSIG
FLOW: SEE TAB BLOCK
WEIGHT: 0.03 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	REST. ORIFICE ±.0005	FREE FLOW ORIFICE ±.0005
9R4322-1	.0180	.040
9R4322-2	.0200	.040
9R4322-3	.0220	.040
9R4322-4	.0240	.040
9R4322-5	.0145	.040

CRISSAIR INC.

CRISSAIR HAS VARIOUS OTHER RESTRICTOR VALVES NOT LISTED IN THE

CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

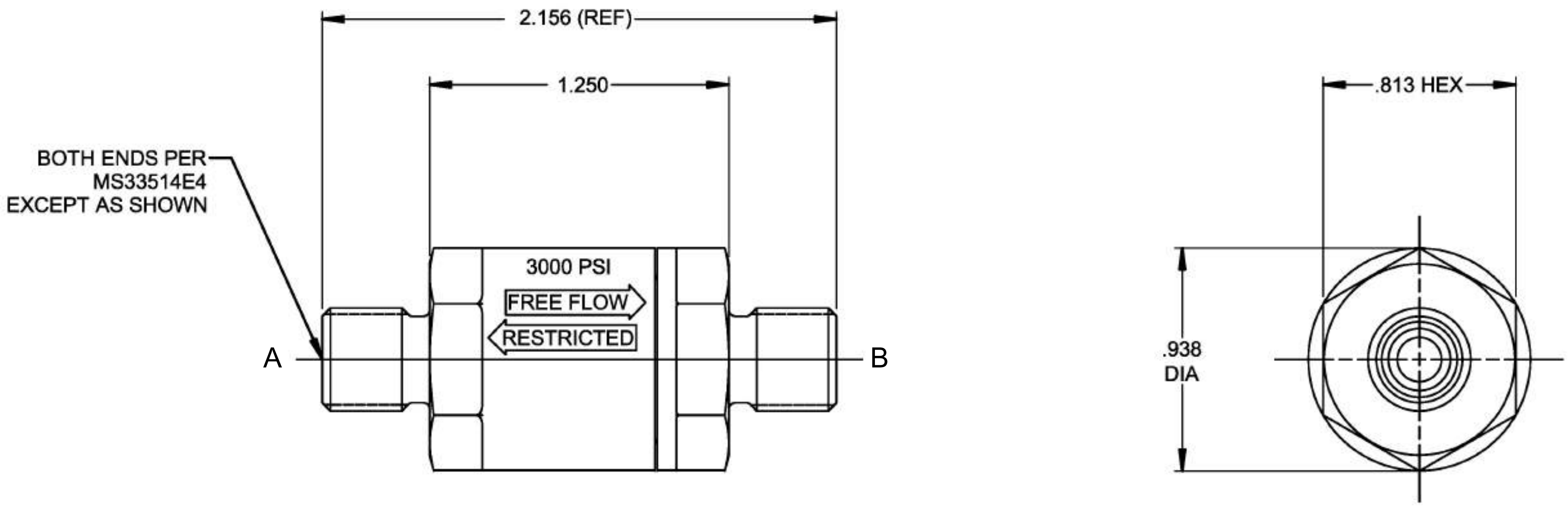
CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT

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

YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

CRISSAIR INC.

PART NUMBER: 6F5082 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-5606 OR MIL-H-6083*

MATERIAL: BODY 2024-T351 AL

POPPET 303 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

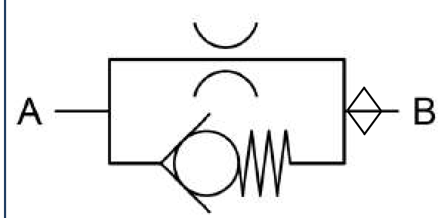
FLOW: SEE TAB BLOCK

FILTRATION: 0.008 TO 0.012 OPENINGS

WEIGHT: .08 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC

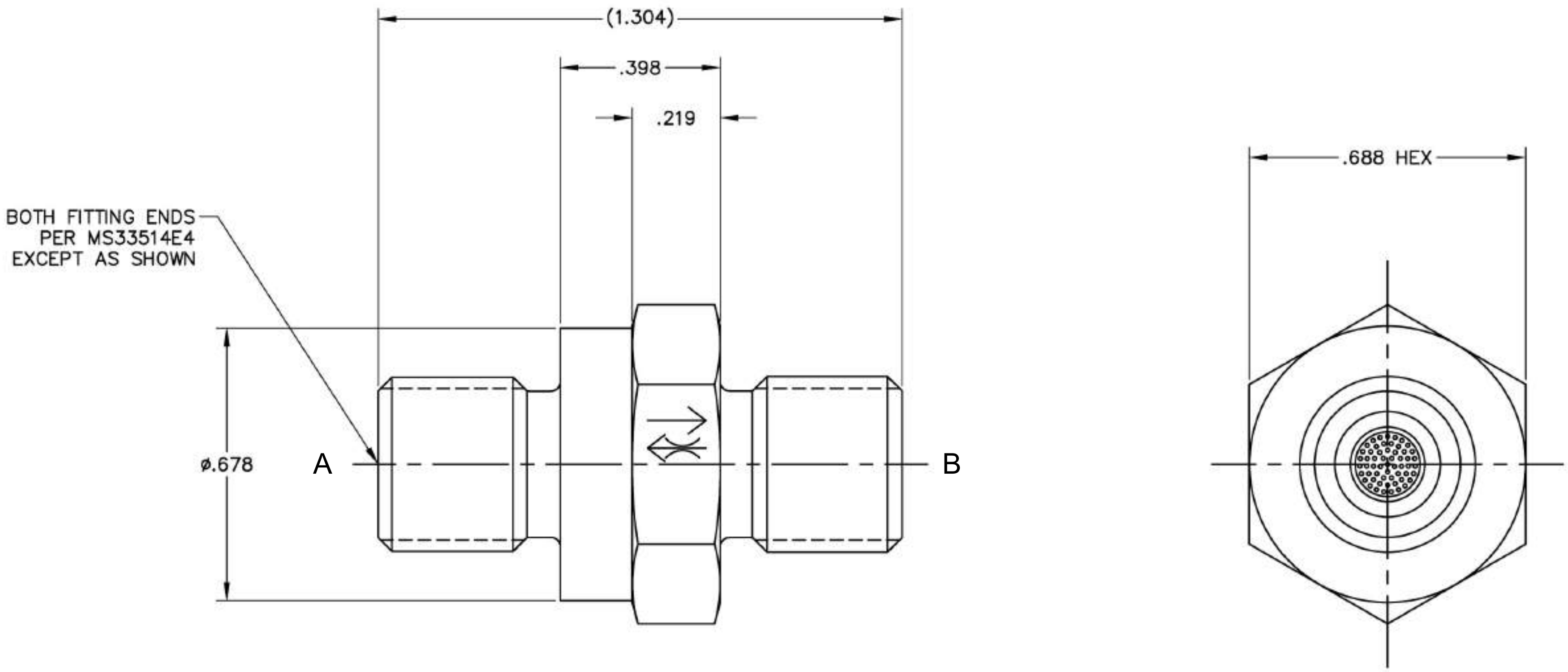


RESTRICTED FLOW (GPM)	PRESS. ΔP (PSID)	FREE FLOW (GPM)	PRESS. ΔP (PSID)
1.25 ± .12	1000	2.0	25
1.77 ± .17	2000	2.0	25
2.16 ± .22	3000	2.0	25

CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR INC.

PART NUMBER: 6F4420 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 304 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

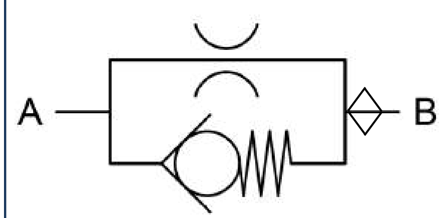
RESTRICTED FLOW: Ø.034 ± 0.001 ORIFICE

FREE FLOW: 1.2 GPM AT 70 PSID MAX

FILTRATION: 0.008 TO 0.012 OPENINGS

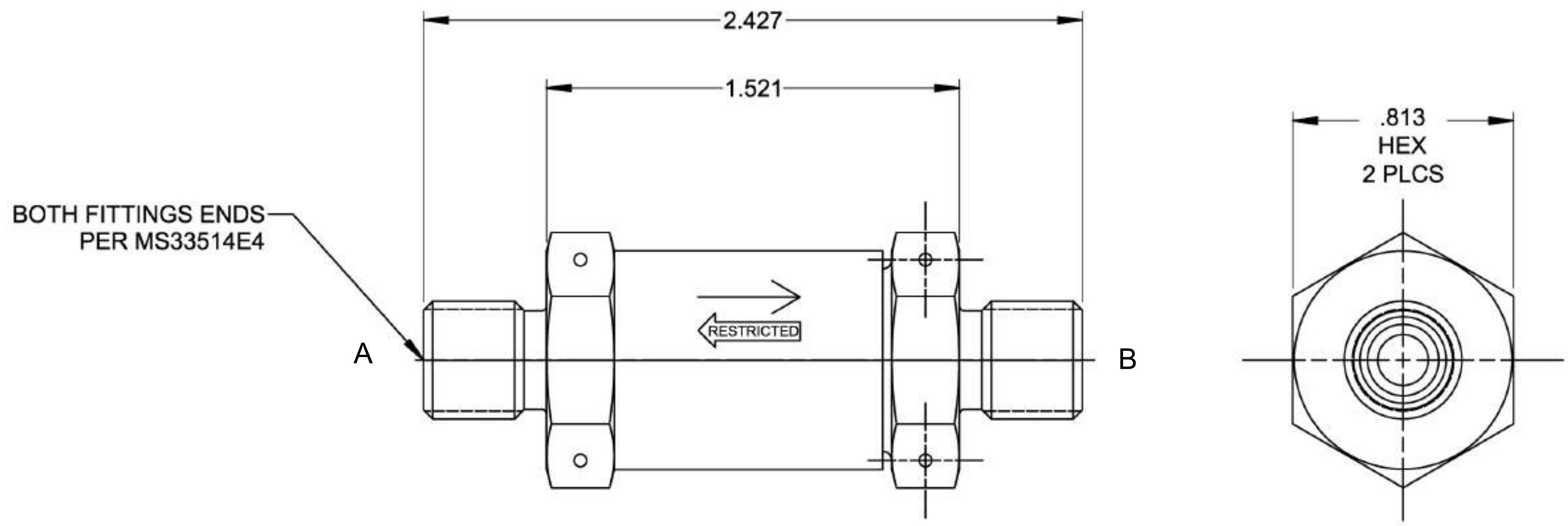
WEIGHT: .07 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F4830 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 7075-T651 AL

POPPET 303 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

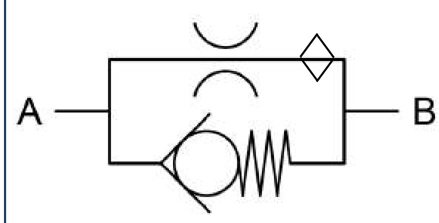
RESTRICTED FLOW: 1.9 ± .2 GPM AT 3000 PSID (Ø .040 ORIFICE)

FREE FLOW: 8 GPM AT 130 PSID MAX

FILTRATION: 200 MICRON

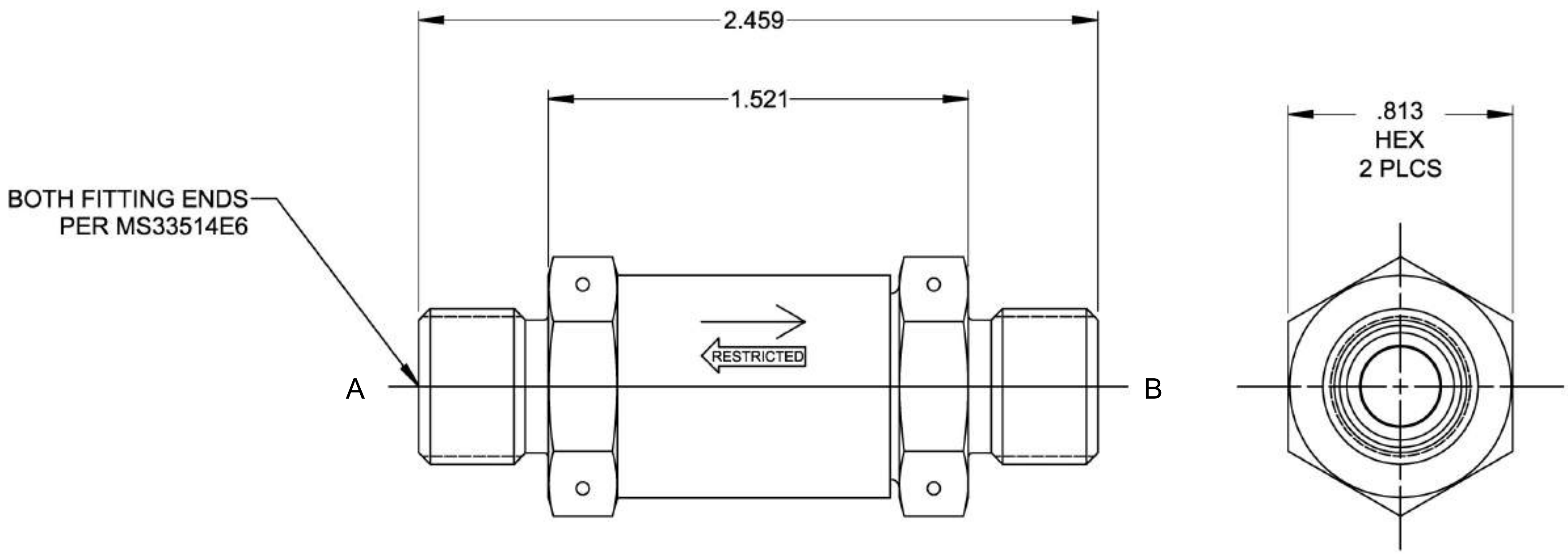
WEIGHT: .095 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F4832 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 7075-T651 AL

POPPET 303 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

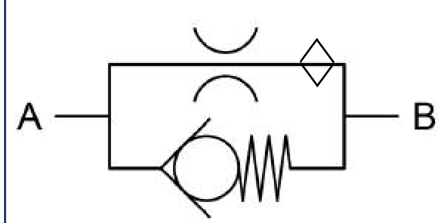
RESTRICTED FLOW: 1.9 ± .2 GPM AT 3000 PSID (Ø .040 ORIFICE)

FREE FLOW: 8 GPM AT 100 PSID MAX

FILTRATION: 200 MICRON

WEIGHT: .095 LBS MAX

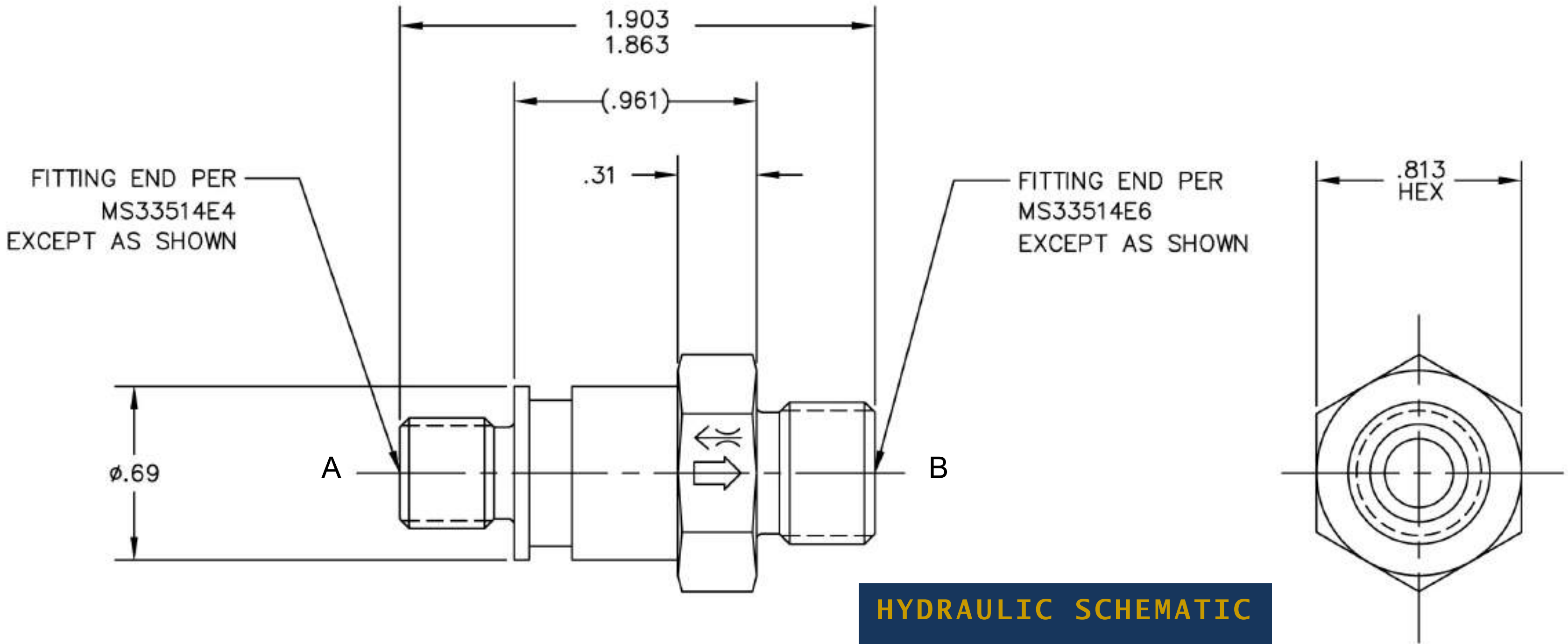
HYDRAULIC SCHEMATIC



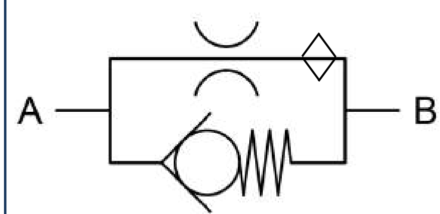
CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR INC.

PART NUMBER: 6F4566 RESTRICTOR VALVE, ONE-WAY, FILTERED



HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 303 CRES

POPPET 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

RESTRICTED FLOW: SEE TAB BLOCK

FREE FLOW: SEE TAB BLOCK

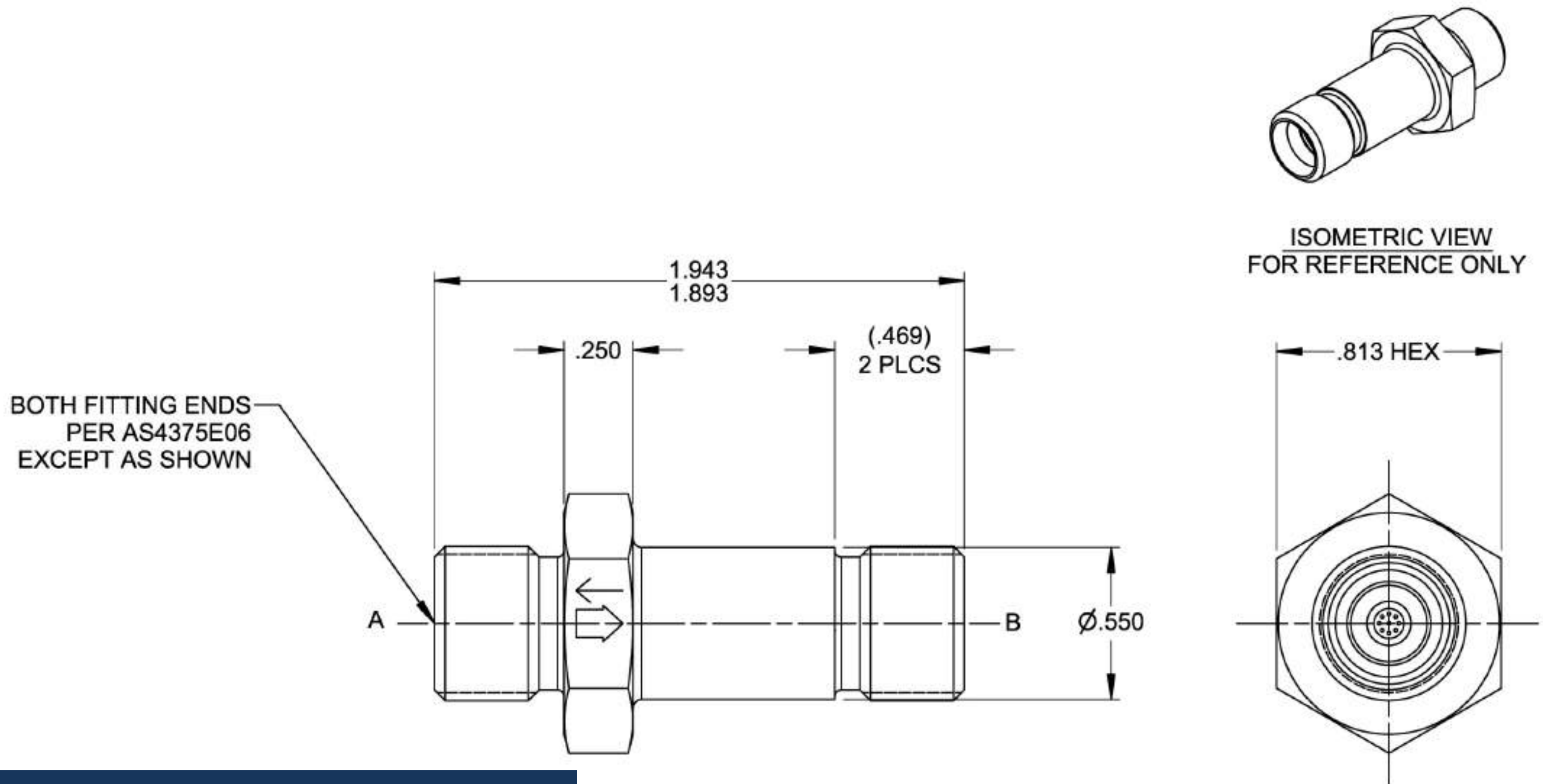
FILTRATION: .005 TO .008 OPENINGS

WEIGHT: .14 LBS MAX

PART NO.	FREE FLOW (GPM)	FREE FLOW ΔP (PSID)	REST. FLOW ±10% (GPM)	REST. FLOW PSID	REST. FLOW (ORIFICE)
6F4566	1.2	15	.35	3000	Ø.018
6F4566-1	1.2	15	.44	3000	Ø.020

CRISSAIR INC.

PART NUMBER: 6F4676 RESTRICTOR VALVE, ONE-WAY, FILTERED, HI-LO



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 304 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

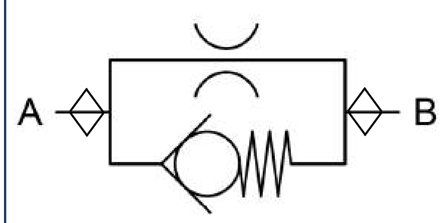
RESTRICTED FLOW: A TO B 1.77± 5% GPM AT 628 PSID (Ø.060 ORIFICE)

B TO A 1.77± 5% GPM AT 1278 PSID (Ø.050 ORIFICE)

FILTRATION: .011 TO .014 OPENINGS

WEIGHT: .123 LBS MAX

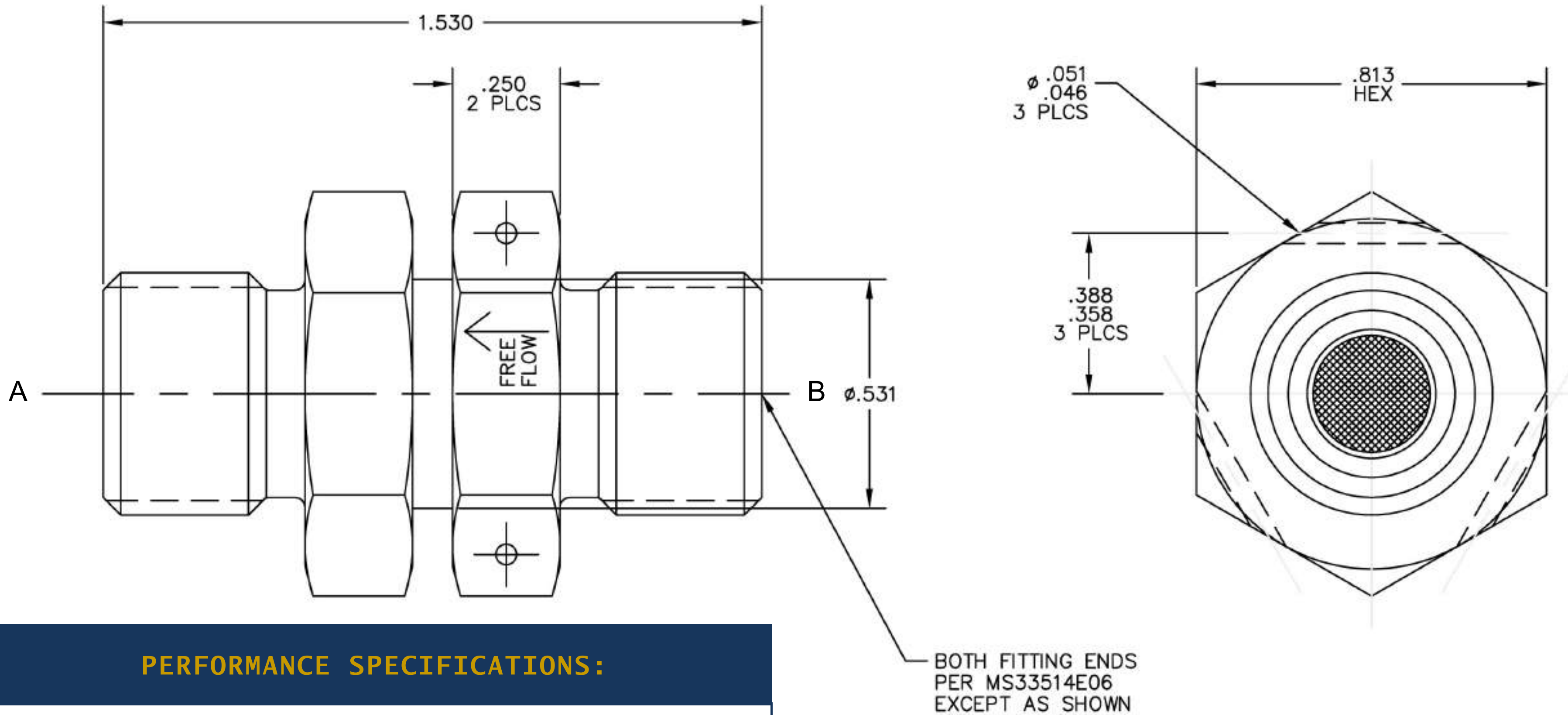
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR INC.

PART NUMBER: 6F5124-1 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET 304 CRES

TEMPERATURE RANGE: -117°F TO 275°F

OPERATING PRESSURE: 3050 PSIG

TRANSIENT PRESSURE: 4050 PSIG

PROOF PRESSURE: 6000 PSIG

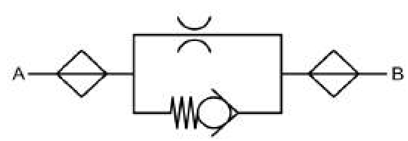
RESTRICTED FLOW: 3.56-3.93 GPM AT 3000 PSID AT 75°F ± 10°F (Ø.057 ORIFICE)

FREE FLOW: 2.0 GPM AT 170 PSID MAX AT 75°F ± 10°F

FILTRATION: .008 TO .012 OPENINGS

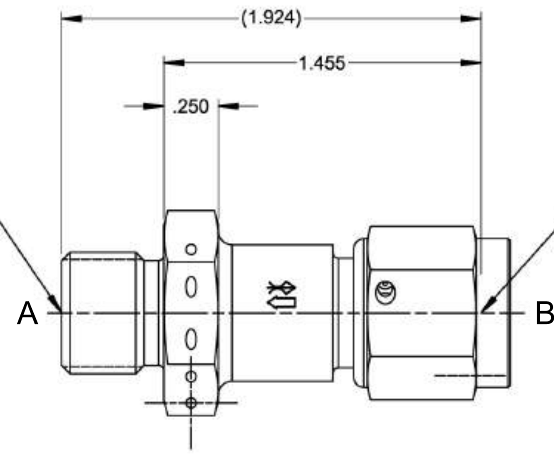
WEIGHT: .113 LBS MAX

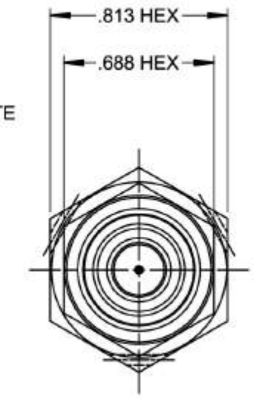
HYDRAULIC SCHEMATIC



PART NUMBER: 6F4896 RESTRICTOR VALVE, ONE-WAY, FILTERED

ISOMETRIC VIEW
FOR REFERENCE ONLY





PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET 304 CRES

SWIVEL NUT 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

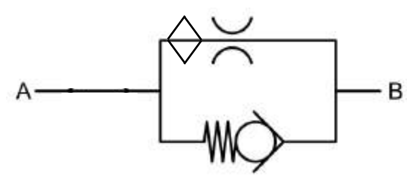
RESTRICTED FLOW: 1.0 ± 5% GPM AT 3000 PSID (Ø.029 ORIFICE)

FREE FLOW: 1.1 GPM AT 35 PSID MAX

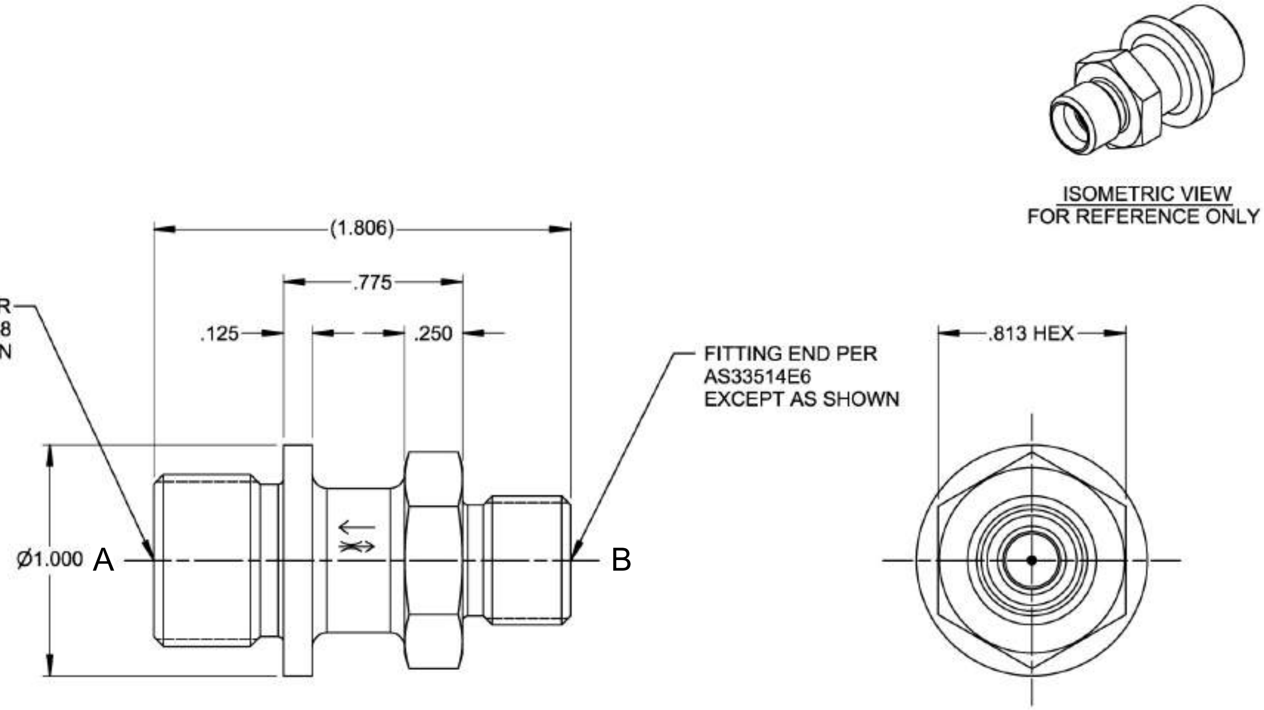
FILTRATION: .005 TO .007 OPENINGS

WEIGHT: .162 LBS MAX

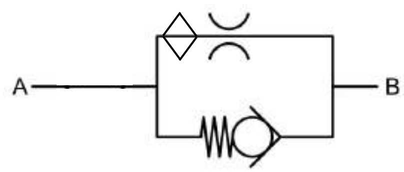
HYDRAULIC SCHEMATIC



PART NUMBER: 6F5102-X RESTRICTOR VALVE, ONE-WAY, FILTERED



HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4PH CRES

POPPET 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

RESTRICTED FLOW: SEE TAB BLOCK

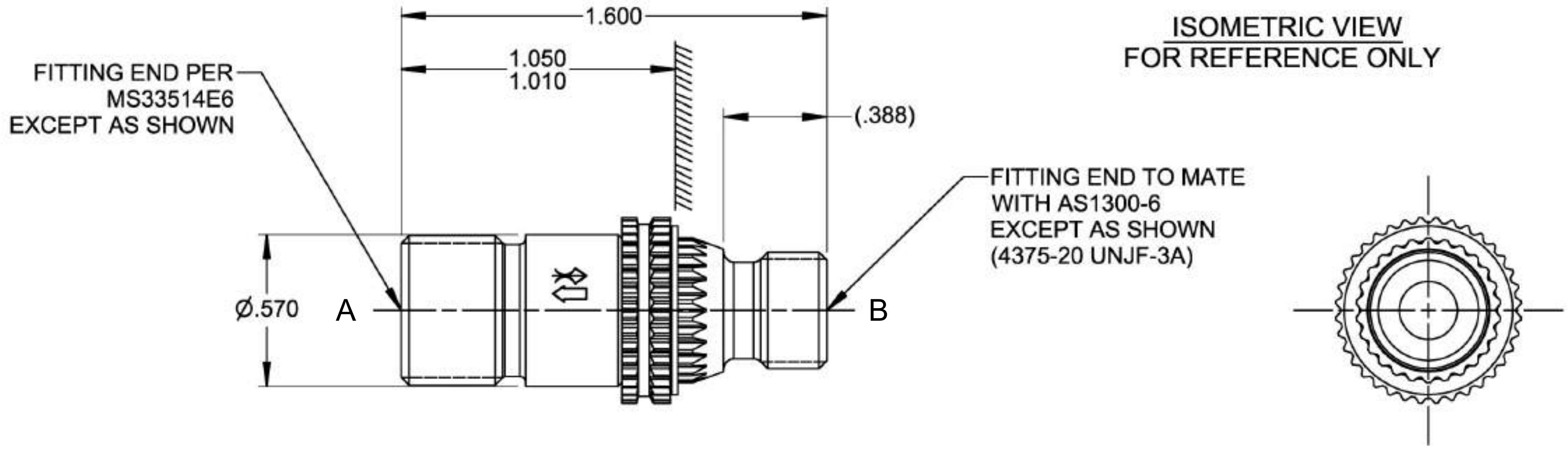
FREE FLOW: 5 GPM AT 30 PSID MAX

FILTRATION: .005 TO .007 OPENINGS

WEIGHT: .16 LBS MAX

PART NO.	FLOW ±5%	RESTRICTION VALUE PSI/(CIS)^2	ORIFICE Ø	PSID
6F5102-001	1.35	75	.0390	2028
6F5102-003	1.35	85	.0378	2298
6F5102-005	1.35	95	.0368	2569

PART NUMBER: 6F4898 RESTRICTOR VALVE, ONE-WAY, FILTERED



ISOMETRIC VIEW
FOR REFERENCE ONLY

PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

POPPET 304 CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

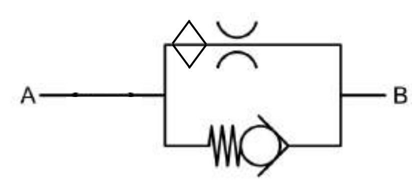
RESTRICTED FLOW: 1.1 ± 5% GPM AT 3000 PSID (Ø.031 ORIFICE)

FREE FLOW: 1.1 GPM AT 35 PSID MAX

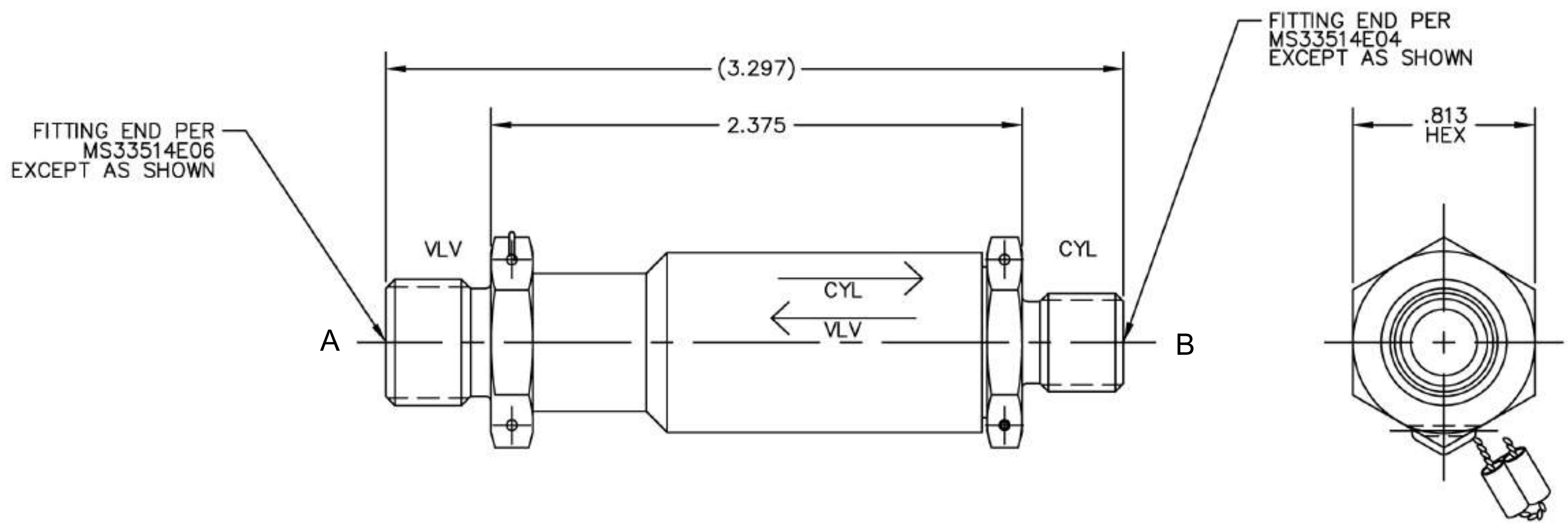
FILTRATION: .005 TO .007 OPENINGS

WEIGHT: .055 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 6F3778 RESTRICTOR VALVE, ONE-WAY, FILTERED, HI-LO



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER DMS 2014, TY 3*

MATERIAL: BODY 17-4 CRES

POPPET 303 CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

RESTRICTED FLOW: VLV TO CYL 2.100 ± 10% GPM AT 800 PSID (Ø.0606 ORIFICE)

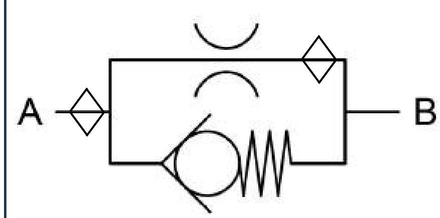
CYL TO VLV 0.350 ± 10% GPM AT 800 PSID (Ø.0250 ORIFICE)

FILTRATION: .003 TO .005 OPENINGS

WEIGHT: .30 LBS MAX

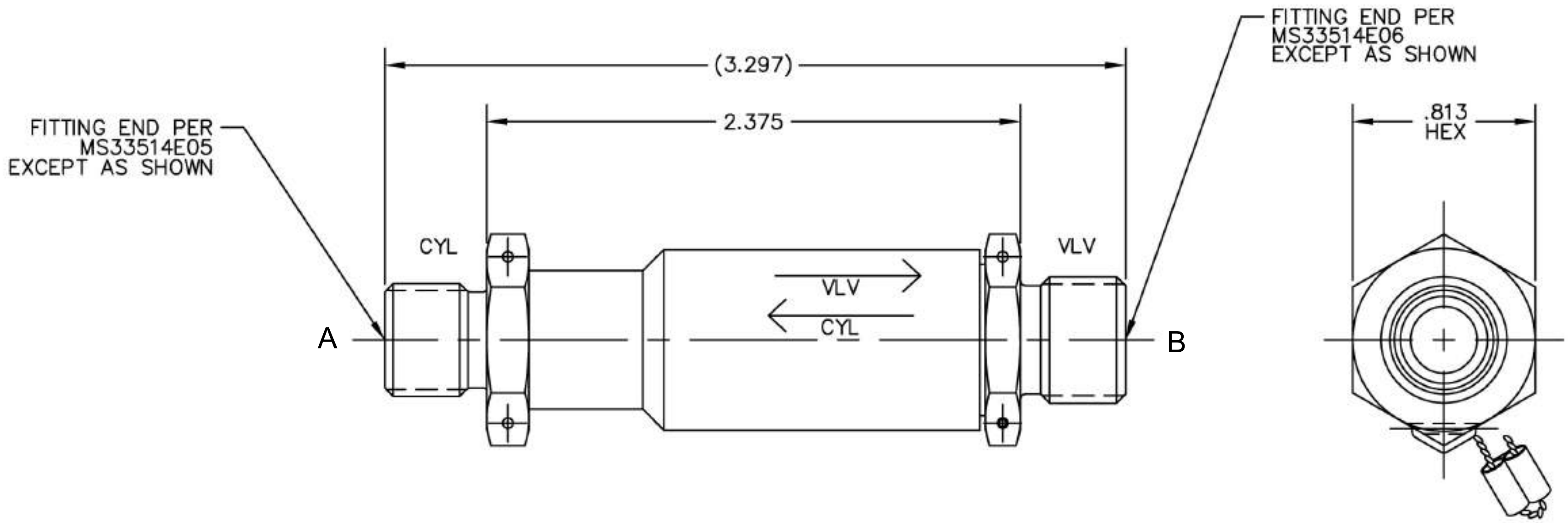
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F3782 RESTRICTOR VALVE, ONE-WAY, FILTERED, HI-LO



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER DMS 2014, TY 3*

MATERIAL: BODY 17-4 CRES

POPPET 303 CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

RESTRICTED FLOW: CYL TO VLV 1.210 ± 10% GPM AT 450 PSID (Ø.0560 ORIFICE)

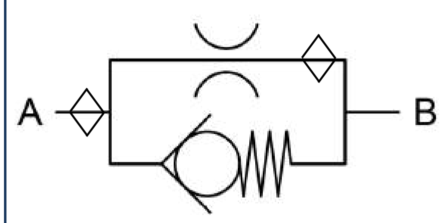
VLV TO CYL 1.140 ± 10% GPM AT 2375 PSID (Ø.0365 ORIFICE)

FILTRATION: .008 TO .012 OPENINGS

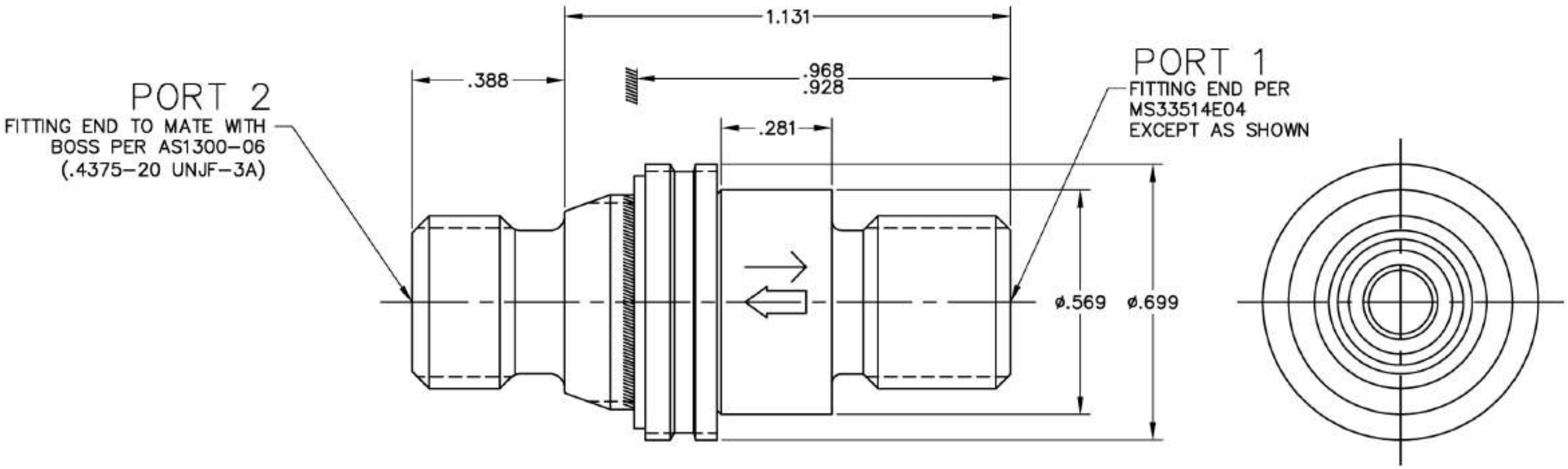
WEIGHT: .30 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



PART NUMBER: 6F4292-X RESTRICTOR VALVE, ONE-WAY, FILTERED, HI-LO



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 7500 PSIG

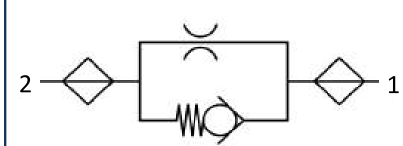
PROOF PRESSURE: 11250 PSIG

RESTRICTED FLOW: SEE TAB BLOCK AT 3000 PSID MAX

FILTRATION: .008 TO .012 OPENINGS

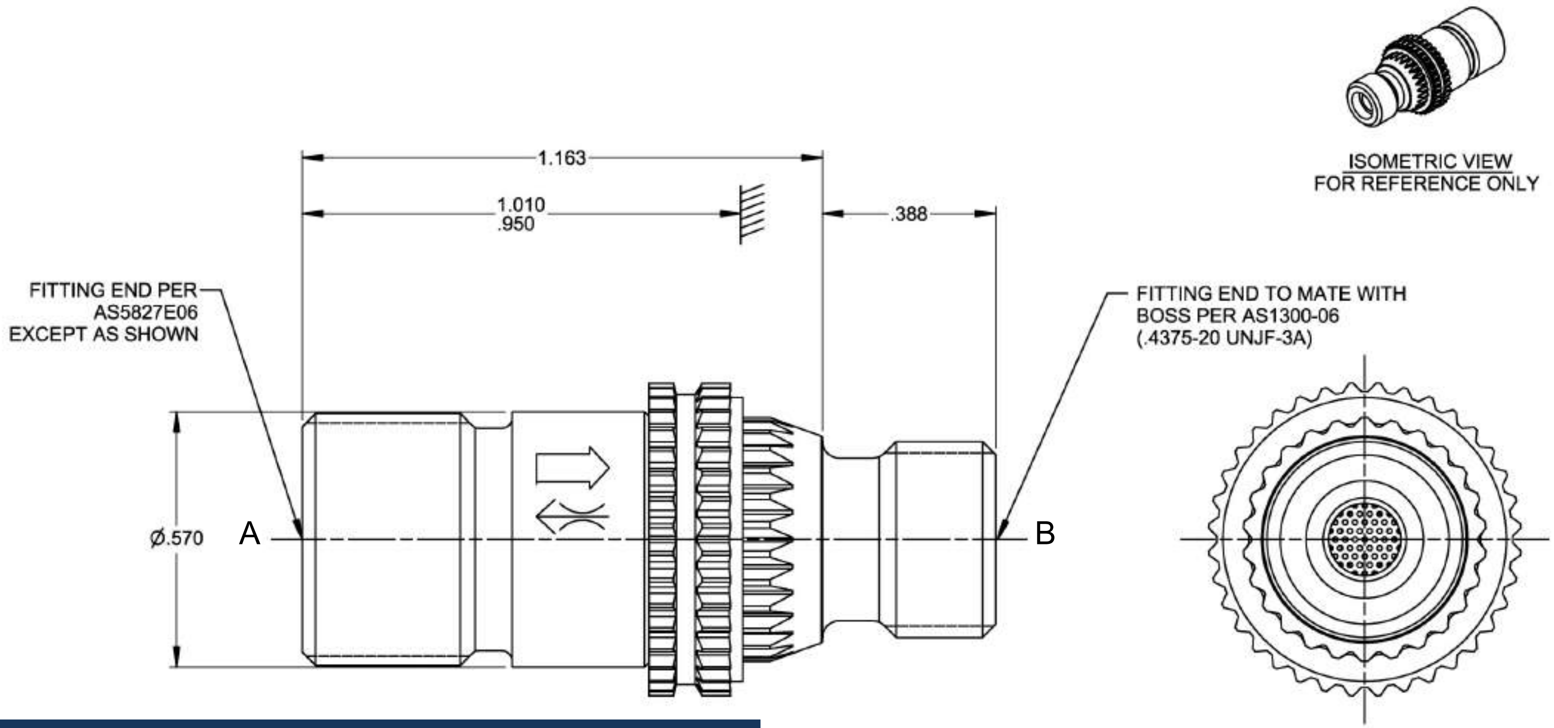
WEIGHT: .08 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	PORTS	FLOW (GPM) ± 10%	ORIFICE Ø	LOHM
6F4292-1	2 TO 1	1.33	.034	900
	1 TO 2	2.39	.046	500
6F4292-2	2 TO 1	1.37	.035	800
	1 TO 2	1.36	.034	875
6F4292-3	2 TO 1	1.19	.032	1000
	1 TO 2	1.99	.042	600

PART NUMBER: 6F4712 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 5080 PSIG

PROOF PRESSURE: 7500 PSIG

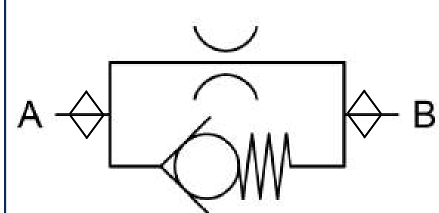
RESTRICTED FLOW: 0.744 ± 5% GPM AT 4000 PSID (Ø.0244 ORIFICE)

FREE FLOW: 0.48 GPM AT 60 PSID MAX

FILTRATION: .008 TO .012 OPENINGS

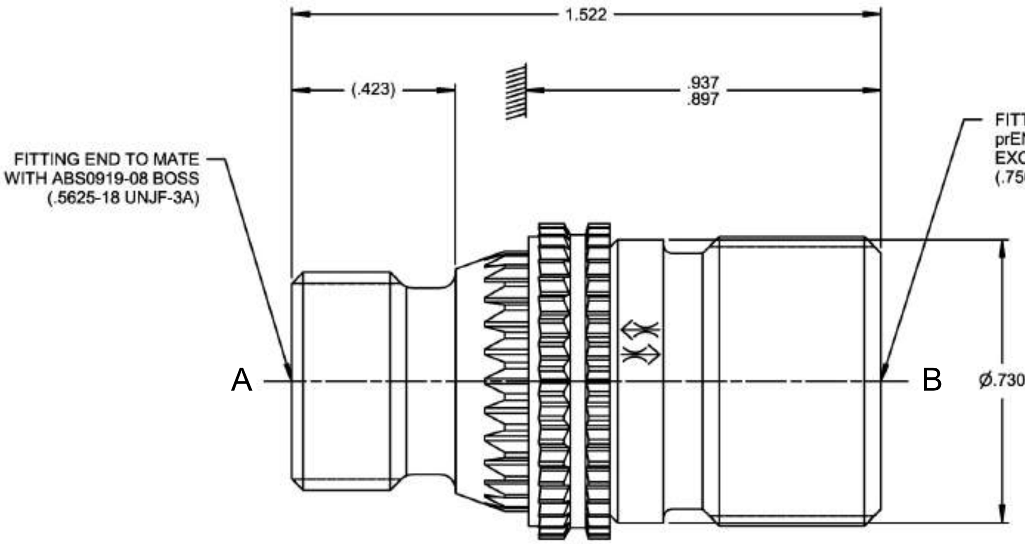
WEIGHT: .056 LBS MAX

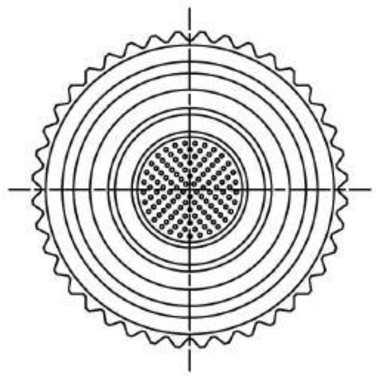
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F5100-X RESTRICTOR VALVE, ONE-WAY, FILTERED, HI-LO





PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 230°F

OPERATING PRESSURE: 3030 PSIG

PROOF PRESSURE: 4570 PSIG

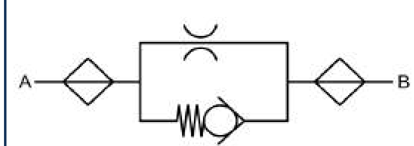
RESTRICTED FLOW: A TO B SEE TAB BLOCK AT 3000 PSID (ON NEXT PAGE)

B TO A 6.29 ± .31 GPM AT 3000 PSID (Ø.076 ORIFICE)

FILTRATION: .008 TO .012 OPENINGS

WEIGHT: .078 LBS MAX

HYDRAULIC SCHEMATIC



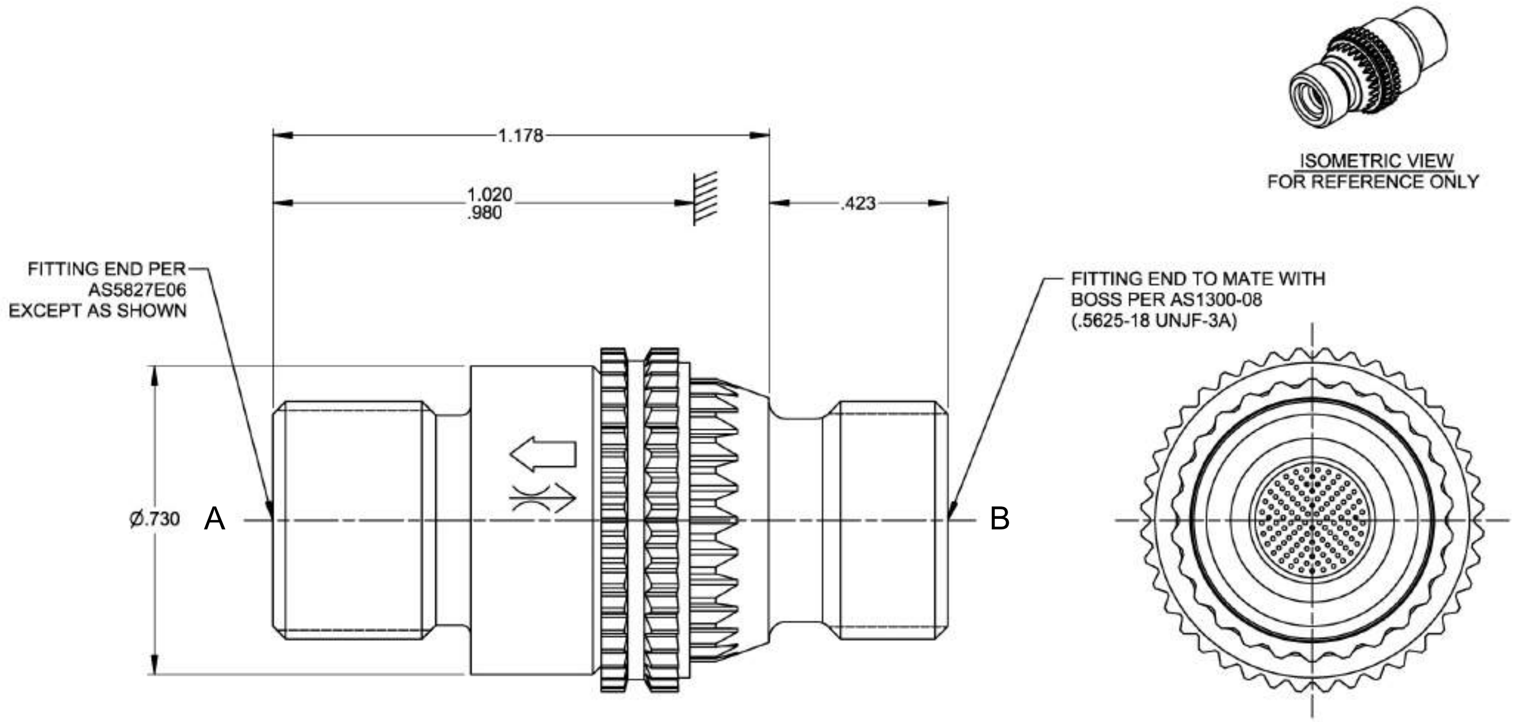
CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR PART NO.	FLOW GPM ± 5%	ORIFICE Ø
6F5100-022	4.860	.067
6F5100-024	4.450	.064
6F5100-026	4.110	.062
6F5100-028	3.820	.060
6F5100-030	3.560	.057
6F5100-032	3.340	.056
6F5100-034	3.140	.054
6F5100-036	2.970	.052
6F5100-038	2.810	.051
6F5100-040	2.670	.050
6F5100-042	2.540	.049
6F5100-044	2.430	.047
6F5100-046	2.320	.046
6F5100-048	2.230	.045
6F5100-050	2.140	.045
6F5100-055	1.940	.042
6F5100-060	1.780	.041
6F5100-065	1.640	.039
6F5100-070	1.530	.038

CRISSAIR PART NO.	FLOW GPM	ORIFICE Ø
6F5100-075	1.420	.036
6F5100-080	1.340	.035
6F5100-085	1.260	.034
6F5100-090	1.190	.033
6F5100-095	1.120	.032
6F5100-100	1.070	.031
6F5100-105	1.020	.031
6F5100-110	.970	.030
6F5100-115	.930	.029
6F5100-120	.890	.029
6F5100-125	.850	.028
6F5100-130	.820	.028
6F5100-135	.790	.027
6F5100-140	.760	.027
6F5100-145	.740	.026
6F5100-150	.710	.026
6F5100-155	.690	.025
6F5100-160	.670	.025
6F5100-165	.650	.025

CRISSAIR PART NO.	FLOW GPM ± 5%	ORIFICE Ø
6F5100-170	.630	.024
6F5100-175	.610	.024
6F5100-180	.590	.023
6F5100-185	.580	.023
6F5100-190	.560	.023
6F5100-195	.550	.023
6F5100-200	.530	.022
6F5100-210	.510	.022
6F5100-220	.490	.021
6F5100-230	.460	.021
6F5100-240	.450	.020
6F5100-250	.430	.020
6F5100-260	.410	.020
6F5100-270	.400	.019
6F5100-280	.380	.019
6F5100-290	.370	.018
6F5100-300	.360	.018

PART NUMBER: 6F4710 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 5080 PSIG

PROOF PRESSURE: 7500 PSIG

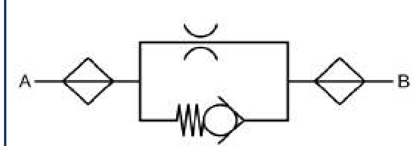
RESTRICTED FLOW: 1.088 ± 5% GPM AT 5000 PSID (Ø.0280 ORIFICE)

FREE FLOW: 0.48 GPM AT 60 PSID MAX

FILTRATION: .008 TO .012 OPENINGS

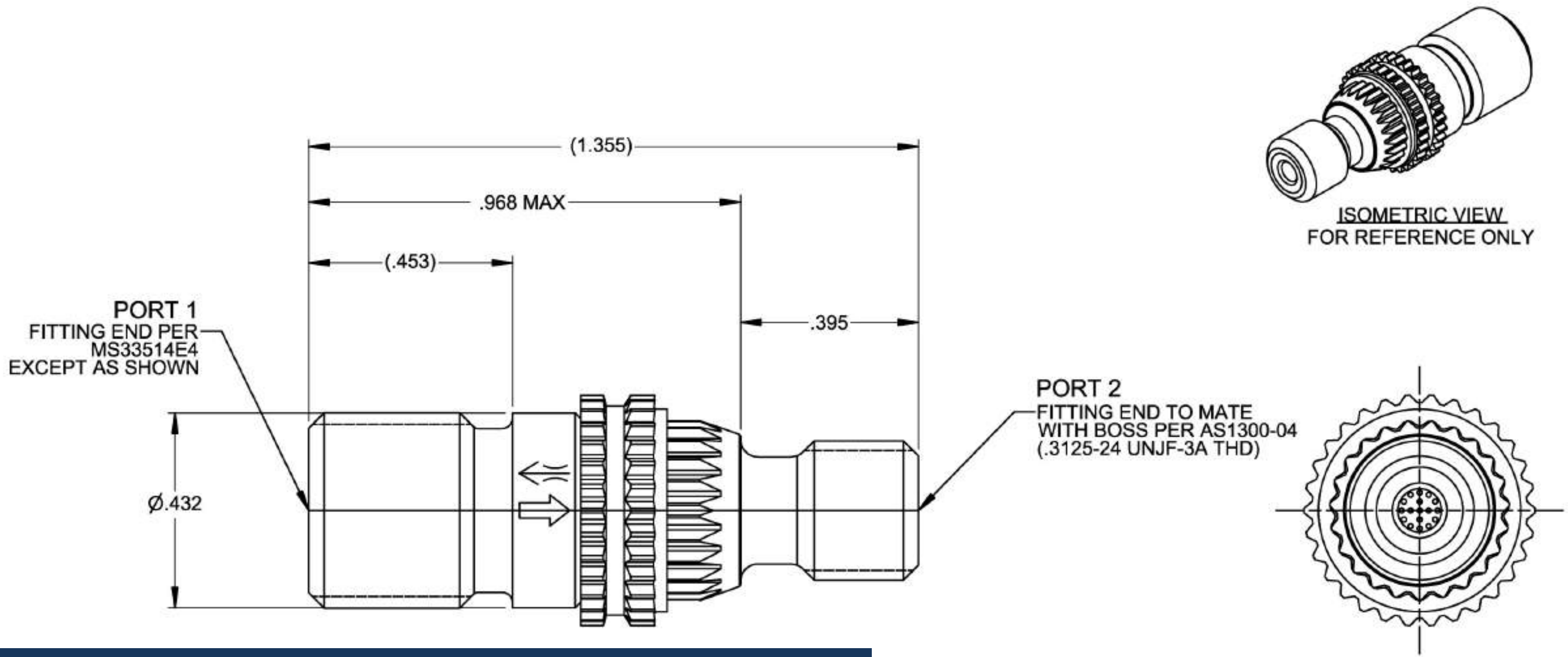
WEIGHT: .078 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F5128 RESTRICTOR VALVE, ONE-WAY, FILTERED, HI-LO



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET 440C CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

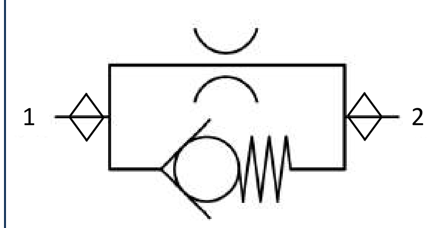
RESTRICTED FLOW: 1 TO 2 - 2.150 ± 5% GPM AT 3000 PSID (555 ± 5% LOHMS) (Ø.037 ORIFICE)

2 TO 1 - 1.190 ± 5% GPM AT 3000 PSID (1000 ± 5% LOHMS) (Ø.028 ORIFICE)

FILTRATION: .008 TO .012 OPENINGS

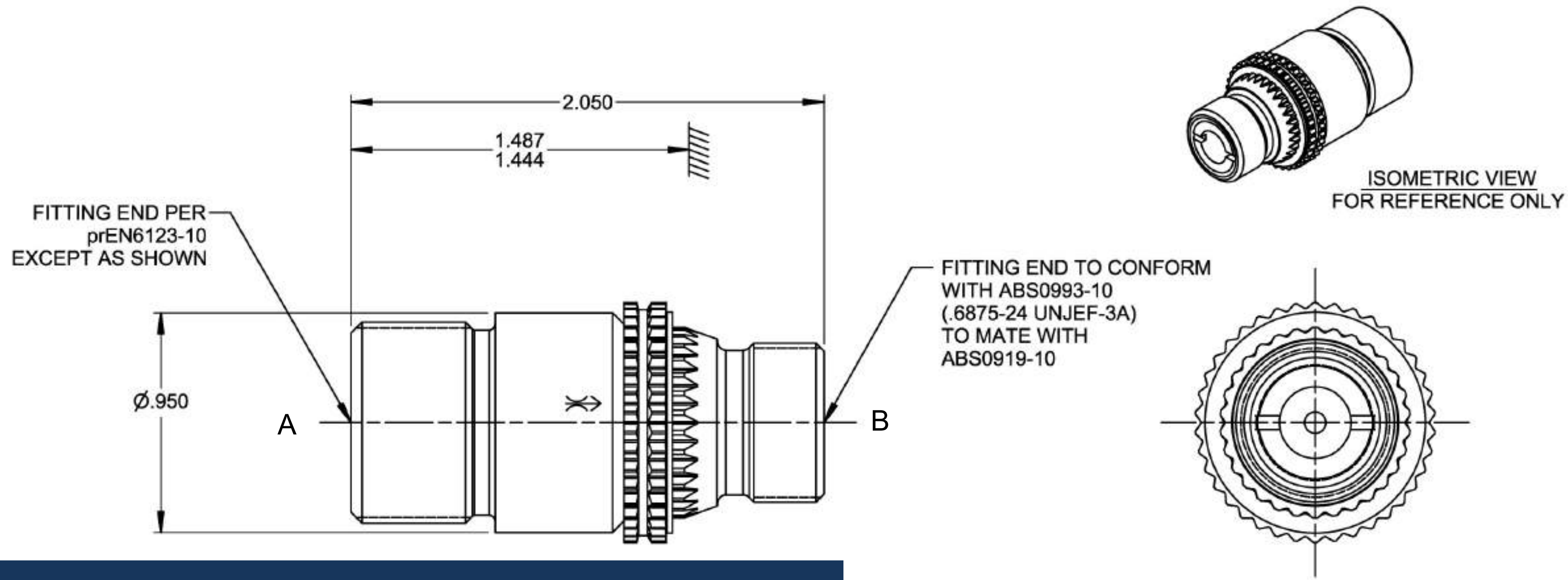
WEIGHT: .039 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F5130-1 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET PH13-8MO CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -40°F TO 200°F

OPERATING PRESSURE: CHECK DIRECTION 6597 PSIG

FREE FLOW DIRECTION 5075 PSIG

PROOF PRESSURE: CHECK DIRECTION 9895 PSIG

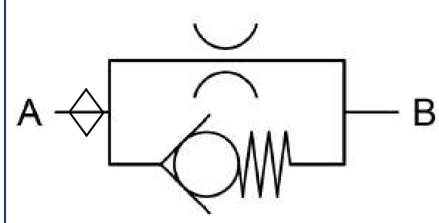
FREE FLOW DIRECTION 7612 PSIG

RESTRICTED FLOW: 11.9 ± 5% GPM AT 5075 PSID AT PORT A AND 65.3 PSID AT PORT B

FILTRATION: 100 MICRONS NOMINAL

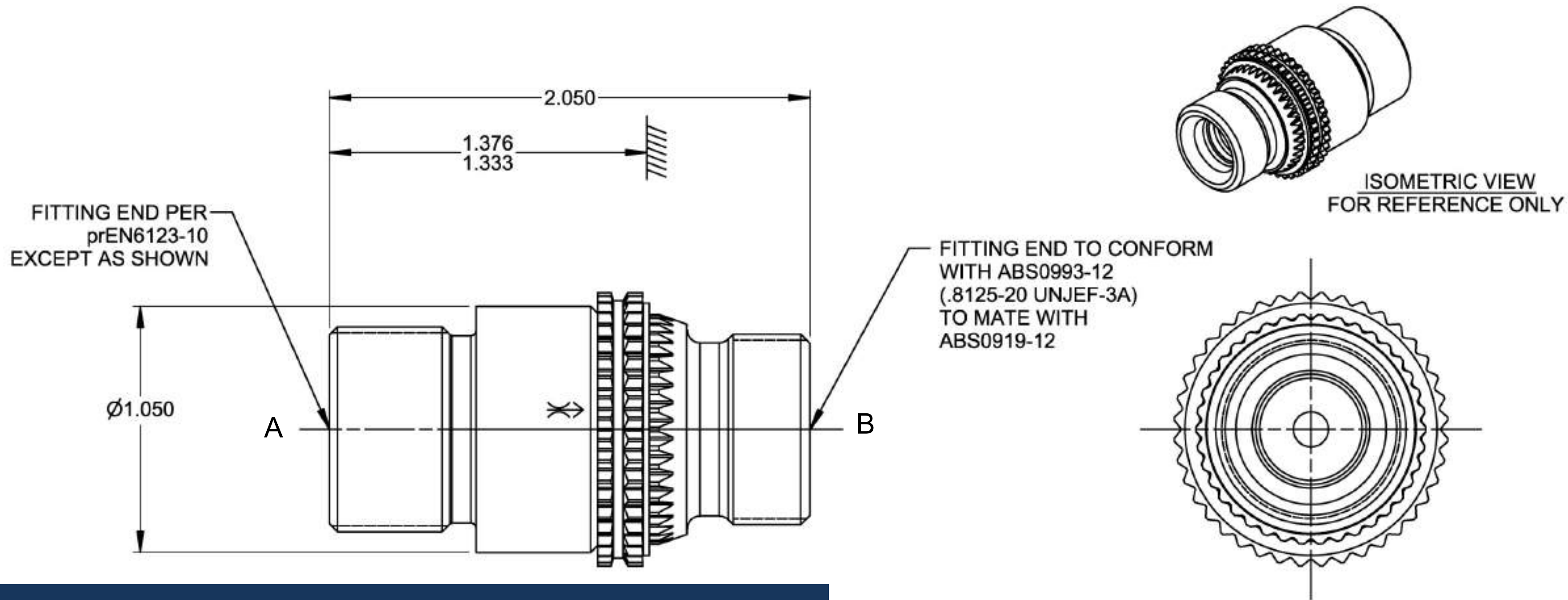
WEIGHT: .265 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F5132-1 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET PH13-8MO CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -40°F TO 200°F

OPERATING PRESSURE: CHECK DIRECTION 6597 PSIG

FREE FLOW DIRECTION 5075 PSIG

PROOF PRESSURE: CHECK DIRECTION 9895 PSIG

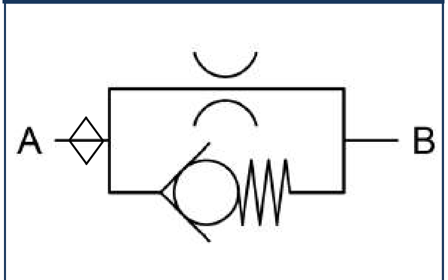
FREE FLOW DIRECTION 7612 PSIG

RESTRICTED FLOW: 31.7 ± 5% GPM AT 5075 PSID AT PORT A AND 65.3 PSID AT PORT B

FILTRATION: 100 MICRONS NOMINAL

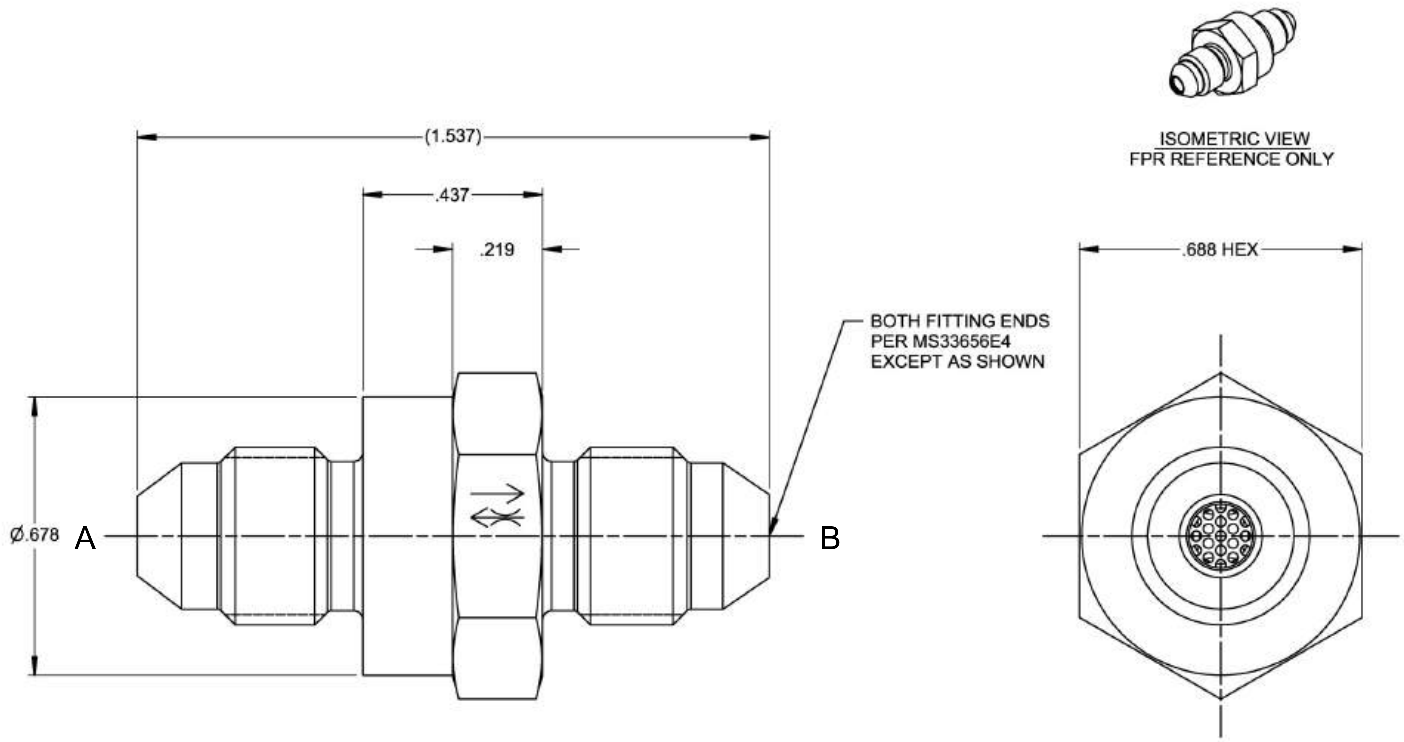
WEIGHT: .298 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F4698 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

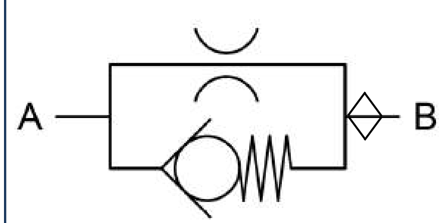
RESTRICTED FLOW: Ø.040 ± 0.001 ORIFICE

FREE FLOW: 1.2 GPM AT 30 PSID MAX

FILTRATION: 0.022 TO 0.028 OPENINGS

WEIGHT: .080 LBS MAX

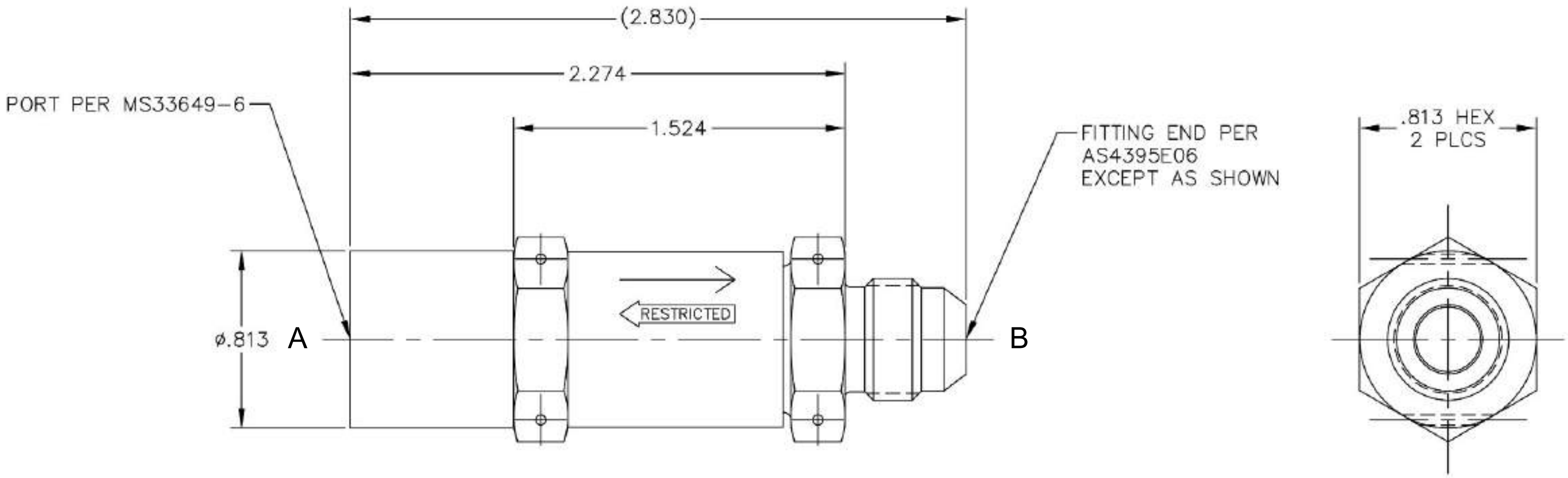
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR INC.

PART NUMBER: 6F4436 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-5606, MIL-PRF-87257 AND MIL-PRF-83282*

MATERIAL: BODY 2024-T351 AL

POPPET 303 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 1000 PSIG

PROOF PRESSURE: 1500 PSIG

RESTRICTED FLOW: Ø.046 ± 0.001 ORIFICE

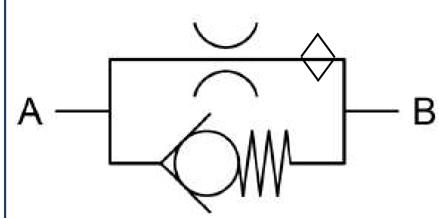
FREE FLOW: 8 GPM AT 105 PSID MAX

FILTRATION: 200 MICRONS

WEIGHT: .103 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

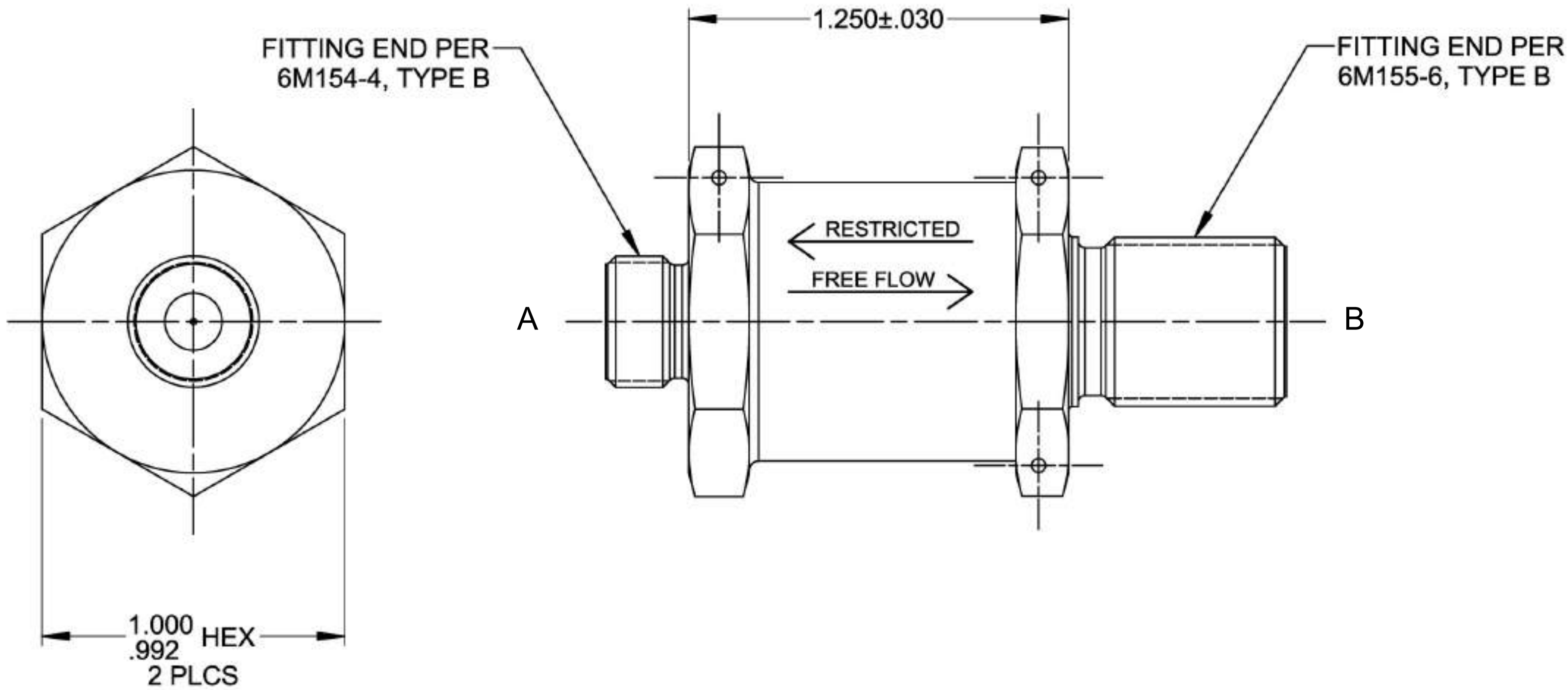
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR INC.

PART NUMBER: 6F5116 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-5606 AND MIL-H-83282*

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 5300 PSIG

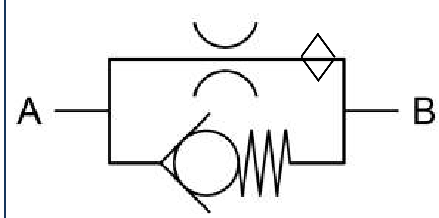
RESTRICTED FLOW: .54 ± 10% GPM AT 3000 PSID MAX

FREE FLOW: 3 GPM AT 20 PSID MAX

WEIGHT: .30 LBS MAX

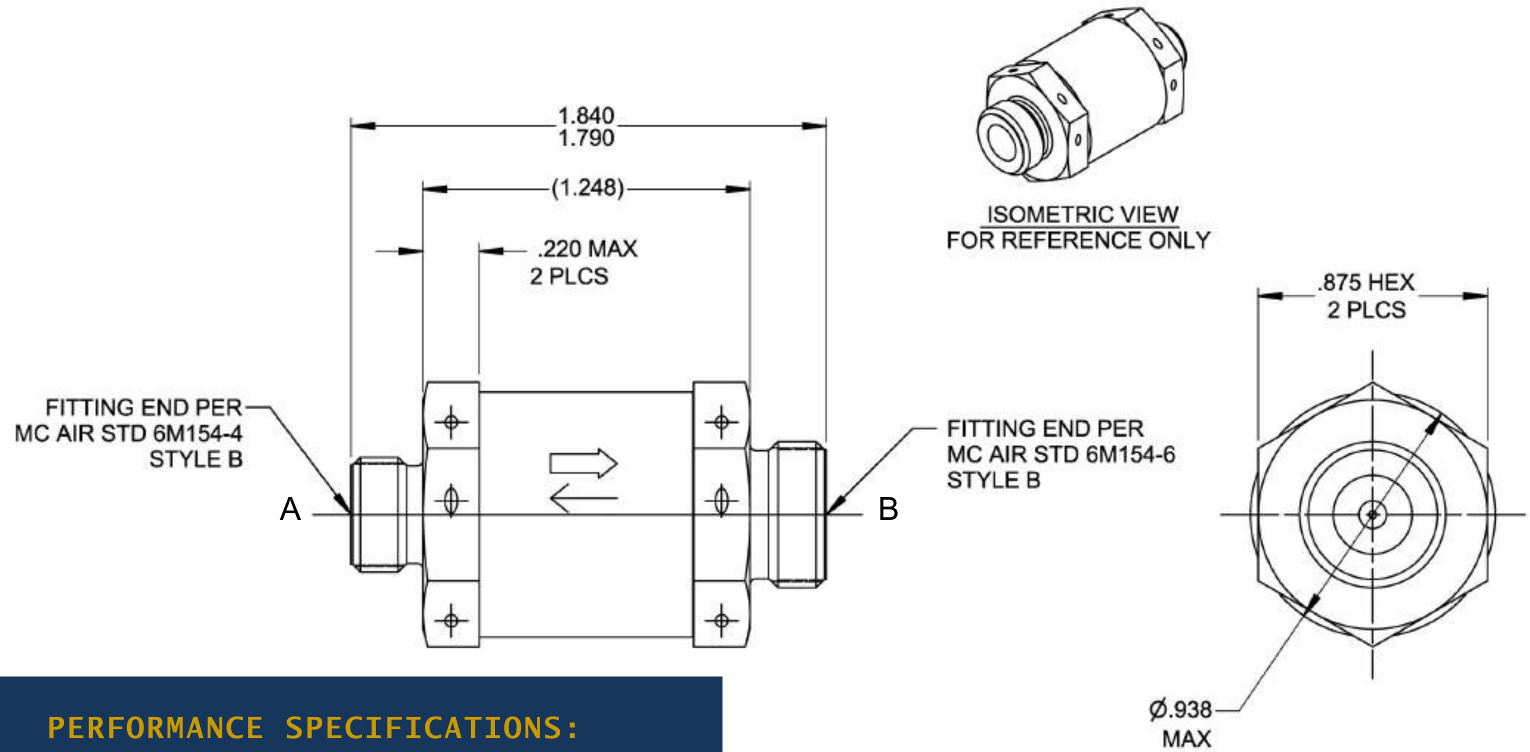
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F4592-X RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-5606, MIL-H-46170, MIL-H-6083 AND MIL-H-83282*

MATERIAL: BODY 17-4PH CRES
POPPET 302 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

RESTRICTED FLOW: SEE TAB BLOCK AT 3000 PSID MAX

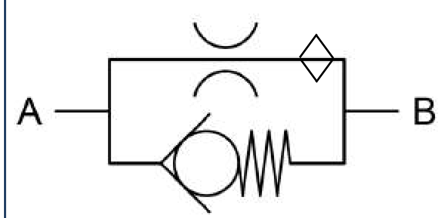
FREE FLOW: 6 GPM AT 40 PSID MAX

FILTRATION: .008 TO .012 OPENINGS

WEIGHT: .25 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

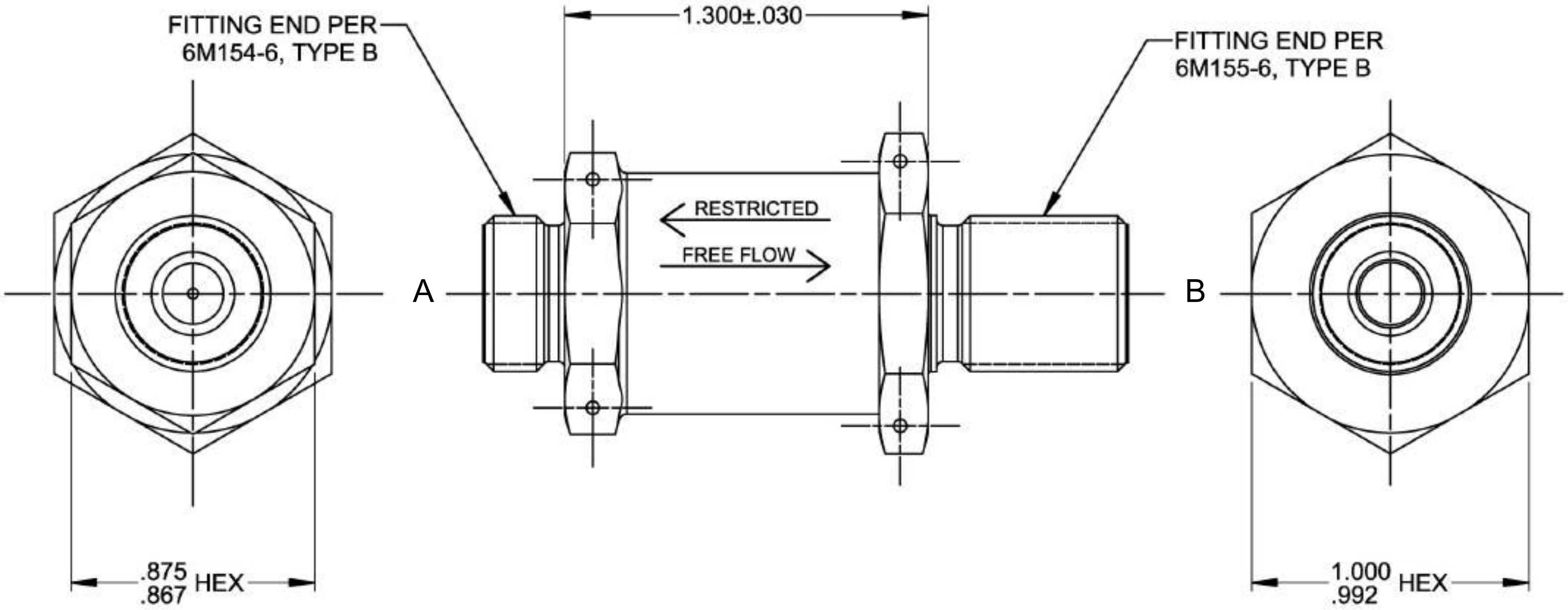
HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW (GPM)	ORIFICE Ø
6F4592-1	3.86	.058
6F4592-103	0.435	.020
6F4592-105	1.25	.033
6F4592-109	1.11	.032
6F4592-111	0.924	.029
6F4592-115	2.01	.043
6F4592-121	0.278	.016

CRISSAIR INC.

PART NUMBER: 6F5118-1 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-5606 AND MIL-H-83282*

MATERIAL: BODY 17-4PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

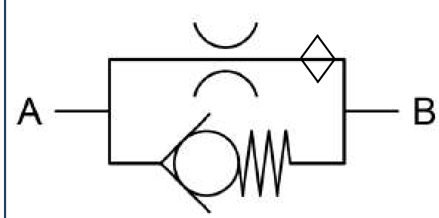
RESTRICTED FLOW: 1.80 ± 10% GPM AT 3000 PSID MAX

FREE FLOW: 3 GPM AT 20 PSID MAX

WEIGHT: .30 LBS MAX

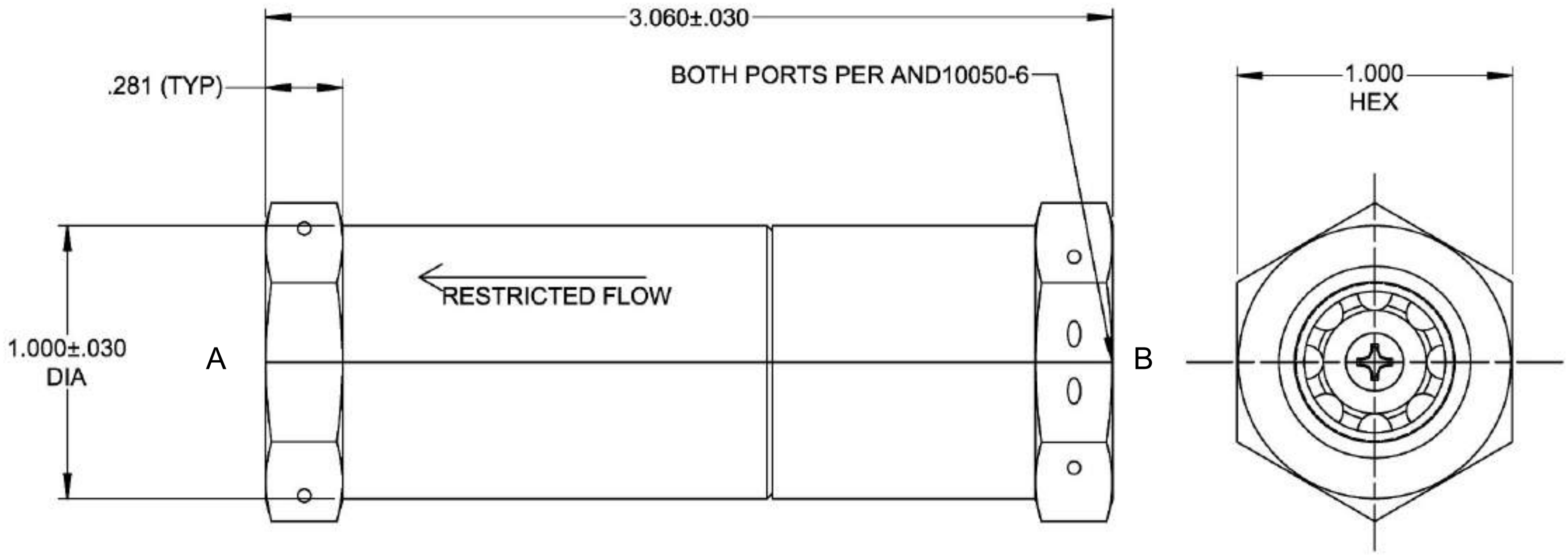
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



PART NUMBER: 6F5084-X RESTRICTOR VALVE, ONE-WAY, FILTERED

CRISSAIR INC.



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-5606*

MATERIAL: BODY 303 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 160°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

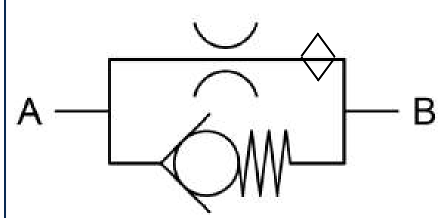
RESTRICTED FLOW: SEE TAB BLOCK AT 3000 PSID MAX

FREE FLOW: 3.5 GPM AT 13 PSID MAX

WEIGHT: .50 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW (GPM)	ORIFICE Ø
6F5084-7	1.84 - 2.15	.044
6F5084-9	.80 - .96	.027

CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

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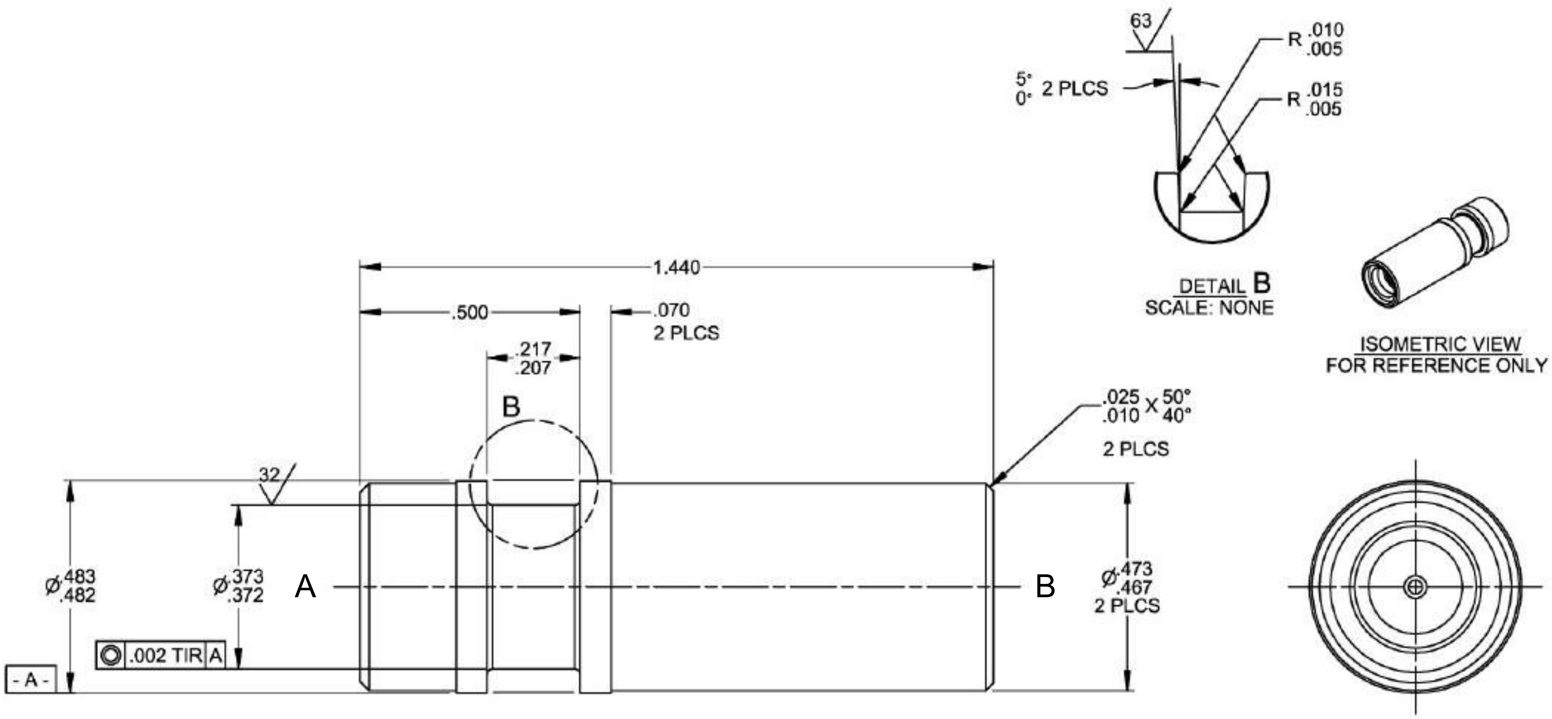
PART NUMBER: 6F4970 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

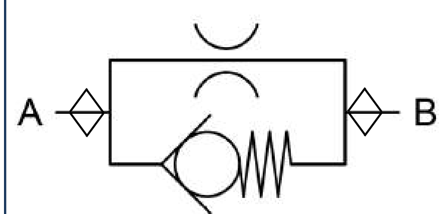
RESTRICTED FLOW: 1.4 ± 5% GPM AT 3000 PSID (Ø.0365 ORIFICE)

FREE FLOW: 11 GPM AT 3000 PSID MAX

FILTRATION: .013 TO .017 OPENINGS

WEIGHT: .050 LBS MAX

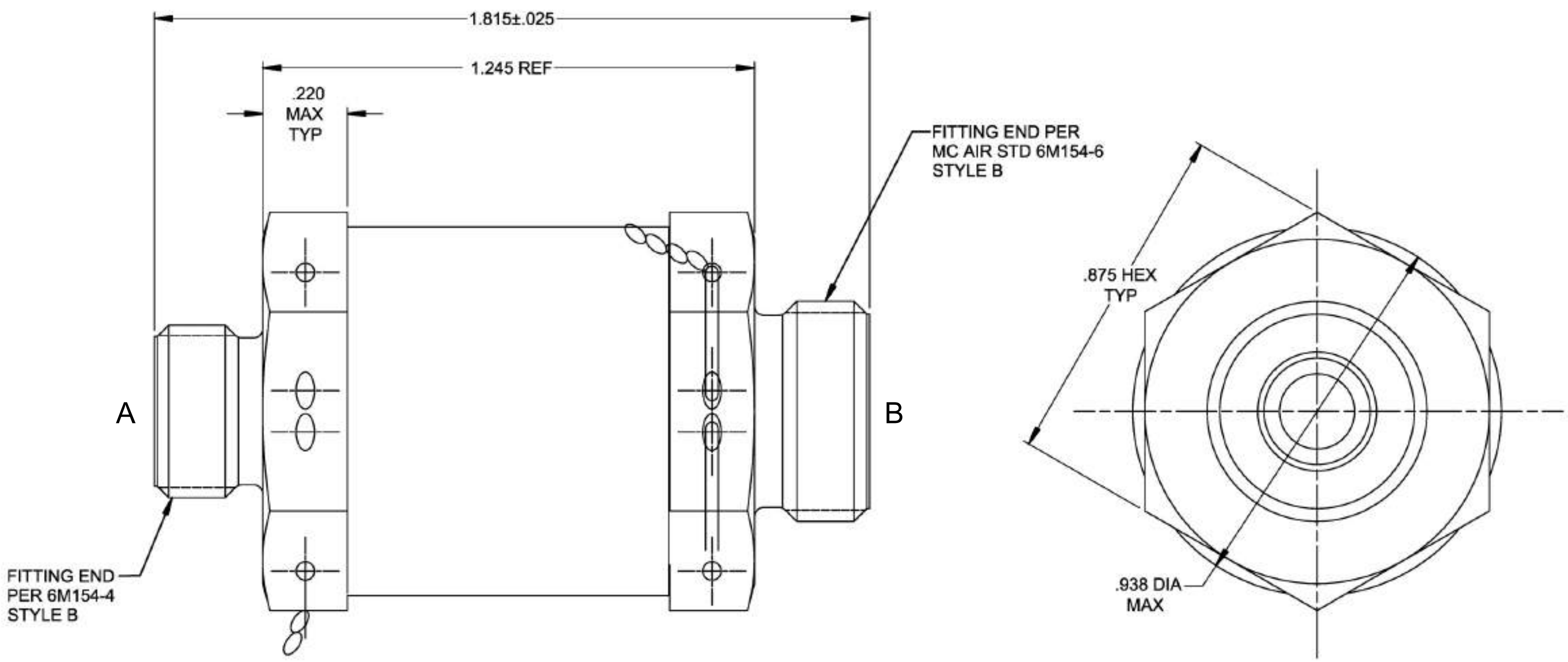
HYDRAULIC SCHEMATIC



CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR INC.

PART NUMBER: 6F5088 RESTRICTOR VALVE, ONE-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC OIL PER MIL-H-5606, MIL-H-83232, MIL-H-46170, & MIL-H-6083*

MATERIAL: BODY 17-4PH

POPPET 302 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

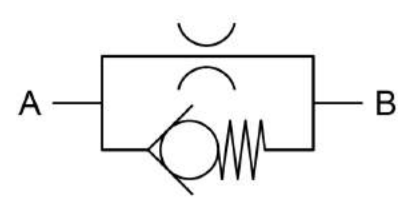
FLOW: FREE FLOW: 6 GPM AT 40 PSID MAX

RESTRICTED—(SEE TAB BLOCK)

FILTRATION: ON ORIFICE DIAS .012-.070 USE –5(.008-.012 OPENINGS)

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW (GPM) ± 10%	△ P (PSID)	ORIFICE Ø
6F5088-101	1.56	3000	.037
6F5088-103	1.85	3000	.040
6F5088-105	.30	3000	.016

CATEGORY 3: ONE-WAY RESTRICTOR VALVES FILTERED

CRISSAIR HAS VARIOUS OTHER RESTRICTOR VALVES NOT LISTED IN THE

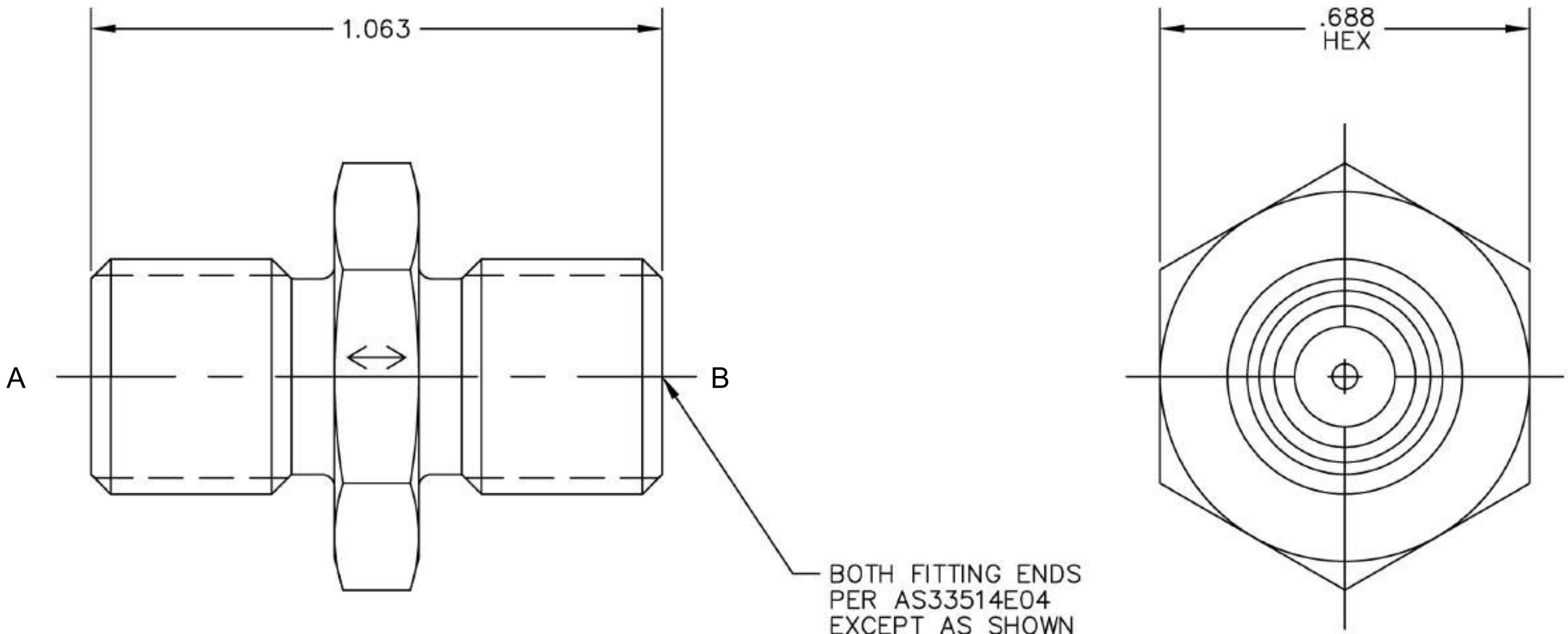
CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT

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

YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

PART NUMBER: 9R4138 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 304 CRES

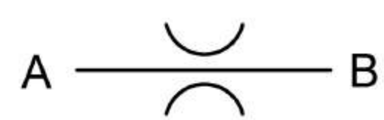
TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

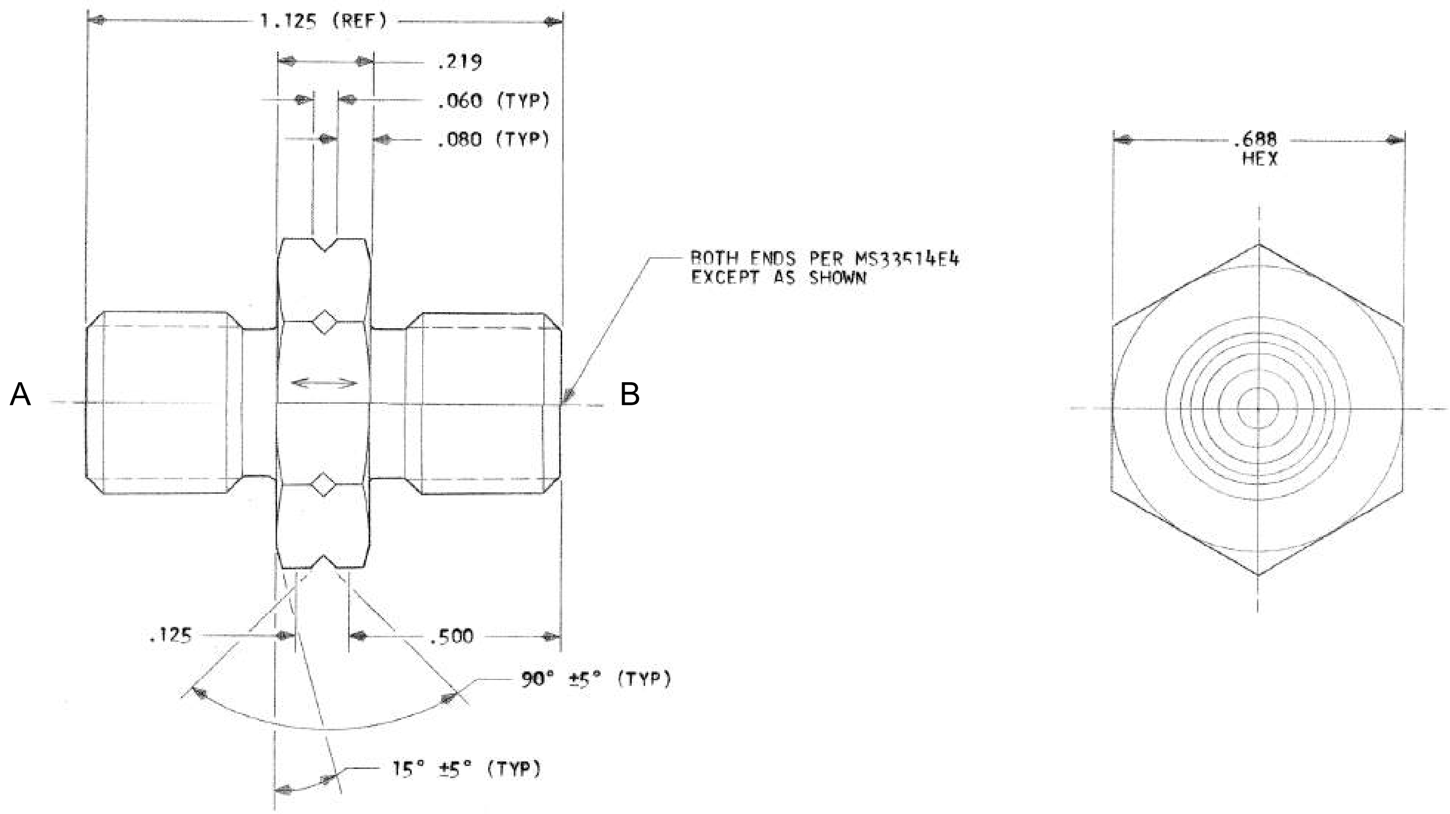
PROOF PRESSURE: 4500 PSIG

WEIGHT: 0.045 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 9R3372 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 17-4PH CRES

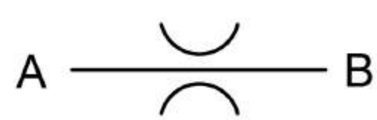
TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW: 10.5 ± 10% GPM AT 3000 PSID (.101 DIA REF)

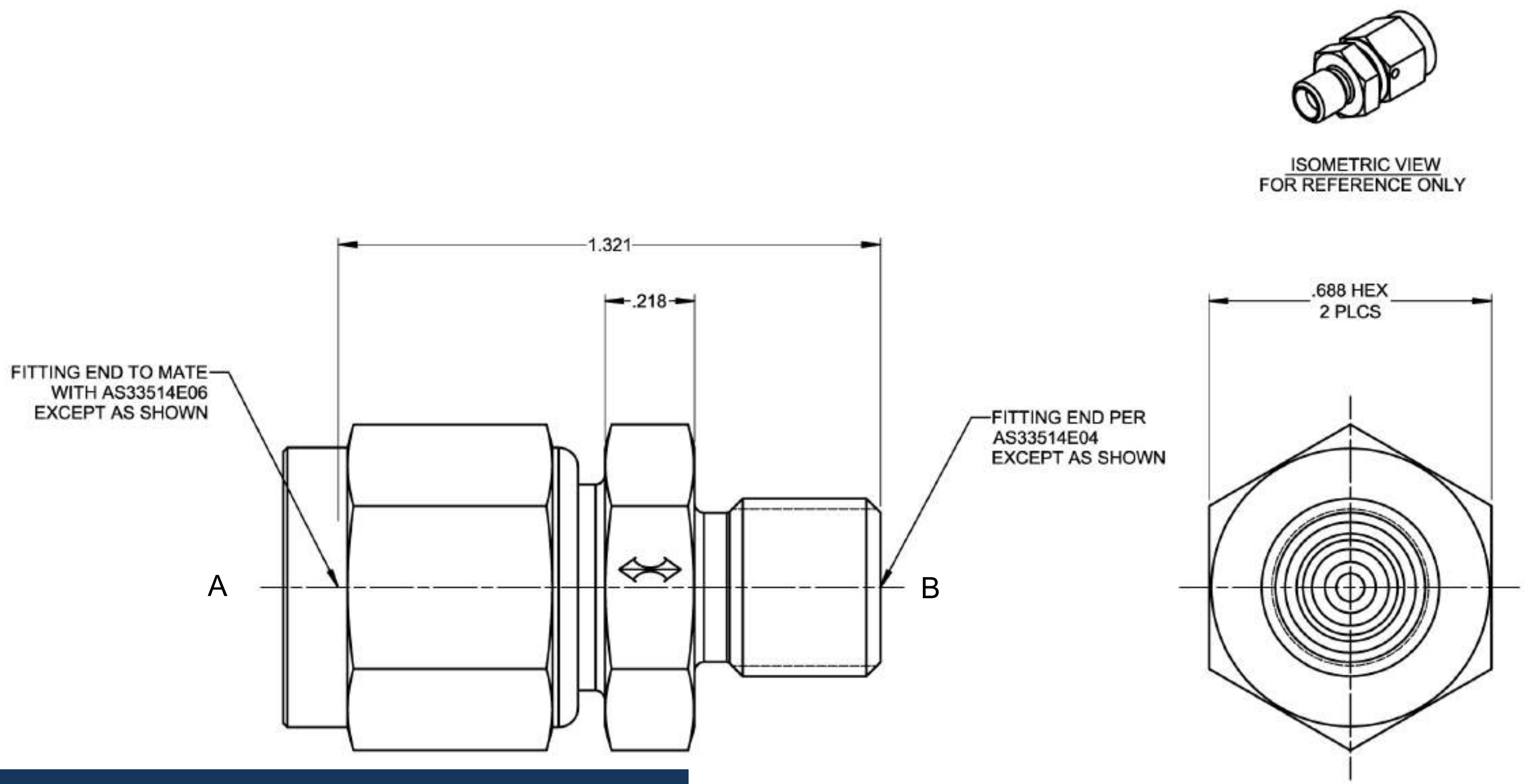
HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES UNFILTERED

CRISSAIR INC.

PART NUMBER: 9R4130 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

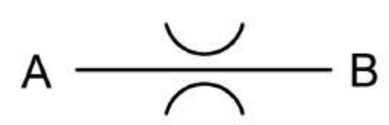
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW: 5.0 ± 10% GPM AT 2950 PSID (Ø.069 ORIFICE)

WEIGHT: 0.099 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES UNFILTERED

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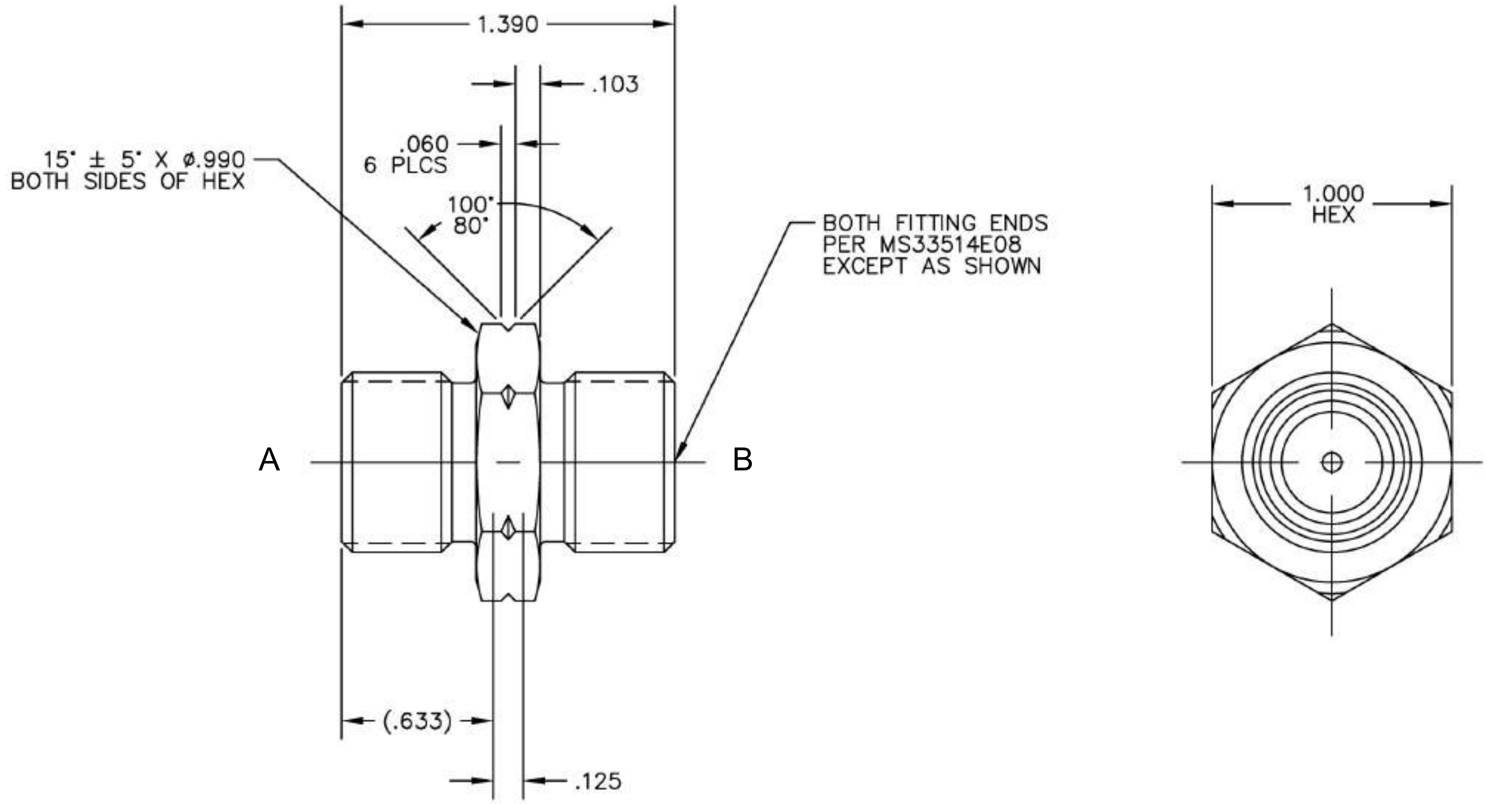
PART NUMBER: 9R3688 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 225°F

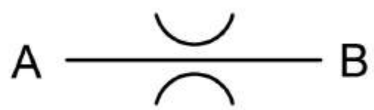
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW: 5.31 ± 5% GPM AT 1400 PSID (Ø.081 ORIFICE)

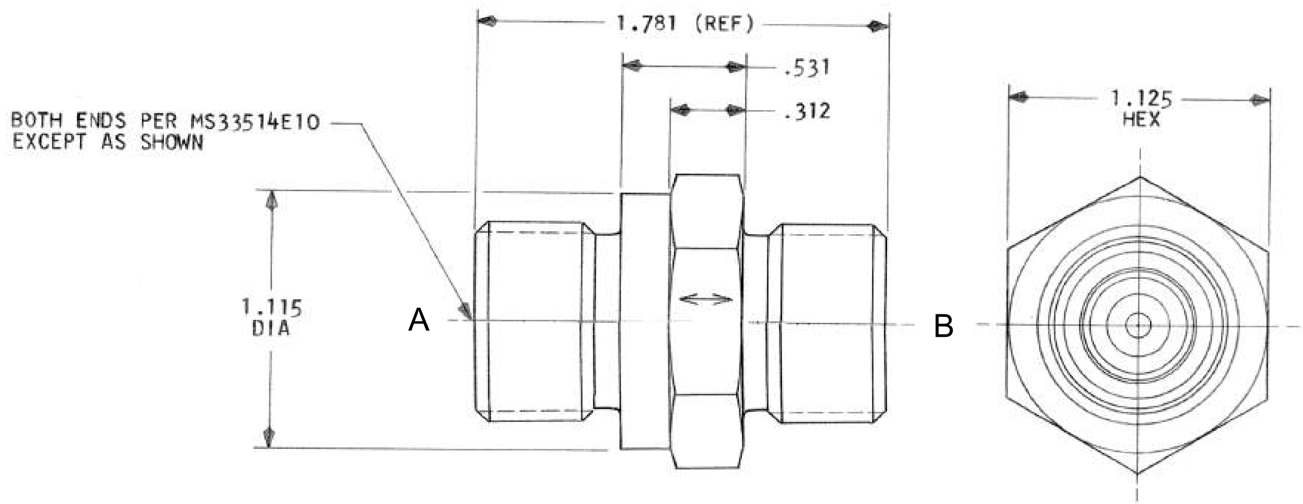
WEIGHT: 0.16 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES UNFILTERED

PART NUMBER: 9R3212 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 15-5PH CRES

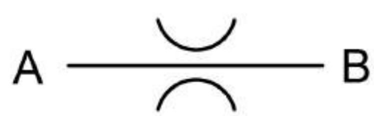
TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

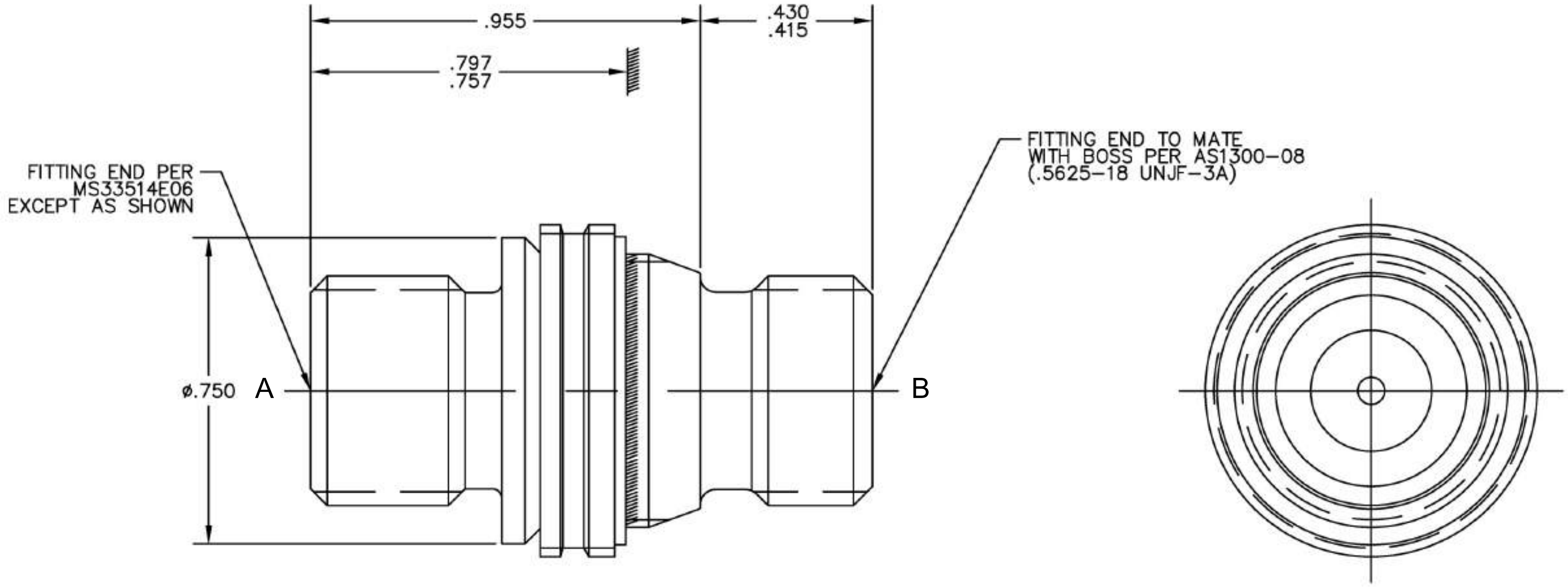
FLOW: SEE TAB BLOCK

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW (GPM)	PRESS. ΔP (PSID)	ORIFICE DIA (REF)
9R3212	14.23 ± 1.4	3000	.119
9R3212-1	13.37 ± 1.3	3000	.114
9R3212-2	7.11 ± .71	3000	.083
9R3212-3	18.49 ± 1.8	3000	.135
9R3212-4	10.24 ± 1.0	3000	.101

PART NUMBER: 9R3732 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 15-5PH CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

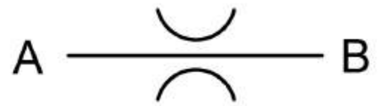
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW: 2.5 GPM ± 5% AT 800 PSID (Ø.067)

WEIGHT: 0.091 LBS MAX

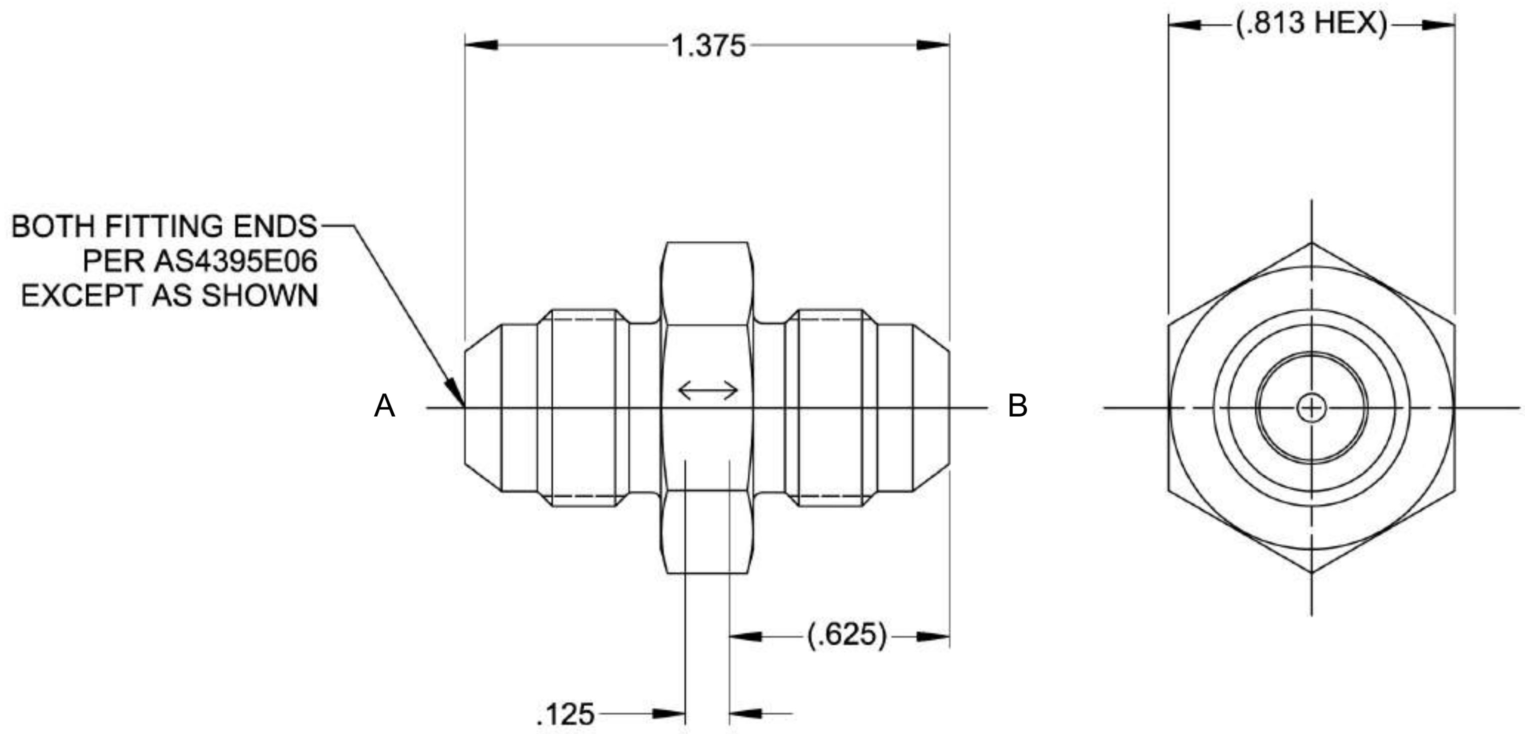
HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES UNFILTERED

CRISSAIR INC.

PART NUMBER: 9R4020 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 7075-T73 AL

TEMPERATURE RANGE: -65°F TO 275°F

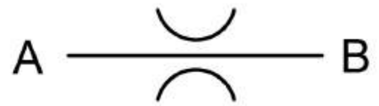
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW: 2.4 TO 2.6 GPM AT 350 TO 400 PSID

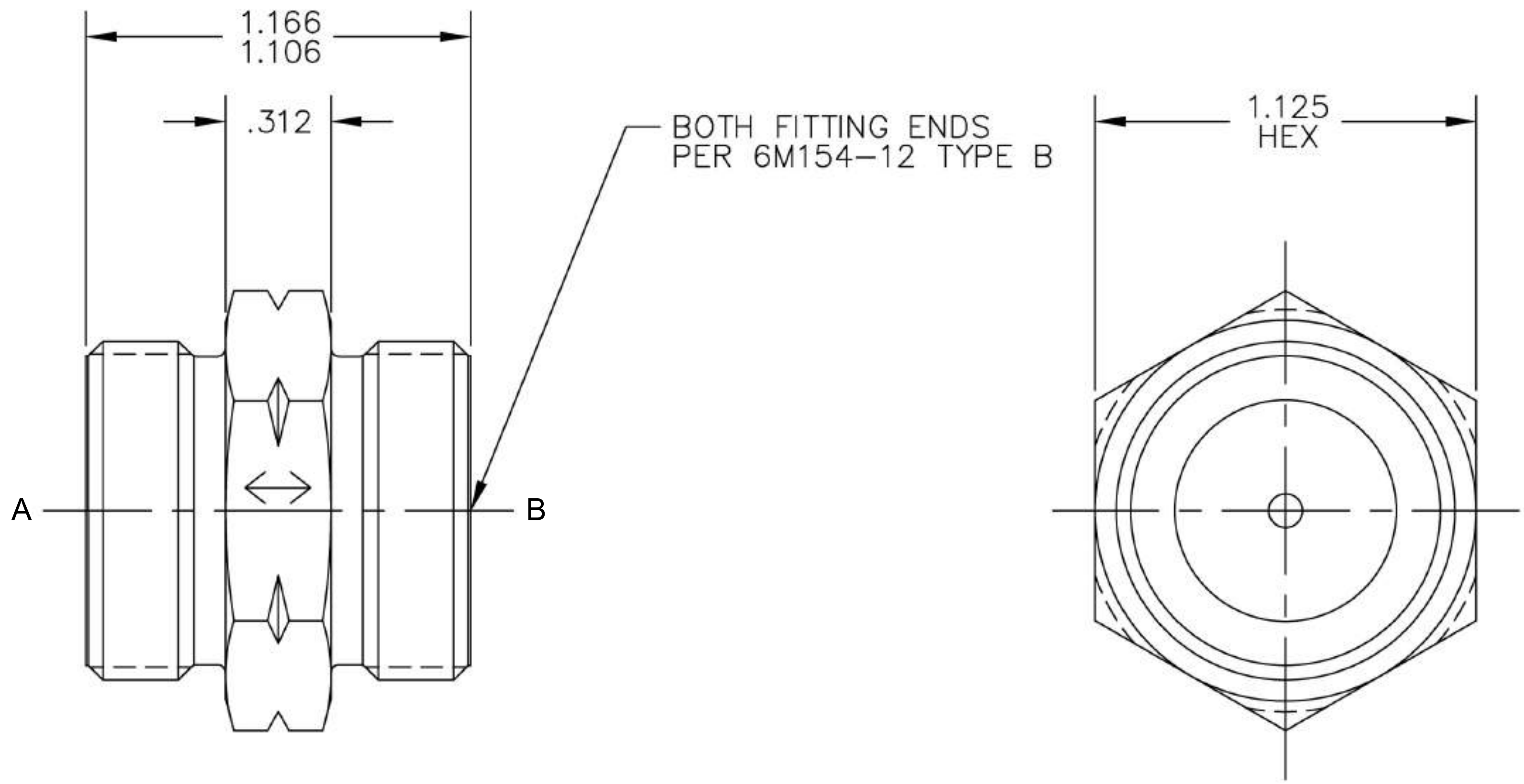
WEIGHT: 0.031 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 9R4320 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 6AL-4V TI

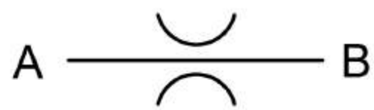
TEMPERATURE RANGE: -40°F TO 160°F

OPERATING PRESSURE: 180 PSIG

PROOF PRESSURE: 270 PSIG

FLOW: SEE TAB BLOCK

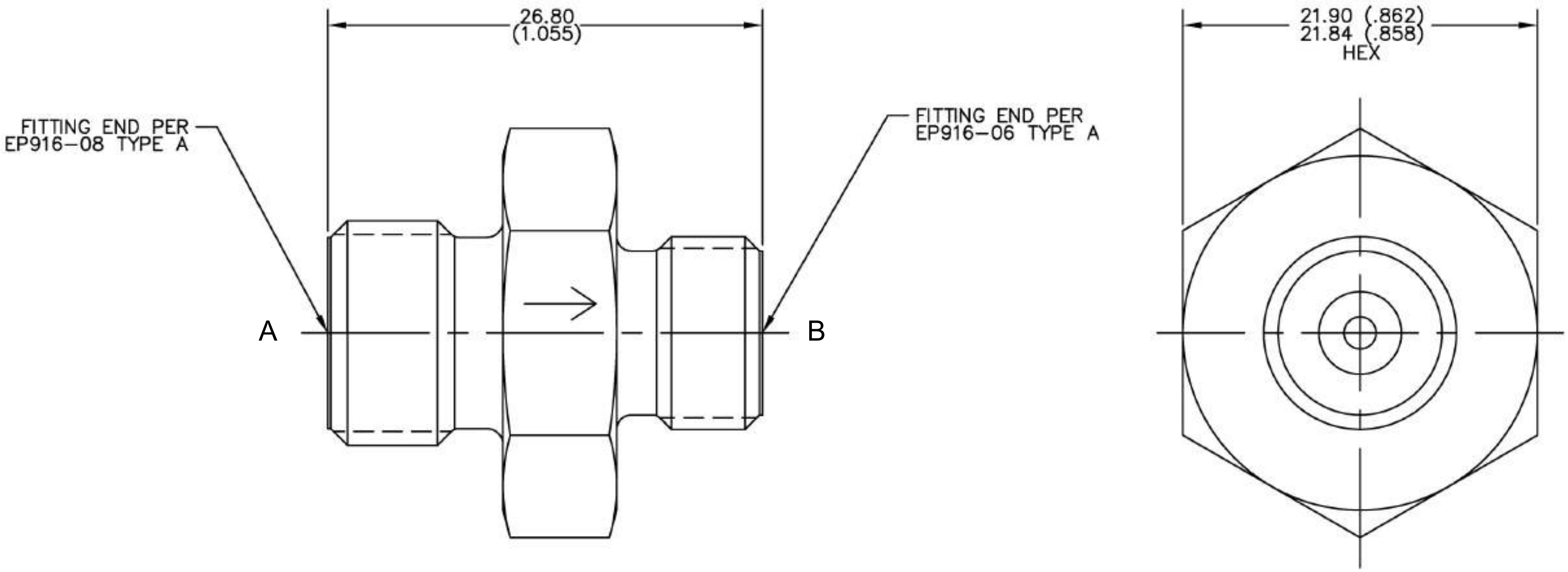
HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW (GPM)	PRESS. ΔP (PSID)	ORIFICE DIA (REF)
9R4320-1	5 + 5%	68.7	.160
9R4320-2	-	-	.067 .062
9R4320-3	5.00 ± 0.13	23.0	.200
9R4320-4	6.34 ± 0.13	28.2	.180

CATEGORY 3: TWO-WAY RESTRICTOR VALVES UNFILTERED

PART NUMBER: 9R4306 RESTRICTOR VALVE, TWO-WAY, UNFILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT FLUIDS OR AIR

MATERIAL: BODY 6AL-4V TI

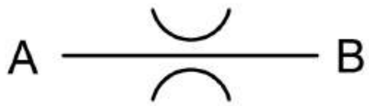
TEMPERATURE RANGE: -40°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 8000 PSIG

FLOW: 4.75 GPM AT 1349 PSID (Ø.078 ORIFICE)

HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES UNFILTERED

CRISSAIR HAS VARIOUS OTHER RESTRICTOR VALVES NOT LISTED IN THE

CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

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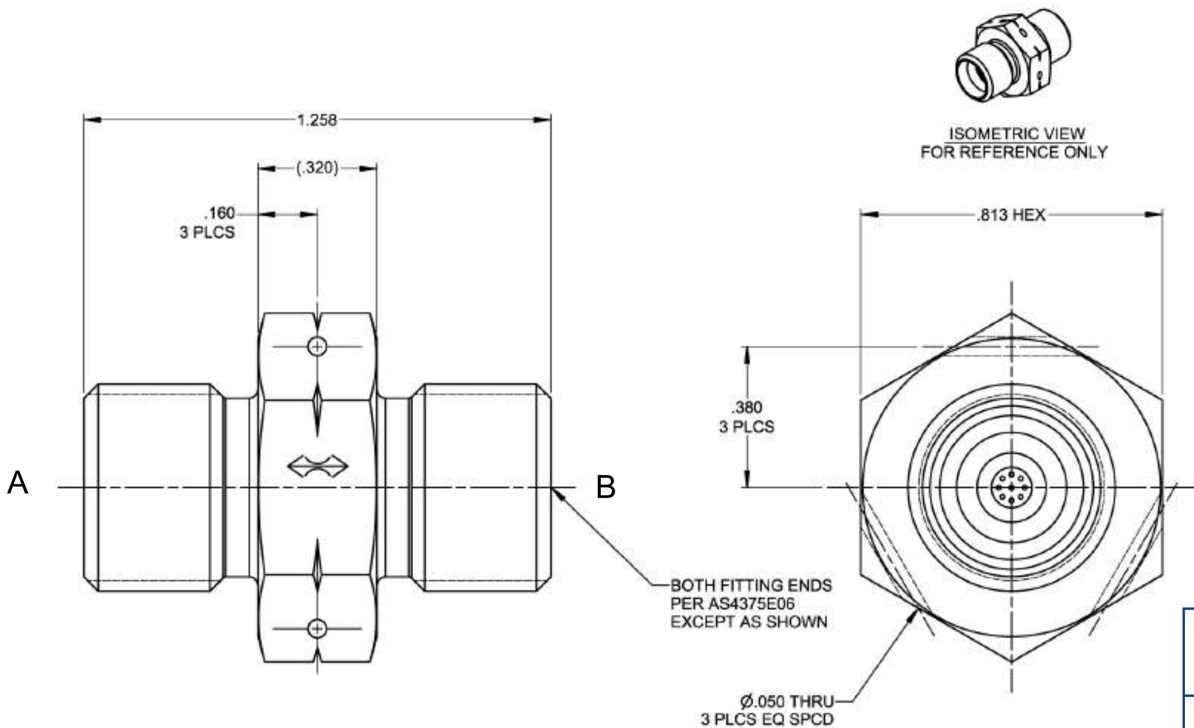
PART NUMBER: 6F5106-X RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

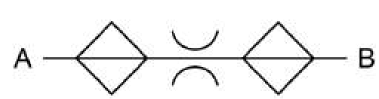
PROOF PRESSURE: 4500 PSIG

FLOW: SEE TAB BLOCK

FILTRATION: .011 TO .014 OPENINGS

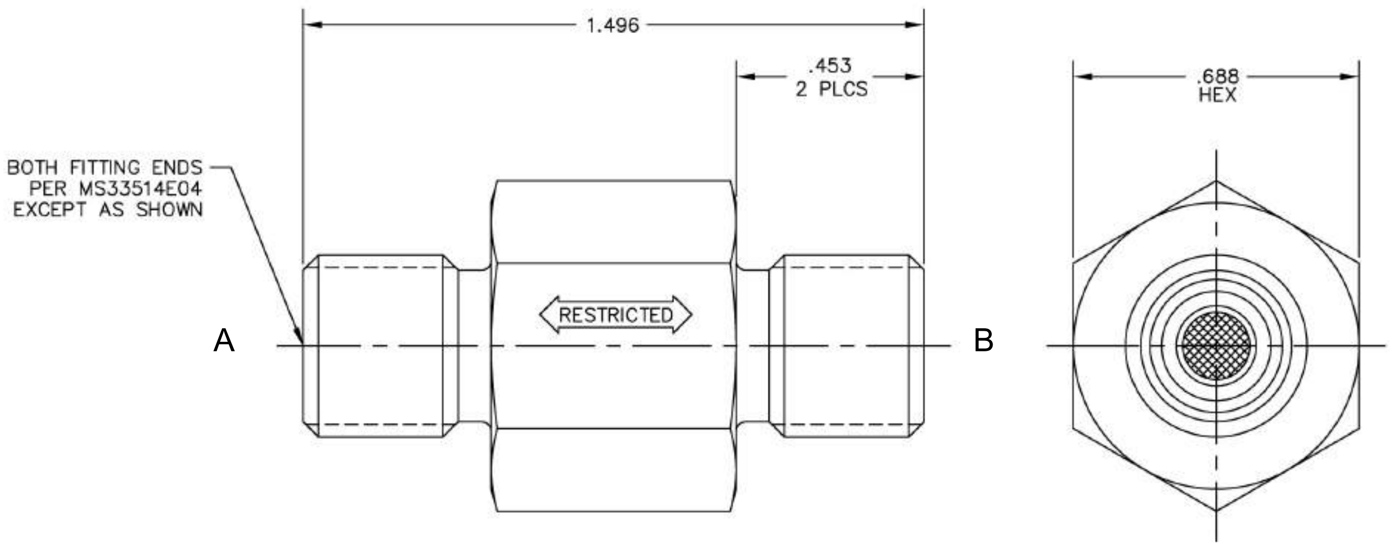
WEIGHT: 0.098 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW (GPM)	PRESSURE (PSID)	ORIFICE SIZE Ø
6F5106-1	1.95	2680	0.0422
6F5106-3	2.14	2360	0.0456
6F5106-5	2.96	2900	0.0510
6F5106-7	2.28	1710	0.0511
6F5106-9	2.80	2360	0.0522
6F5106-11	3.13	2590	0.0539
6F5106-13	2.55	1710	0.0540
6F5106-15	3.52	2380	0.0584
6F5106-17	2.68	1390	0.0583
6F5106-19	4.18	2590	0.0623
6F5106-21	4.46	2380	0.0658
6F5106-23	4.66	2180	0.0687

PART NUMBER: 6F5094-X RESTRICTOR VALVE, TWO-WAY, FILTERED



CRISSAIR DASH NO.	FLOW (GPM)	RESTRICTION PSI/(CIS)^2
-1	1	50
-2	1	100
-3	1	140
-4	1	230
-5	1	320
-6	.25 / 1	450
-7	.25 / 1	600
-8	.25	1700
-9	.25	2500
-10	.12 / .25	3300
-11	.12	3800
-12	.12	4600
-13	.12	7000
-14	.12	10100
-15	1	5
-16	1	12
-17	1	26

PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

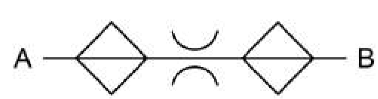
PROOF PRESSURE: 4500 PSIG

FLOW: SEE TAB BLOCK

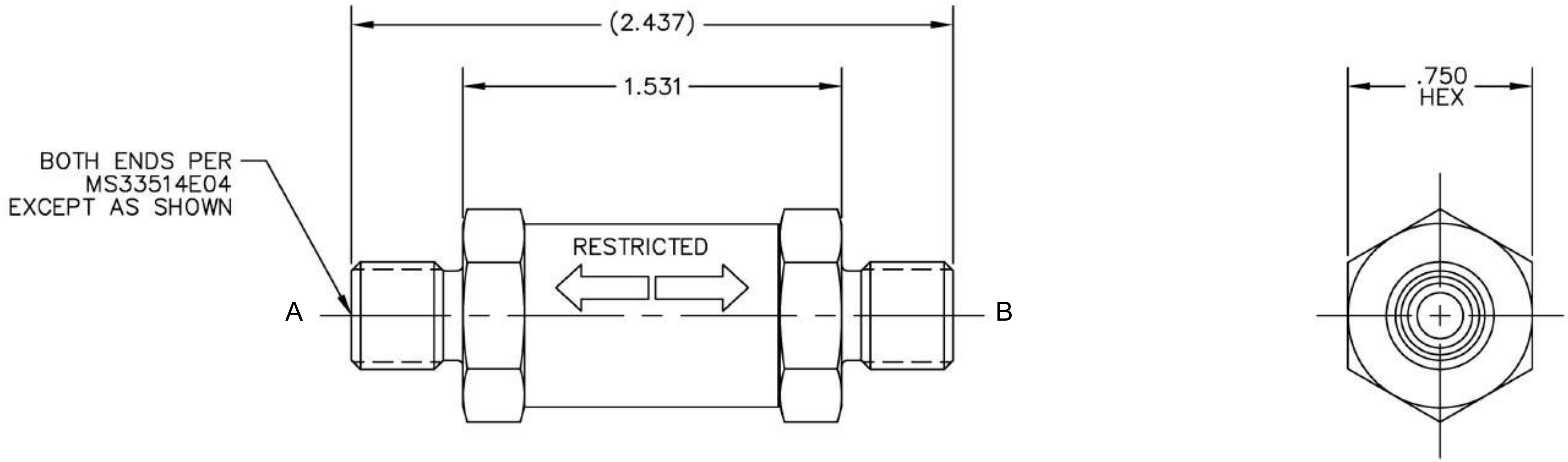
FILTRATION: .008 TO .012 OPENINGS

WEIGHT: 0.106 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 6F5080-X RESTRICTOR VALVE, TWO-WAY, FILTERED



CRISSAIR PART NO.	FLOW GPM (ORIFICE SIZE)
6F5080-010	.125 ± .033
6F5080-016	.29 ± .03
6F5080-018	.41 ± .05
6F5080-020	.60 ± .05
6F5080-025	(Ø.025 ± .001)
6F5080-028	(Ø.028 ± .001)
6F5080-031	1.10 ± .10
6F5080-035	1.40 ± .14
6F5080-037	1.70 ± .20
6F5080-047	(Ø.047 ± .001)
6F5080-059	4.50 ± .50

PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: -65°F TO 275°F

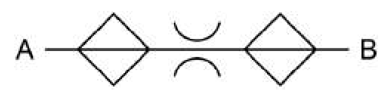
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

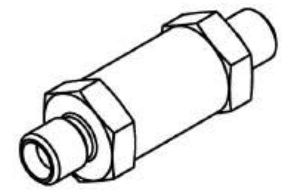
FLOW: RATED FLOW (SEE TAB BLOCK) AT 3000 PSID IN EITHER DIRECTION

WEIGHT: .07 LBS MAX

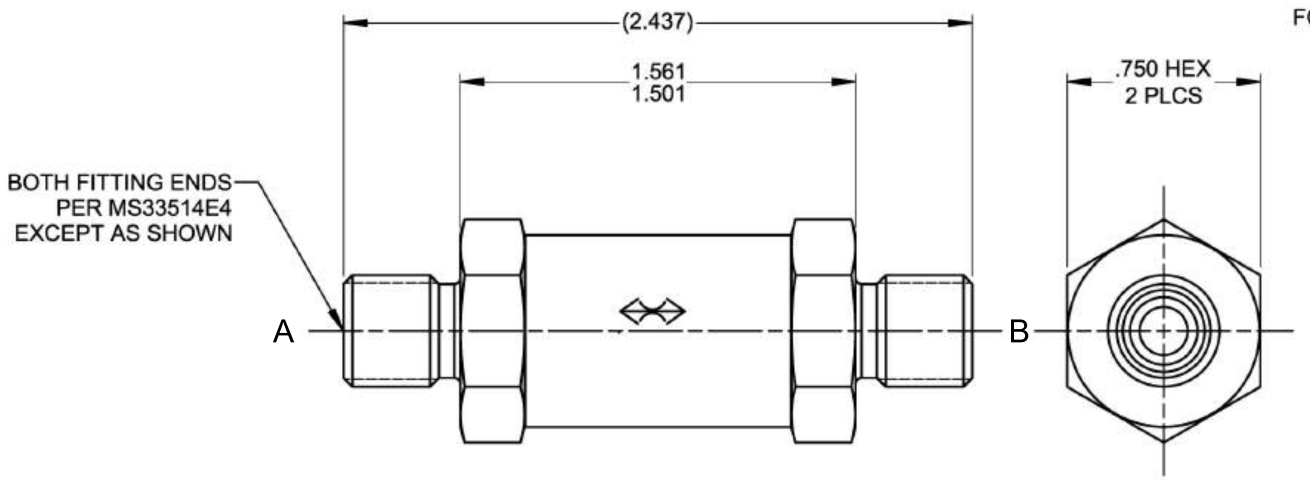
HYDRAULIC SCHEMATIC



PART NUMBER: 6F5080-X RESTRICTOR VALVE, TWO-WAY, FILTERED



ISOMETRIC VIEW
FOR REFERENCE ONLY



CRISSAIR DASH NO.	ORIFICE SIZE Ø
-021	.022
-030	.031
-032	.033
-037	.038
-038	.039
-042	.043
-050	.051
-094	.096 .092

PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 2024-T4 AL

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

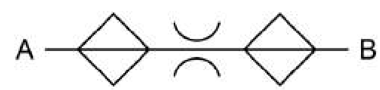
PROOF PRESSURE: 4500 PSIG

FLOW: SEE TAB BLOCK

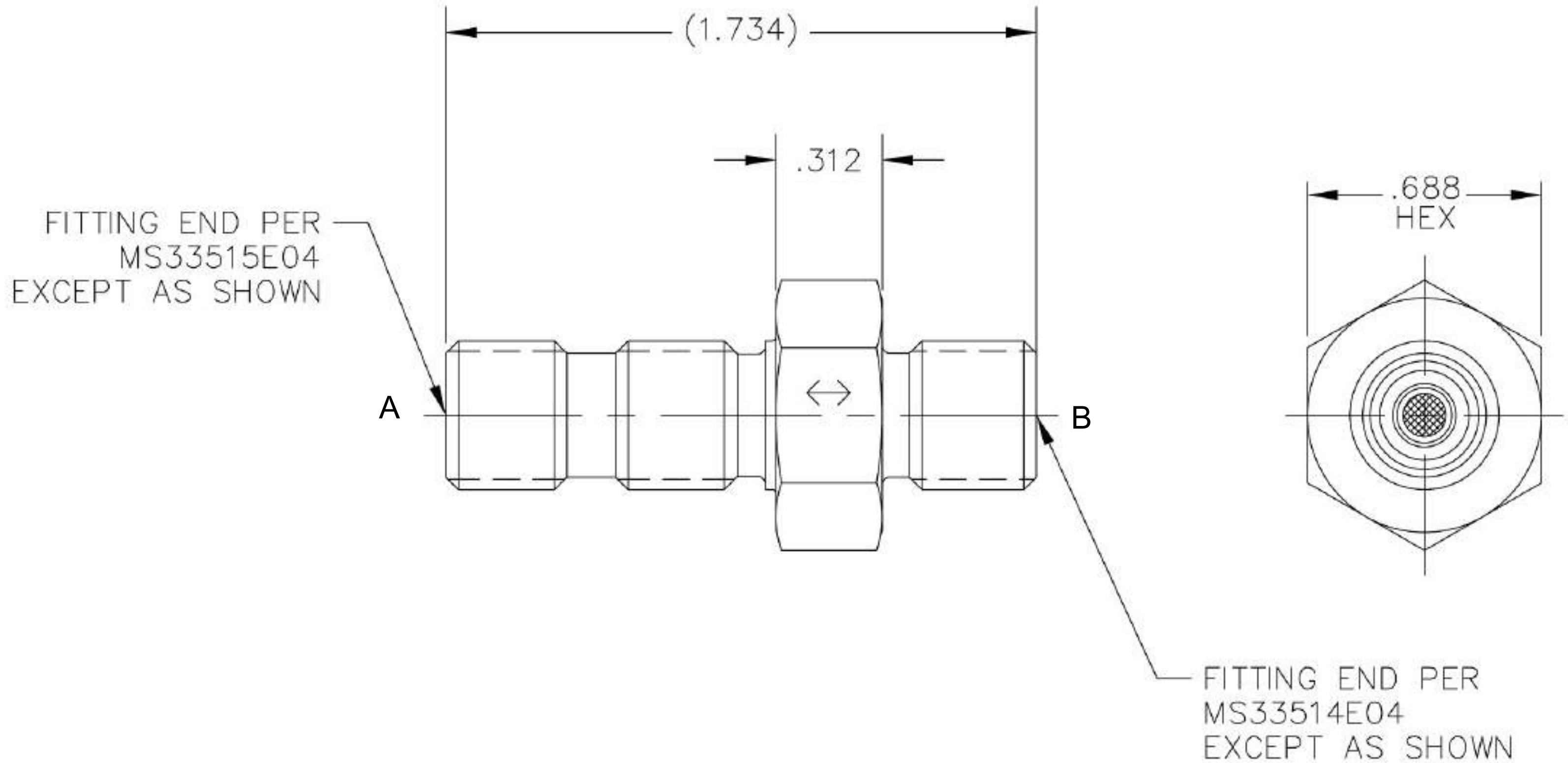
FILTRATION: .010 NOMINAL OPENINGS

WEIGHT: .076 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 6F2312 RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 431 CRES

TEMPERATURE RANGE: -65°F TO 225°F

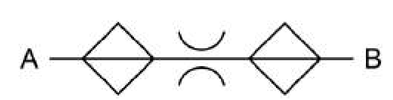
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

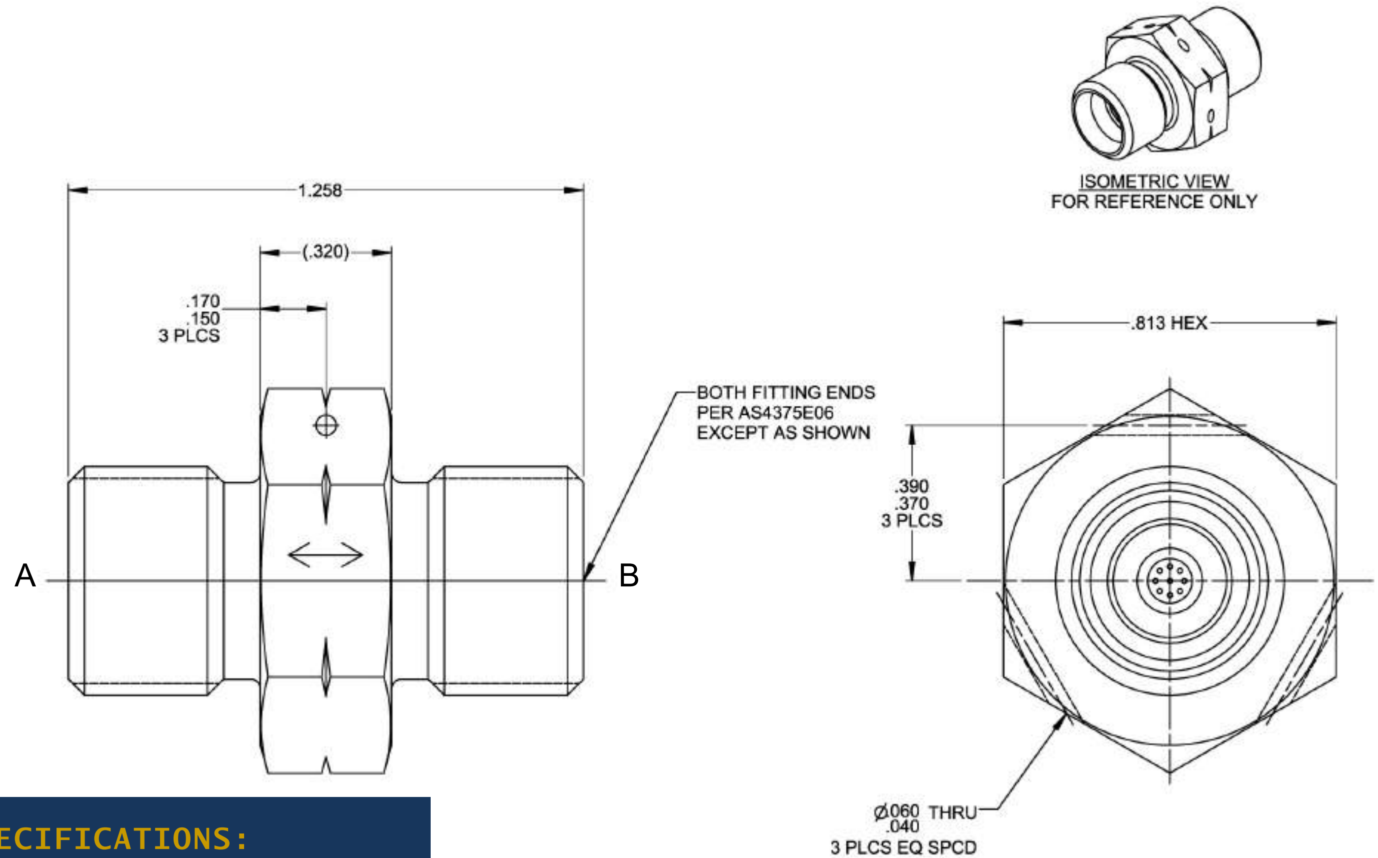
FLOW: .344 ± 10% GPM AT 2340 PSID

FILTRATION: .008 TO .012 OPENINGS

HYDRAULIC SCHEMATIC



PART NUMBER: 6F4674 RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

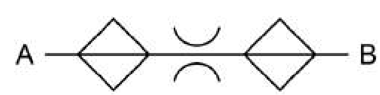
PROOF PRESSURE: 4500 PSIG

FLOW: 3.97 ± 5% GPM AT 1930 PSID (ORIFICE Ø.068)

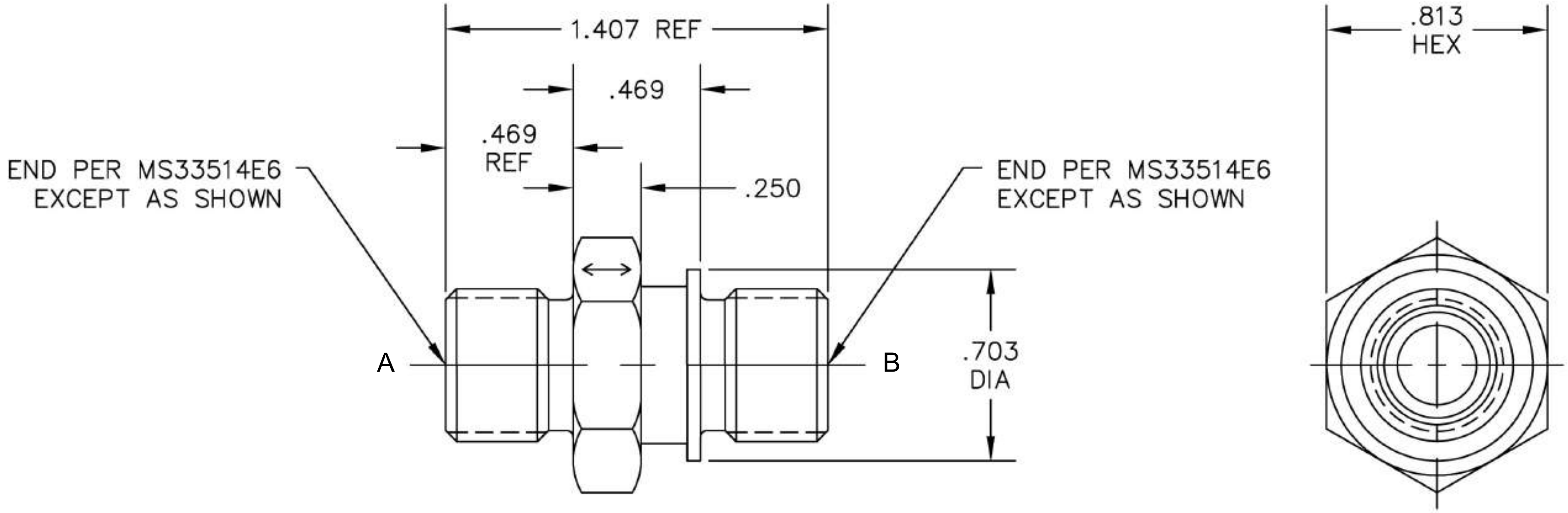
FILTRATION: .011 TO .014 OPENINGS

WEIGHT: .098 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 6F5120, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4 CRES

TEMPERATURE RANGE: -65°F TO 275°F

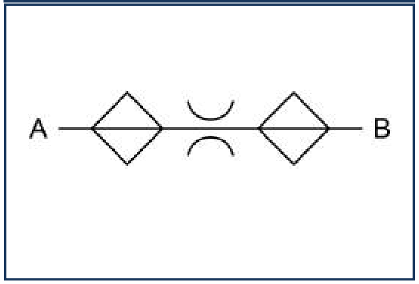
OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 8000 PSIG

FLOW: 4.4±5% GPM AT 3800±100 PSID REF
(3885 PSIG INLET/85 PSIG OUTLET)
(.058 DIA ORIFICE REF) WITH MIL-H-83282 AT 100°F±10°F

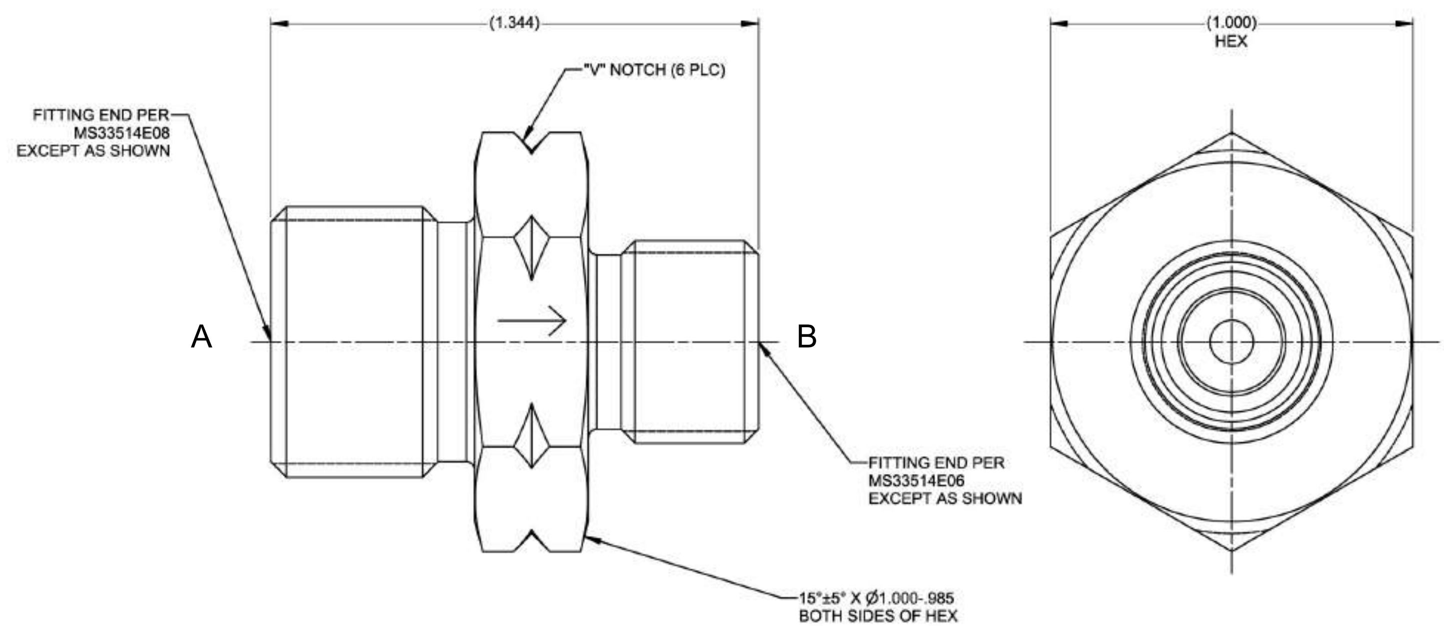
WEIGHT: .095 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 6F3748, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5 CRES

TEMPERATURE RANGE: -65°F TO 275°F

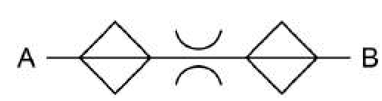
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

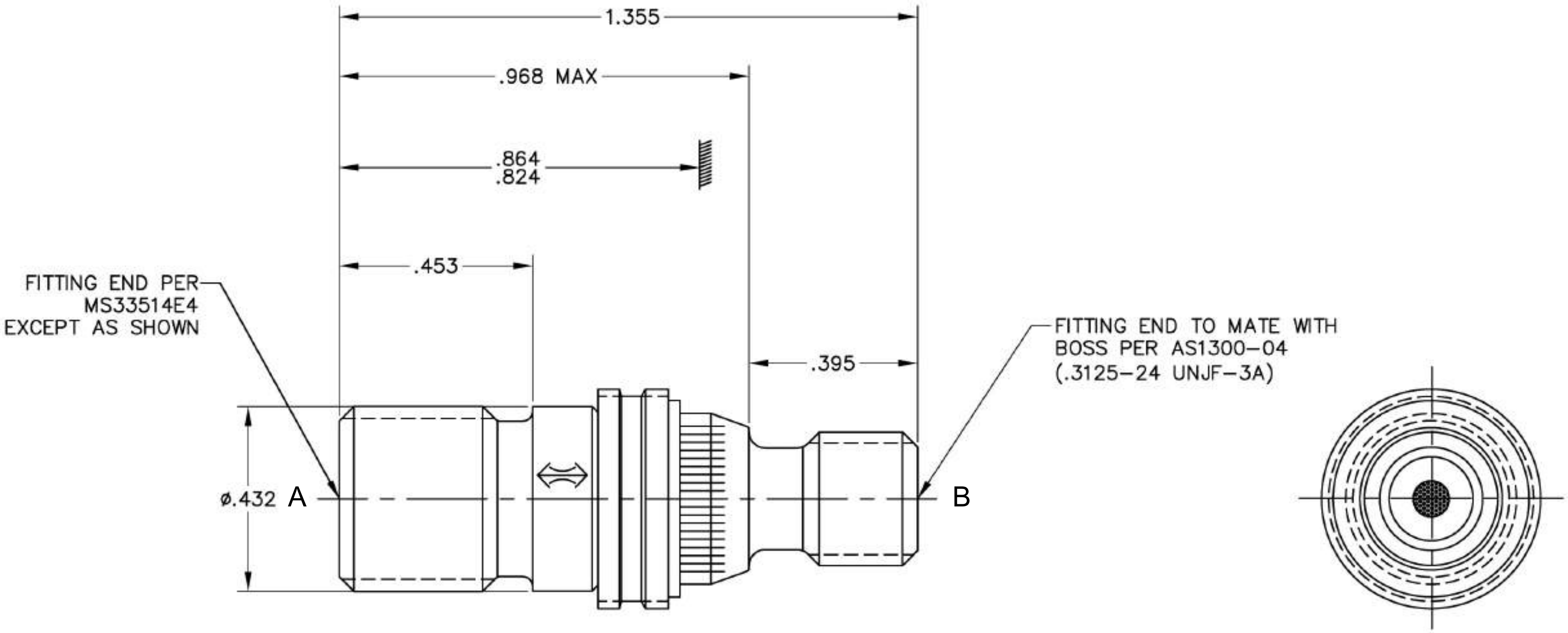
FLOW: EQUIVALNT TO A Ø.033 ORIFICE AT 3000 PSID

FILTRATION .008 DIA NOMINAL OPENINGS

HYDRAULIC SCHEMATIC



PART NUMBER: 6F4412, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

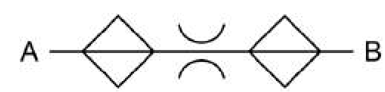
FLOW: 1.40 GPM ± 5% AT 3000 PSID (Ø.034)

FILTRATION: Ø.008 TO .012 OPENINGS

LEAKAGE: EXTERNAL: NONE

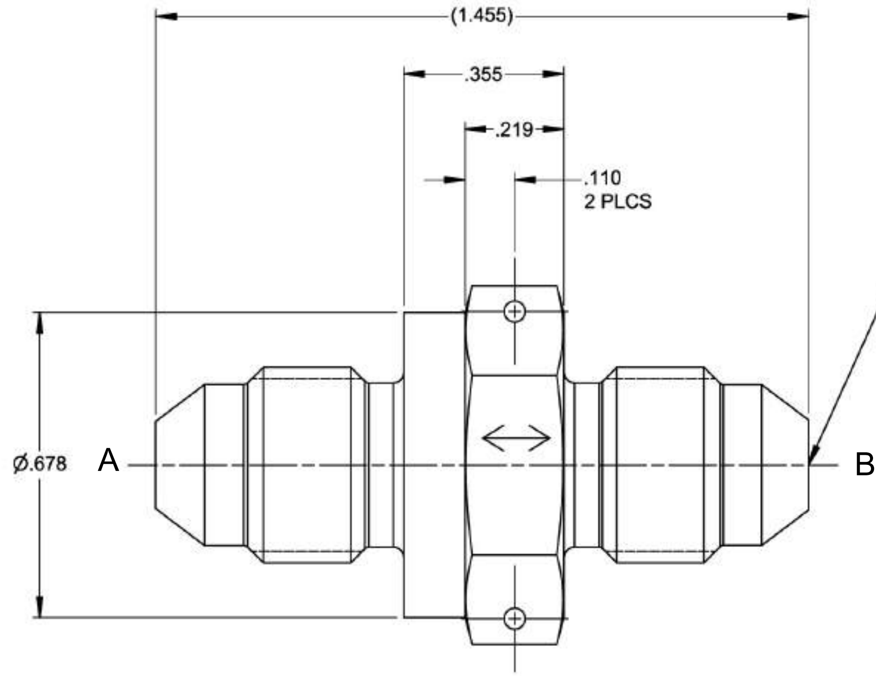
WEIGHT: .039 LBS MAX

HYDRAULIC SCHEMATIC

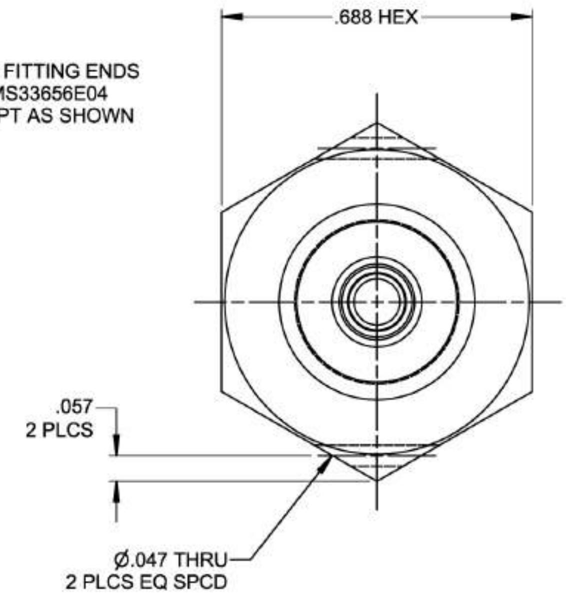


CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F4776, RESTRICTOR VALVE, TWO-WAY, FILTERED



ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

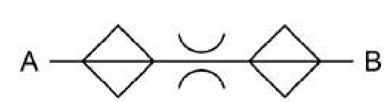
PROOF PRESSURE: 4500 PSIG

FLOW: Ø.030 ± .001 ORIFICE (0.56 ± 5% GPM AT 950 PSID)

FILTRATION: .005 TO .008 OPENINGS

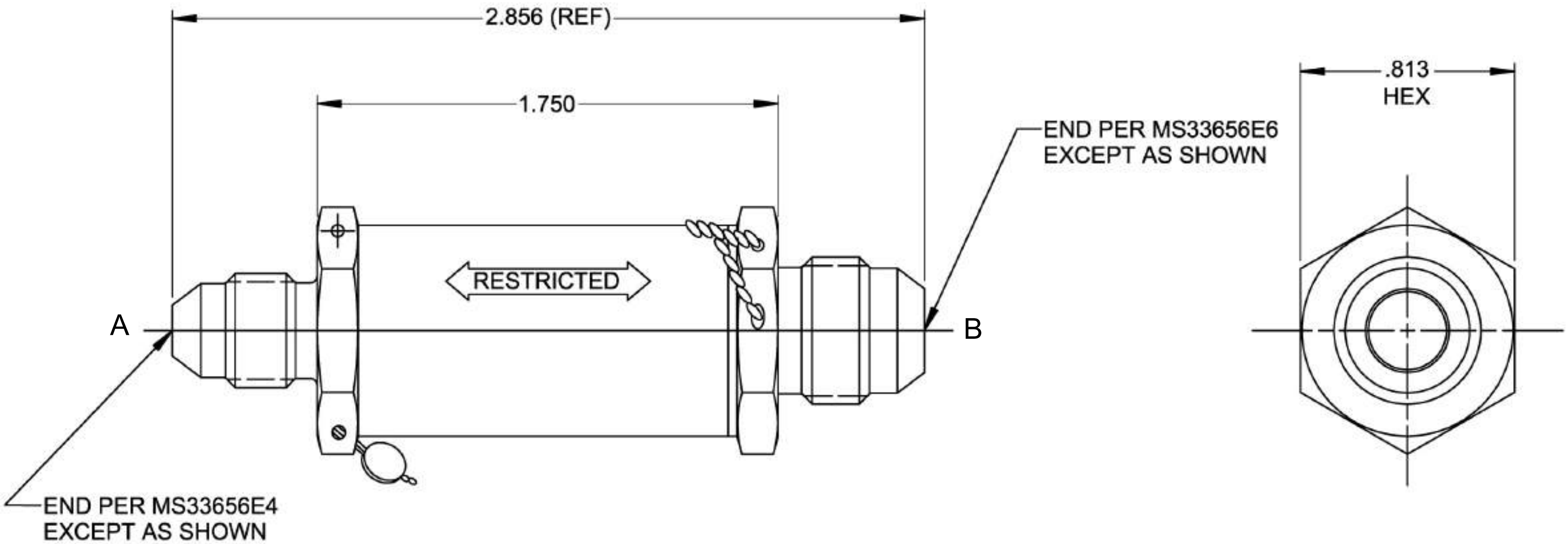
WEIGHT: .028 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F3122, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL 500 B AND DMS 2014*

MATERIAL: BODY 303 CRES

TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

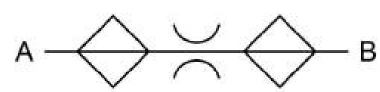
FLOW: 0.52 ± 15% GPM AT 1000 PSID

FILTRATION: .008 TO .012 OPENINGS

WEIGHT: .25 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

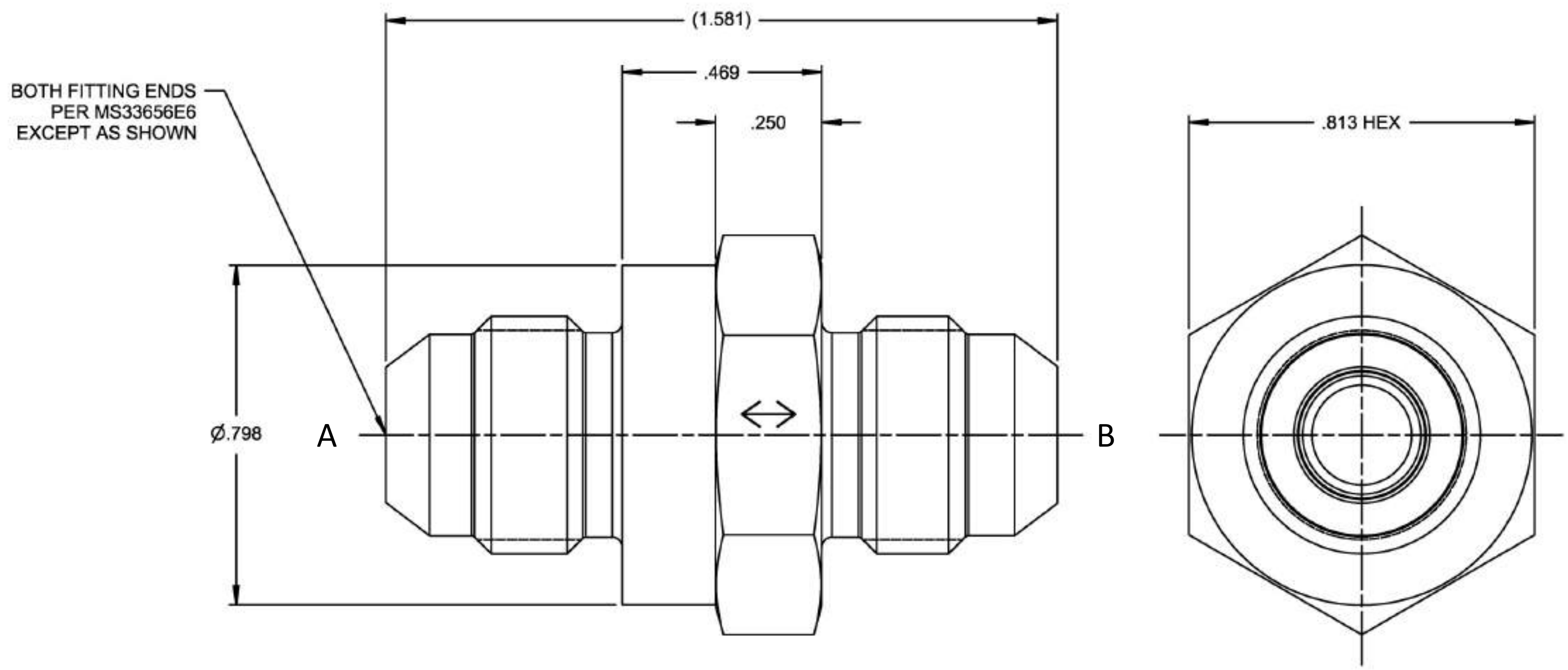
HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

CRISSAIR INC.

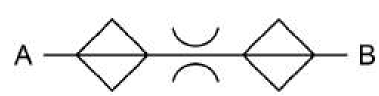
PART NUMBER: 6F3800-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

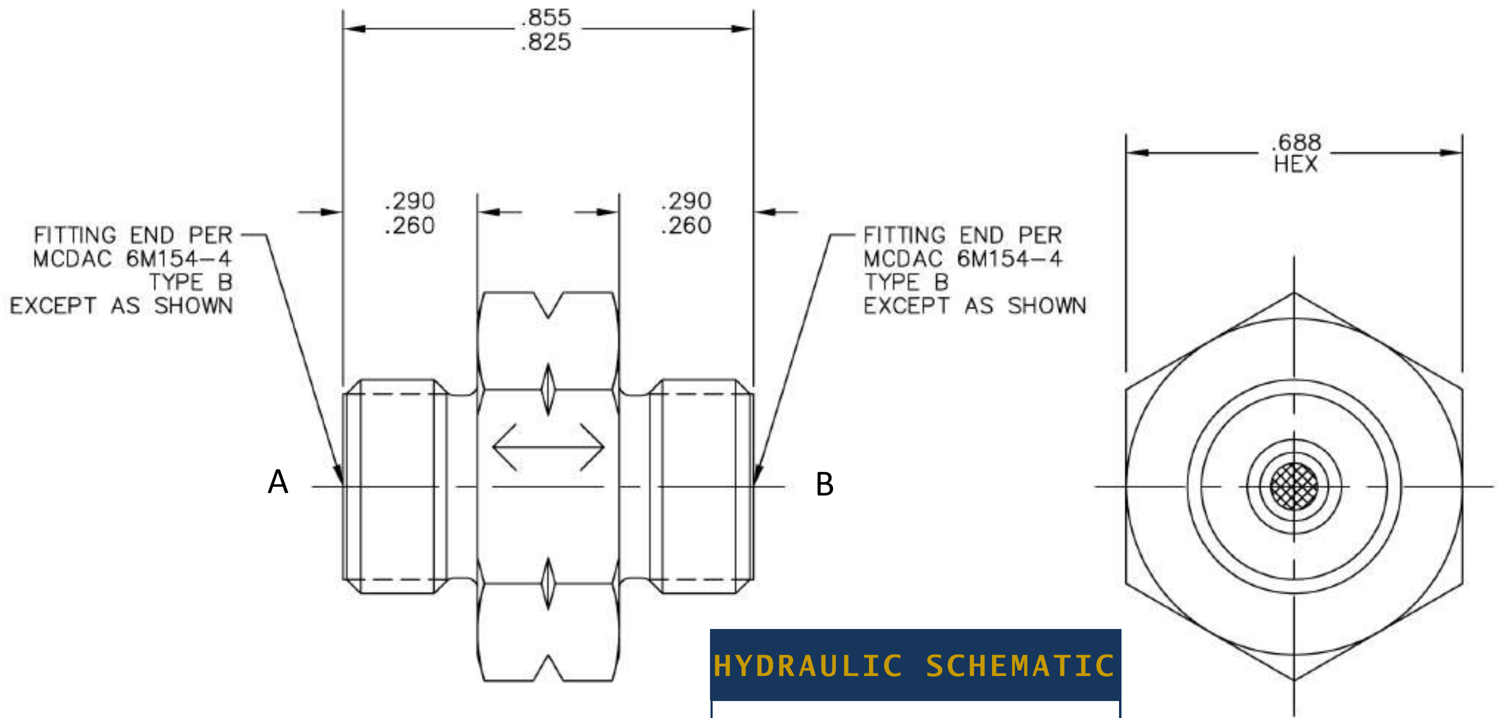
FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 2024-T351 AL
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
FLOW: SEE TAB BLOCK
FILTRATION: .005 TO .008 OPENINGS

HYDRAULIC SCHEMATIC

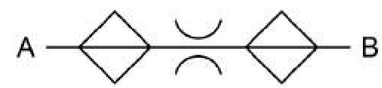


CRISSAIR PART NO.	FLOW (GPM) REF	PRESS. ΔP (PSID)	ORIFICE DIA ±.001
6F3800-1	0.45	550	Ø.030
6F3800-2	2.69	435	Ø.078
6F3800-3	1.80	435	Ø.064
6F3800-4	1.24	435	Ø.053
6F3800-5	1.86	435	Ø.065

PART NUMBER: 6FXXXX, RESTRICTOR VALVE, TWO-WAY, FILTERED



HYDRAULIC SCHEMATIC



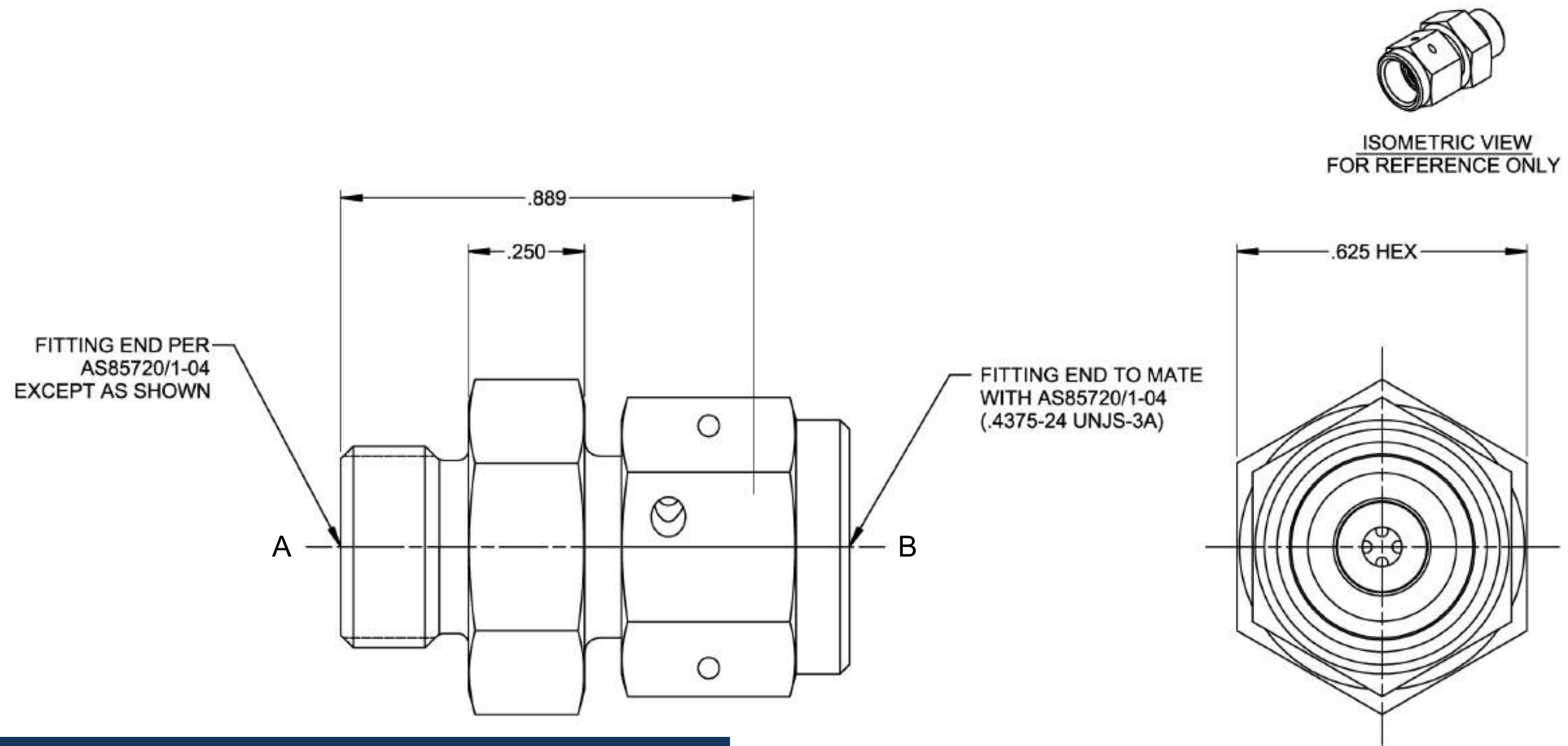
PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 6AL -4V TI
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: SEE TAB BLOCK
PROOF PRESSURE: SEE TAB BLOCK
FLOW: SEE TAB BLOCK
FILTRATION: .005 TO .008 OPENINGS
WEIGHT: .041 LBS MAX

CRISSAIR PART NO.	OPERATING PRESSURE (PISG)	PROOF PRESSURE (PSIG)	FLOW GPM	PRESS. ΔP (PSID)	ORIFICE DIA
6F4010	3000	4500	0.76 ± 10%	2000	Ø.009
6F4220	5000	7500	.390 ± 10%	4600	Ø.016

CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F4634, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4PH CRES

SWIVEL NUT 17-4 PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 5000 PSIG

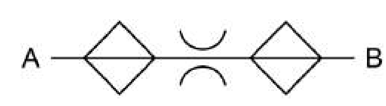
PROOF PRESSURE: 7500 PSIG

FLOW: 3.2 ± 5% GPM AT 5000 PSID (Ø.047 ORIFICE)

FILTRATION .025 TO .028 OPENINGS (25 HOLES MIN)

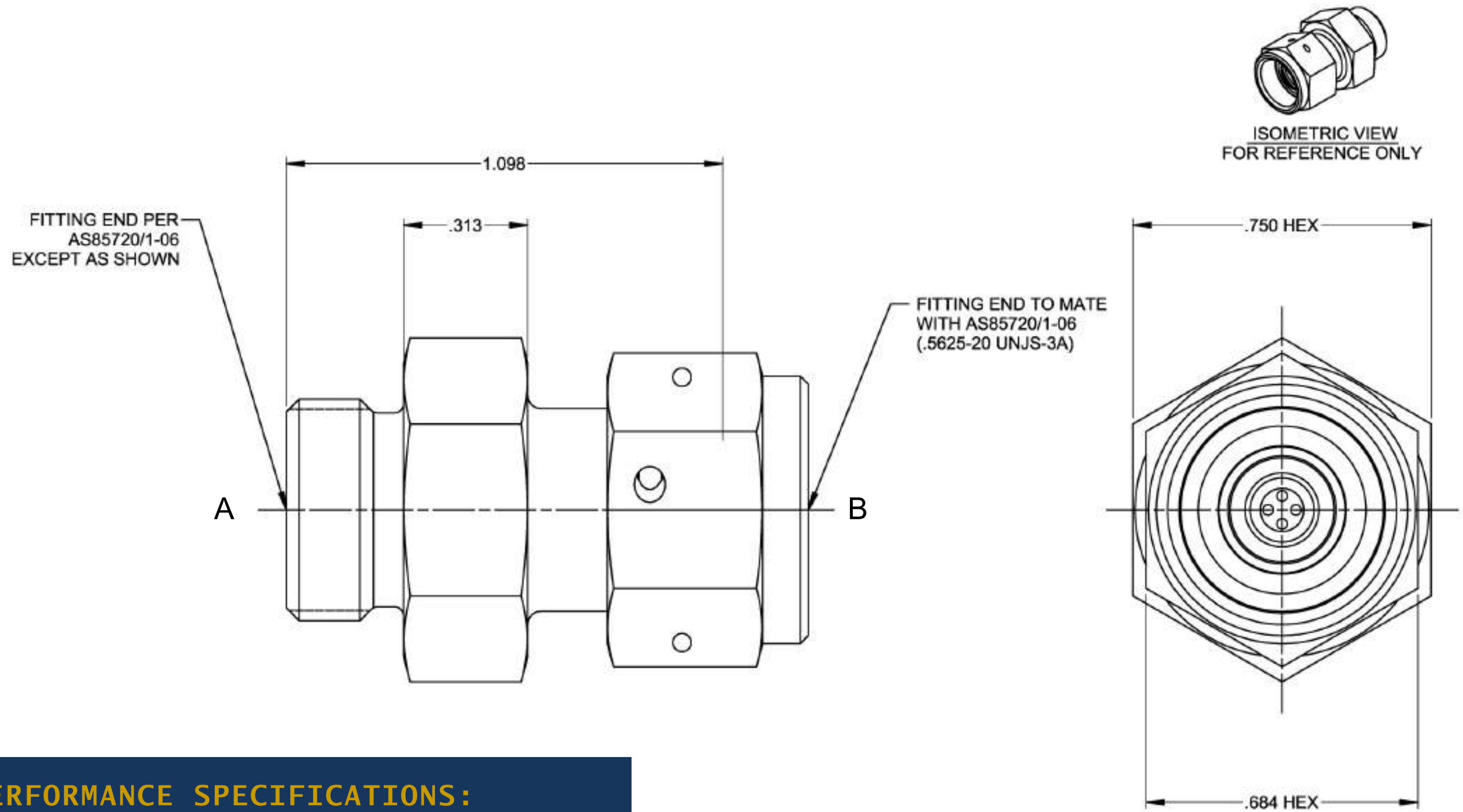
WEIGHT: .064 LBS MAX

HYDRAULIC SCHEMATIC



CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F4636, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 17-4PH CRES

SWIVEL NUT 17-4 PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 5000 PSIG

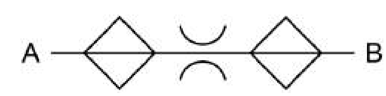
PROOF PRESSURE: 7500 PSIG

FLOW: 3.2 ± 5% GPM AT 5000 PSID (Ø.047 ORIFICE)

FILTRATION .025 TO .028 OPENINGS (25 HOLES MIN)

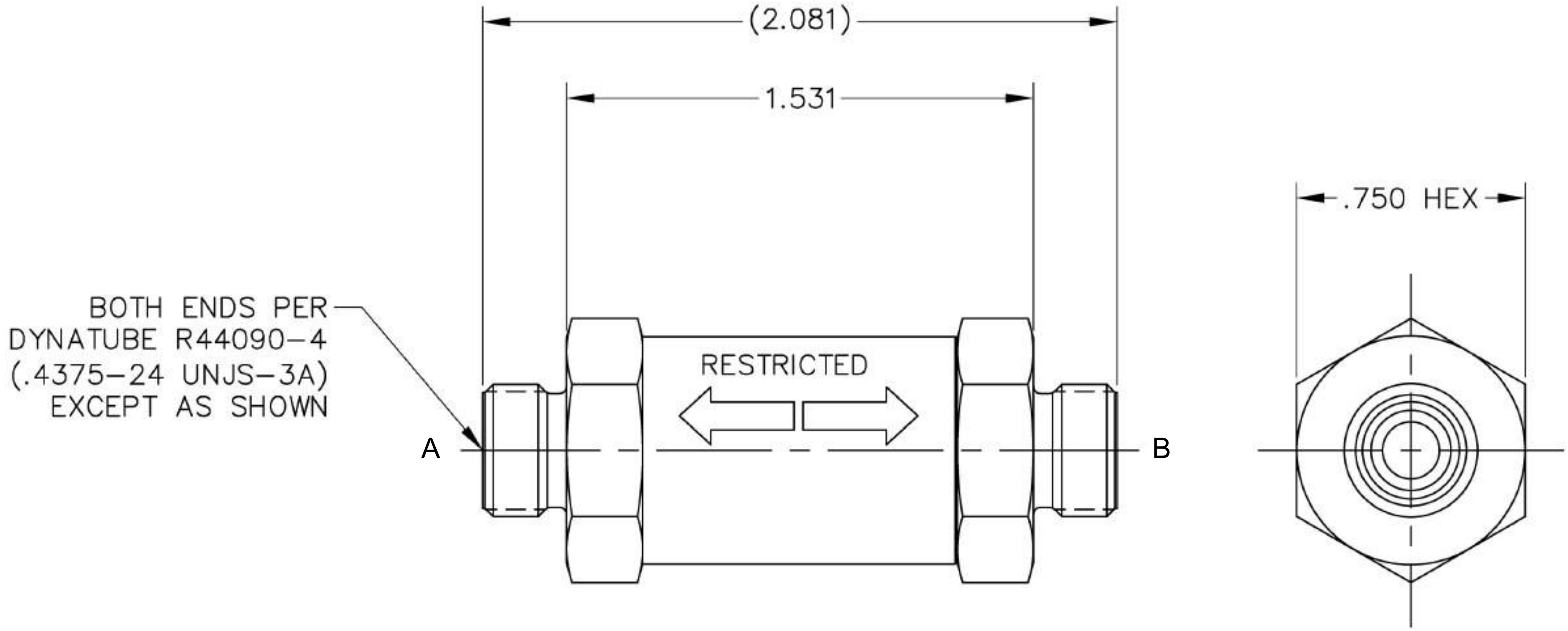
WEIGHT: .115 LBS MAX

HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 6F4380, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-5606*

MATERIAL: BODY 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

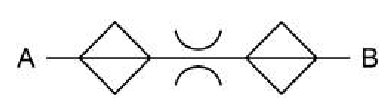
PROOF PRESSURE: 4500 PSIG

FLOW: .85 ± 10% GPM AT 3000 PSID (Ø.027 ORIFICE)

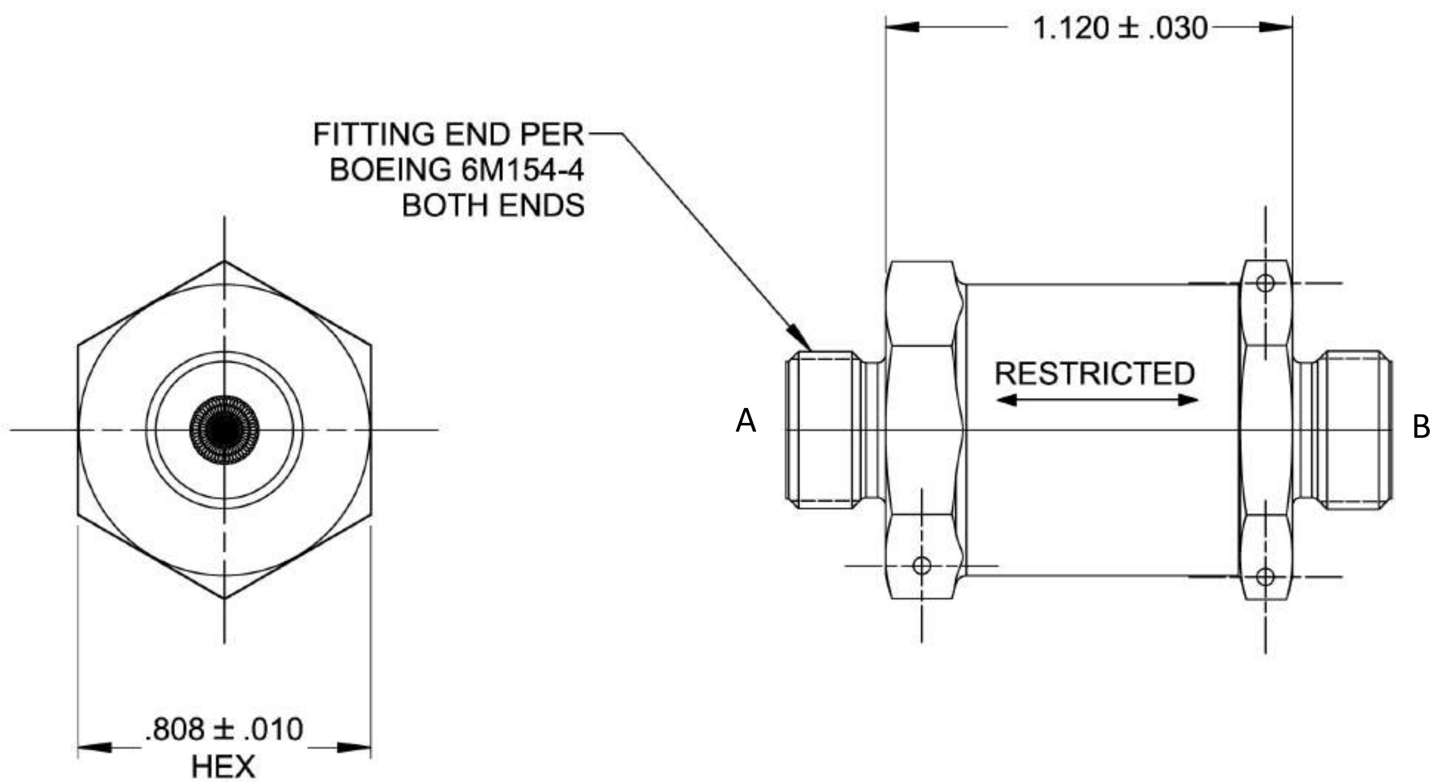
WEIGHT: .177 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



PART NUMBER: 6F5090-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-H-5606 AND MIL-H-83282*

MATERIAL: BODY 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

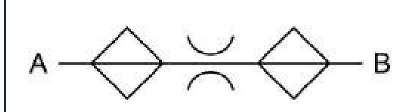
PROOF PRESSURE: 4500 PSIG

FLOW: SEE TAB BLOCK AT 3000 PSID MAX

WEIGHT: .15 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC

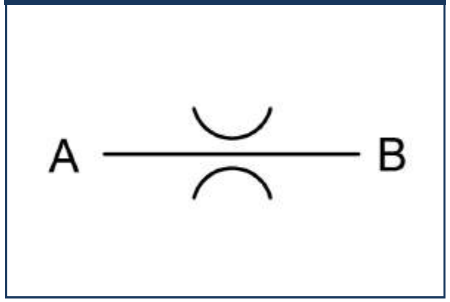


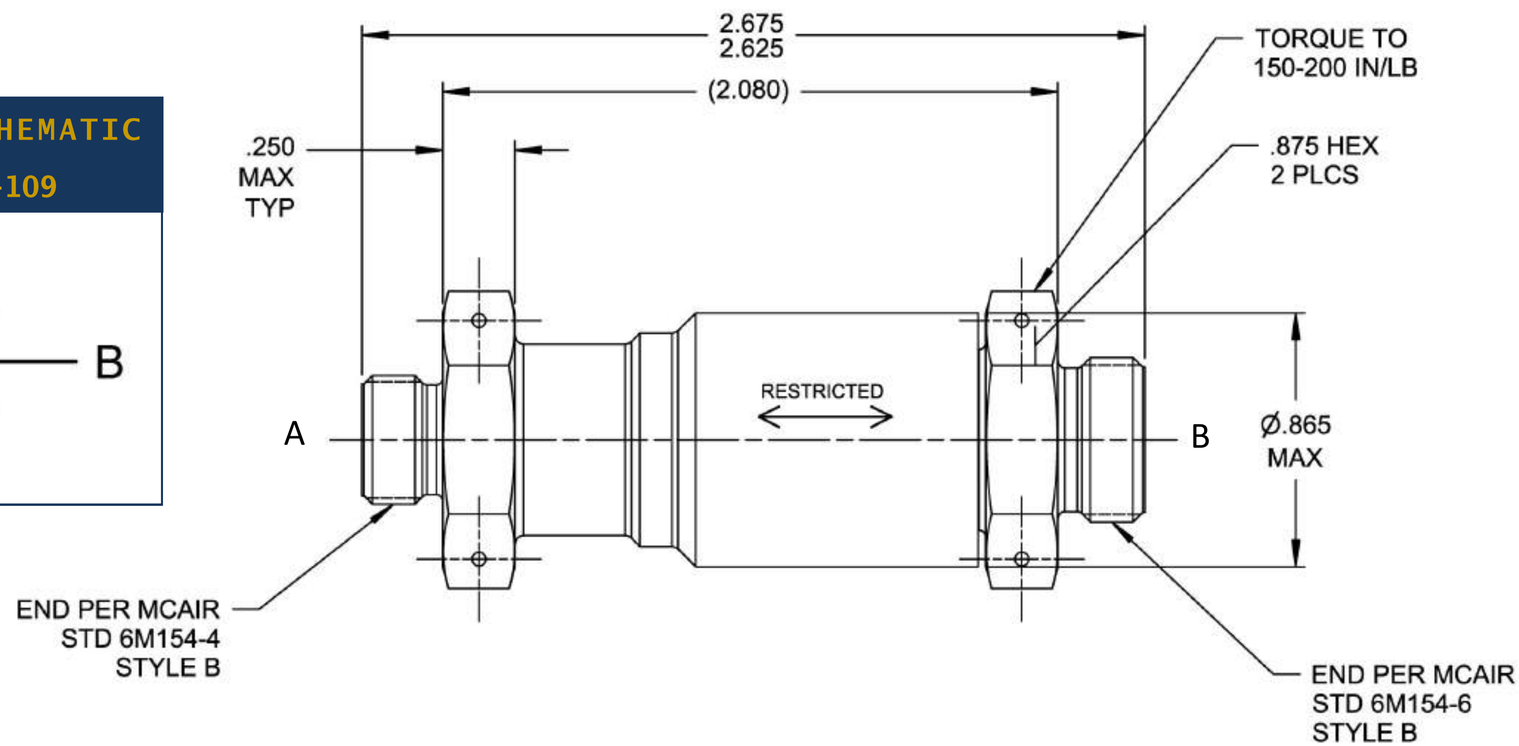
CRISSAIR PART NO.	FLOW (GPM)
6F5090-1	0.41 ± 10%
6F5090-2	1.90 ± 10%
6F5090-3	0.20 ± 10%
6F5090-4	1.20 ± 10%

CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F5086, TWO-WAY FILTERED HYDRAULIC RESTRICTOR

HYDRAULIC SCHEMATIC -101 AND -109





PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC RED OIL PER MIL-H5606,
MIL-H46170, MIL-H-83282 & MIL-H-6083*

MATERIAL: BODY 17-4PH CRES

Temperature range: -65°F to 275°F

operating PRESSURE: 3000 PSIG

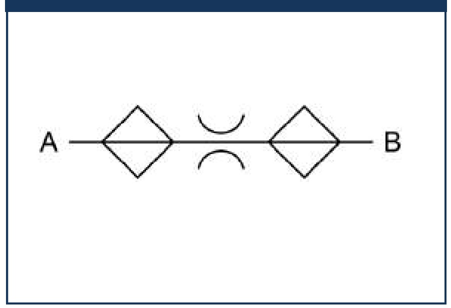
PROOF PRESSURE: 4500 PSIG

FLOW: SEE TAB BLOCK

WEIGHT: .30 LBS MAX

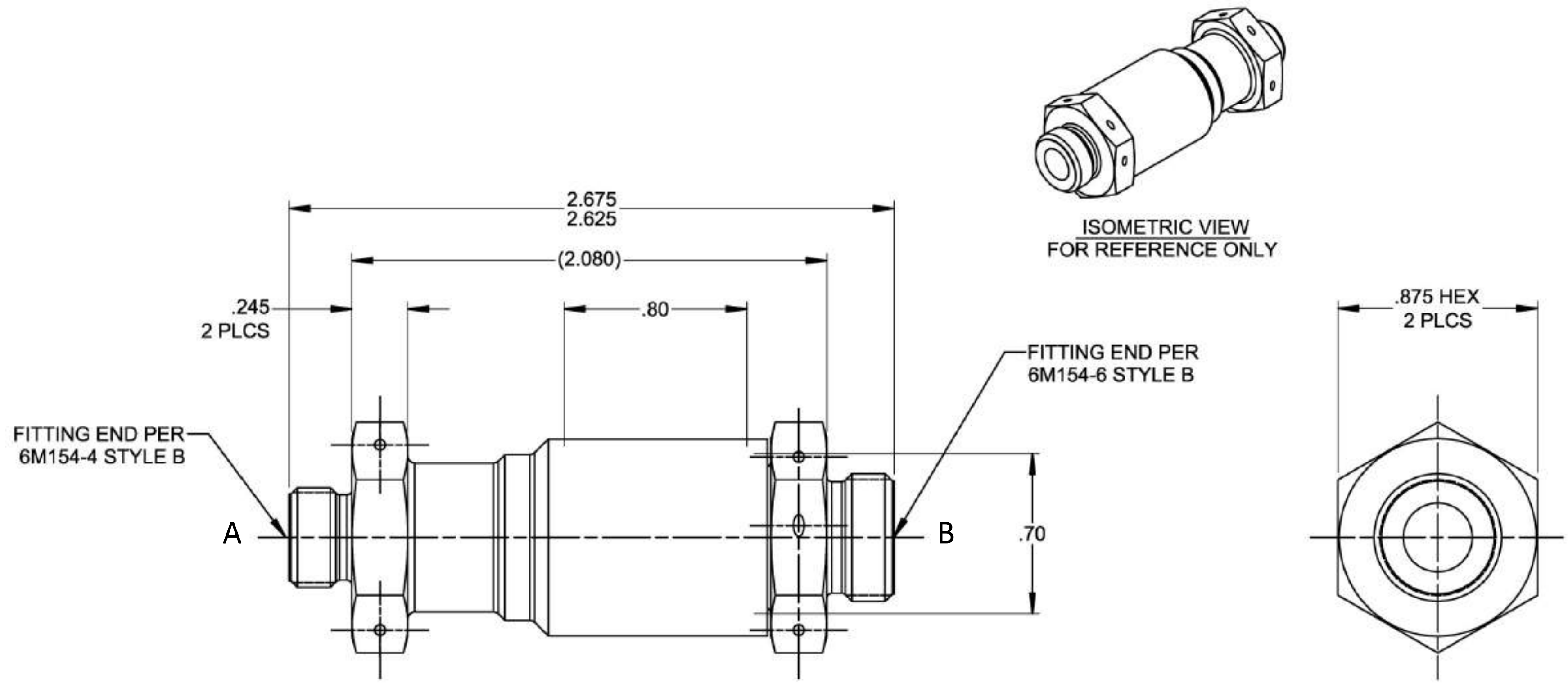
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC -103 AND -105



CRISSAIR PART NO.	FLOW (GPM)	PRESS. ΔP (PSID)	ORIFICE DIA (REF)
6F5086-101	4.77± 10%	200	.104
6F5086-103	4.59 ± 10%	3000	.063
6F5086-105	2.66 ± 10%	3000	.048
6F5086-109	6.50 ± 10%	3000	.075

PART NUMBER: 6F4934-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT HYDRAULIC FLUID PER MIL-PRF-83282*

MATERIAL: BODY 17-4PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

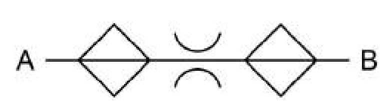
FLOW: SEE TAB BLOCK

FILTRATION: .008 TO .012 OPENINGS

WEIGHT: 0.294 LBS MAX

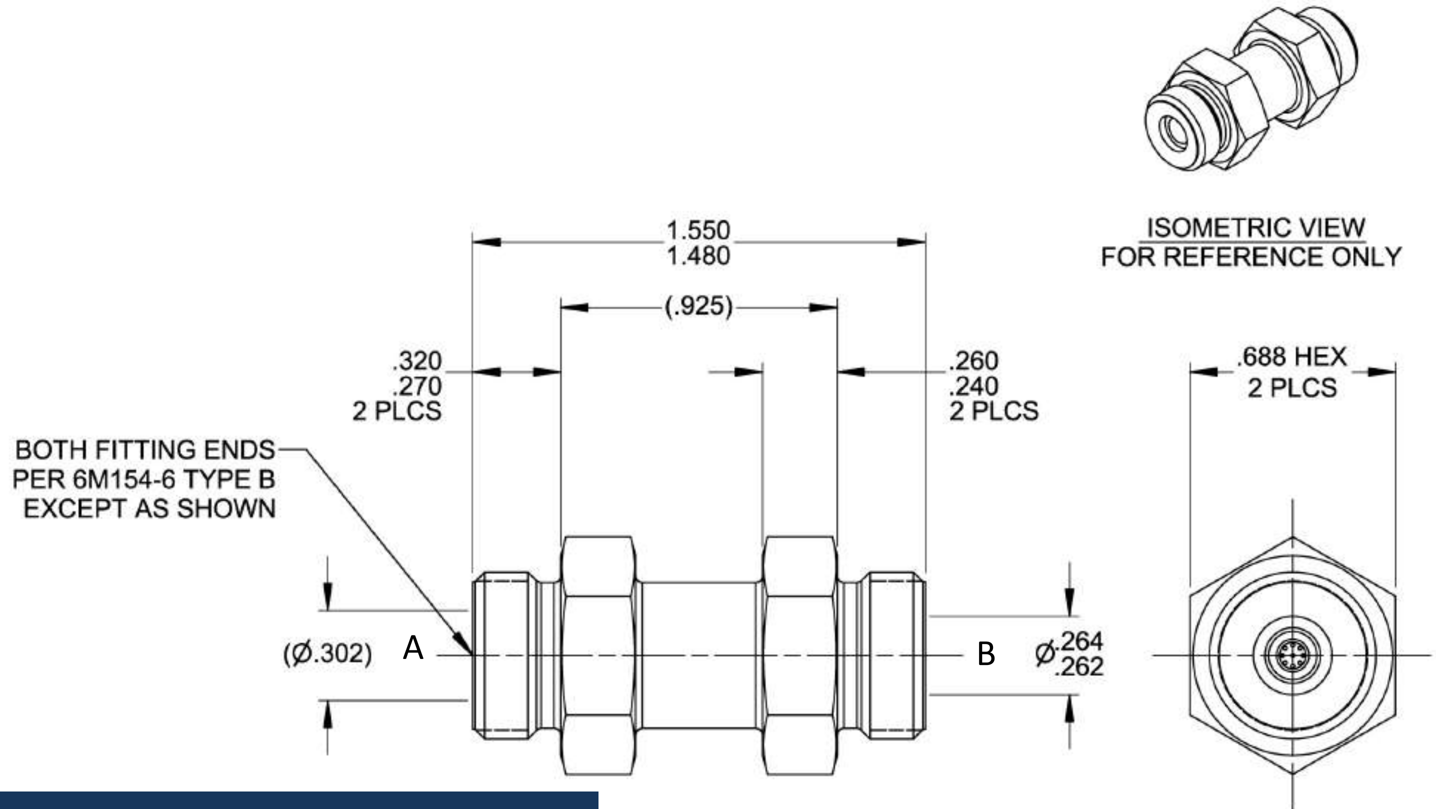
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW GPM ±10%	PRESS. ΔP (PSID)	ORIFICE Ø
6F4934-1	0.50	500	.0324
6F4934-3	1.00	550	.0448
6F4934-4	1.00	1400	.0354
6F4934-5	1.00	1600	.0343
6F4934-6	1.25	1600	.0383
6F4934-7	1.50	450	.0577
6F4934-8	1.50	1500	.0427
6F4934-9	1.75	1600	.0454
6F4934-10	3.25	3000	.0528

PART NUMBER: 6F4932-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

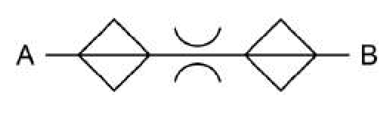
PROOF PRESSURE: 7500 PSIG

FLOW: SEE TAB BLOCK

FILTRATION: .011 TO .014 OPENINGS

WEIGHT: 0.065 LBS MAX

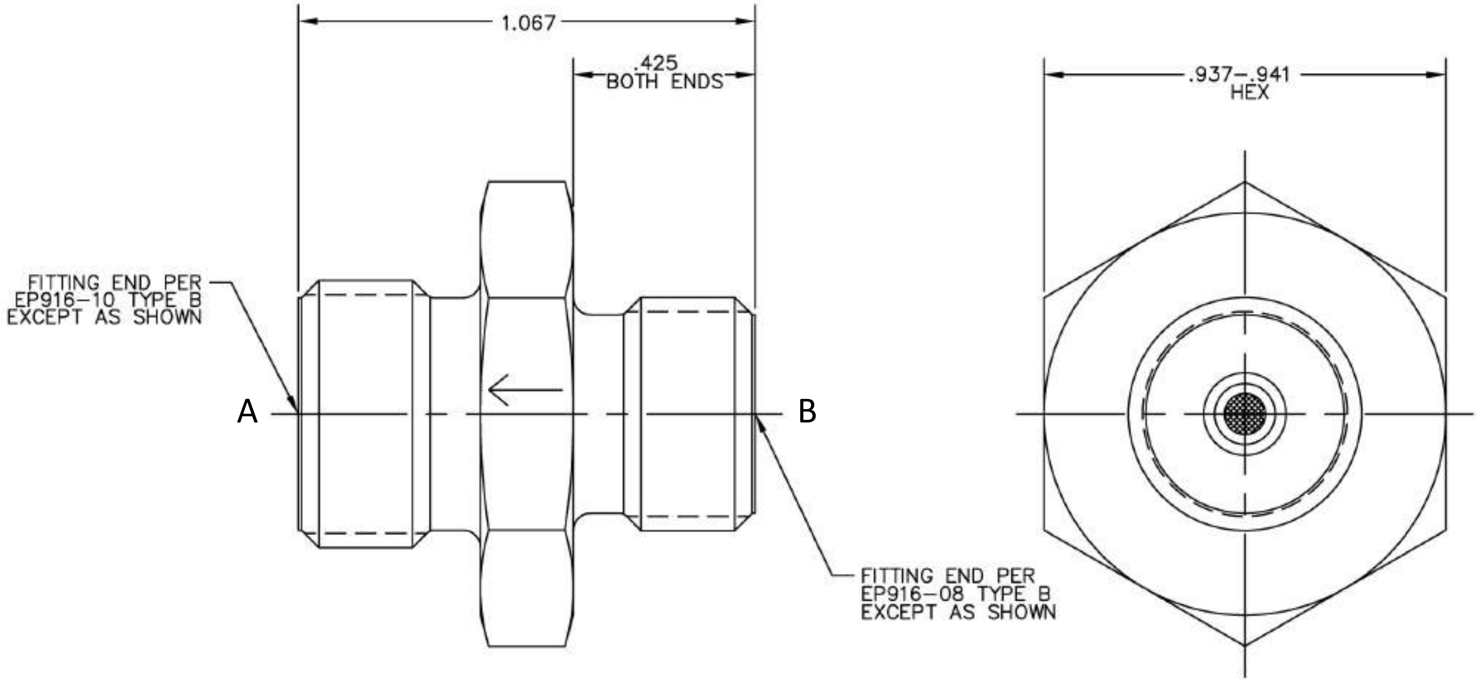
HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW GPM ±10%	PRESS. ΔP (PSID)	ORIFICE Ø
6F4932-1	1.00	450	.0471
6F4932-2	1.75	600	.0579
6F4932-3	1.75	800	.0539
6F4932-4	1.75	1600	.0454

CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

PART NUMBER: 6F5122, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

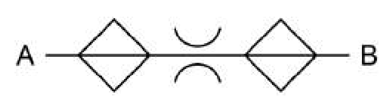
PROOF PRESSURE: 8000 PSIG

FLOW: .13 GPM AT 2837 PSID (Ø.011 ORIFICE)

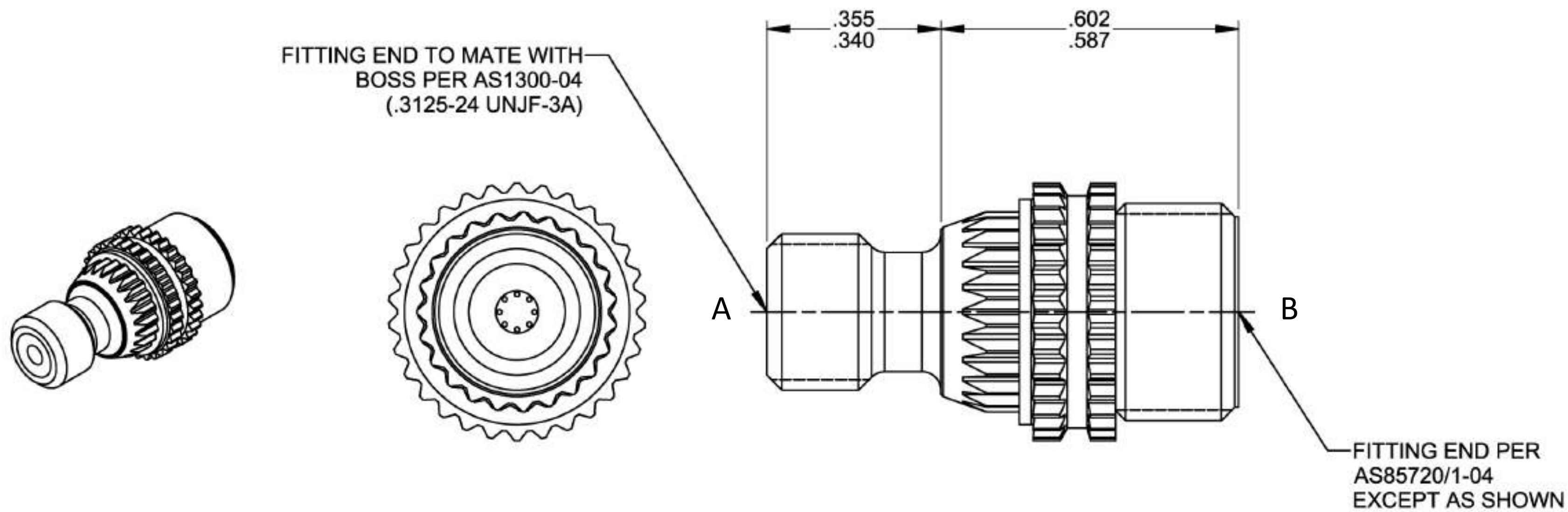
FILTRATION: .005 TO .008 OPENINGS

WEIGHT: 0.077 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 6F5134, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

LOCKRING 1-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

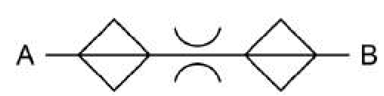
PROOF PRESSURE: 6000 PSIG

FLOW: 1.0 ± 5% GPM AT 3900 PSID (Ø.028 ORIFICE)

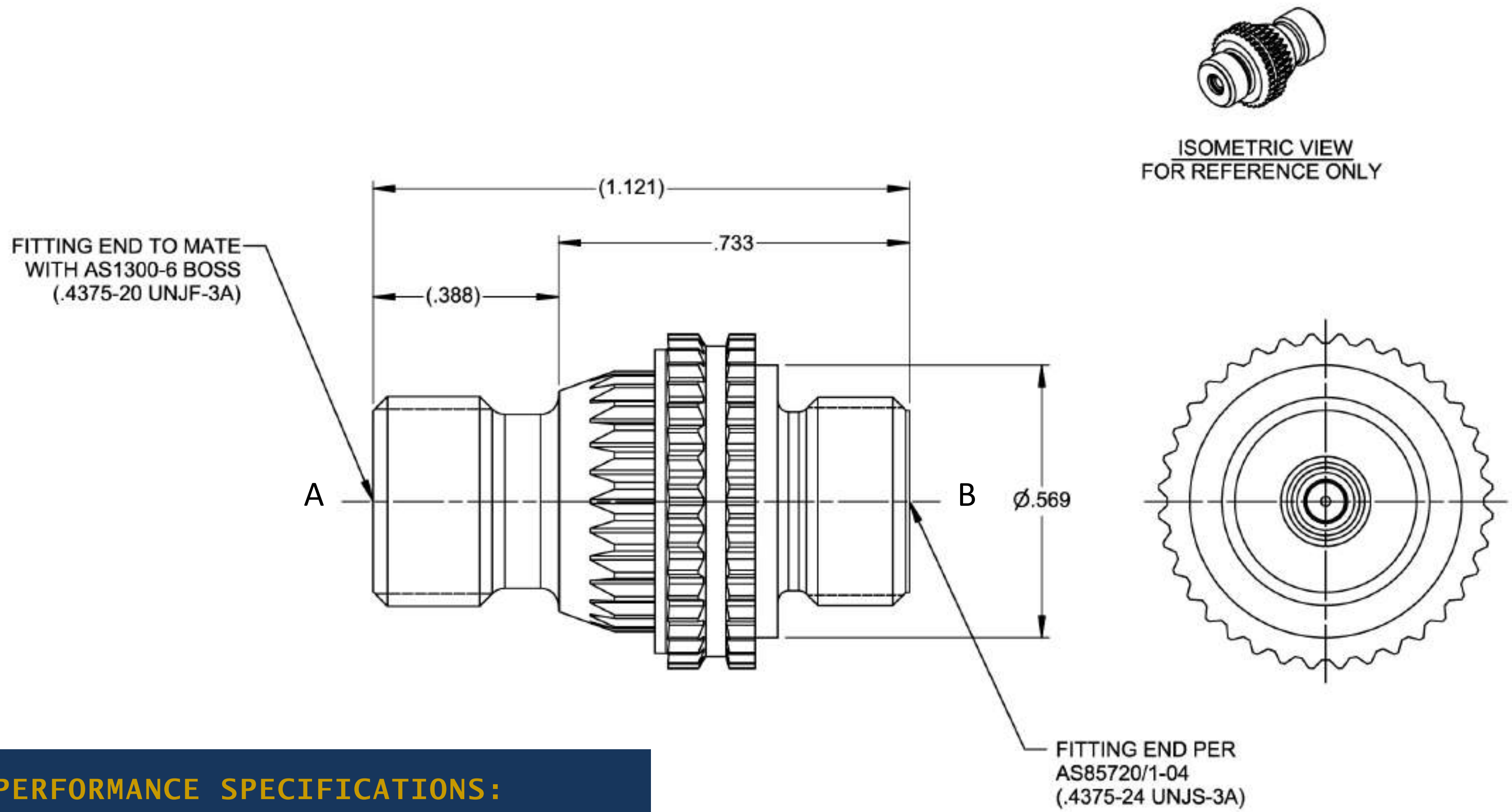
FILTRATION: .008 NOMINAL OPENINGS

WEIGHT: 0.02 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 6F4602-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 275°F

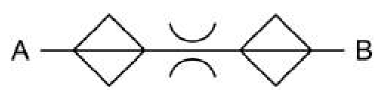
OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 6000 PSIG

FLOW: SEE TAB BLOCK AT 4000 PSID MAX

WEIGHT: 0.04 LBS MAX

HYDRAULIC SCHEMATIC

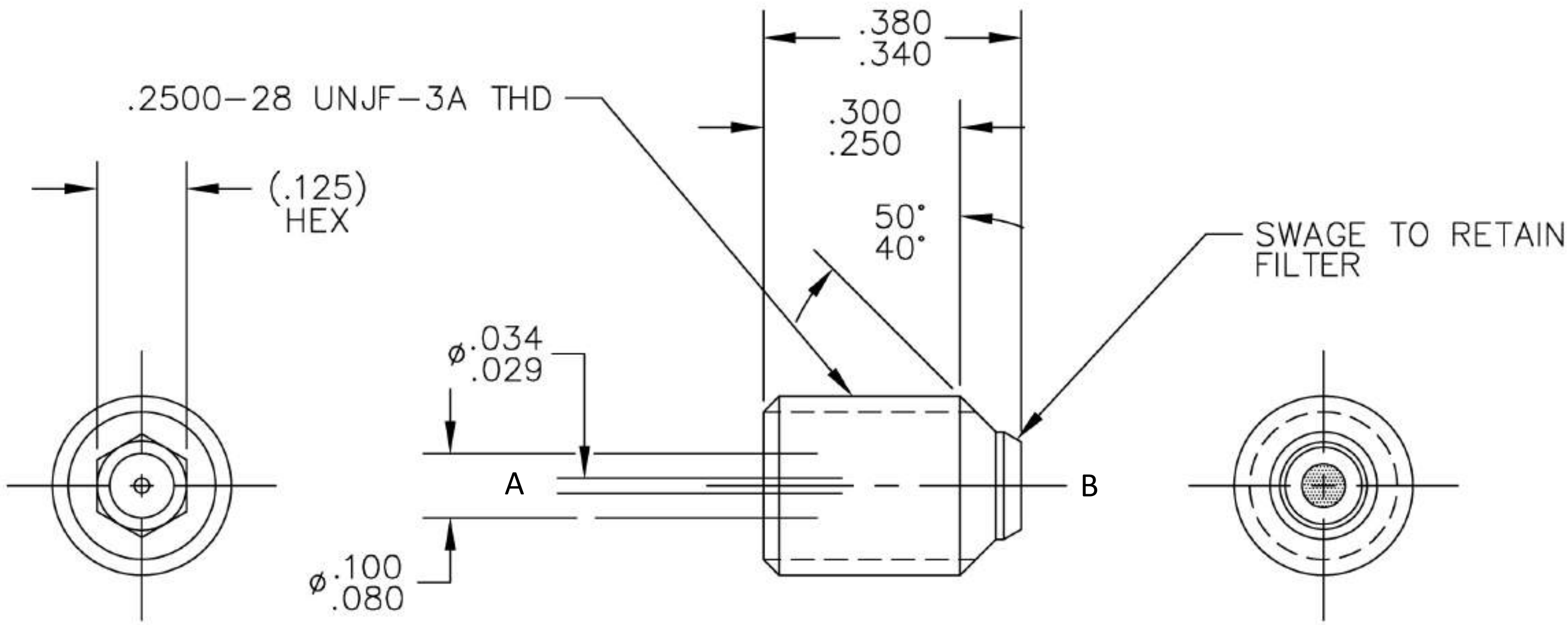


CRISSAIR PART NO.	FLOW GPM ± 5%	ORIFICE Ø	LOHM (REF)
6F4602-1	2.12	.040	650 ± 5%
6F4602-3	1.72	.036	800 ± 5%
6F4602-5	1.38	.032	1000 ± 5%

CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

![CRISSAIR INC.]

PART NUMBER: 6F5126, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

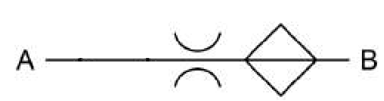
MATERIAL: BODY 304L CRES

TEMPERATURE RANGE: -65°F TO 275°F

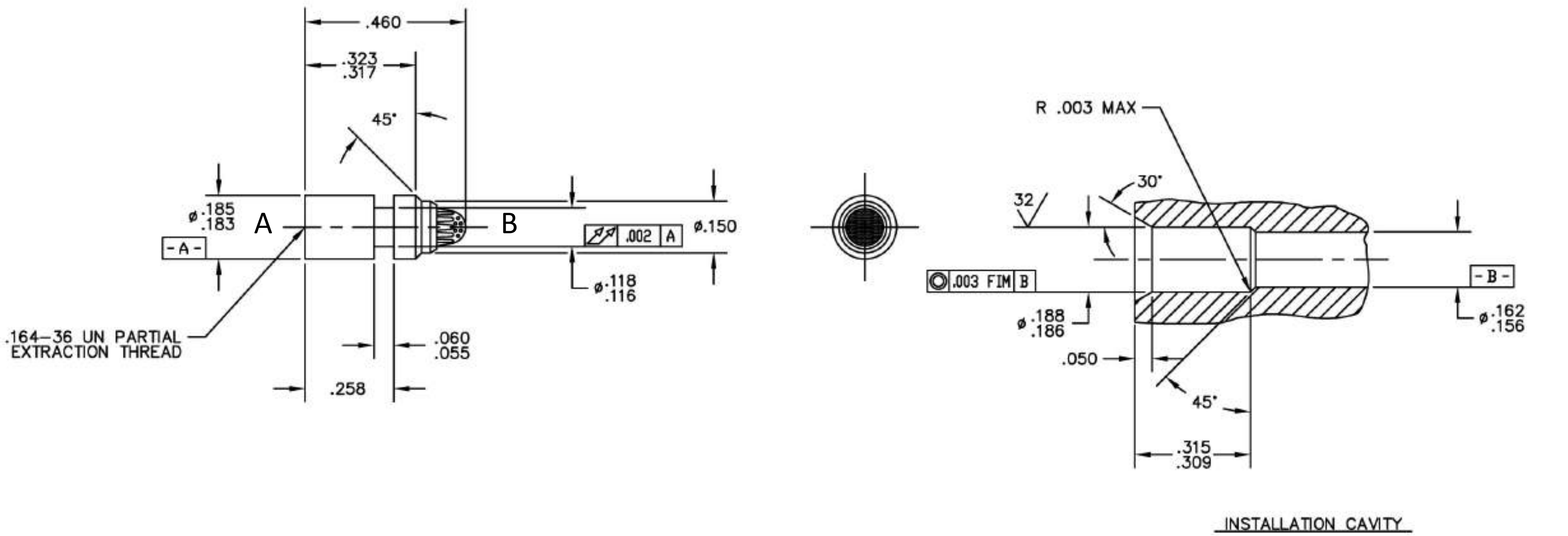
FLOW: Ø.029 - .034 ORIFICE

WEIGHT: 0.0041 LBS MAX

HYDRAULIC SCHEMATIC



PART NUMBER: 6F5092-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 304 CRES

TEMPERATURE RANGE: -65°F TO 275°F

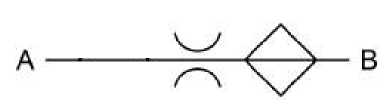
OPERATING PRESSURE: 1000 PSIG

PROOF PRESSURE: 1500 PSIG

FLOW: SEE TAB BLOCK AT 100 PSID MAX

FILTRATION: .006 NOMINAL OPENINGS

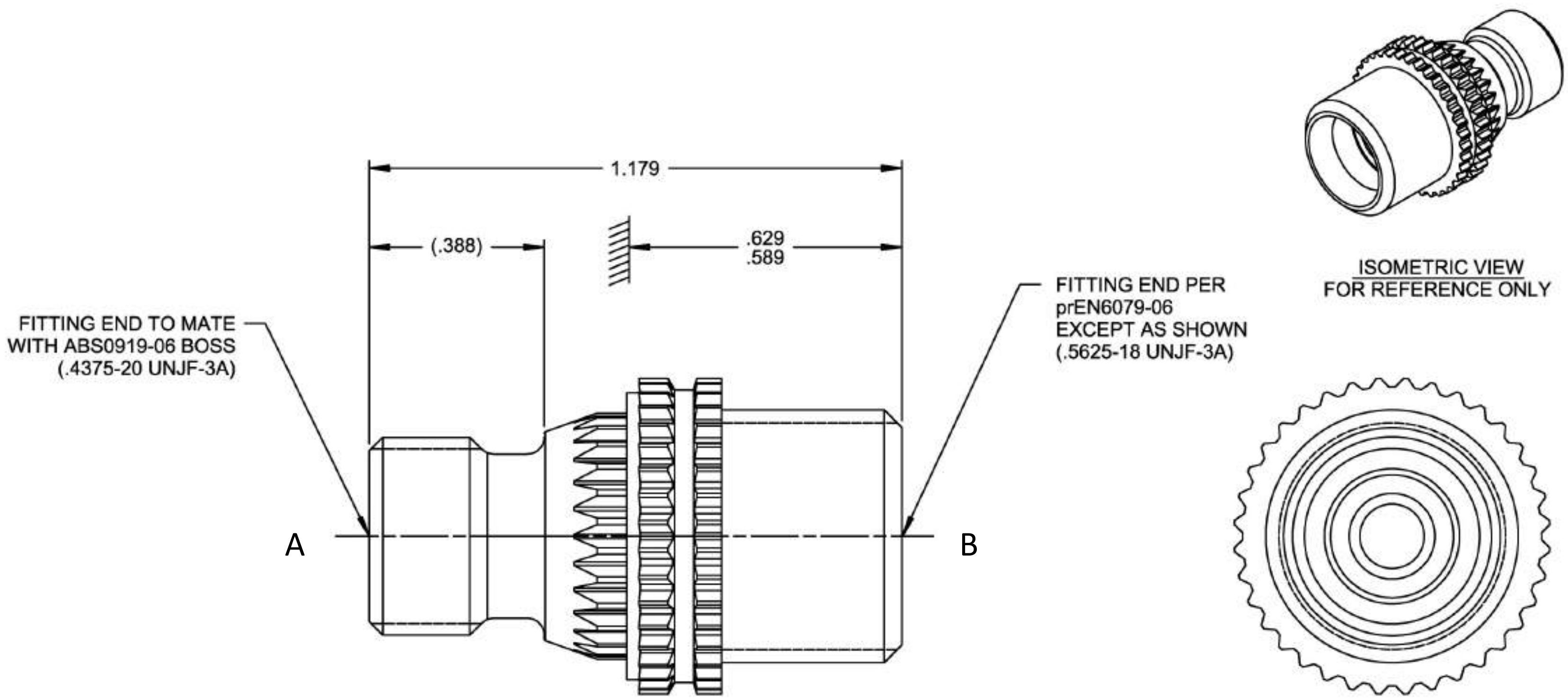
HYDRAULIC SCHEMATIC



CRISSAIR PART NO.	FLOW LBS/HR	ORIFICE Ø
6F5092-1	12	.012
6F5092-2	15	.013
6F5092-3	18	.014
6F5092-4	23	.016

CRISSAIR INC.

PART NUMBER: 6F5096-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 230°F

OPERATING PRESSURE: 3030 PSIG

PROOF PRESSURE: 4570 PSIG

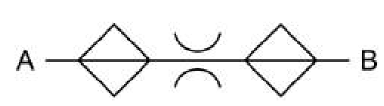
FLOW: SEE TAB BLOCK ± 5% GPM AT 3000 PSID MAX (ON NEXT PAGE)

FILTRATION: FOR -020 THRU -075: .008 TO .012 OPENINGS

FOR -080 THRU -300: .004 TO .006 OPENINGS

WEIGHT: .039 LBS MAX

HYDRAULIC SCHEMATIC



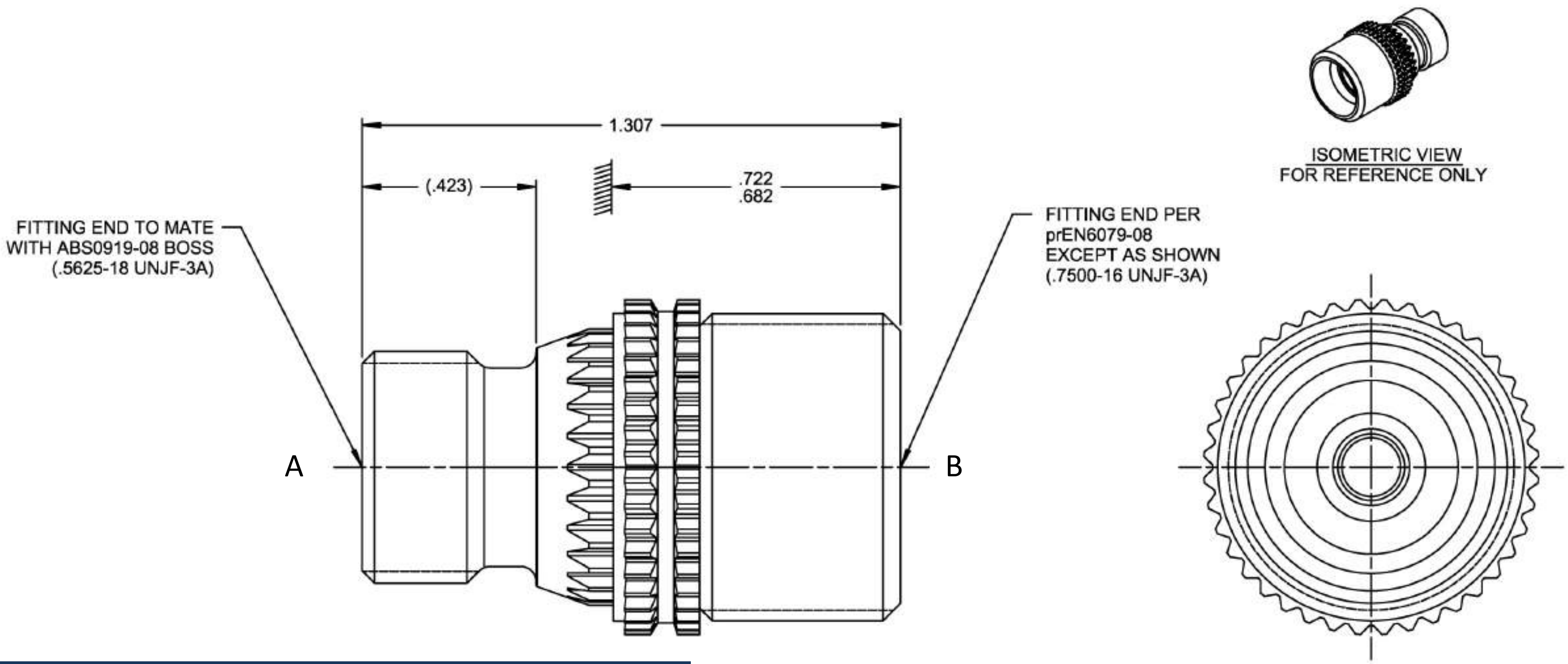
CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

CRISSAIR PART NO.	FLOW GPM	ORIFICE Ø	LOHM (REF)
6F5096-020	5.340	.070	200
6F5096-022	4.860	.067	220
6F5096-024	4.450	.064	240
6F5096-026	4.110	.062	260
6F5096-028	3.820	.060	280
6F5096-030	3.560	.057	300
6F5096-032	3.340	.056	320
6F5096-034	3.140	.054	340
6F5096-036	2.970	.052	360
6F5096-038	2.810	.051	380
6F5096-040	2.670	.050	400
6F5096-042	2.540	.049	420
6F5096-044	2.430	.047	440
6F5096-046	2.320	.046	460
6F5096-048	2.230	.045	480
6F5096-050	2.140	.045	500
6F5096-055	1.940	.042	550
6F5096-060	1.780	.041	600
6F5096-065	1.640	.039	650
6F5096-070	1.530	.038	700

CRISSAIR PART NO.	FLOW GPM	ORIFICE Ø	LOHM (REF)
6F5096-075	1.420	.036	750
6F5096-080	1.340	.035	800
6F5096-085	1.260	.034	850
6F5096-090	1.190	.033	900
6F5096-095	1.120	.032	950
6F5096-100	1.070	.031	1000
6F5096-105	1.020	.031	1050
6F5096-110	.970	.030	1100
6F5096-115	.930	.029	1150
6F5096-120	.890	.029	1200
6F5096-125	.850	.028	1250
6F5096-130	.820	.028	1300
6F5096-135	.790	.027	1350
6F5096-140	.760	.027	1400
6F5096-145	.740	.026	1450
6F5096-150	.710	.026	1500
6F5096-155	.690	.025	1550
6F5096-160	.670	.025	1600
6F5096-165	.650	.025	1650
6F5096-170	.630	.024	1700

CRISSAIR PART NO.	FLOW GPM	ORIFICE Ø	LOHM (REF)
6F5096-175	.610	.024	1750
6F5096-180	.590	.023	1800
6F5096-185	.580	.023	1850
6F5096-190	.560	.023	1900
6F5096-195	.550	.023	1950
6F5096-200	.530	.022	2000
6F5096-210	.510	.022	2100
6F5096-220	.490	.021	2200
6F5096-230	.460	.021	2300
6F5096-240	.450	.020	3400
6F5096-250	.430	.020	2500
6F5096-260	.410	.020	2600
6F5096-270	.400	.019	2700
6F5096-280	.380	.019	2800
6F5096-290	.370	.018	2900
6F5096-300	.360	.018	3000

PART NUMBER: 6F5098-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

LOCKRING A-286 CRES

TEMPERATURE RANGE: -65°F TO 230°F

OPERATING PRESSURE: 3030 PSIG

PROOF PRESSURE: 4570 PSIG

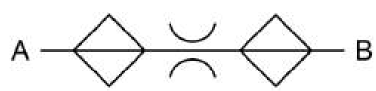
FLOW: SEE TAB BLOCK ± 5% GPM AT 3000 PSID MAX (ON NEXT PAGE)

FILTRATION: FOR -020 THRU -105: .008 TO .012 OPENINGS

FOR -110 THRU -300: .004 TO .006 OPENINGS

WEIGHT: .069 LBS MAX

HYDRAULIC SCHEMATIC



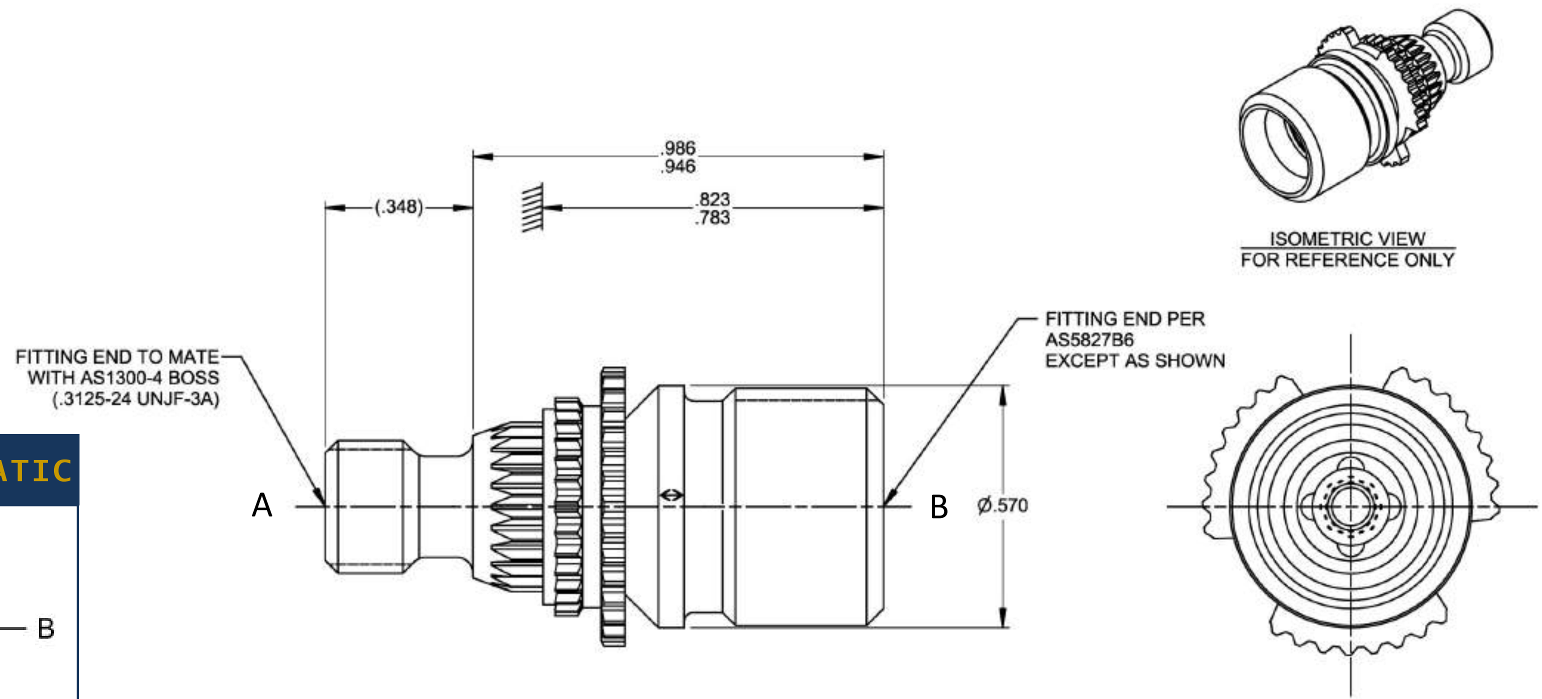
CATEGORY 3: TWO-WAY RESTRICTOR VALVES FILTERED

CRISSAIR PART NO.	FLOW GPM	ORIFICE Ø	LOHM (REF)
6F5098-020	5.340	.070	200
6F5098-022	4.860	.067	220
6F5098-024	4.450	.064	240
6F5098-026	4.110	.062	260
6F5098-028	3.820	.060	280
6F5098-030	3.560	.057	300
6F5098-032	3.340	.056	320
6F5098-034	3.140	.054	340
6F5098-036	2.970	.052	360
6F5098-038	2.810	.051	380
6F5098-040	2.670	.050	400
6F5098-042	2.540	.049	420
6F5098-044	2.430	.047	440
6F5098-046	2.320	.046	460
6F5098-048	2.230	.045	480
6F5098-050	2.140	.045	500
6F5098-055	1.940	.042	550
6F5098-060	1.780	.041	600
6F5098-065	1.640	.039	650
6F5098-070	1.530	.038	700

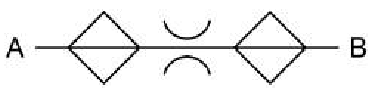
CRISSAIR PART NO.	FLOW GPM	ORIFICE Ø	LOHM (REF)
6F5098-075	1.420	.036	750
6F5098-080	1.340	.035	800
6F5098-085	1.260	.034	850
6F5098-090	1.190	.033	900
6F5098-095	1.120	.032	950
6F5098-100	1.070	.031	1000
6F5098-105	1.020	.031	1050
6F5098-110	.970	.030	1100
6F5098-115	.930	.029	1150
6F5098-120	.890	.029	1200
6F5098-125	.850	.028	1250
6F5098-130	.820	.028	1300
6F5098-135	.790	.027	1350
6F5098-140	.760	.027	1400
6F5098-145	.740	.026	1450
6F5098-150	.710	.026	1500
6F5098-155	.690	.025	1550
6F5098-160	.670	.025	1600
6F5098-165	.650	.025	1650
6F5098-170	.630	.024	1700

CRISSAIR PART NO.	FLOW GPM	ORIFICE Ø	LOHM (REF)
6F5098-175	.610	.024	1750
6F5098-180	.590	.023	1800
6F5098-185	.580	.023	1850
6F5098-190	.560	.023	1900
6F5098-195	.550	.023	1950
6F5098-200	.530	.022	2000
6F5098-210	.510	.022	2100
6F5098-220	.490	.021	2200
6F5098-230	.460	.021	2300
6F5098-240	.450	.020	3400
6F5098-250	.430	.020	2500
6F5098-260	.410	.020	2600
6F5098-270	.400	.019	2700
6F5098-280	.380	.019	2800
6F5098-290	.370	.018	2900
6F5098-300	.360	.018	3000

PART NUMBER: 6F5104-X, RESTRICTOR VALVE, TWO-WAY, FILTERED



HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID
MATERIAL: BODY 6AL -4V TI
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 5000 PSIG
PROOF PRESSURE: 7500 PSIG
FLOW: SEE TAB BLOCK
FILTRATION: .008 TO .012 OPENINGS
WEIGHT: .033 LBS MAX

CRISSAIR PART NO.	FLOW GPM	FLOW COEFF VALUE CIS/(PSI)$^{1/2}$	FLOW COEFF IN^3/SEC	ORIFICE Ø	PSID	INLET PSI	BACK PSI
6F5104-1	0.805 ± 5%	0.0817 ± 5%	-	.033	1439	-	-
6F5104-2	1.960 ± 5%	0.1462 ± 5%	-	.044	2673	-	-
6F5104-3	0.774 ± 5%	0.0579 ± 5%	-	.028	2651	-	-
6F5104-4	2.835 ± 5%	0.1984 ± 5%	-	.051	3006	-	-
6F5104-5	1.169 ± 5%	-	4.5 ± 5%	.032	-	3290	50
6F5104-6	4.415 ± 5%	-	17.0 ± 5%	.056	-	5000	50

CRISSAIR HAS VARIOUS OTHER RESTRICTOR 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.

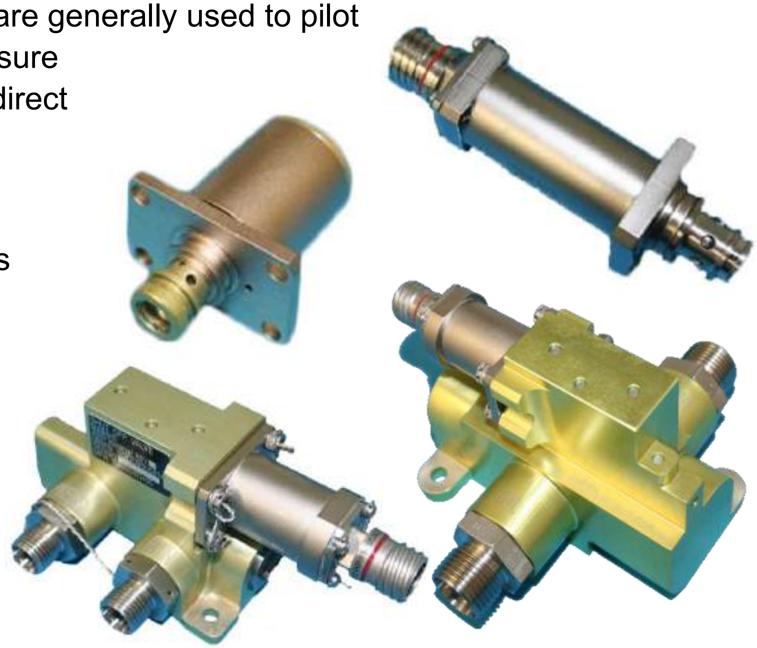
YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

SOLENOID OPERATED VALVES

Crissair Inc. designs and manufactures a variety of Solenoid Operated Valves: Direct Acting Solenoid Valves and Piloted Operated Shutoff Valves.

- Direct Acting Solenoid Valves have many uses in fluid control systems. For high pressure systems, they are generally used to pilot larger cylinders and spools. For lower pressure systems, they can be used to shut-off or redirect supply pressure.

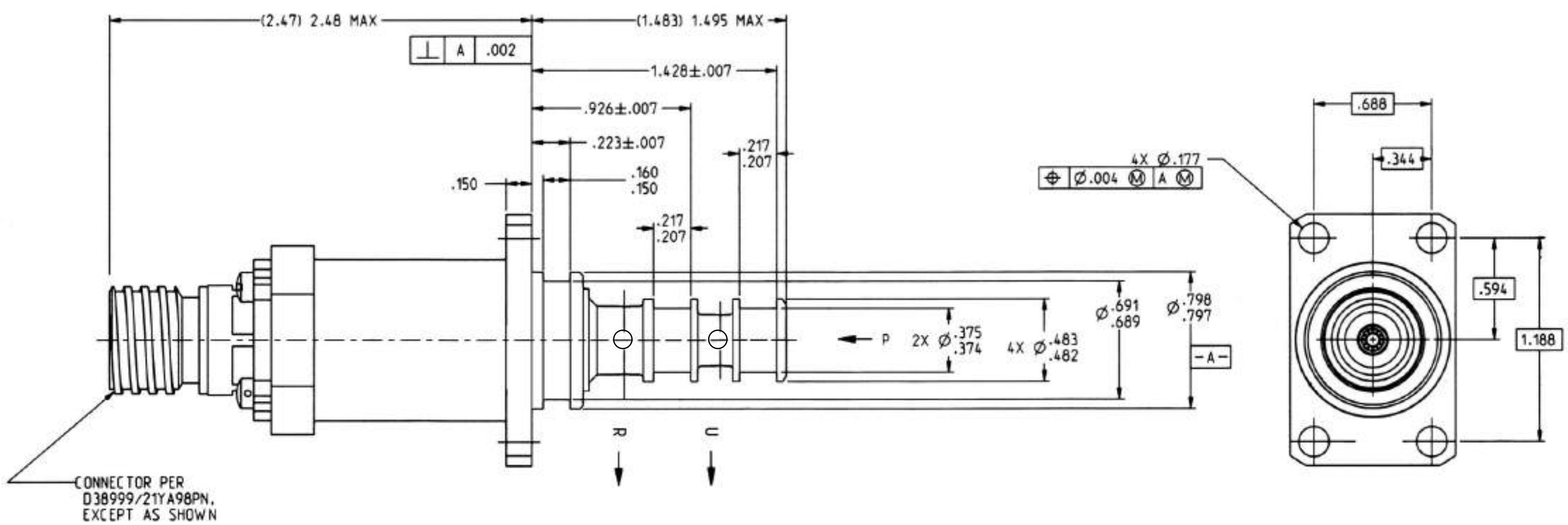
- Pilot Operated Shut-off Valves are more complex in nature. A Pilot Solenoid Valve is packaged into a manifold which drives a larger Spool or Piston to redirect or shutoff system pressure and flow. In some cases, restriction and damping is added to improve and better control transient characteristics of pressure spikes and flow rates.



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

CRISSAIR INC.

PART NUMBER: 4S1294-XSOLENOID VALVE, 2POS 3WAY, NORMALLY CLOSED



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER PER AS1241 TYPE IV CLASS 1 AND 2 AND AS1241 TYPE V*

MATERIAL: VALVE BODY 15-5PH CRES

NOMINAL SUPPLY PRESSURE: 3000 PSIG

TEMPERATURE RANGE: -67° TO 200°F

ENERGIZED FLOW: 0.5 GPM MINIMUM FROM PORT P TO U AT 3000 PSID

DE-ENERGIZED FLOW: 0.5 GPM MINIMUM FROM PORT U TO R AT 3000 PSID

INTERNAL LEAKAGE AT 3000 PSID IN ANY POSITION: 1 CC/MIN MAX

OPERATING VOLTAGE RANGE: 16 TO 32 VDC NOMINAL

COIL RESISTANCE: 42±2 OHMS AT 70°F

PULL-IN VOLTAGE: 13.5 VDC MAX AT 3000 PSID AND 80±20°F

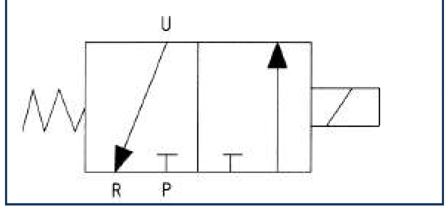
DROP-OUT VOLTAGE: 1.5 TO 7.5 VDC AT 3000 PSID AND 80±20°F

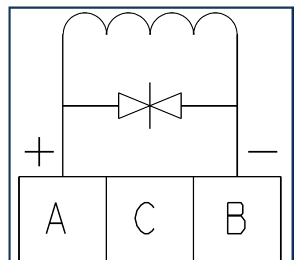
PEAK INVERSE VOLTAGE: ±60 VDC MAX

DUTY CYCLE: CONTINUOUS

*OTHER FLUIDS ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC





ELECTRICAL SCHEMATIC

CATEGORY 4: DIRECT ACTING SOLENOID VALVES

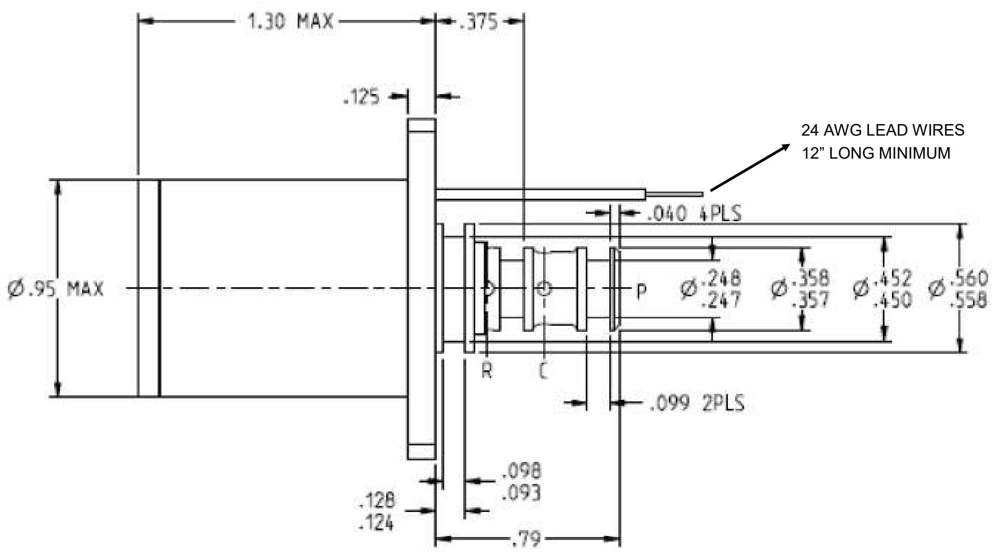
Previous Section

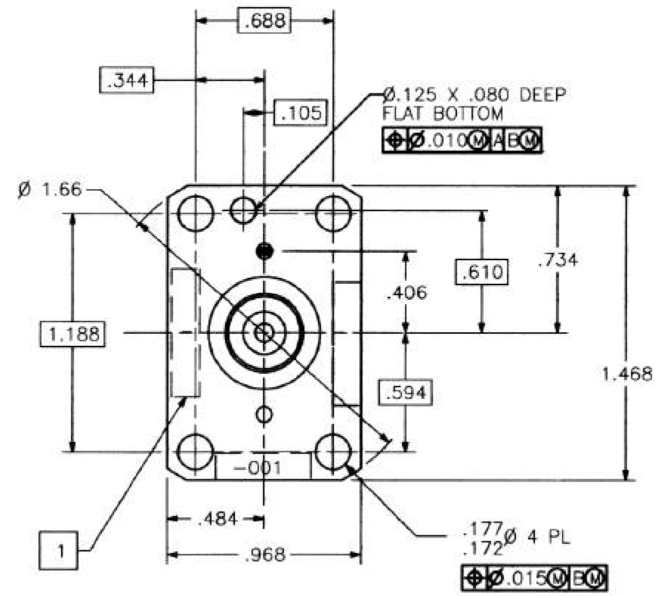
Return to Table of Contents

Next Section

CRISSAIR INC.

PART NUMBER: 4S1280-XSOLENOID VALVE, 2POS 3WAY, NORMALLY CLOSED

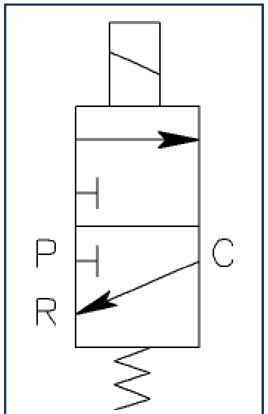




PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-5606, MIL-H-6083, MIL-H-83282 OR MIL-PRF-83282*
MATERIAL: VALVE BODY 303 CRES
NOMINAL SUPPLY PRESSURE: 3000 PSIG
TEMPERATURE RANGE: -65 TO 275°F
ENERGIZED FLOW (PRESS TO CYL): 1.2 GPM MINIMUM AT 3000 PSID
DE-ENERGIZED FLOW (CYL TO RET): 1.2 GPM MINIMUM AT 3000 PSID
INTERNAL LEAKAGE IN ANY POSITION: 5 CC/MIN MAX AT 3000 PSID
OPERATING VOLTAGE RANGE: 14 TO 30 VDC NOMINAL
COIL CURRENT: 1 AMP MAX AT 28 VDC AND 70°F
RESPONSE TIME (ENERGIZED AND DE-ENERGIZED): 30 MSEC MAX
WEIGHT: 0.26 LBS MAX

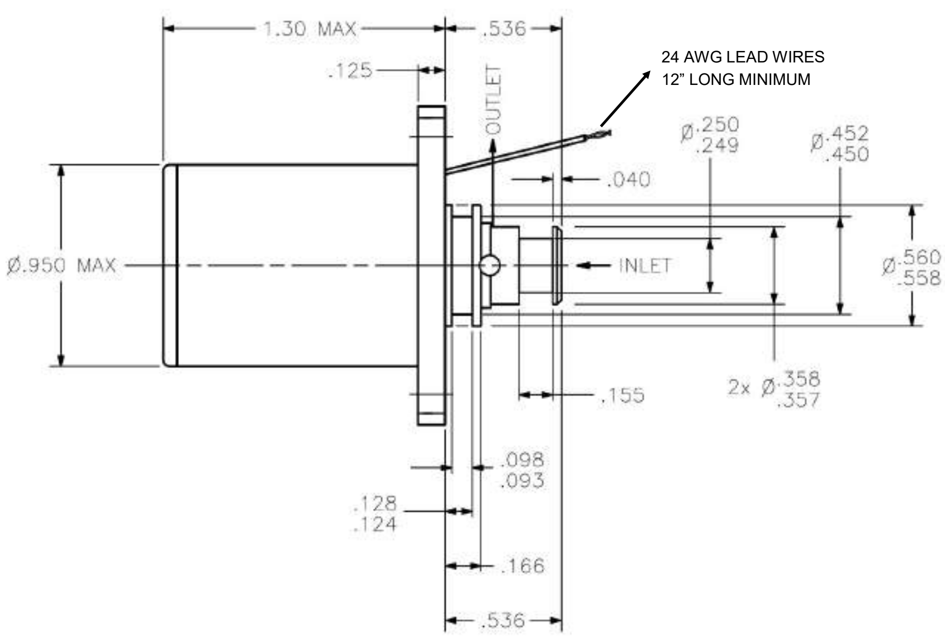
*PHOSPHATE ESTER FLUID ACCEPTABLE WITH ELASTOMER CHANGE

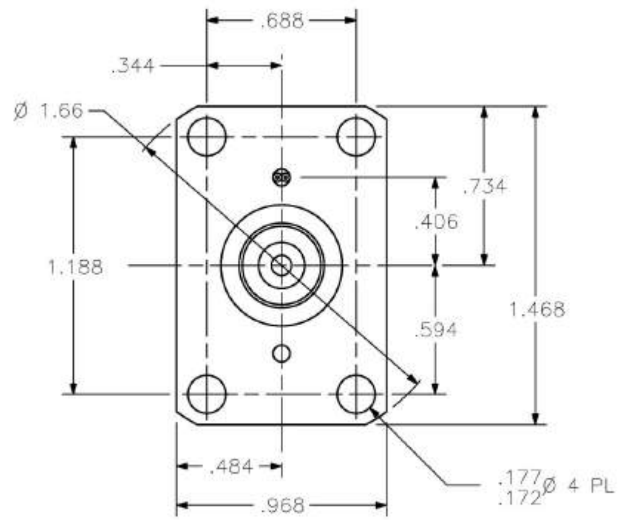


HYDRAULIC SCHEMATIC

CATEGORY 4: DIRECT ACTING SOLENOID VALVES

PART NUMBER: 4S1282 SOLENOID VALVE, 2POS 2WAY, NORMALLY OPEN





PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-5606, MIL-H-6083, MIL-H-83282*

MATERIAL: VALVE BODY 303 CRES

NOMINAL SUPPLY PRESSURE: 3000 PSIG

TEMPERATURE RANGE: -65 TO 275°F

FLOW (ENERGIZED): 0.25 GPM MINIMUM AT 200 PSID

INTERNAL LEAKAGE (DE-ENERGIZED): 5 CC/MIN MAX AT 3000 PSID

OPERATING VOLTAGE RANGE: 18 TO 32 VDC NOMINAL

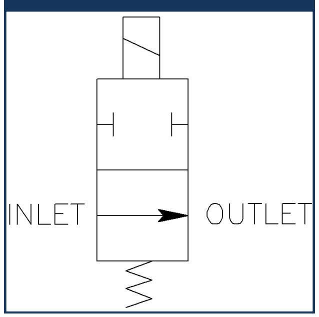
COIL CURRENT: 0.75 AMP MAX AT 28 VDC

RESPONSE TIME (ENERGIZED AND DE-ENERGIZED): 30 MSEC MAX

DUTY CYCLE: CONTINUOUS

*PHOSPHATE ESTER FLUID ACCEPTABLE WITH ELASTOMER CHANGE

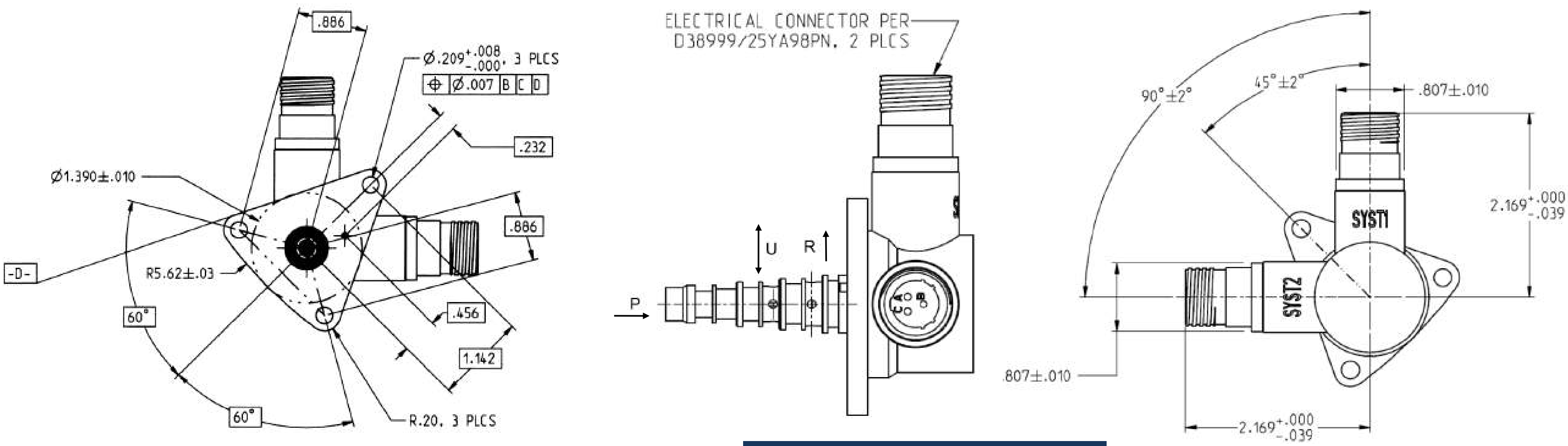
HYDRAULIC SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

CRISSAIR INC.

PART NUMBER: 4S1290 SOLENOID VALVE, 2POS 3WAY, NORMALLY CLOSED



PERFORMANCE SPECIFICATIONS:

FLUIDS: LOW DENSITY PHOSPHATE ESTER FLUID TYPE IV, V*

MATERIAL: VALVE BODY 15-5PH CRES

NOMINAL SUPPLY PRESSURE: 3000 PSIG

ENERGIZED FLOW (P TO U): 0.198±0.026 GPM AT 3000 PSID MAX

DE-ENERGIZED FLOW (U TO R): 0.79 GPM MINIMUM AT 3000 PSID MAX

INTERNAL LEAKAGE AT 3000 PSID IN ANY POSITION: 1.0 CC/MIN MAX

OPERATING VOLTAGE RANGE: 26 TO 32 VDC

COIL RESISTANCE: 42±2 OHMS

PULL-IN VOLTAGE: 13.5 VDC MAX AT 3000 PSID AND 80±20°F

DROP-OUT VOLTAGE: 1.0 VDC MIN AT 1015 PSID AND 80±20°F

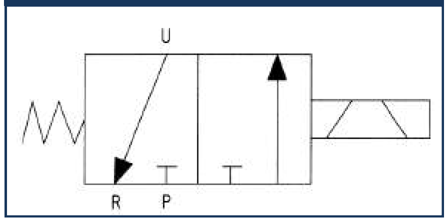
PEAK INVERSE VOLTAGE: ±60 VDC MAX

DUTY CYCLE: CONTINUOUS

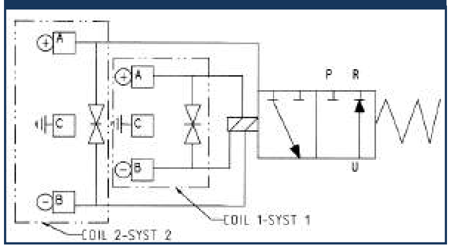
WEIGHT: 0.595 LBS MAX

*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC

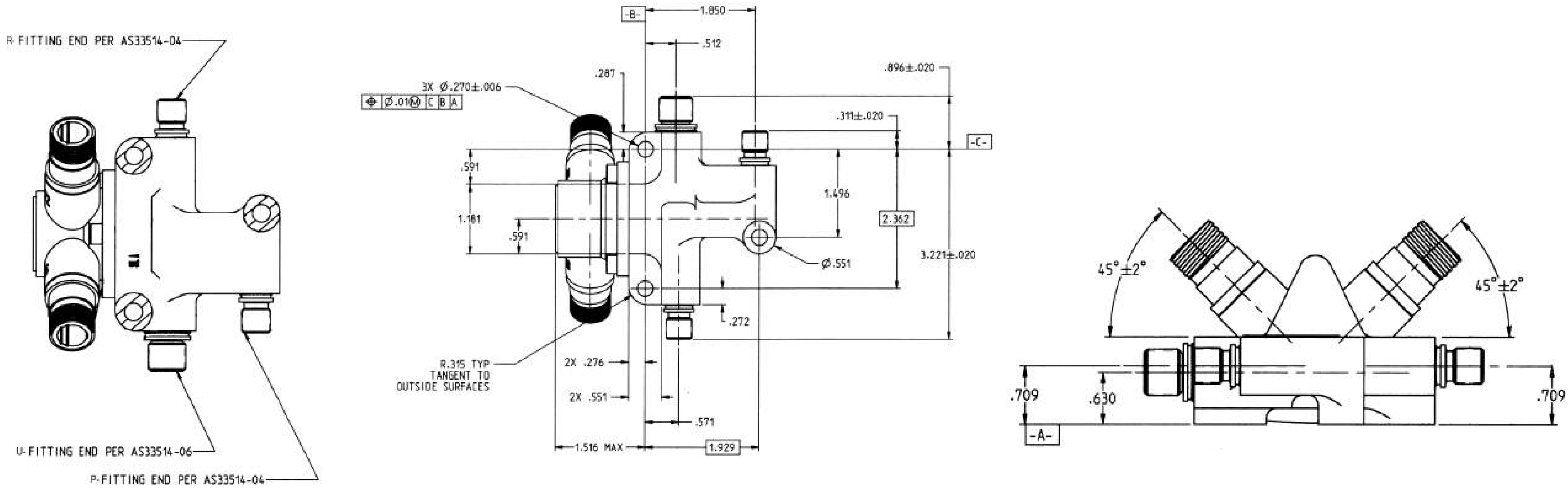


ELECTRICAL SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

PART NUMBER: 1M1546 ,SOLENOID VALVE, 2POS 3WAY, NORMALLY CLOSED



PERFORMANCE SPECIFICATIONS:

FLUIDS: LOW DENSITY PHOSPHATE ESTER FLUID TYPE IV, V*

MATERIAL: MANIFOLD 6061-T6 AL

NOMINAL SUPPLY PRESSURE: 3000 PSIG

ENERGIZED FLOW (P TO U): 0.198±0.026 GPM AT 3000 PSID MAX

DE-ENERGIZED FLOW (U TO R): 0.79 GPM MINIUM AT 3000 PSID MAX

INTERNAL LEAKAGE AT 3000 PSID IN ANY POSITION: 1.0 CC/MIN MAX

OPERATING VOLTAGE RANGE: 26 TO 32 VDC

COIL RESISTANCE: 42±2 OHMS

PULL-IN VOLTAGE: 13.5 VDC MAX AT 3000 PSID AND 80±20°F

DROP-OUT VOLTAGE: 1.0 VDC MIN AT 1015 PSID AND 80±20°F

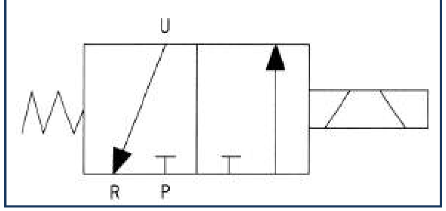
PEAK INVERSE VOLTAGE: ±60 VDC MAX

DUTY CYCLE: CONTINUOUS

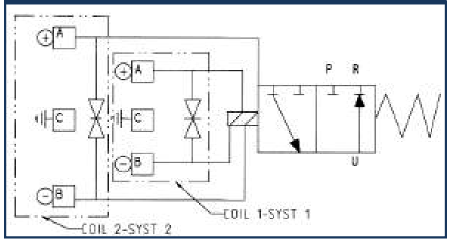
WEIGHT: 1.08 LBS MAX

*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC

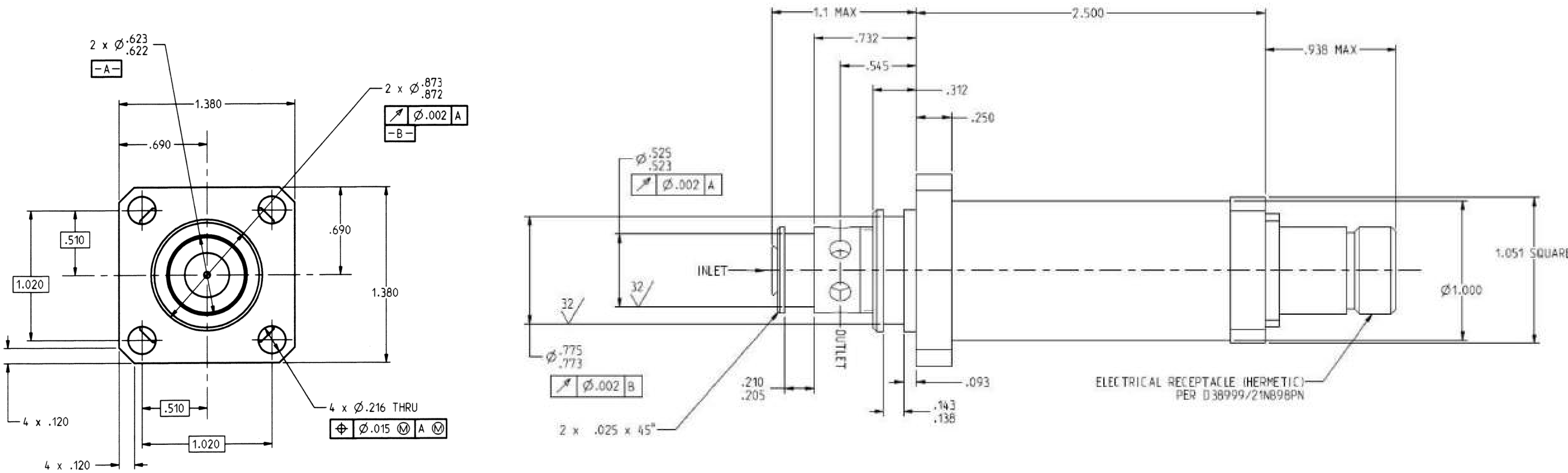


ELECTRICAL SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

PART NUMBER: 4S1276 SOLENOID VALVE, 2POS 2WAY, NORMALLY CLOSED



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-46170 OR MIL-PRF-83282*

MATERIAL: VALVE BODY 440C CRES

NOMINAL SUPPLY PRESSURE: 1650 PSIG

TEMPERATURE RANGE: -25° TO 250°F

FLOW (ENERGIZED): 1.35 GPM MINIMUM AT 20 PSID

INTERNAL LEAKAGE (DE-ENERGIZED): 6 CC/MIN MAX @ 1650 PSID

OPERATING VOLTAGE RANGE: 18 TO 33 VDC NOMINAL

COIL CURRENT: 1 AMP MAX @ 28 VDC AND 70°F

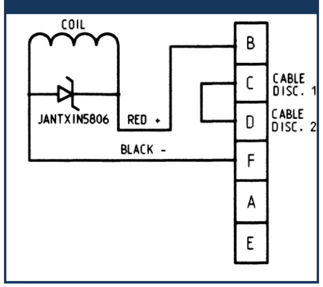
RESPONSE TIME (ENERGIZED AND DE-ENERGIZED): 100 MSEC MAX

DUTY CYCLE: CONTINUOUS

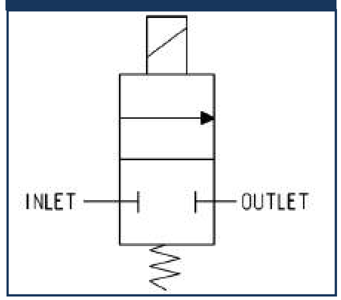
WEIGHT: 0.70 LBS MAX

*PHOSPHATE ESTER FLUID ACCEPTABLE WITH ELASTOMER CHANGE

ELECTRICAL SCHEMATIC

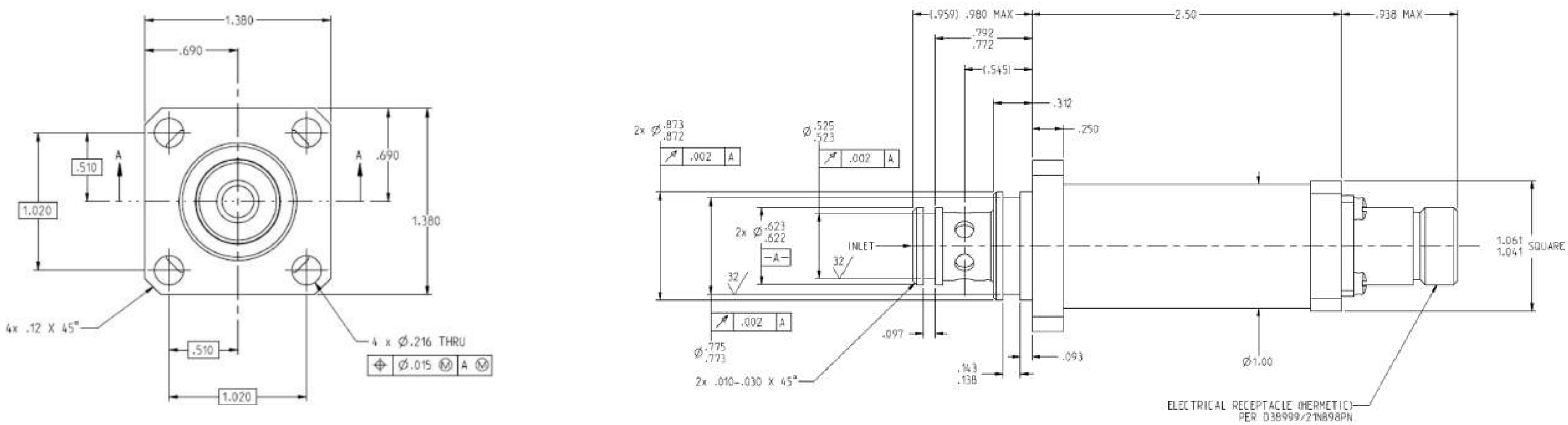


HYDRAULIC SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

PART NUMBER: 4S1284 SOLENOID VALVE, 2POS 2WAY, NORMALLY OPEN



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282*

MATERIAL: VALVE BODY 304 CRES

NOMINAL SUPPLY PRESSURE: 100 PSIG

TEMPERATURE RANGE: -67° TO 275°F

FLOW (ENERGIZED): 5 GPM MINIMUM AT 64 PSID

INTERNAL LEAKAGE (DE-ENERGIZED): 10 CC/MIN MAX @ 5.8 PSID

OPERATING VOLTAGE RANGE: 12 TO 32 VDC NOMINAL

COIL CURRENT: 1 AMP MAX @ 28 VDC AND 70°F

PULL-IN VOLTAGE: 12 VDC MAX AT 0.145 PSID AND 70°F

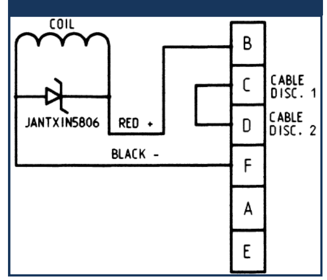
DROP-OUT VOLTAGE: 1.0 TO 8 VDC WHEN VOLTAGE IS DECREASED FROM 28 VDC

RESPONSE TIME (ENERGIZED AND DE-ENERGIZED): 100 MSEC MAX

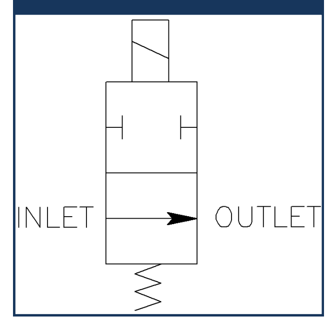
WEIGHT: 0.70 LBS MAX

*PHOSPHATE ESTER FLUID ACCEPTABLE WITH ELASTOMER CHANGE

ELECTRICAL SCHEMATIC

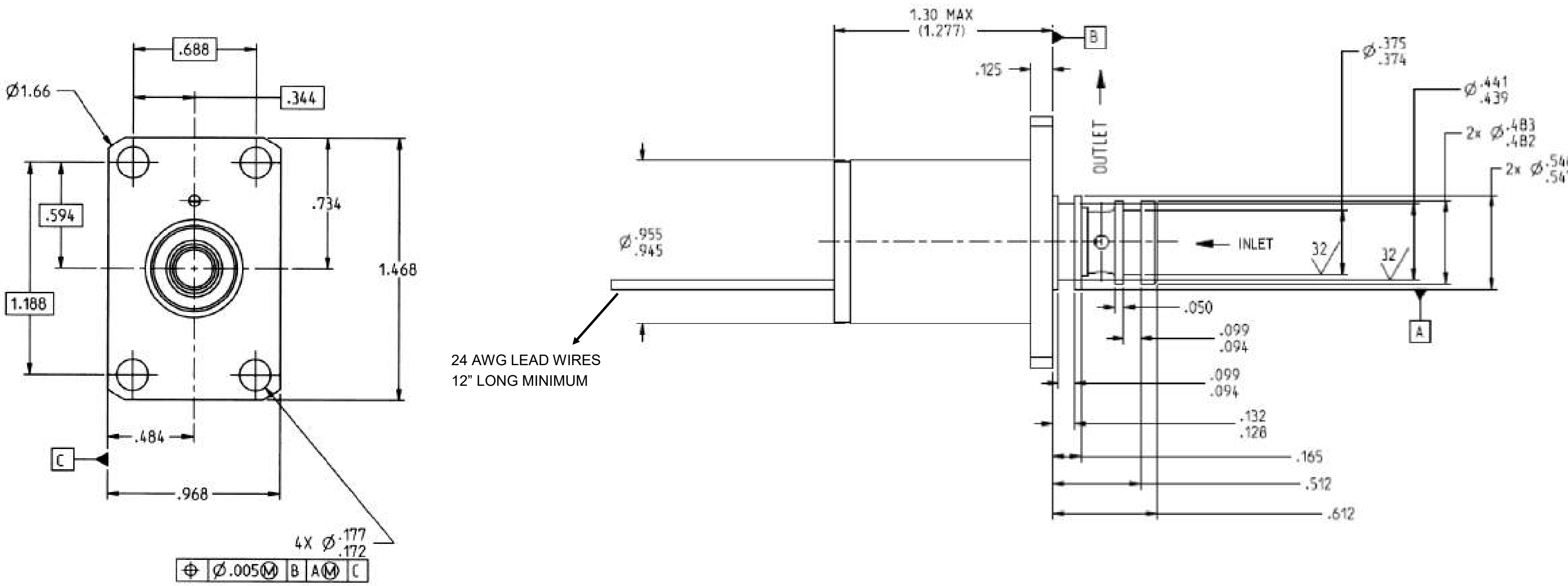


HYDRAULIC SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

PART NUMBER: 4S1286 SOLENOID VALVE, 2POS 2WAY, NORMALLY CLOSED



PERFORMANCE SPECIFICATIONS:

FLUIDS: ETHYLENE GLYCOL/WATER*

MATERIAL: VALVE BODY 6061-T6 AL

NOMINAL SUPPLY PRESSURE: 75 PSIG

TEMPERATURE RANGE: -60° TO 194°F

FLOW (ENERGIZED): 0.53 GPM AT 5 PSID MAX

INTERNAL LEAKAGE (DE-ENERGIZED): 1 DPM MAX AT 75 PSID

OPERATING VOLTAGE RANGE: 18 TO 32 VDC NOMINAL

COIL CURRENT: 0.6 AMPS MAX AT 24 VDC AND 80°F

PULL-IN VOLTAGE: 16 VDC MAX AT 75 PSID AND 70°F

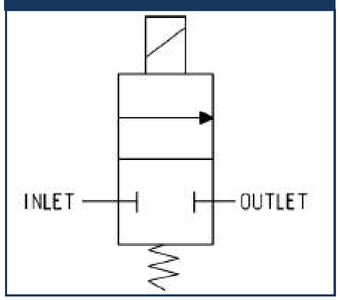
DROP-OUT VOLTAGE: 1.5 VDC MINIMUM AT 5 PSID AND 70°F

DUTY CYCLE: CONTINUOUS

WEIGHT: 0.24 LBS MAX

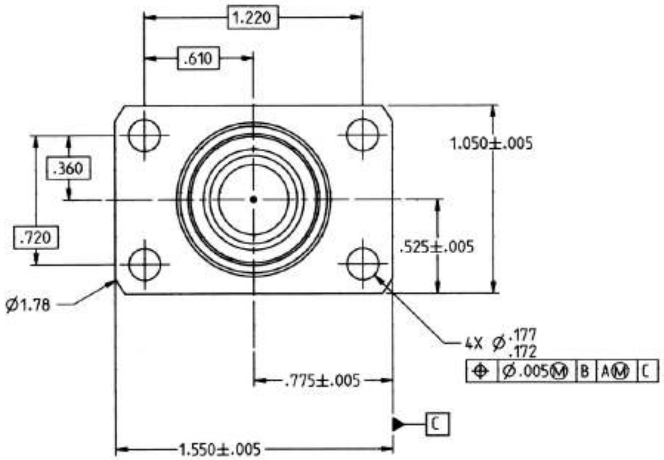
*OTHER FLUIDS ACCEPTABLE WITH ELASTOMER CHANGE

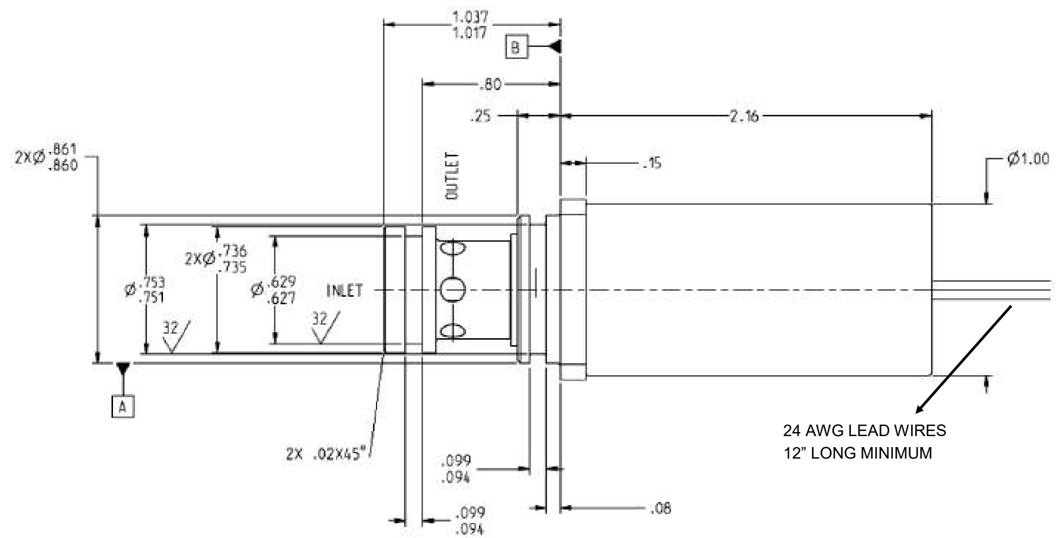
HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 4S1288 SOLENOID VALVE, 2POS 2WAY, NORMALLY CLOSED





PERFORMANCE SPECIFICATIONS:

FLUIDS: ETHYLENE GLYCOL/WATER*

MATERIAL: VALVE BODY 6061-T6 AL

NOMINAL SUPPLY PRESSURE: 75 PSIG

TEMPERATURE RANGE: -60° TO 194°F

FLOW (ENERGIZED): 2.2 GPM AT 5 PSID MAX

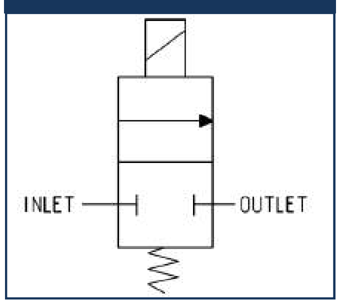
INTERNAL LEAKAGE (DE-ENERGIZED): 1 DPM MAX AT 75 PSID

- OPERATING VOLTAGE RANGE: 18 TO 32 VDC NOMINAL
- COIL CURRENT: 1.0 AMPS MAX AT 28 VDC AND 80°F
- PULL-IN VOLTAGE: 16 VDC MAX AT 75 PSID AND 70°F
- DROP-OUT VOLTAGE: 1.5 VDC MINIMUM AT 5 PSID AND 70°F
- DUTY CYCLE: CONTINUOUS

WEIGHT: 0.575 LBS MAX

*OTHER FLUIDS ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

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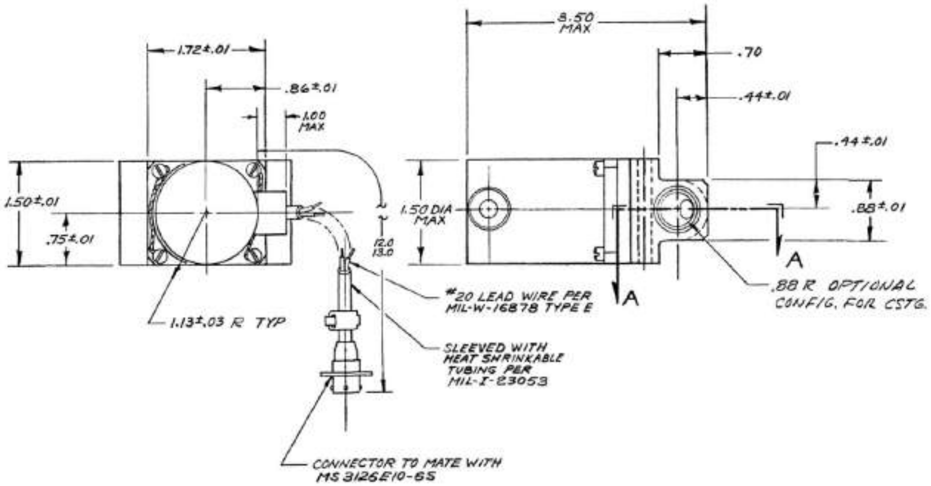
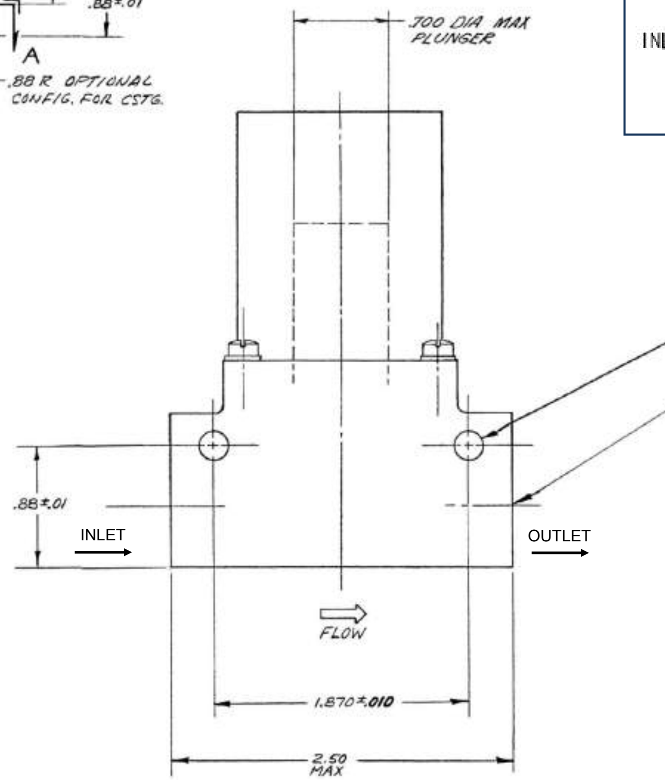
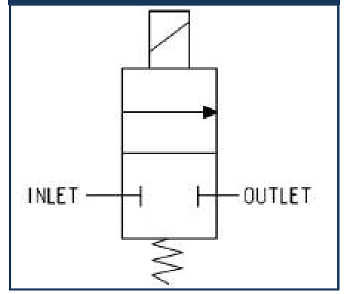
PART NUMBER: 4S1274 SOLENOID VALVE, NORMALLY CLOSED





HYDRAULIC SCHEMATIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR OR CORVIS OIL*

MATERIAL: VALVE BODY 2024-T351 AL

ELASTOMER VITON

NOMINAL SUPPLY PRESSURE: 25 PSIG

TEMPERATURE RANGE: -65° TO 250°F

FLOW (ENERGIZED): 1.5±0.25 GPM AT 3 PSID

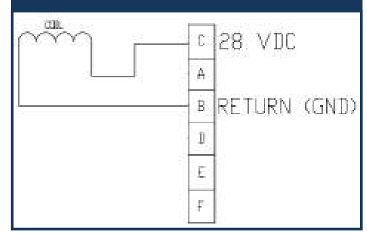
INTERNAL LEAKAGE (DE-ENERGIZED): 0 AT 50 PSID IN FLOW DIRECTION

OPERATING VOLTAGE RANGE: 22 TO 30 VDC NOMINAL

WEIGHT: 1.5 LBS MAX

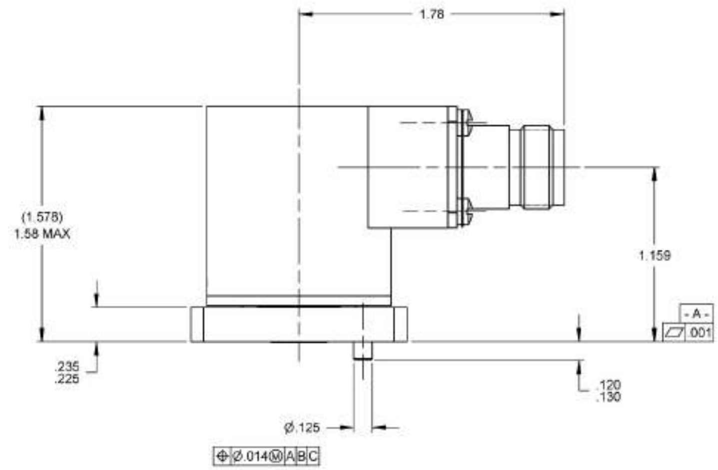
*OTHER FLUIDS ACCEPTABLE WITH ELASTOMER CHANGE

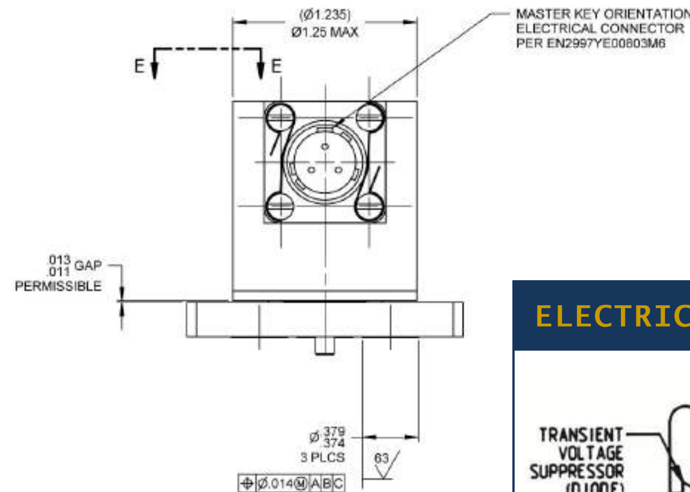
ELECTRICAL SCHEMATIC



CRISSAIR INC.

PART NUMBER: 4S1096 SOLENOID VALVE, NORMALLY CLOSED





PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER BASED TYPE IV, V*

MATERIAL: VALVE BODY 17-4PH CRES

NOMINAL SUPPLY PRESSURE: 5076 PSIG (PORT P AND PORT C)
1015 PSIG (PORT R)

TEMPERATURE RANGE: -40°F TO 203°F

FLOW (ENERGIZED): 0.156 ± .053 GPM AT 5076 PSID
(DE-ENERGIZED): 0.396 GPM MINIMUM AT 5076 PSID

INTERNAL LEAKAGE IN ANY POSITION: 1 CC/MIN MAX FROM PORT R WITH 5076 PSID AT PORT P WITH PORT C CAPPED

OPERATING VOLTAGE RANGE: 18 TO 32.5 VDC NOMINAL

COIL CURRENT: 1.0 AMPS MAX AT –40°F TO 203°F

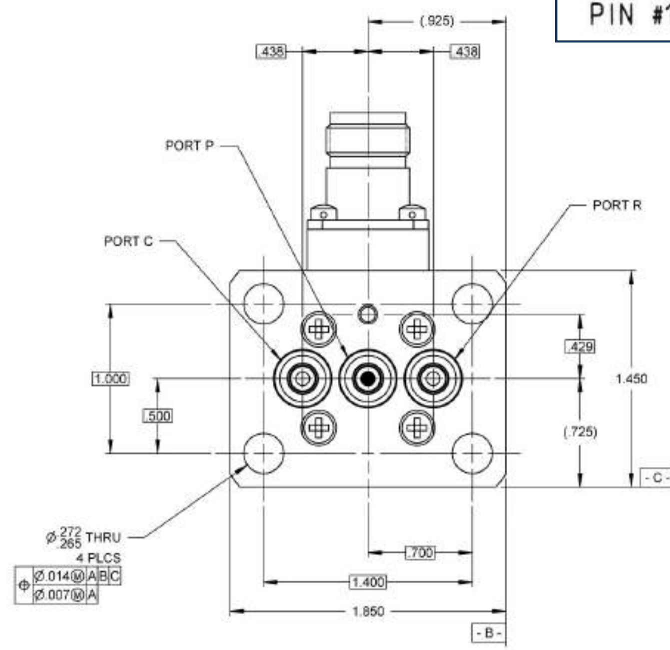
PULL-IN VOLTAGE: 17 VDC MAX UNDER ALL SPECIFIED TEMP
12 VDC MAX AT AMBIENT TEMP

DROP-OUT VOLTAGE: 2.0 VDC MINIMUM AT –65°F
2.8 TO 6.0 VDC AT AMBIENT TEMP

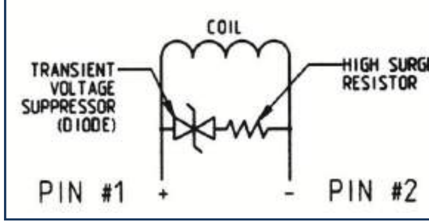
DUTY CYCLE: CONTINUOUS

WEIGHT: 0.52 LBS MAX

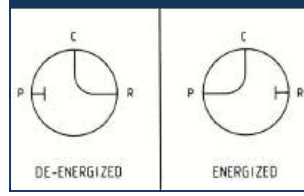
*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE



ELECTRICAL SCHEMATIC



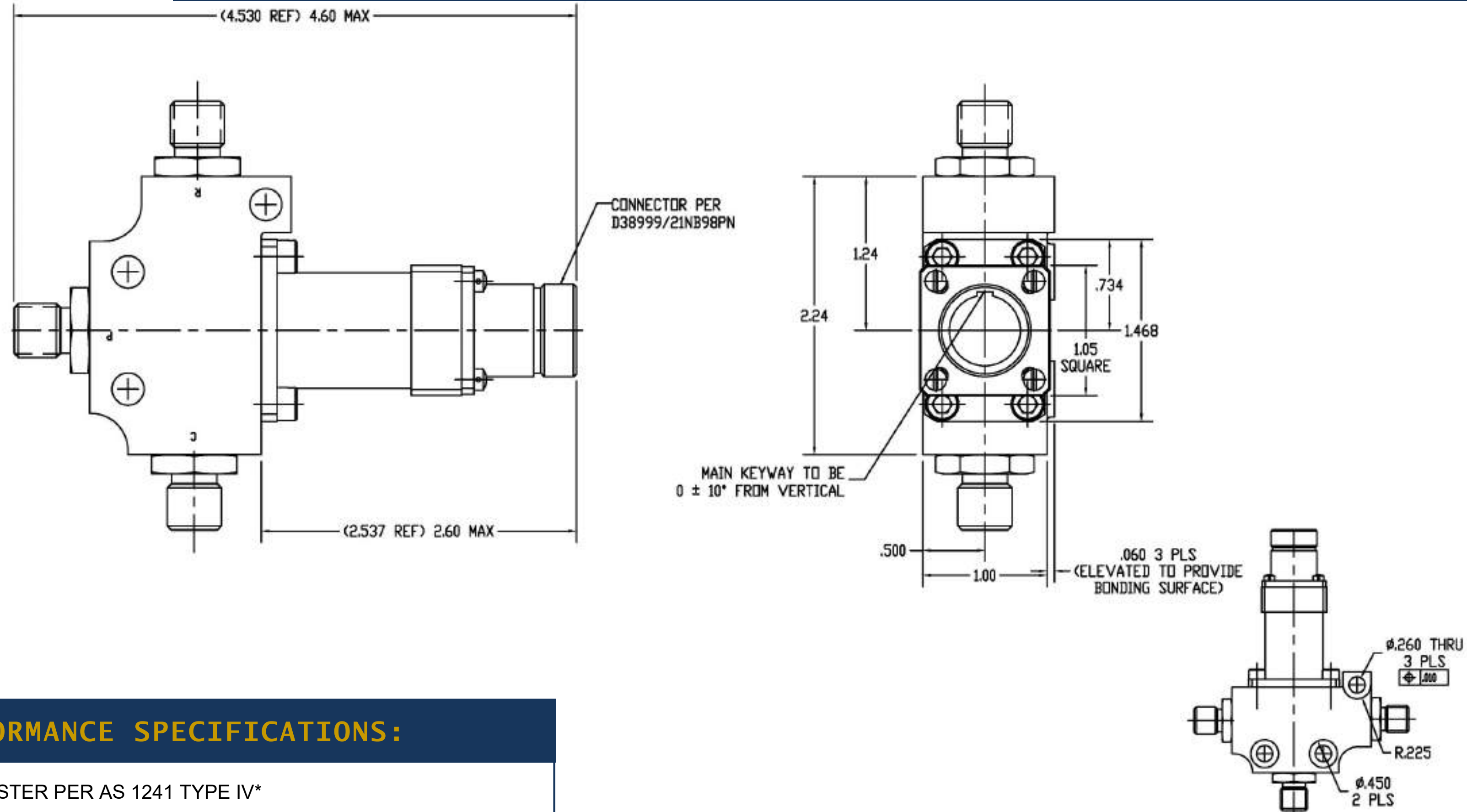
FLOW SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

CRISSAIR INC.

PART NUMBER: 4S1278 SOLENOID VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER PER AS 1241 TYPE IV*

MATERIAL: HOUSING 6061-T6 AL

NOMINAL SUPPLY PRESSURE: 3150 PSIG

TEMPERATURE RANGE: -67° TO 165°F

FLOW (ENERGIZED): 0.4±0.4 GPM AT 3000 PSID

INTERNAL LEAKAGE IN ANY POSITION: 10 CC/MIN MAX AT 3000 PSID

OPERATING VOLTAGE RANGE: 18 TO 32 VDC NOMINAL

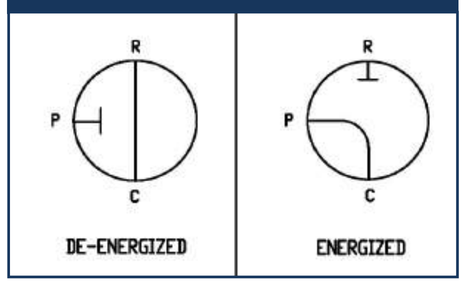
COIL CURRENT: 0.6 AMPS MAX AT 24 VDC AND 70°F TO 90°F

DUTY CYCLE: CONTINUOUS

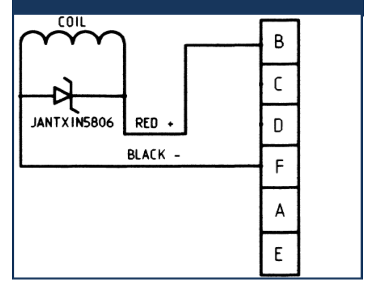
WEIGHT: 1.0 LBS MAX

*OTHER FLUIDS ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



ELECTRICAL SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

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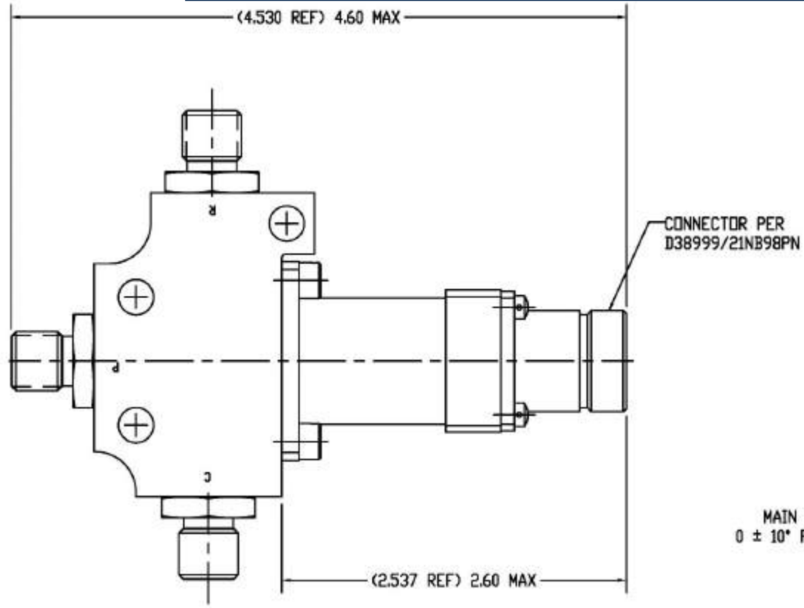
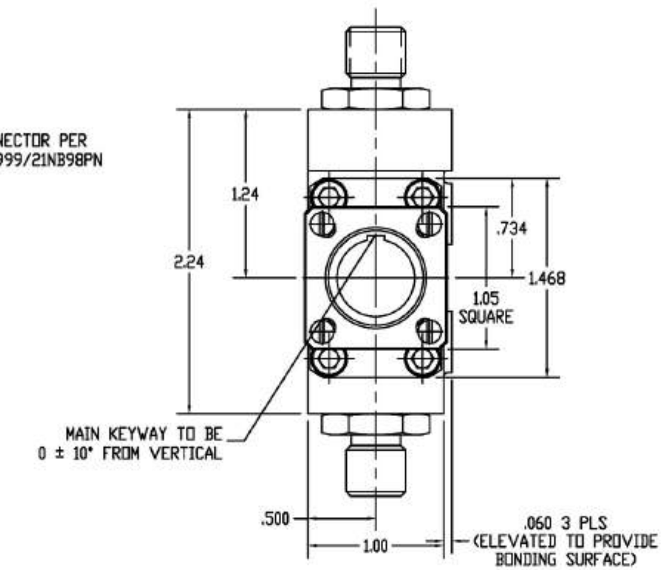
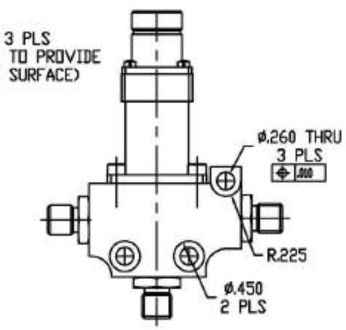
PART NUMBER: 1M1536 SOLENOID VALVE







PERFORMANCE SPECIFICATIONS:

FLUIDS: ENGINE BLEED AIR

MATERIAL: HOUSING 7075-T73

NOMINAL SUPPLY PRESSURE: 27.5 PSIG

TEMPERATURE RANGE: -40° TO 392°F

FLOW (DE-ENERGIZED): 0.398 SCFM AT 24 PSID

INTERNAL LEAKAGE IN ANY POSITION: 200 SCCM MAX AT 24 PSID

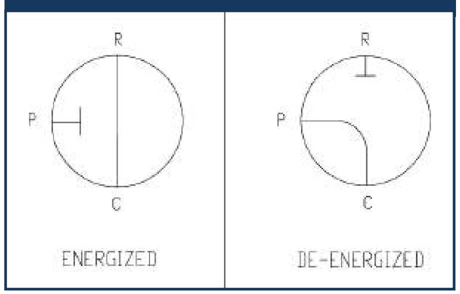
OPERATING VOLTAGE RANGE: 18 TO 32 VDC NOMINAL

COIL CURRENT: 0.6 AMPS MAX AT 24 VDC AND 70°F TO 90°F

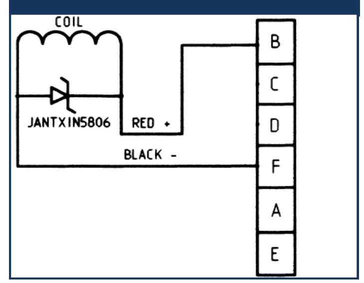
DUTY CYCLE: CONTINUOUS

WEIGHT: 1.0 LBS MAX

HYDRAULIC SCHEMATIC



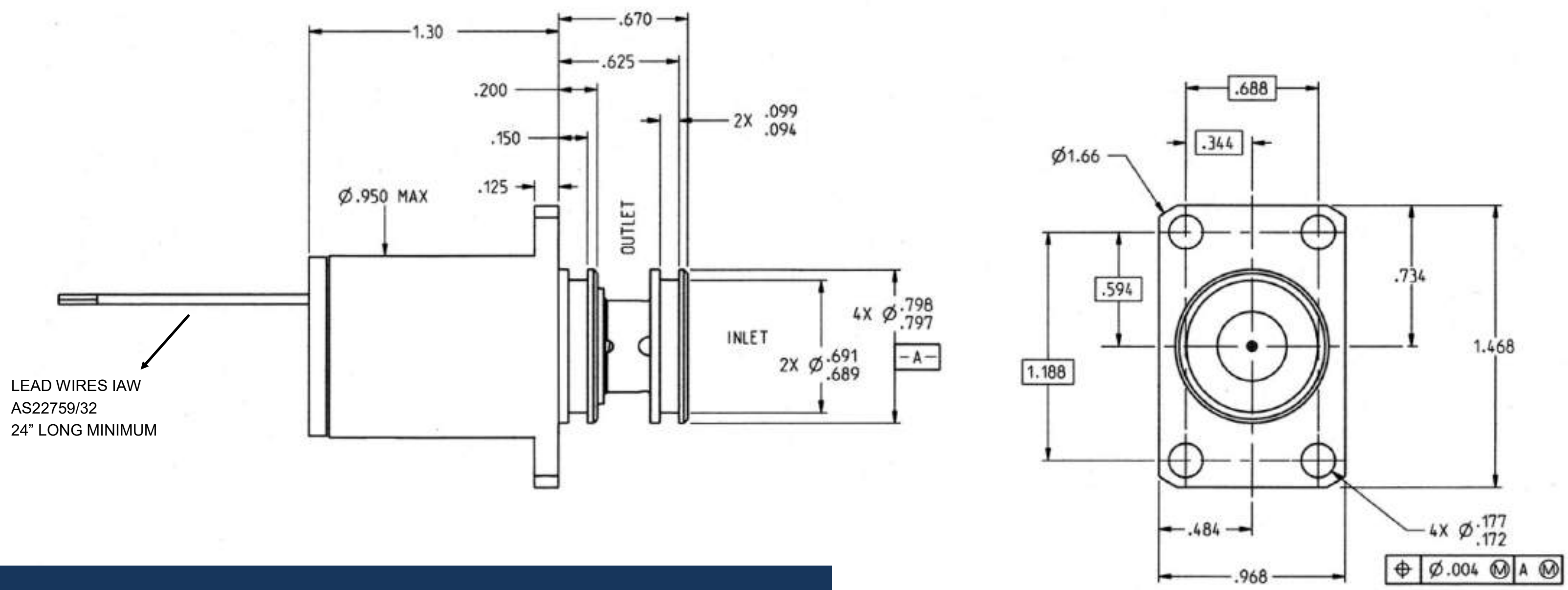
ELECTRICAL SCHEMATIC



CATEGORY 4: DIRECT ACTING SOLENOID VALVES

CRISSAIR INC.

PART NUMBER: 4S1296 SOLENOID VALVE, PROPORTIONAL, NORMALLY CLOSED



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-87252*

MATERIAL: VALVE BODY 303 CRES

NOMINAL SUPPLY PRESSURE: 200 PSIG

TEMPERATURE RANGE: -106° TO 246°F

FLOW (ENERGIZED): 1.05 GPM AT 5 PSID MAX AT 125°F

VALVE POSITION: PROPORTIONAL TO PWM SIGNAL SUPPLIED AT FIXED FREQUENCY GREATER THAN 1000 HZ

INTERNAL LEAKAGE (DE-ENERGIZED): 2 CC/MIN MAX AT 15 PSID

OPERATING VOLTAGE RANGE: 22 TO 32 VDC (28 VDC NOMINAL)

PULL-IN VOLTAGE: 18 VDC MAX AT 15 PSID AND 70°F

DROP-OUT VOLTAGE: 1.5 VDC AT 5 PSID AND 70°F

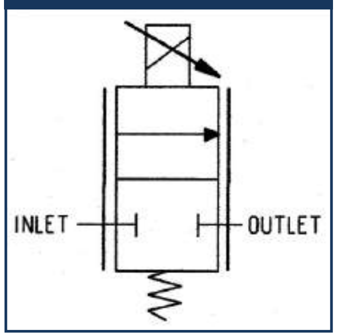
COIL CURRENT: 0.6 AMPS MAX AT 24 VDC AND 70°F

DUTY CYCLE: CONTINUOUS

WEIGHT: 0.350 LBS MAX

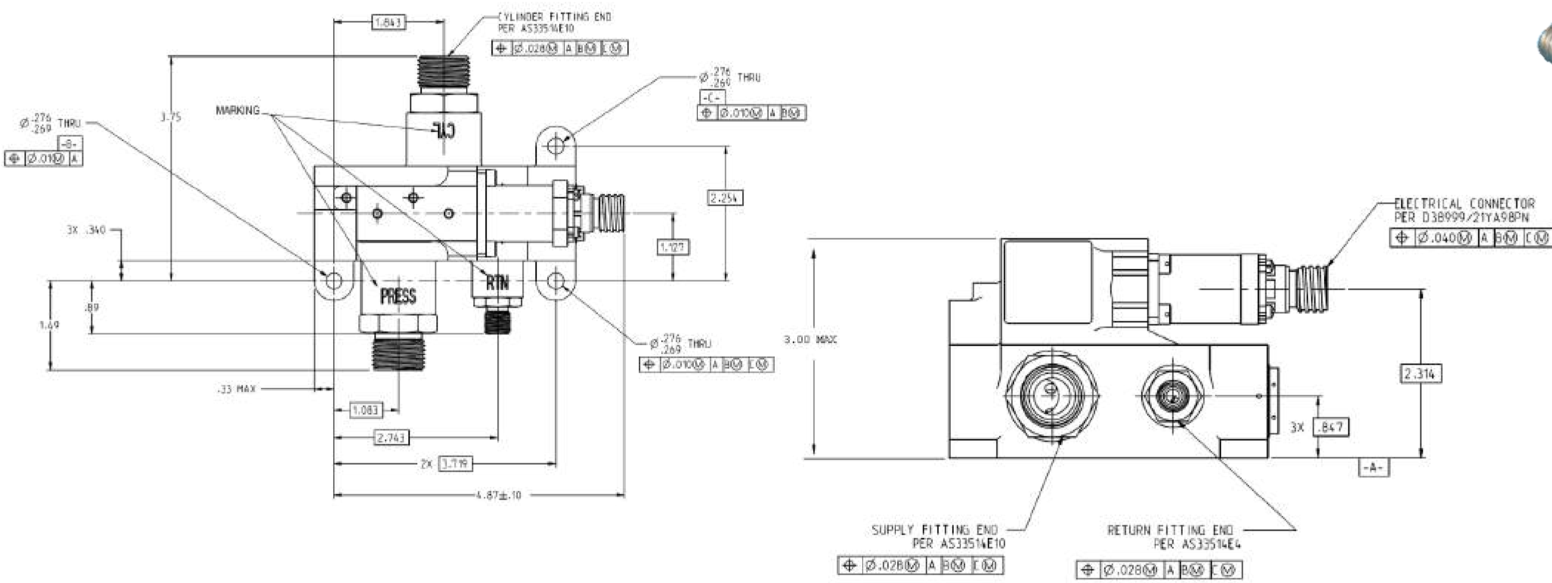
*OTHER FLUIDS ACCEPTABLE WITH ELASTOMER CHANGE

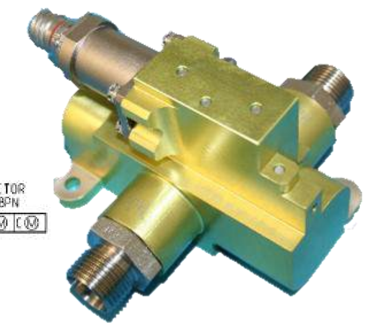
HYDRAULIC SCHEMATIC

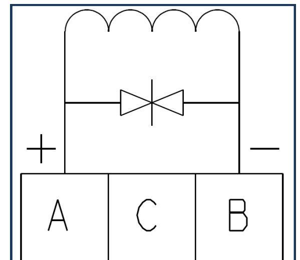


CRISSAIR INC.

PART NUMBER: 1M1548 SHUT-OFF VALVE







ELECTRICAL SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: LOW DENSITY PHOSPHATE ESTER FLUID TYPE IV, V*

MATERIAL: MANIFOLD 7075-T6 AL

NOMINAL SUPPLY PRESSURE: 3000 PSIG

ENERGIZED FLOW (PRESS TO CYL): 10 GPM AT 60 PSID MAX AND 100°F

DE-ENERGIZED FLOW (CYL TO RET): 2 GPM AT 70 PSID MAX AND 100°F

INTERNAL LEAKAGE AT 3000 PSID IN ANY POSITION: 15.0 CC/MIN MAX

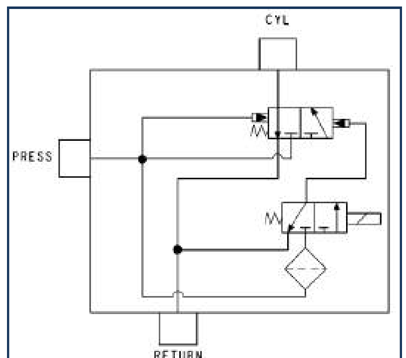
OPERATING VOLTAGE RANGE: 16 TO 31.5 VDC

COIL RESISTANCE: 42±2 OHMS

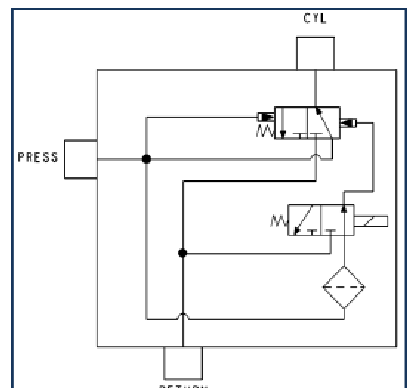
PEAK INVERSE VOLTAGE: ±60 VDC MAX

WEIGHT: 2.60 LBS MAX

*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE



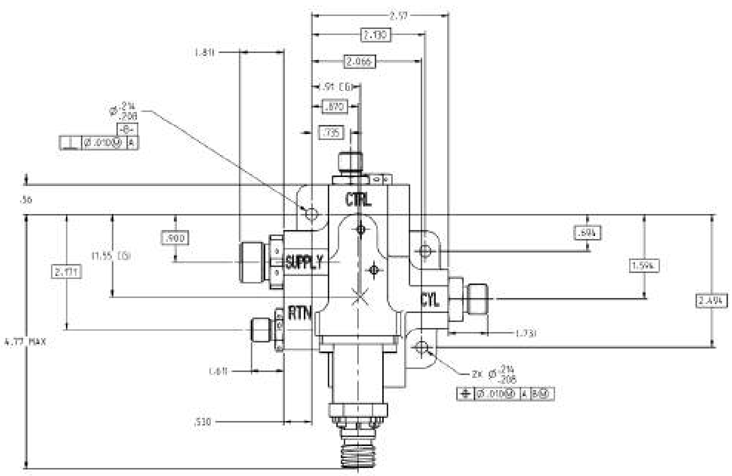
HYDRAULIC SCHEMATIC
(SHOWN DE-ENERGIZED)

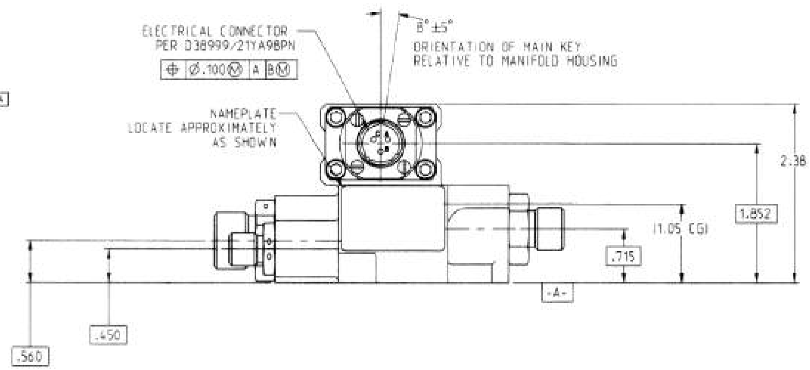


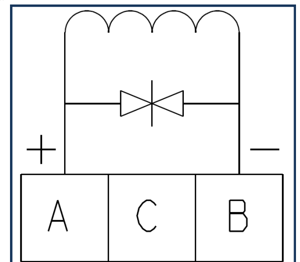
HYDRAULIC SCHEMATIC
(SHOWN ENERGIZED)

CRISSAIR INC.

PART NUMBER: 1M1550 SHUT-OFF VALVE







ELECTRICAL SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: LOW DENSITY PHOSPHATE ESTER FLUID TYPE IV, V*

MATERIAL: MANIFOLD 7075-T6 AL

NOMINAL SUPPLY PRESSURE: 3000 PSIG

ENERGIZED FLOW (CYL TO RET): 1.1±0.1 GPM AT 2600 PSID MAX AND 100°F

DE-ENERGIZED FLOW (SUP TO CYL): 6.4 GPM AT 60 PSID MAX AND 100°F

INTERNAL LEAKAGE AT 3000 PSID IN ANY POSITION: 15.0 CC/MIN MAX

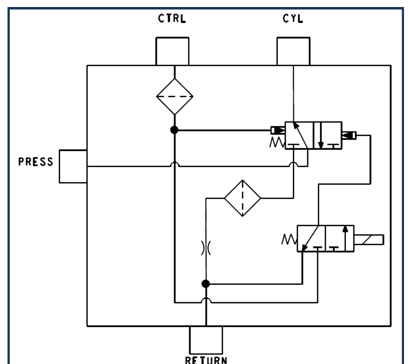
OPERATING VOLTAGE RANGE: 16 TO 31.5 VDC

COIL RESISTANCE: 42±2 OHMS

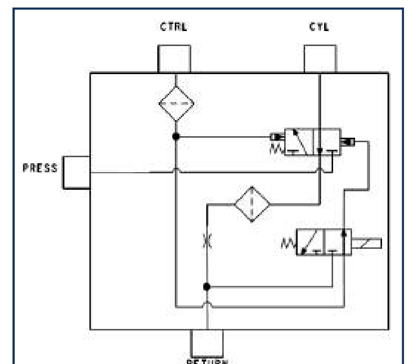
PEAK INVERSE VOLTAGE: ±60 VDC MAX

WEIGHT: 2.00 LBS MAX

*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE



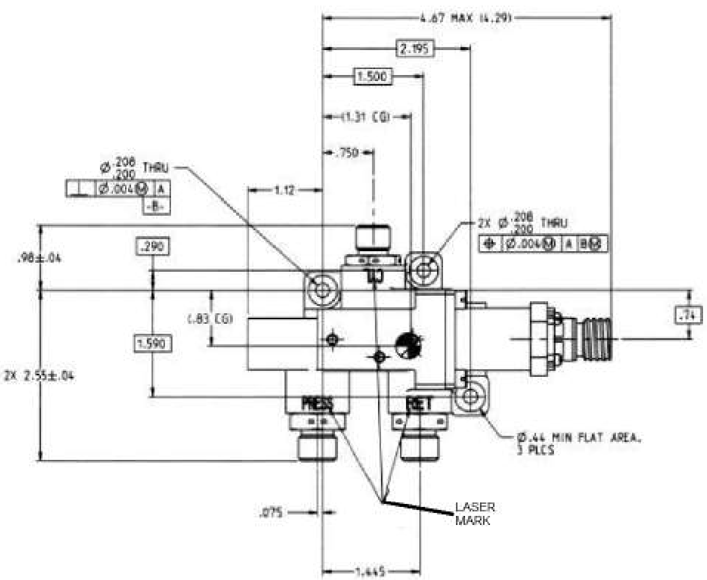
HYDRAULIC SCHEMATIC
(SHOWN DE-ENERGIZED)

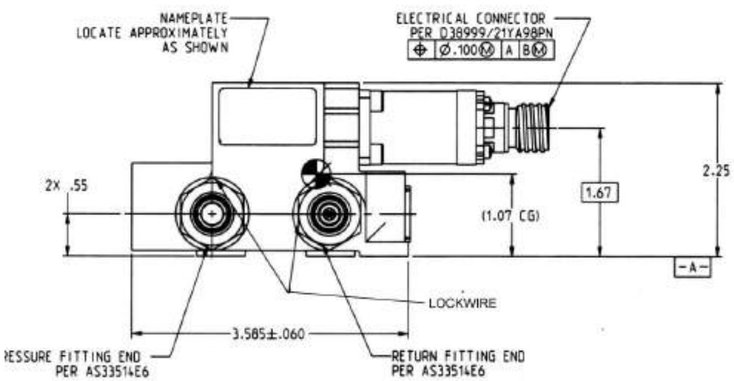


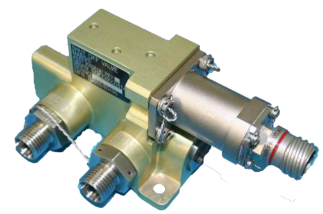
HYDRAULIC SCHEMATIC
(SHOWN ENERGIZED)

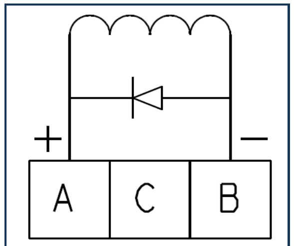
CATEGORY 4: SHUT-OFF VALVES, PILOT SOLENOID OPERATED

PART NUMBER: 1M1554 SHUT-OFF VALVE









ELECTRICAL SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: MII-PRF-5606 OR MIL-PRF-83232*

MATERIAL: MANIFOLD 7075-T73 AL

NOMINAL SUPPLY PRESSURE: 3000 PSIG

ENERGIZED FLOW (PRESS TO CYL): 3 GPM AT 250±25 PSID AND 100°F

DE-ENERGIZED FLOW (CYL TO RET): 3 GPM AT 300 PSID MAX AND 100°F

INTERNAL LEAKAGE AT 3000 PSID IN ANY POSITION: 0.5 CC/MIN MAX

OPERATING VOLTAGE RANGE: 16 TO 32 VDC

COIL RESISTANCE: 100±8 OHMS

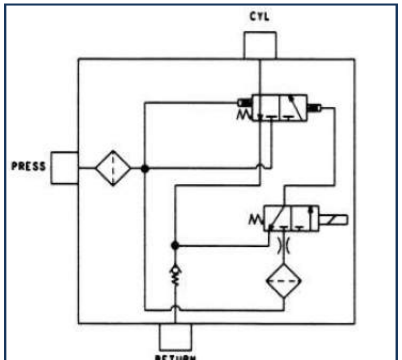
OPENING TRANSIENT: 60 MSEC MAX

CLOSING TRANSIENT: 100 MSEC MAX

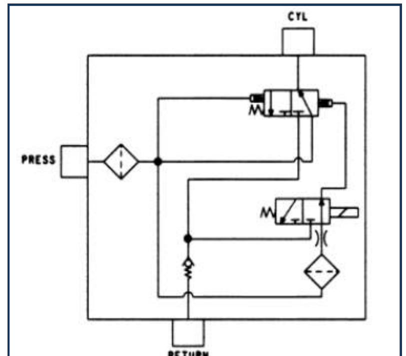
PEAK INVERSE VOLTAGE: ±600 VDC

WEIGHT: 1.40 LBS MAX

*PHOSPHATE ESTER BASE ACCEPTABLE WITH ELASTOMER CHANGE



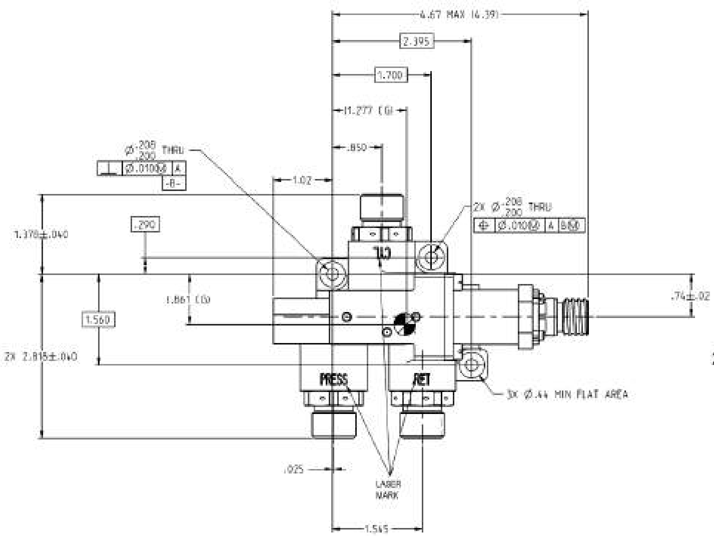
HYDRAULIC SCHEMATIC
(SHOWN DE-ENERGIZED)

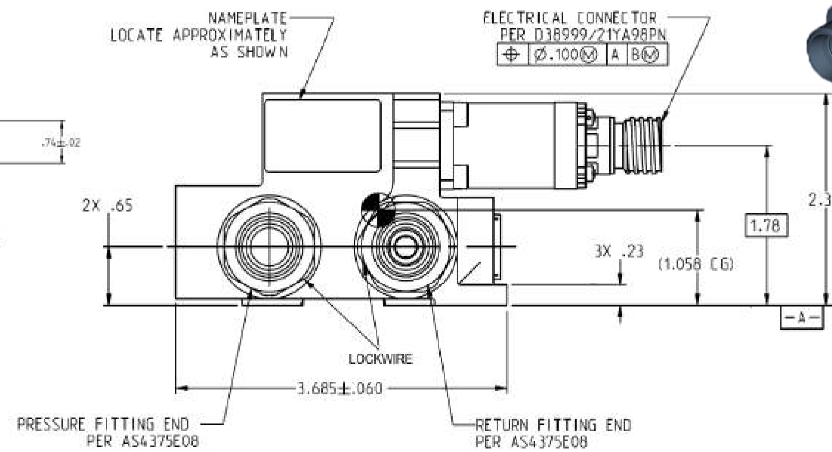


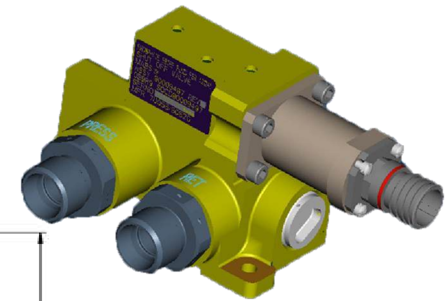
HYDRAULIC SCHEMATIC
(SHOWN ENERGIZED)

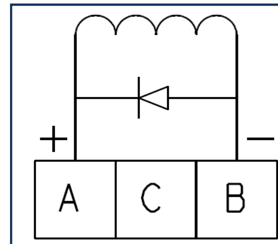
CATEGORY 4: SHUT-OFF VALVES, PILOT SOLENOID OPERATED

PART NUMBER: 1M1556 SHUT-OFF VALVE





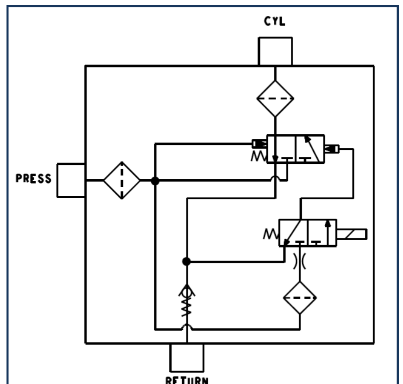




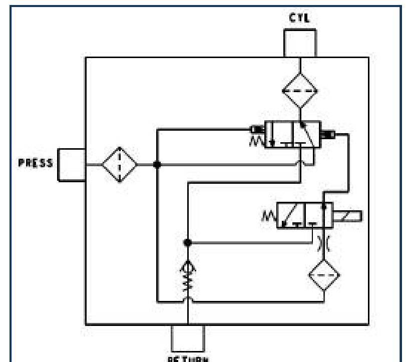
ELECTRICAL SCHEMATIC

PERFORMANCE SPECIFICATIONS:

FLUIDS: LOW DENSITY PHOSPHATE ESTER FLUID TYPE IV, V*
MATERIAL: MANIFOLD 7075-T73 AL
NOMINAL SUPPLY PRESSURE: 3000 PSIG
ENERGIZED FLOW (PRESS TO CYL): 6 GPM AT 377±23 PSID AND 100°F
DE-ENERGIZED FLOW (CYL TO RET): 3 GPM AT 110 PSID MAX AND 100°F
INTERNAL LEAKAGE AT 3000 PSID IN ANY POSITION: 0.25 CC/MIN MAX
OPERATING VOLTAGE RANGE: 16 TO 32 VDC
COIL RESISTANCE: 100±8 OHMS
OPENING TRANSIENT: 60 MSEC MAX
CLOSING TRANSIENT: 100 MSEC MAX
PEAK INVERSE VOLTAGE: ±600 VDC
WEIGHT: 1.77 LBS MAX
*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC
(SHOWN DE-ENERGIZED)

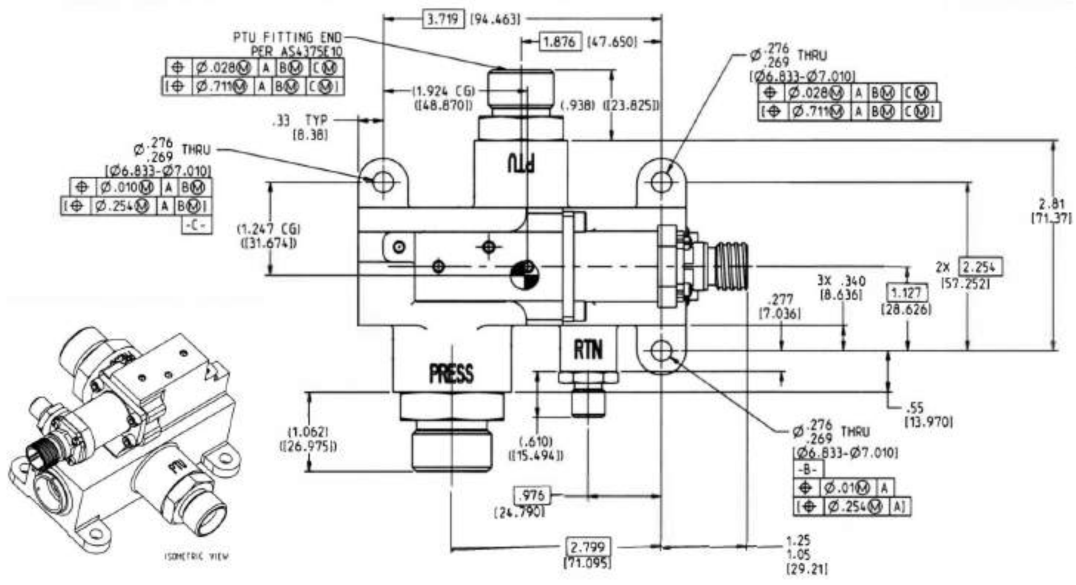


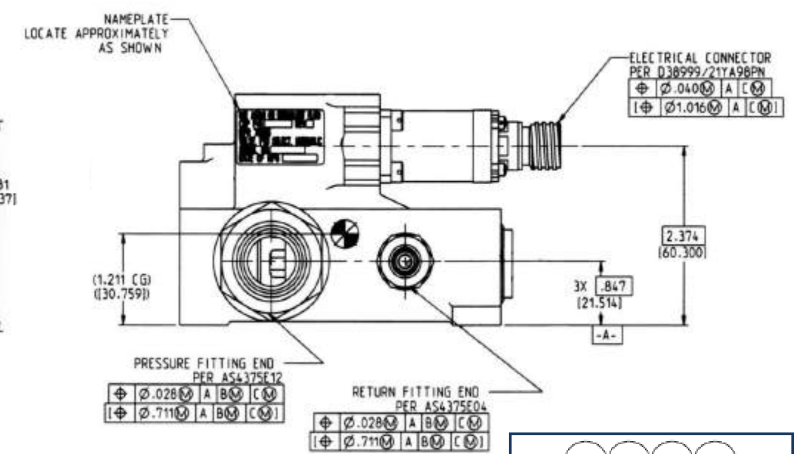
HYDRAULIC SCHEMATIC
(SHOWN ENERGIZED)

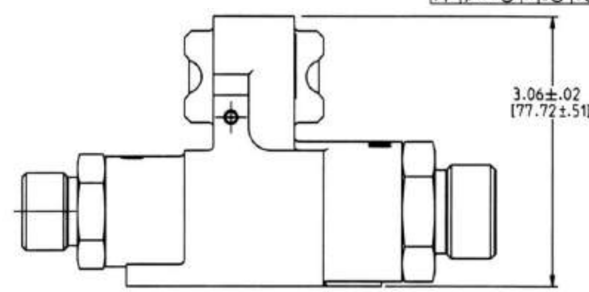
CATEGORY 4: SHUT-OFF VALVES, PILOT SOLENOID OPERATED

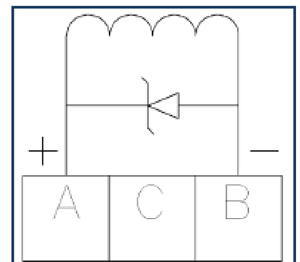
CRISSAIR INC.

PART NUMBER: 1M1552 SHUT-OFF VALVE







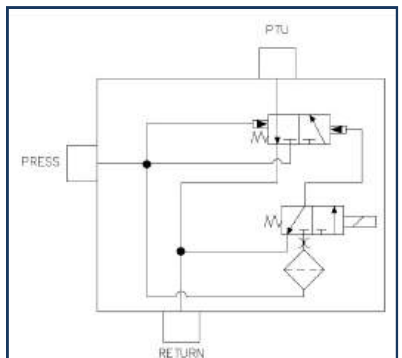


ELECTRICAL SCHEMATIC

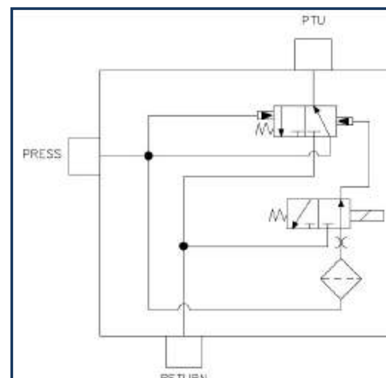
PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL AS1241 TYPE IV CLASS 1 OR 2 AND TYPE V*
MATERIAL: MANIFOLD 7075-T73 AL
NOMINAL SUPPLY PRESSURE: 3000 PSIG
TEMPERATURE RANGE: -65° TO 185°F
ENERGIZED FLOW (PRESS TO PTU): 18 GPM AT 50 PSID MAX
ENERGIZED LEAKAGE (PTU TO RTN): 15 CC/MIN MAX AT 3000 PSID
DE-ENERGIZED FLOW (PTU TO RET): 2 GPM AT 60 PSID MAX
DE-ENERGIZED LEAKAGE (PRESS TO PTU): 15 CC/MIN MAX AT 3000 PSID
OPERATING VOLTAGE RANGE: 16 TO 32 VDC
PULL-IN VOLTAGE: 13.5 VDC MAX AT 3000 PSID AND 80°F±20°F
DROP-OUT VOLTAGE: 3 VDC AT 3000 PSID AND 70°F
PEAK INVERSE VOLTAGE: ±60 VDC MAX
COIL CURRENT: 0.6 AMPS MAX AT 24 VDC AND 70°F
DUTY CYCLE: 500,000 ACTUATION CYCLES MINIMUM
WEIGHT: 3.09 LBS MAX

*OTHER FLUIDS ACCEPTABLE WITH ELASTOMER CHANGE



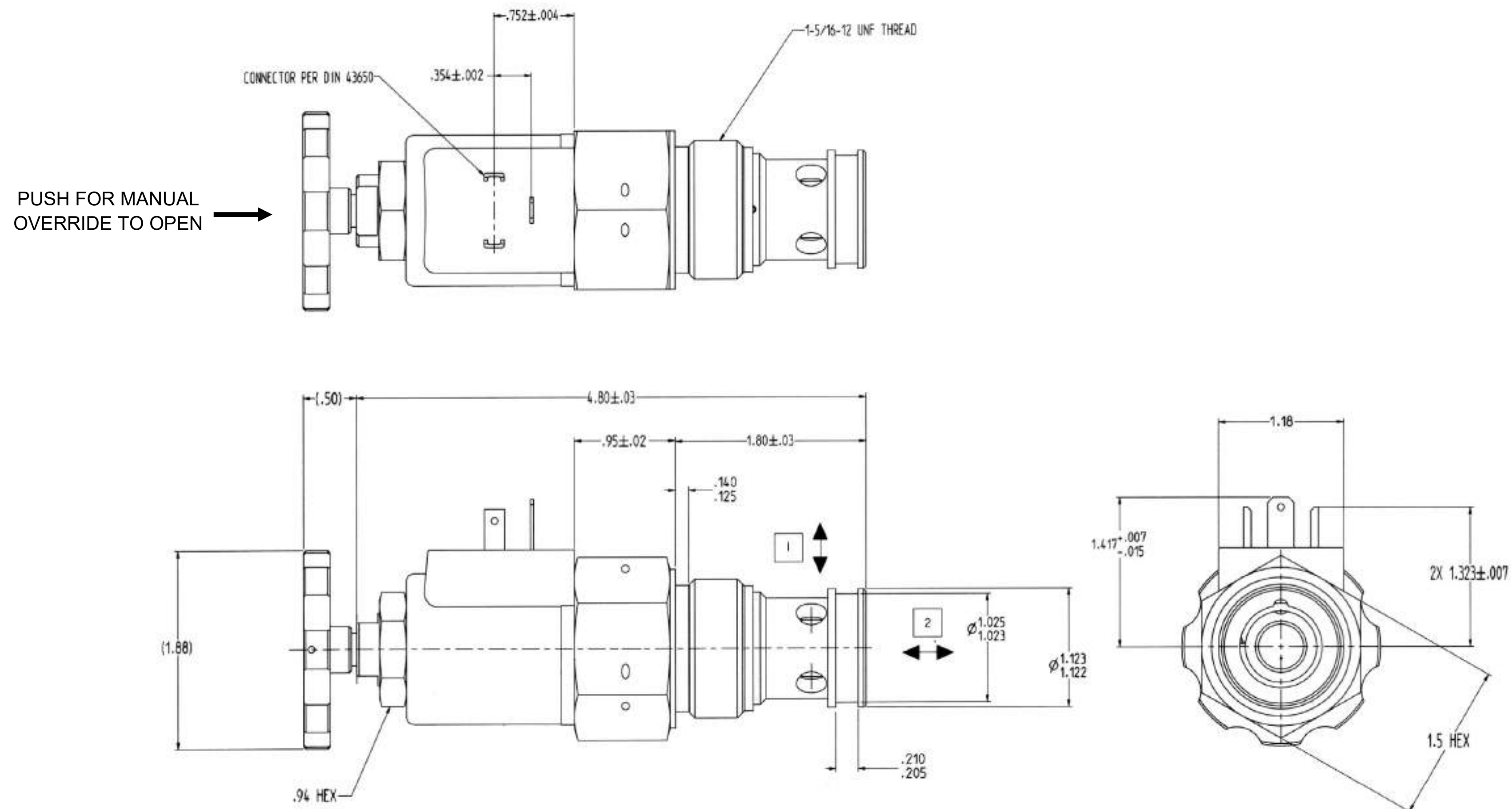
HYDRAULIC SCHEMATIC
(SHOWN DE-ENERGIZED)



HYDRAULIC SCHEMATIC
(SHOWN ENERGIZED)

CRISSAIR INC.

PART NUMBER: 4S1292 SOLENOID VALVE, BI-DIRECTIONAL, 2POS 2WAY, NORMALLY OPEN



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282*

MATERIAL: VALVE BODY 17-4PH CRES

NOMINAL SUPPLY PRESSURE: 3000 PSIG

FLOW (DE-ENERGIZED): (1 TO 2) 29.1 GPM AT 70 PSID AND 80°F±20°F

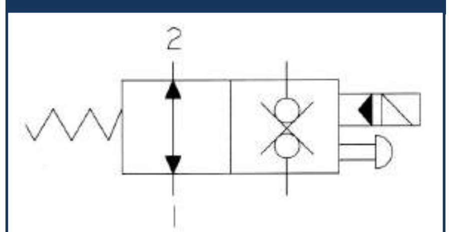
(2 TO 1) 9.2 GPM AT 70 PSID AND 80°F±20°F

INTERNAL LEAKAGE (ENERGIZED): 1 CC/MIN MAX AT 3000 PSID AND 80°F±20°F

OPERATING VOLTAGE: 100 VDC

*PHOSPHATE ESTER BASE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CATEGORY 4: SHUT-OFF VALVES, PILOT SOLENOID OPERATED

CRISSAIR HAS VARIOUS OTHER SOLENOID 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.

SHUTTLE VALVES

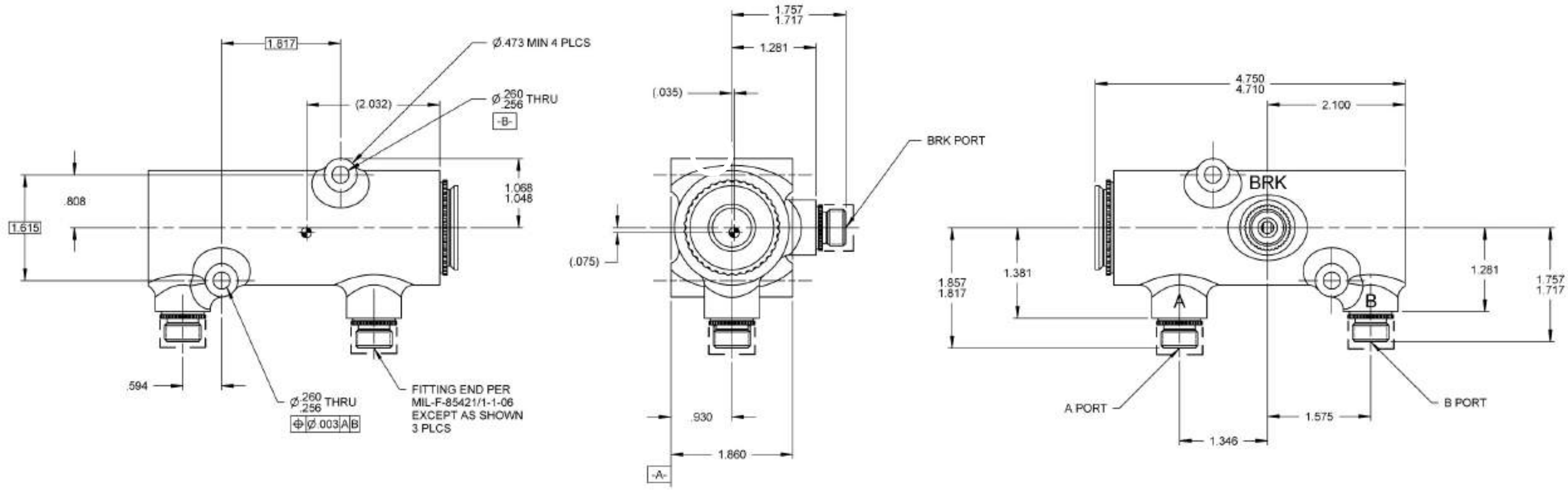
Crissair Inc. designs and manufactures a variety of Shuttle Valve configurations which may be pack aged as inline configurations to connect directly to tubing, cartridge configurations that can go into manifolds, or as complete manifold configurations. Shuttle Valves provide automatic mechanical switching between two separate pressure sources based on the pressure from the supply source.

- Detented Shuttle Valves maintain their last commanded position by means of physical, spring loaded elements.
- Biased Shuttle Valves will always move back to the first position when pressure drops below a specified value.

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

CRISSAIR INC.

PART NUMBER: 1M1534, SHUTTLE VALVE

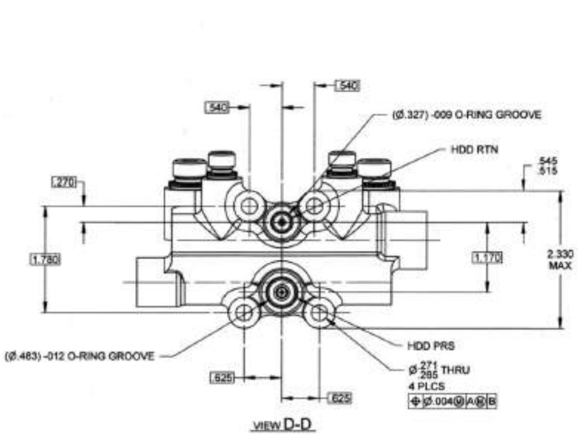


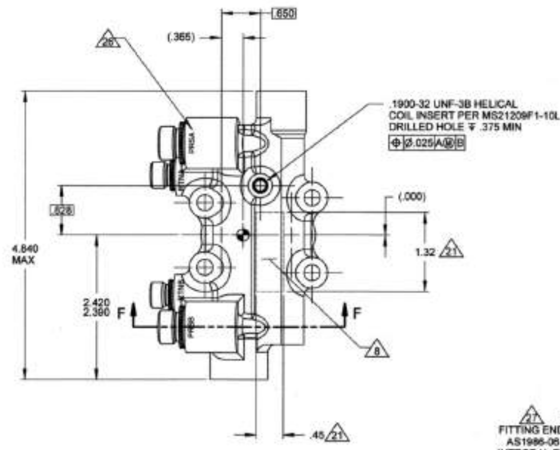
ISOMETRIC VIEW
FOR REFERENCE ONLY

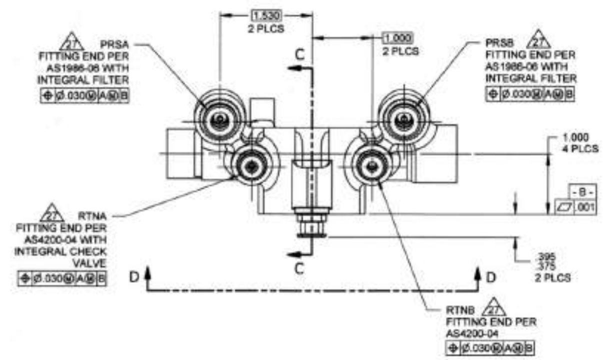
PERFORMANCE SPECIFICATIONS:

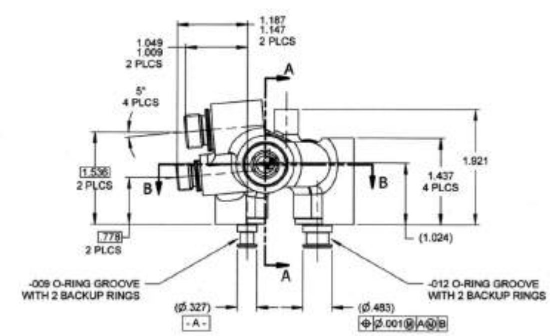
FLUIDS: AIRCRAFT HYDRAULIC FLUID MIL-PRF-5606 AND MIL-PRF-83282
MATERIAL: MANIFOLD 2024-T351 AL ALLOY
TEMPERATURE RANGE: –65°F TO 130°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
SHUTTLING PRESSURE: 30 TO 70 PSIG
FLOW: 9 GPM MINIMUM AT 40 PSID
INTERNAL LEAKAGE: 1 DPH MAX AT 3000 PSID
WEIGHT: 1.56 LBS MAX

PART NUMBER: 1M1530, SHUTTLE VALVE





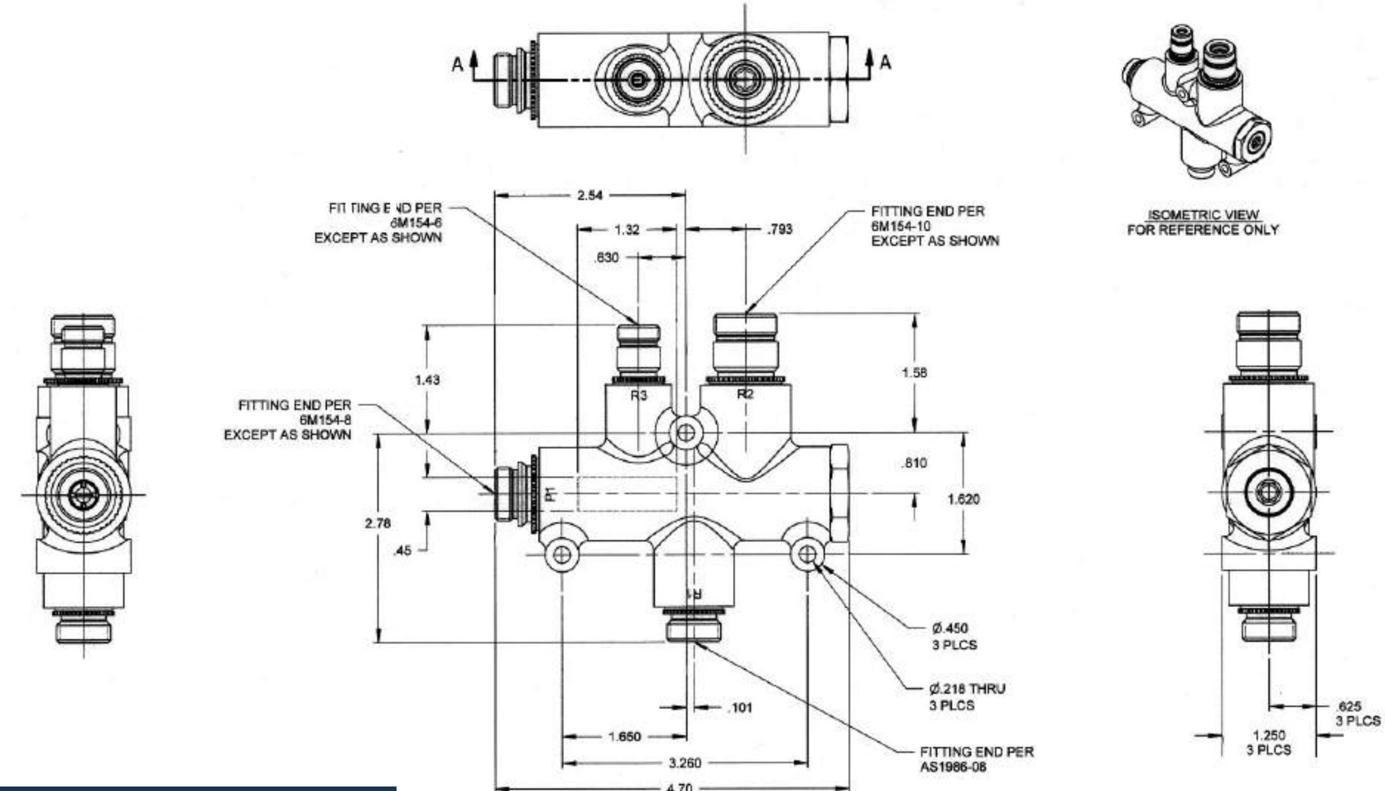




PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT HYDRAULIC FLUID PER MIL-PRF-83282
MATERIAL: MANIFOLD 6AL-4V TI
TEMPERATURE RANGE: –65°F TO 275°F
OPERATING PRESSURE: 4100 PSIG
PROOF PRESSURE: 11500 PSIG
SHUTTLING PRESSURE: 200 TO 700 PSID (HDD RTN)
550 TO 900 PSID (HDD PRS)
CRACKING PRESSURE: 2 TO 8 PSID (RTNA)
FLOW: HDD RTN TO RTNA OR RTNB - 0.1 GPM AT 4000 ± 2% PSID AT 20°F
PRSA OR PRSB TO HDD PRS - 4 GPM AT 1025 PSID MAX AT 20°F
HDD PRS TO PRSA OR PRSB 1.35 GPM AT 5150 PSID MAX AT 20°F
INTERNAL LEAKAGE: 1 DPM MAX AT 5 PSID AT 235°F WITH 0 PSIG AT PRSB OR PRSA
10 DPH MAX FROM 1000 TO 4000 PSID AT 235°F WITH 4100 PSIG AT PRSB OR PRSA
1 CC/MIN MAX AT 4075 PSID AT 235°F (PRSB OR PRSA TO RTNB OR RTNA)
3 CC/MIN PER SHUTTLE ACTUATION (RTNB TO RTNA)
1 DPM MAX AT 5 PSID AT 235°F (PRSB OR PRSA TO HDD PRS)
10 DPH MAX FROM 1000 TO 4000 PSID AT 235°F (PRSB OR PRSA TO HDD PRS)
3 CC PER SHUTTLE ACTUATION (PRSB TO PRSA)
1 DPM MAX AT 5 PSID AT 235°F (RTNA TO HDD RTN)
WEIGHT: 1.40 LBS MAX

PART NUMBER: 1M1288-X, SHUTTLE VALVE

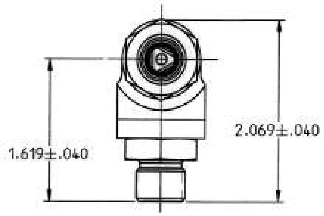


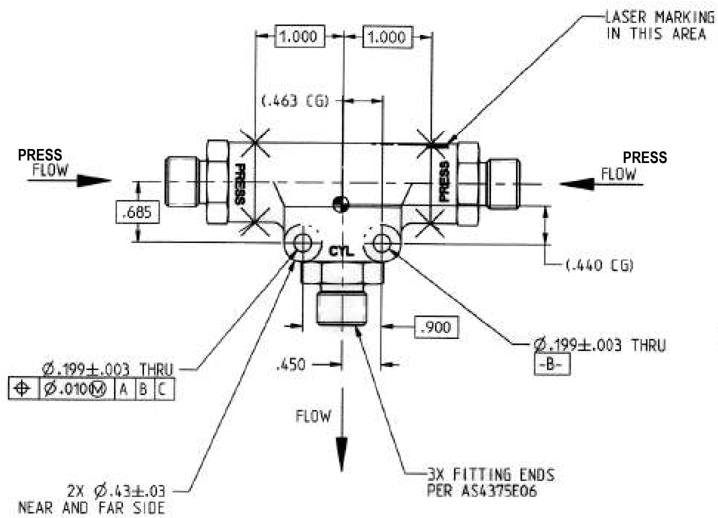
PERFORMANCE SPECIFICATIONS:

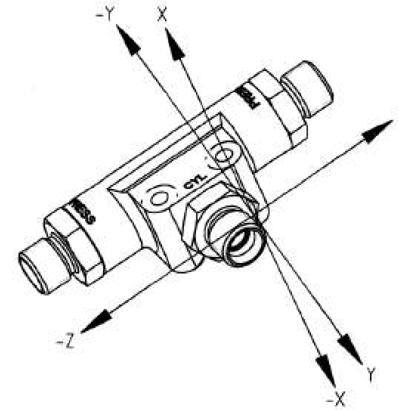
FLUIDS: AIRCRAFT HYDRAULIC FLUID PER MIL-PRF-83282
MATERIAL: MANIFOLD 15-5PH CRES
TEMPERATURE RANGE: –65°F TO 275°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
SHUTTLING PRESSURE: 900 PSIG MAX INCREASING PRESSURE
300 PSIG MIN DECREASING PRESSURE
FLOW: 6 GPM AT 40 PSID MAX AT 100°F ± 30°F (R1 TO R2)
1 GPM AT 20 PSID MAX AT 100°F ± 30°F (R1 TO R3)
INTERNAL LEAKAGE: 1.0 CC/HR MAX AT R3 WITH 5 PSID AT R1
1.0 CC/HR MAX AT R2 WITH 2800 PSID AT P1 AND 5 PSID AT R1
1.0 CC/HR MAX AT P1 WITH 1500 PSID AT R1 AND R2
5 CC MAX PER SHUTTLE CYCLE
WEIGHT: 2.34 LBS MAX

![CRISSAIR INC.]

PART NUMBER: 3S1346,SHUTTLE VALVE

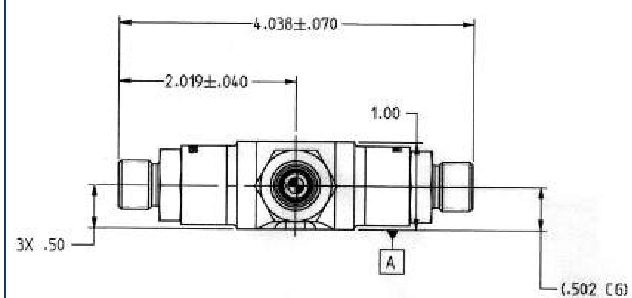






PERFORMANCE SPECIFICATIONS:

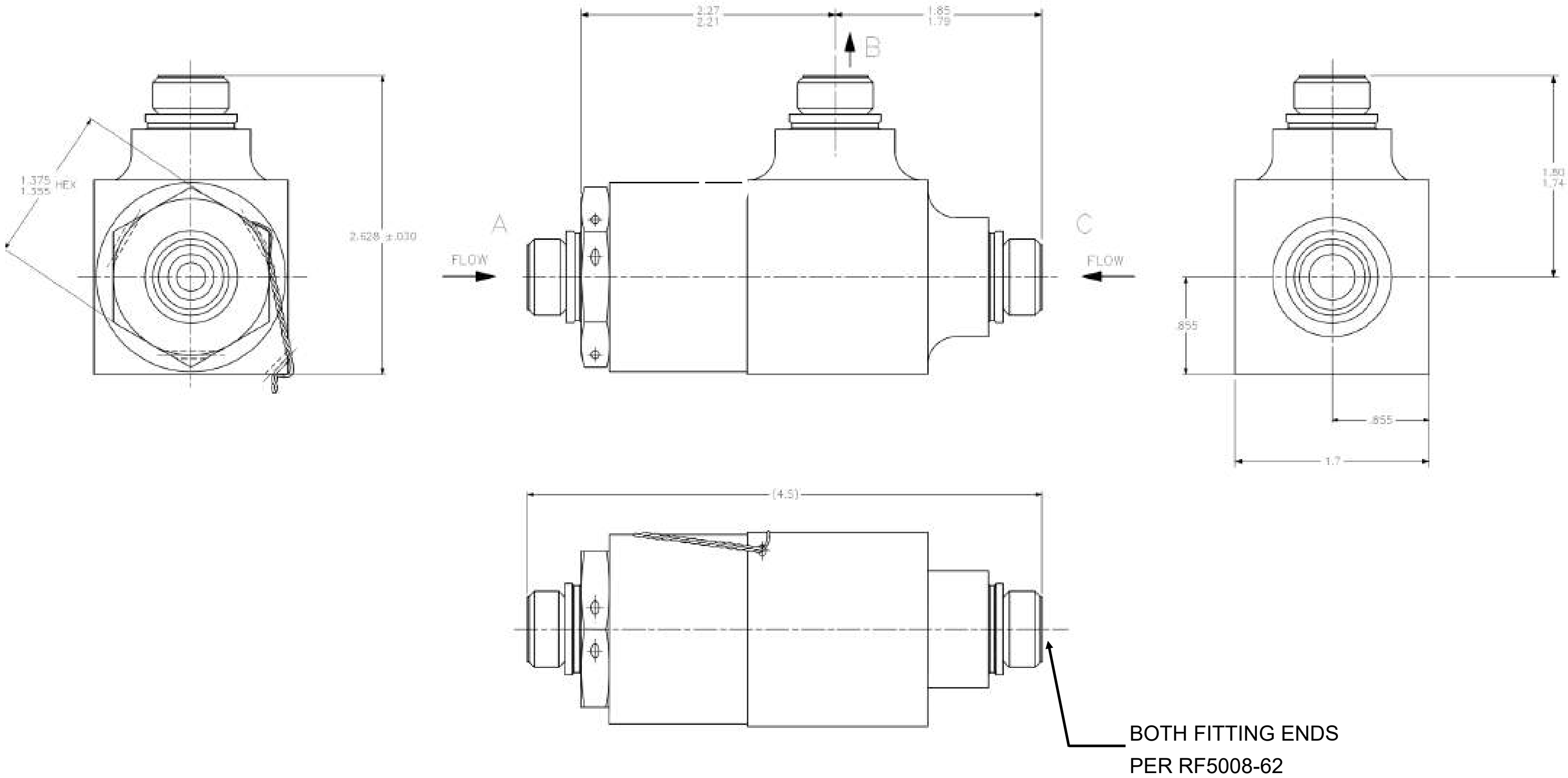
FLUIDS: LOW DENSITY PHOSPHATE-ESTER FLUID PER AS1247
TYPE IV AND V CLASS 1 (SKYDROL)
MATERIAL: HOUSING 7075-T6
TEMPERATURE RANGE: –40°F TO 200°F
OPERATING PRESSURE: 3050 PSIG
PROOF PRESSURE: 4575 PSIG
FLOW: 6 GPM AT 560-675 PSID FROM “PRESS” PORT TO “CYL” PORT
(EACH “PRESS” PORT IS TO BE TESTED WITH THE OPPOSITE
“PRESS” PORT VENTED TO ATMOSPHERE)
INTERNAL LEAKAGE: WITH THE “CYL” PORT BLOCKED AND 3050 PSID
APPLIED TO THE “PRESS” PORT. THE LEAKAGE AT
THE OPPOSITE “PRESS” PORT SHALL NOT EXCEED
0.025 CC/HR (1 DROP IN 12 MINUTES).
INTERNAL LEAKAGE: WITH THE “CLY” PORT BLOCKED AND 5 PSID
APPLIED TO THE “PRESS” PORT, THE LEAKAGE AT
THE OPPOSITE “PRESS” PORT SHALL NOT EXCEED
0.05 CC/MIN (1 DPM) FOR THE LAST 3 MINUTES
DURING A 5 MINUTE PERIOD.
WEIGHT: 0.42 LBS MAX



CATEGORY 5: SHUTTLE VALVES

Previous Section
Return to Table of Contents
Next Section

PART NUMBER: 3S1344 ,SHUTTLE VALVE, SPRING BIAS



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-83282 OR MIL-H-5606

MATERIAL: HOUSING 6061-T6

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 5 PSID MAXIMUM FROM C TO B

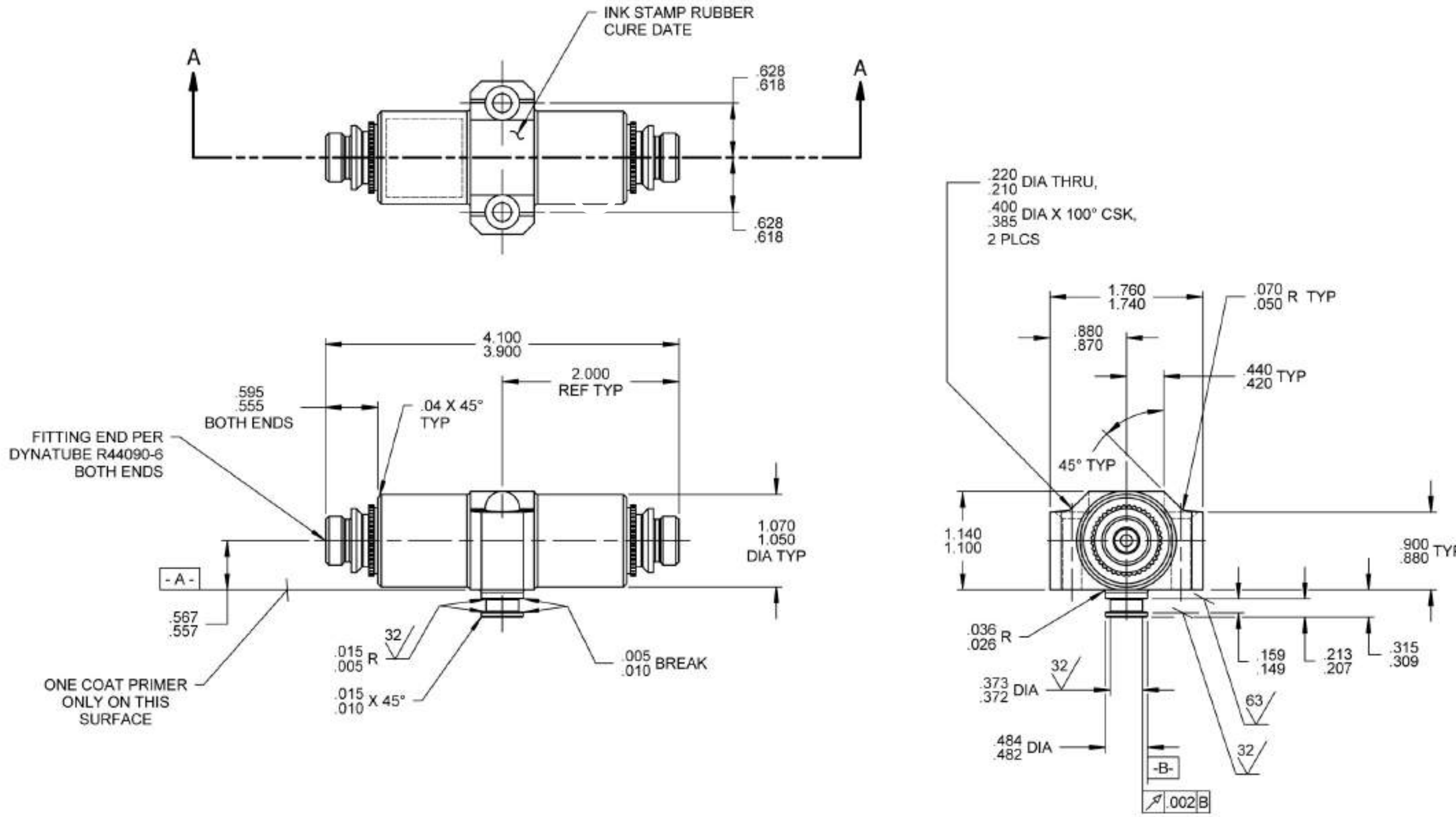
FLOW: 10 GPM AT 50 PSID MAX FROM A TO B AND C TO B

INTERNAL LEAKAGE AT PORT C (CHECKED DIRECTION): 10 DPM MAX AT 1000 PSID

WEIGHT: 1.50 LBS MAX

CRISSAIR INC.

PART NUMBER: 3S1326, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC OIL PER MIL-PRF-83282 AND AIR

MATERIAL: BODY 7075-T73 AL, -T73510 OR T73511 PER QQ-A-200/11 OR QQ-A-225/9

TEMPERATURE RANGE: –65°F TO 160°F

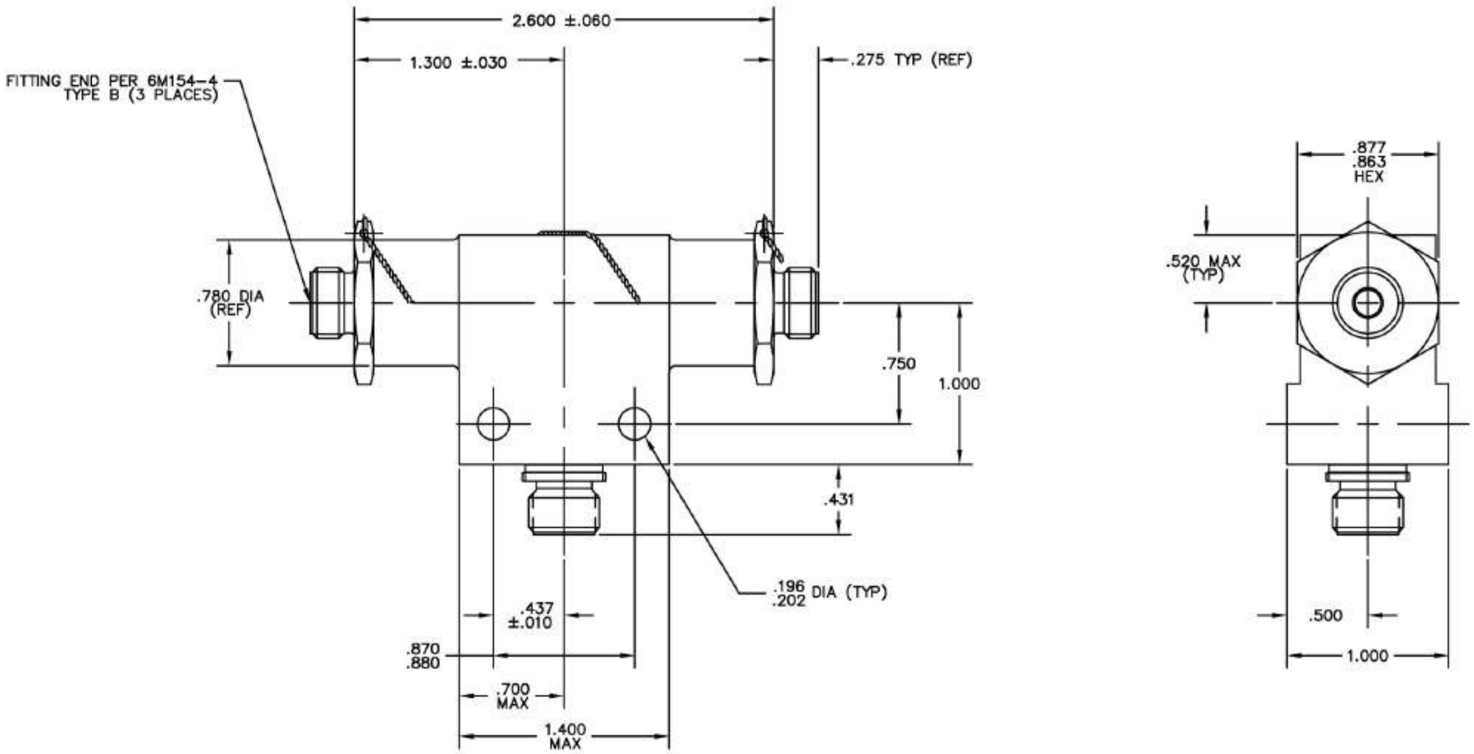
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

FLOW: 3.5 GPM AT 10 PSID

WEIGHT: 0.45 LBS MAX

PART NUMBER: 3S1024, SHUTTLE VALVE

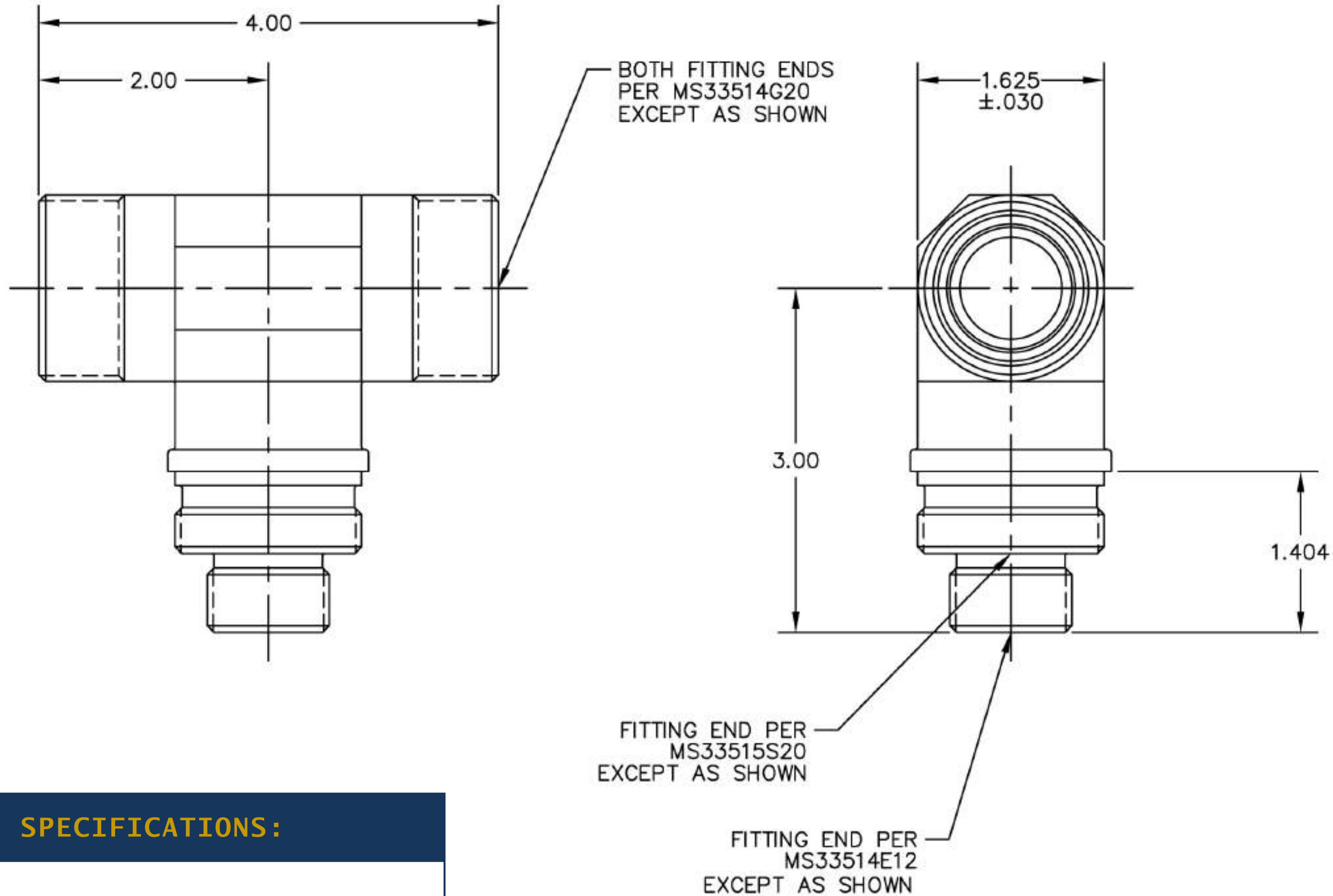


PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUIDS PER MIL-H-83282 AND MIL-H-5606
MATERIAL: BODY 7075-T351
TEMPERATURE RANGE: –65°F TO 275°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
SHUTTLING PRESSURE: 25 TO 100 PSIG
FLOW: 1.2 GPM AT 10 PSID MAX
INTERNAL LEAKAGE: (A) LEAKAGE THRU A SINGLE SHUTTLE SHALL NOT EXCEED 3 CC
(B) LEAKAGE FOR A 30 MINUTE PERIOD AFTER A 2 MINUTE SEATING PERIOD SHALL NOT EXCEED 0.25 CC/MIN FROM THE UNCONNECTED INLET PORT, WITH THE OUTLET PORT BLOCKED AND 5 PSIG APPLIED TO THE CONNECTED INLET PORT
(C) UNDER THE SAME CONDITON AS (B) THERE SHALL BE NO LEAKAGE AT 3000 PSIG
WEIGHT: 0.36 LBS MAX

CRISSAIR INC.

PART NUMBER: 3S1328, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HALON AND NITROGEN

MATERIAL: BODY 2024-T351 AL

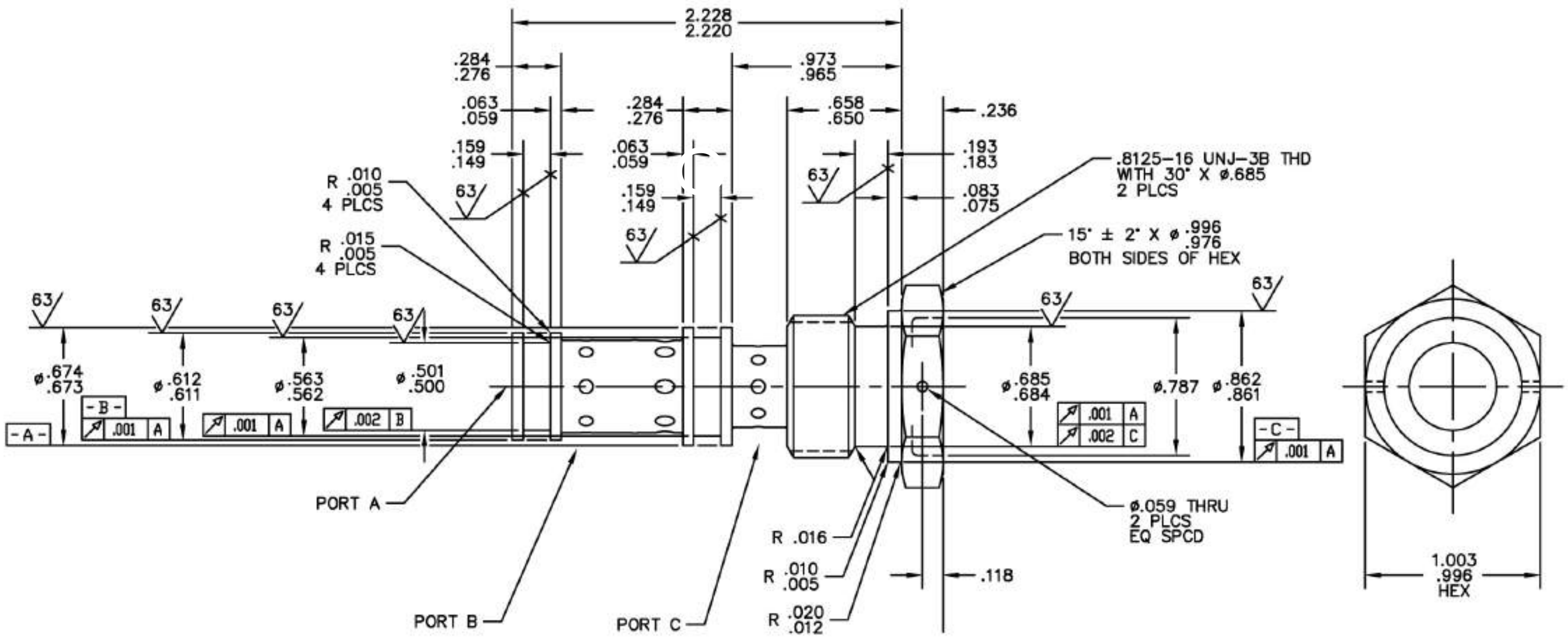
TEMPERATURE RANGE: –65°F TO 160°F

OPERATING PRESSURE: 1200 PSIG

PROOF PRESSURE: 2000 PSIG

INTERNAL LEAKAGE: 1 SCFM MAX AT 300 AND 1200 PSIG

WEIGHT: 1.12 LBS MAX



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL

MATERIAL: BODY 304 CRES

POPPET 440C CRES

TEMPERATURE RANGE: –67°F TO 230°F

OPERATING PRESSURE: 3500 PSIG

PROOF PRESSURE: 4500 PSIG

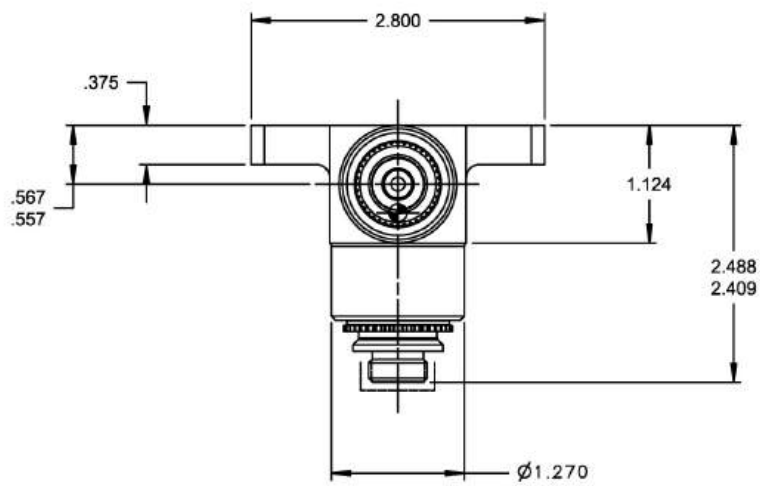
CRACKING PRESSURE: 70 ± 5 PSID

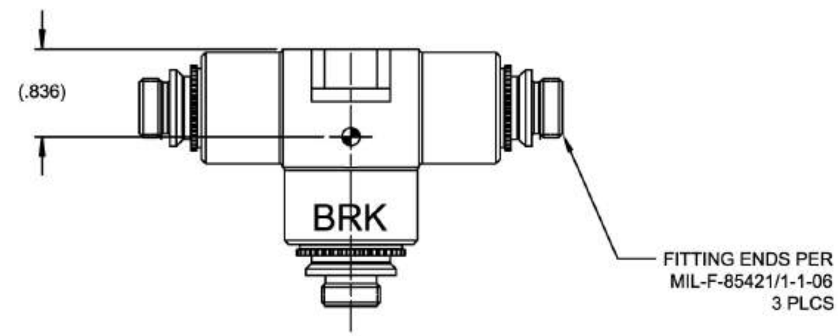
FLOW: 6.6 GPM AT 50 PSID MAX

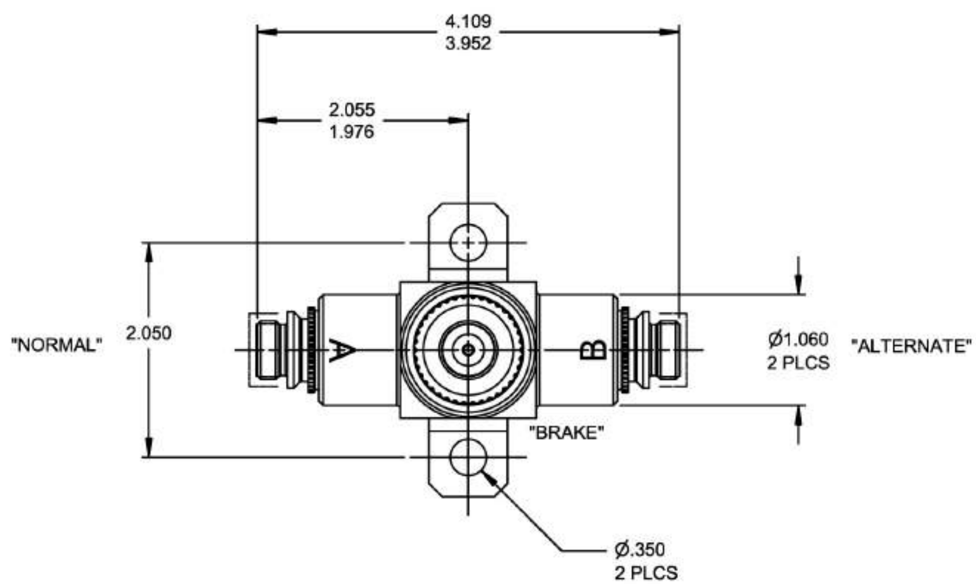
INTERNAL LEAKAGE: 5 DPM MAX FROM PORT A WITH 5 PSIG AT PORT B OR C

NONE AT 1000 TO 3000 PSIG

PART NUMBER: 3S1332, SHUTTLE VALVE







PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-PRF-83282 AND MIL-H-5606

MATERIAL: BODY 7075-T73 AL, -T73510 OR -T73511 PER QQ-A-200/11 OR QQ-A-225/9

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

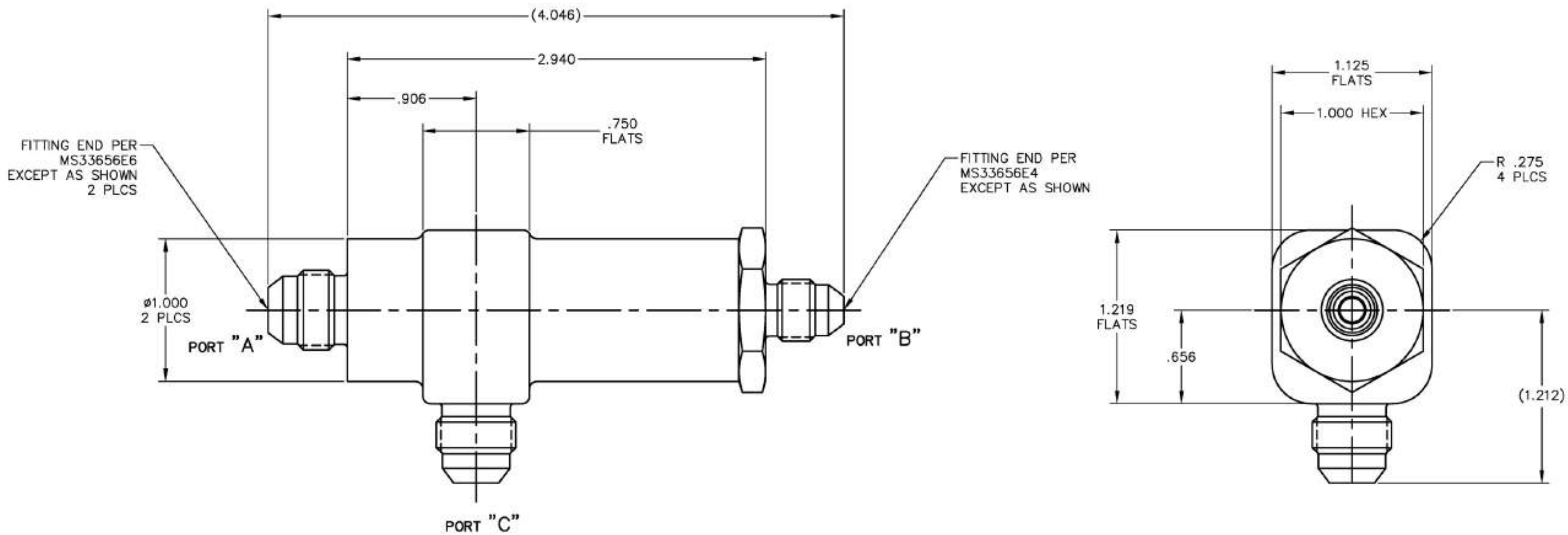
SHUTTLING PRESSURE: 30 TO 60 PSIG

FLOW: 3.0 GPM AT 25 PSID MAX

INTERNAL LEAKAGE: NONE AT 3000 PSIG

WEIGHT: 0.88 LBS MAX

PART NUMBER: 3S1172, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282, MIL-PRF-87257 AND AIR

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

SHUTTLING PRESSURE: 20 TO 100 PSID

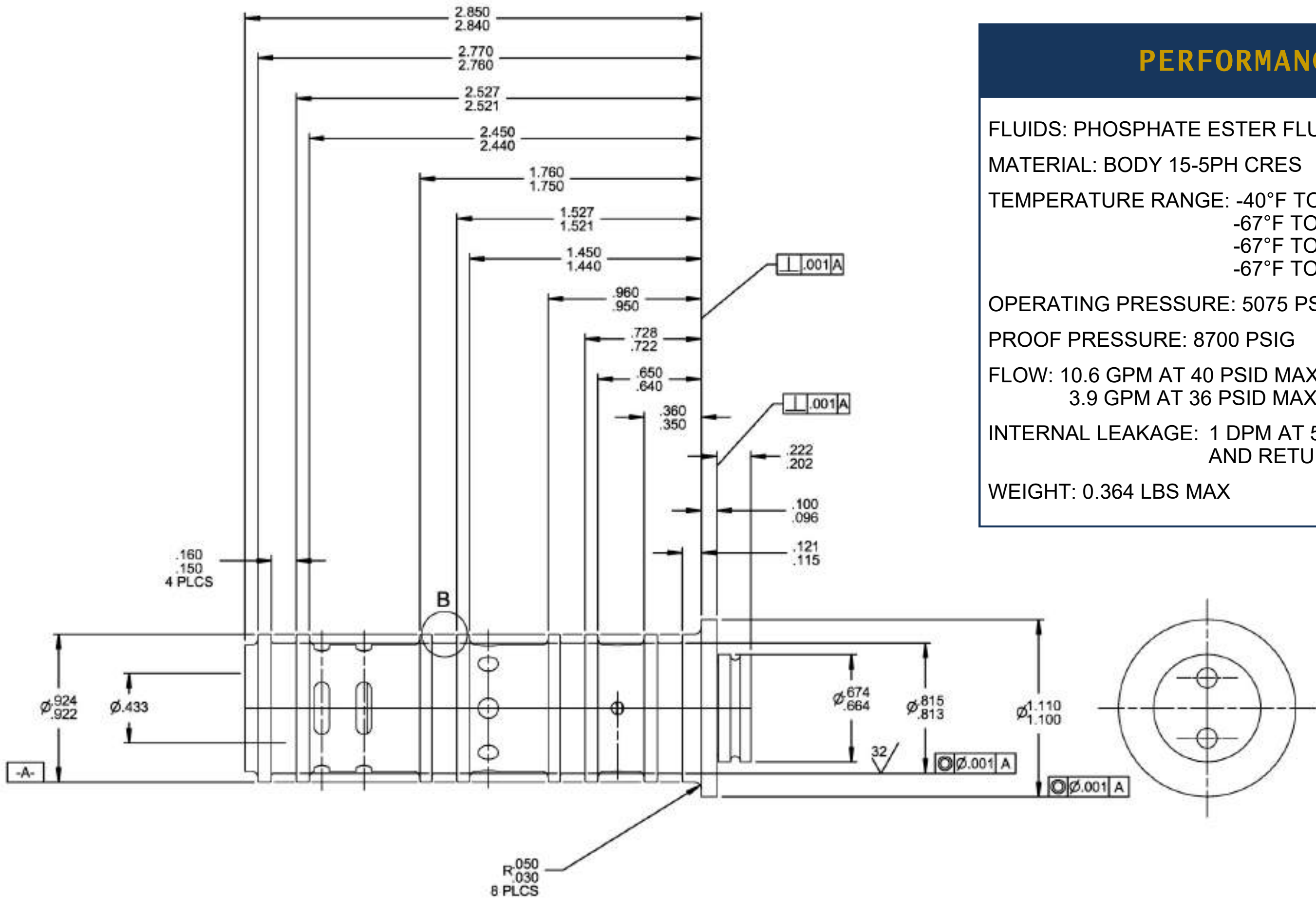
FLOW: 1.5 GPM AT 15 PSID MAX FROM PORT A TO PORT C

12 SCFM AT 19 PSID MAX FROM PORT B TO PORT C

INTERNAL LEAKAGE: 0 DPM AT 0 TO 4500 PSIG

WEIGHT: 0.35 LBS MAX

PART NUMBER: 3S1334, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV OR TYPE V PER NSA 307 110

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -40°F TO 203°F (NORMAL OPERATING)
-67°F TO 230°F (EXTREME OPERATING)
-67°F TO 248°F (EXTREME NON-OPERATING)
-67°F TO 185°F (STORAGE)

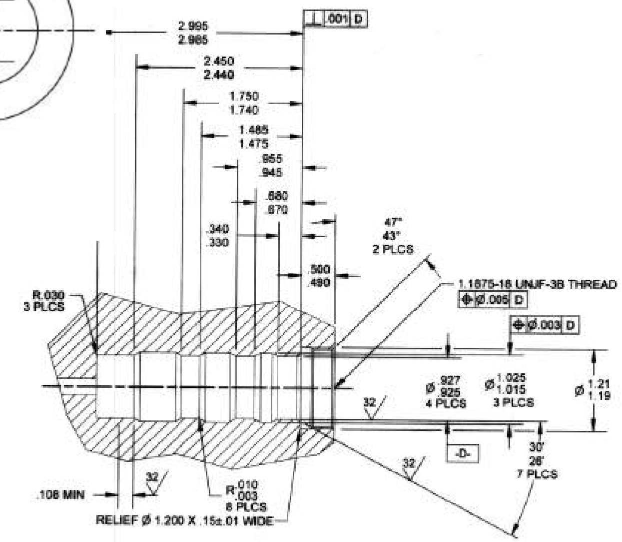
OPERATING PRESSURE: 5075 PSIG

PROOF PRESSURE: 8700 PSIG

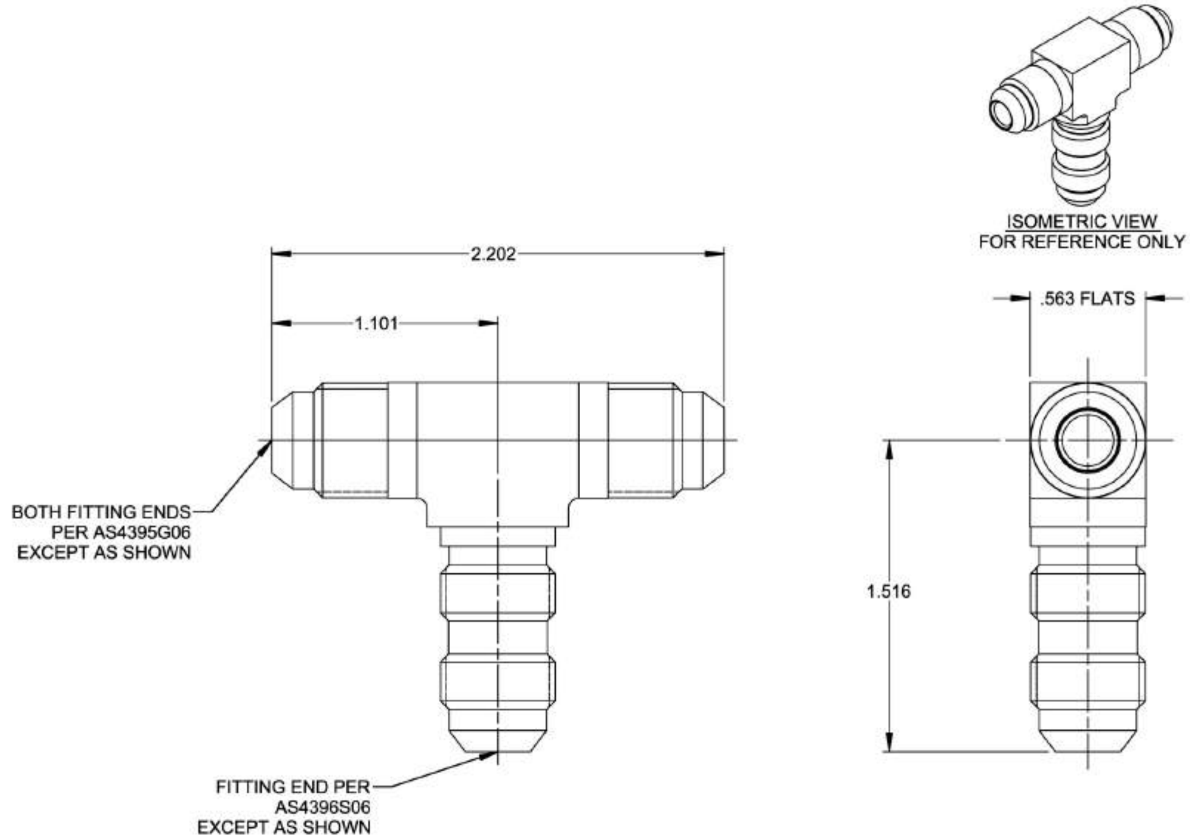
FLOW: 10.6 GPM AT 40 PSID MAX—PRESSURE TO CONTROL
3.9 GPM AT 36 PSID MAX—CONTROL TO RETURN

INTERNAL LEAKAGE: 1 DPM AT 5075 PSID—PRESSURE TO RETURN AND RETURN TO PRESSURE

WEIGHT: 0.364 LBS MAX



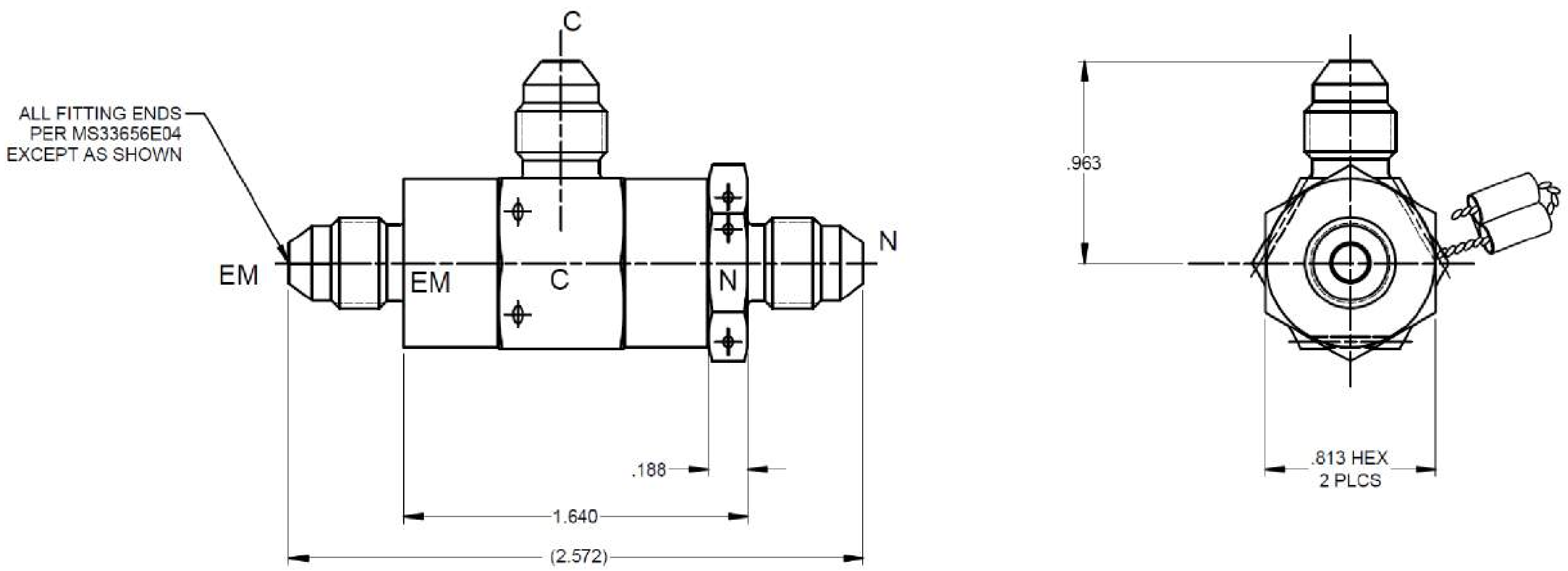
PART NUMBER: 3S1336, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR
MATERIAL: BODY 316 CRES
TEMPERATURE RANGE: 0°F TO 450°F
OPERATING PRESSURE: 100 PSIG
PROOF PRESSURE: 150 PSIG
FLOW: 0.25 LB/MIN AT 1.5 PSID
INTERNAL LEAKAGE: 0.025 LB/MIN MAX AT 24 PSID
WEIGHT: 0.20 LBS MAX

PART NUMBER: 3S1200, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIRCRAFT HYDRAULIC FLUID PER MIL-H-5606

MATERIAL: BODY 15-5PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

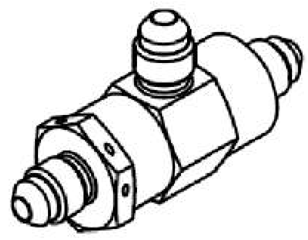
PROOF PRESSURE: 4500 PSIG

CRACKING PRESSURE: 50 TO 100 PSID

FLOW: 1.0 LPM AT 1000 PSID MAX
(PORT N TO PORT C & PORT EM TO PORT C)

INTERNAL LEAKAGE: 5 DPM MAX WITH 3000 PSID AT PORT EM AND C

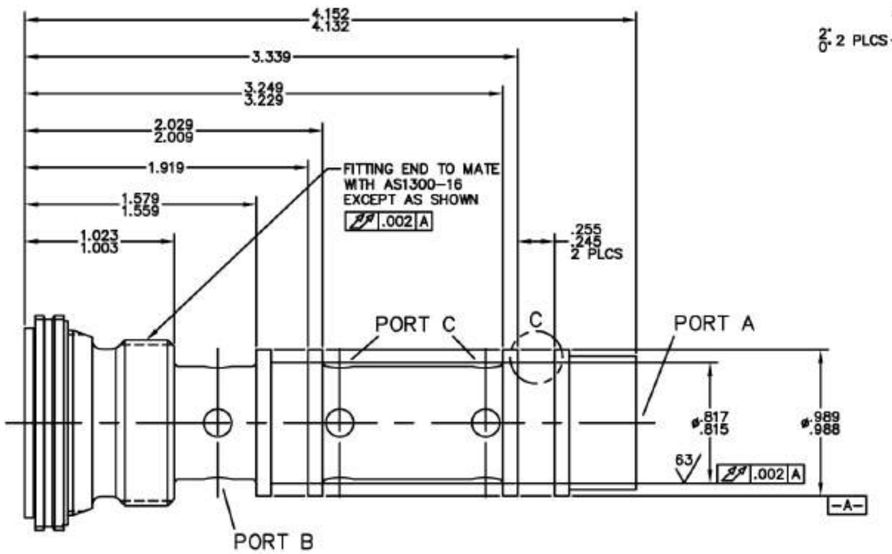
WEIGHT: 0.28 LBS MAX

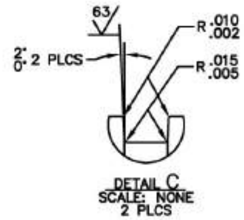


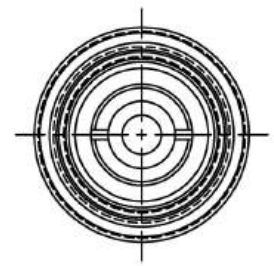
ISOMETRIC VIEW
FOR REFERENCE ONLY

CRISSAIR INC.

PART NUMBER: 3S1338-1, SHUTTLE VALVE

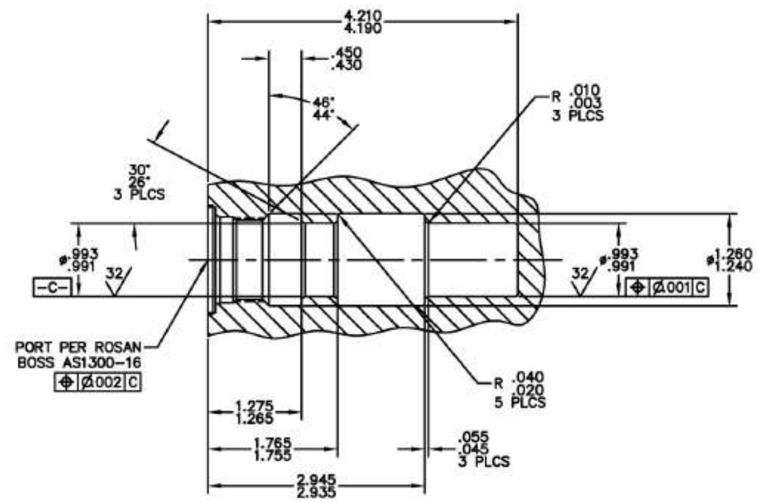




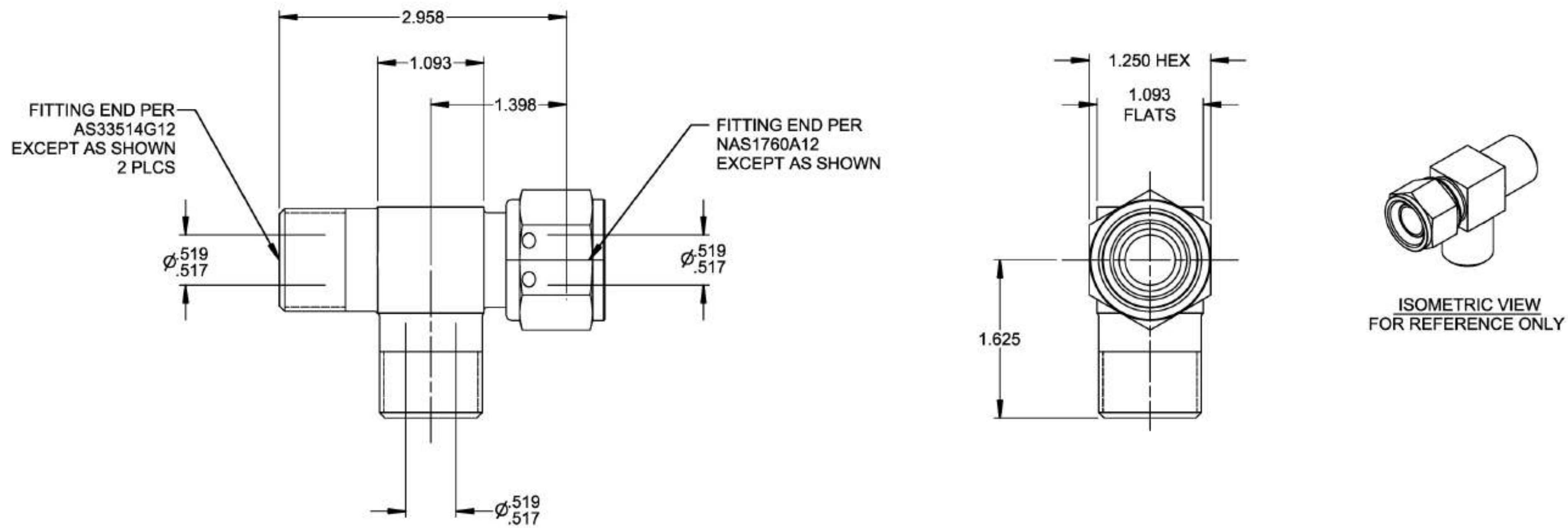


PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV OR TYPE V
MATERIAL: BODY 15-5PH CRES
TEMPERATURE RANGE: -40°F TO 203°F (NORMAL OPERATING)
-67°F TO 230°F (MAXIMUM OPERATING)
-67°F TO 248°F (MAXIMUM NON-OPERATING)
-67°F TO 185°F (STORAGE)
OPERATING PRESSURE: 5075 PSIG
PROOF PRESSURE: 8700 PSIG
SHUTTLING PRESSURE: 10 TO 27.6 PSIG
FLOW: 5.28 GPM AT 11 PSID MAX FROM A TO C AND B TO C
INTERNAL LEAKAGE: 1 DPM MAX AT 5075 PSIG
WEIGHT: 0.65 LBS MAX



PART NUMBER: 3S1340, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HALON AND NITROGEN

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: –65°F TO 250°F

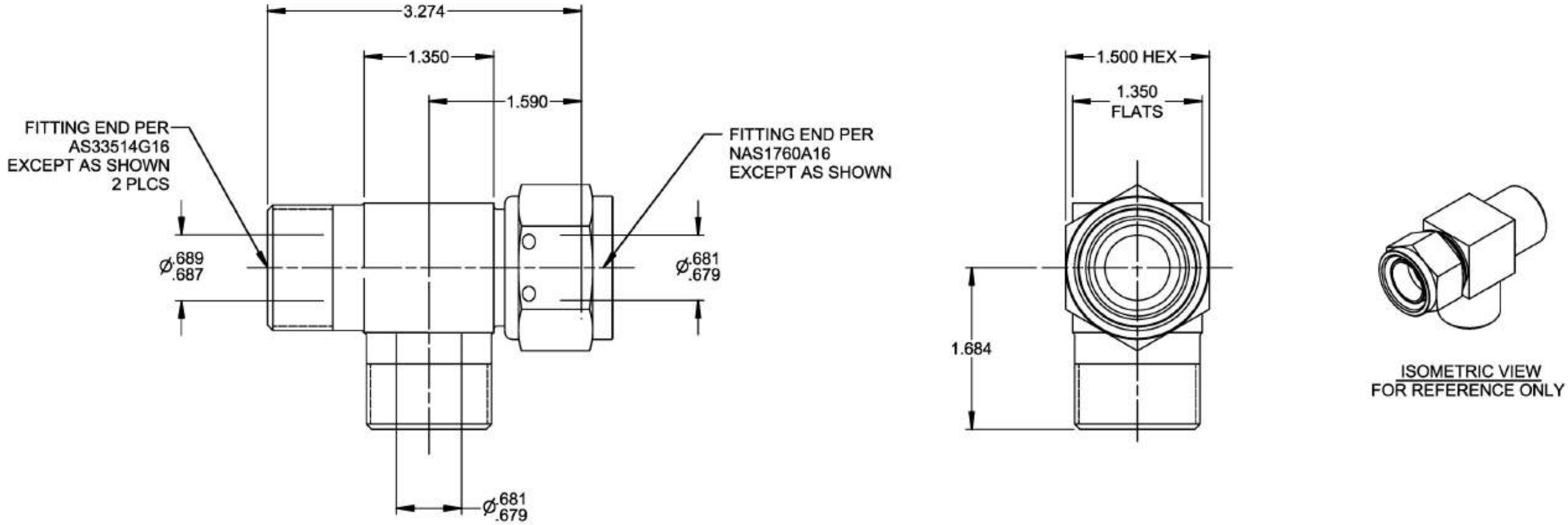
OPERATING PRESSURE: 1200 PSIG AT 250°F

PROOF PRESSURE: 2000 PSIG

INTERNAL LEAKAGE: 1.0 SCFM MAX AT 50 AND 250 PSIG

WEIGHT: 0.37 LBS MAX

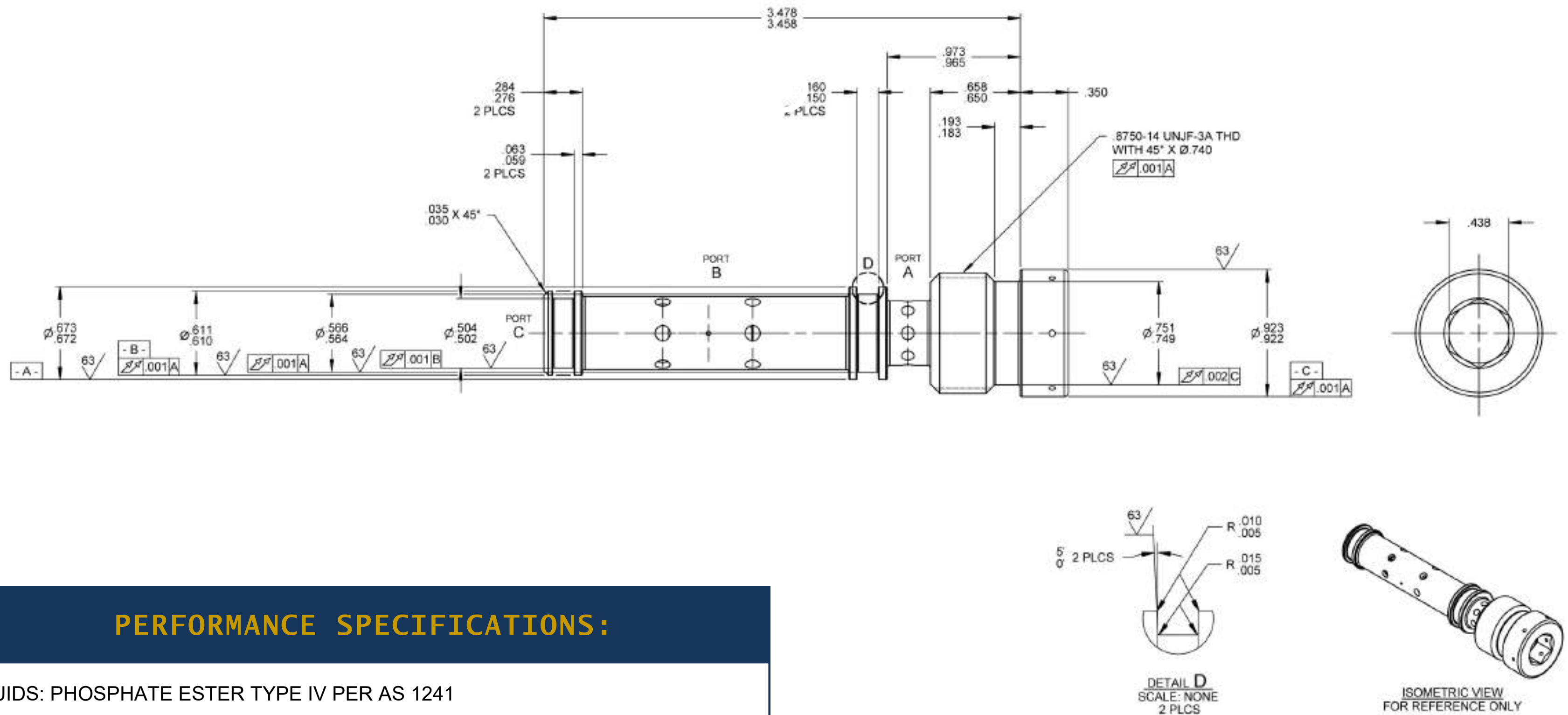
PART NUMBER: 3S1342, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HALON AND NITROGEN
MATERIAL: BODY 2024-T351 AL
TEMPERATURE RANGE: –65°F TO 250°F
OPERATING PRESSURE: 1200 PSIG AT 250°F
PROOF PRESSURE: 2000 PSIG
INTERNAL LEAKAGE: 1.0 SCFM MAX AT 50 AND 250 PSIG
WEIGHT: 0.59 LBS MAX

PART NUMBER: 3S1238, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER TYPE IV PER AS 1241

MATERIAL: BODY 304 CRES

POPPET 440C CRES

TEMPERATURE RANGE: –65°F TO 275°F

OPERATING PRESSURE: 3650 PSIG

PROOF PRESSURE: 5475 PSIG

CRACKING PRESSURE: 30 ± 5 PSID

FLOW: 4.4 GPM AT 50 PSID MAX (PORT B TO PORT C)

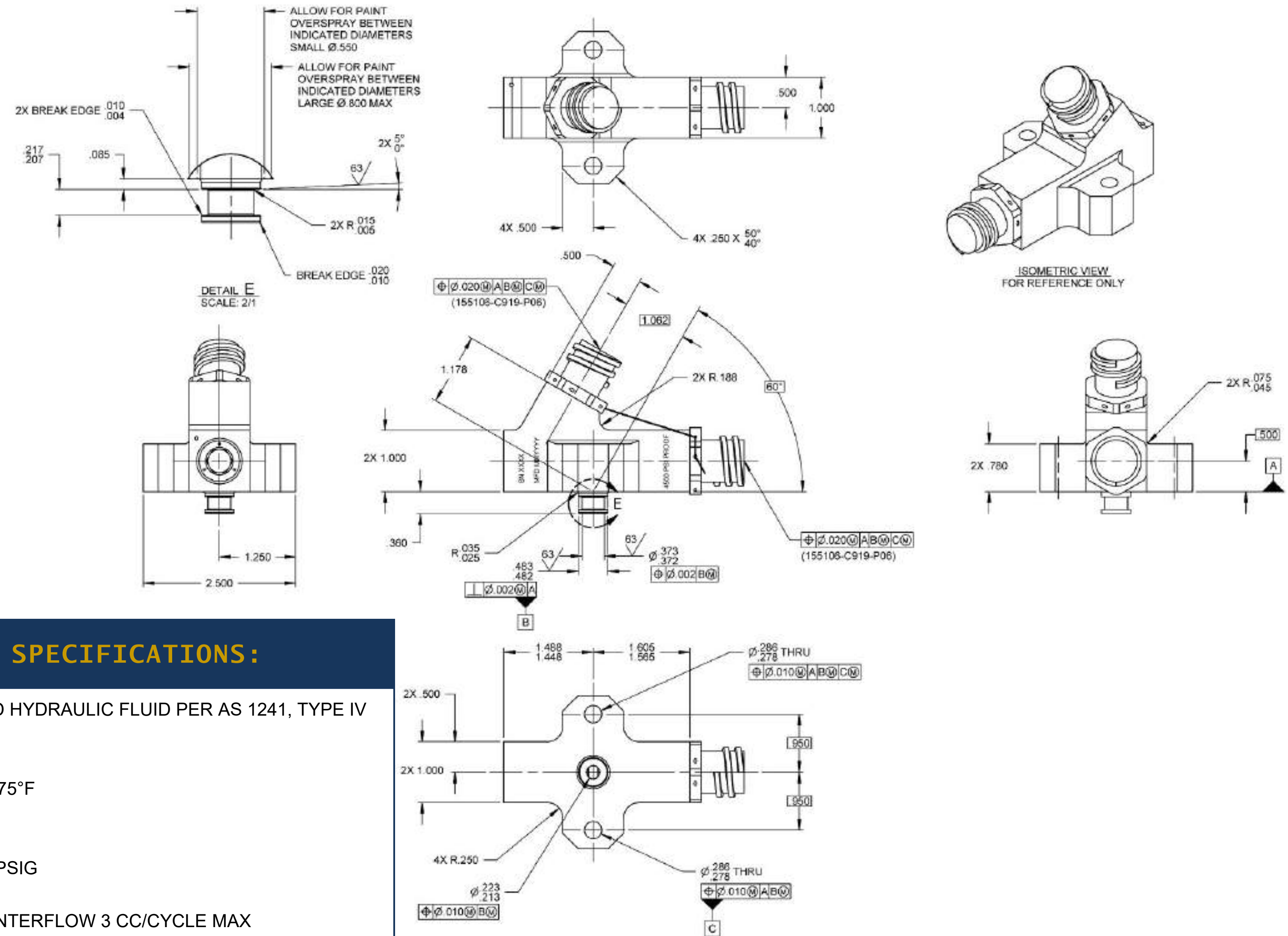
4.4 GPM AT 100 PSID MAX (PORT A TO PORT B)

INTERNAL LEAKAGE: 15 DPM MAX FROM PORT A WITH 5 PSIG AT PORT B OR C

5 DPM AT 1000 TO 3000 PSIG

WEIGHT: 0.30 LBS MAX

PART NUMBER: 3S1266, SHUTTLE VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER BASED HYDRAULIC FLUID PER AS 1241, TYPE IV CLASS 1

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: –40°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

SHUTTLING PRESSURE: 25 TO 100 PSIG

FLOW: 3.5 GPM AT 75 PSID MAX

INTERNAL LEAKAGE: -SHUTTLING INTERFLOW 3 CC/CYCLE MAX
-REVERSE FLOW UNSETING 10 DPM MAX
-OPEN INLET PORT TWO DROPS MAX FOR 5 MINUTES AT 500-3000 PSID AFTER TWO MINUTE STABILIZATION PERIOD (BOTH DIRECTIONS)

WEIGHT: 0.50 LBS MAX WITHOUT FITTINGS

CRISSAIR INC.

CRISSAIR HAS VARIOUS OTHER SHUTTLE 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.

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.

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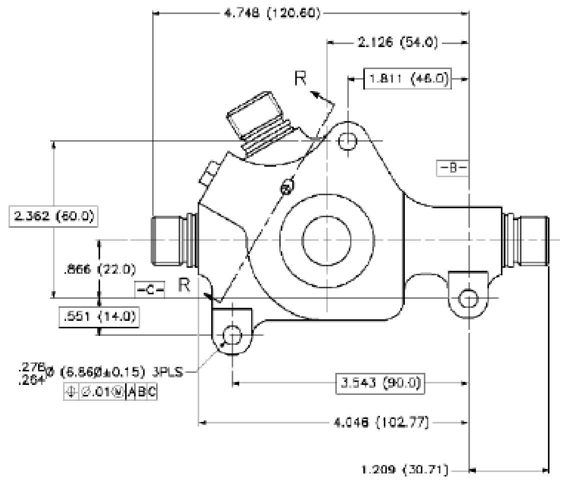
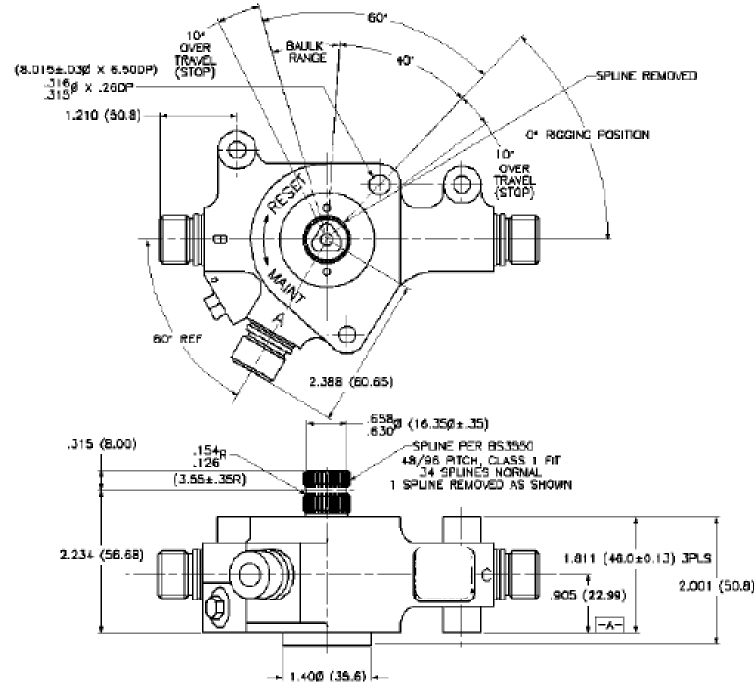
PART NUMBER: 3P1048,NOSE DOOR BYPASS VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER PER NSA307110LD, 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

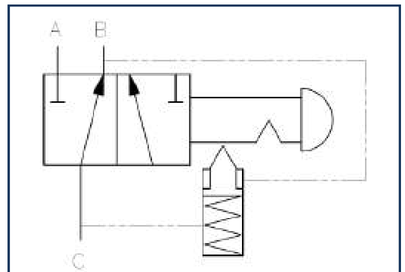
BAULK FEATURE: IS ENGAGED OVER 40° ROTATION WITH PORT B LESS THAN 725 PSIG
IS DISENGAGED OVER FULL RANGE WITH PORT B AT GREATER THAN 1015 PSIG

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



HYDRAULIC SCHEMATIC

CATEGORY 6: MANUAL OPERATED VALVES

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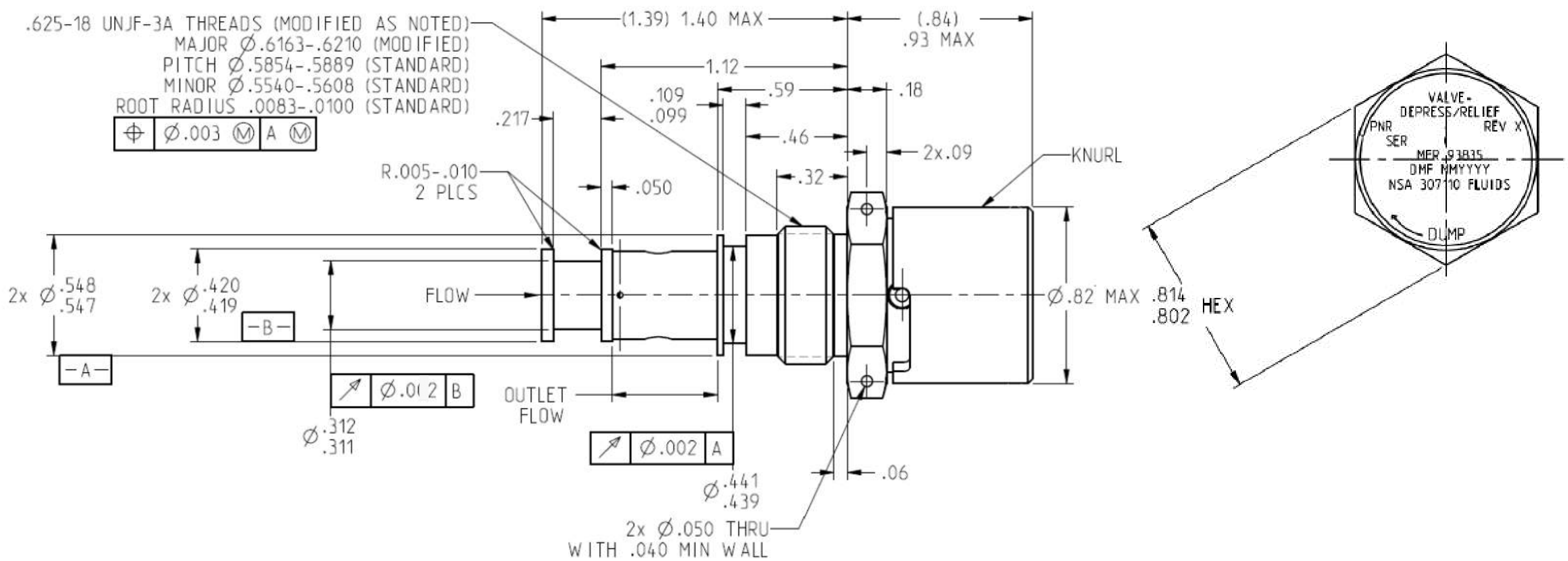
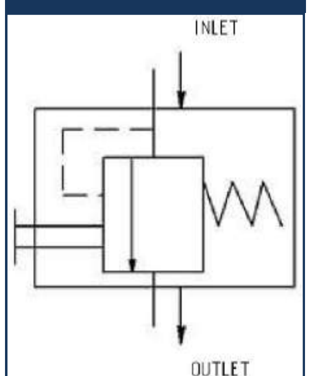
PART NUMBER: 2P5606, MANUAL DEPRESSURIZATION AND RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

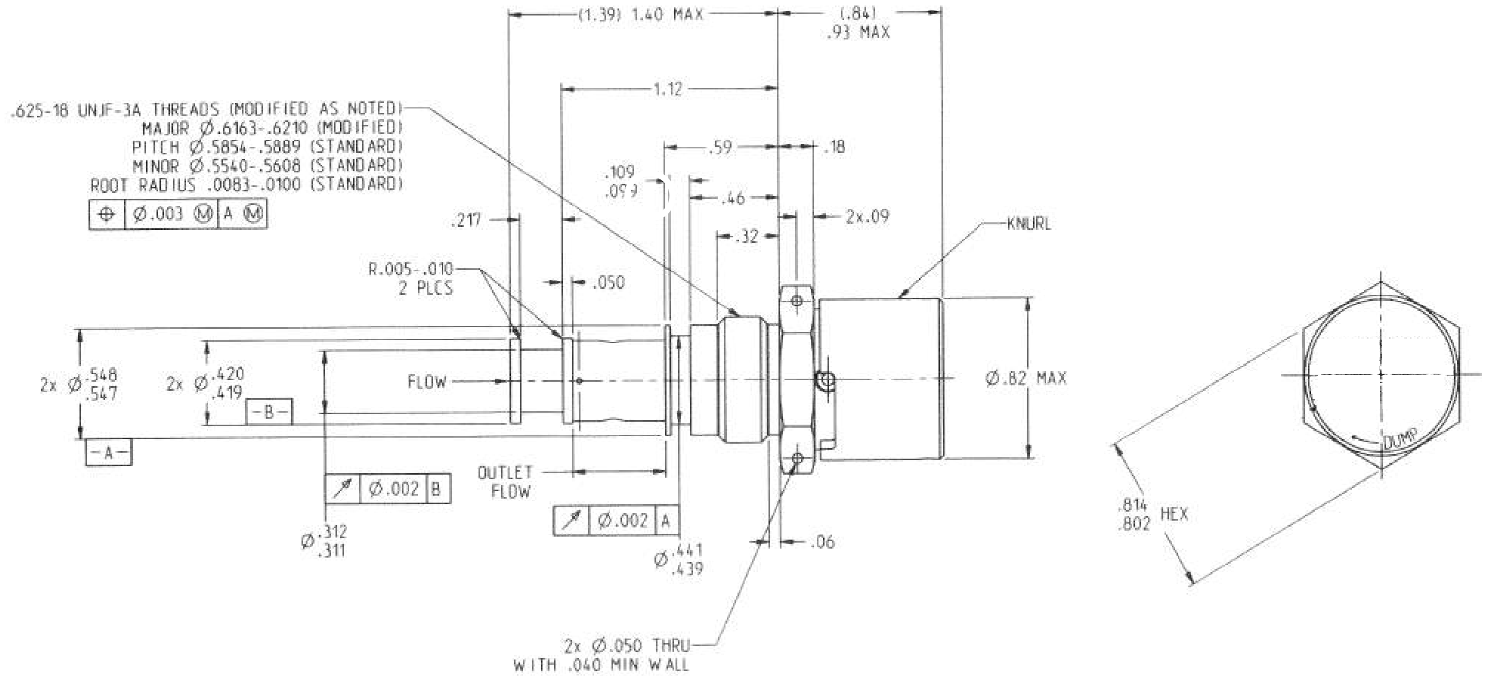
FLUIDS: PHOSPHATE ESTER PER NSA 307110 TYPE IV OR V*
MATERIAL: BODY 17-4 PH
POPPET 440C CRES
OPERATING PRESSURE: 5004 PSIG
PROOF PRESSURE: 7614 PSIG
CRACKING PRESSURE: 5439-5874 PSID
FLOW, RELIEF: 5989 PSID MAX AT 0.7 GPM MIN AND 68±9°F
FLOW, MANUAL DUMP: 3336 PSID MAX AT 0.4 GPM MIN AND 68±9°F
RESEAT 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 OVERIDE KNOB ROTATION: 210°
WEIGHT: 0.17 LBS MAX
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



CRISSAIR INC.

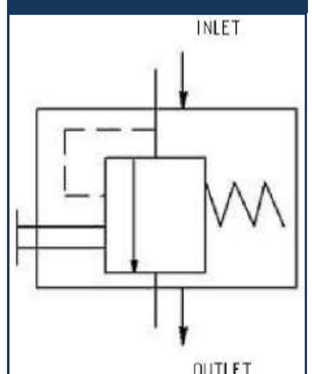
PART NUMBER: 2P5620 ,MANUAL DEPRESSURIZATION/RELIEF VALVE



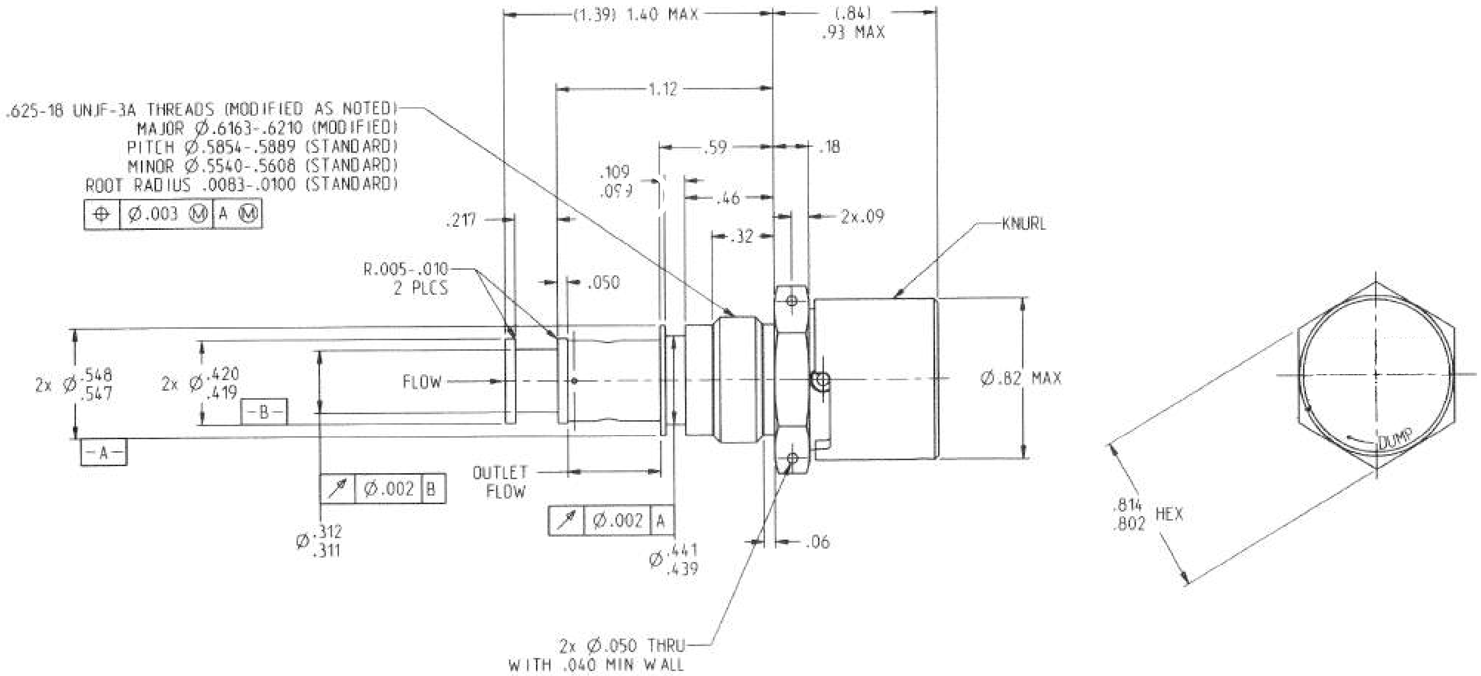
PERFORMANCE SPECIFICATIONS:

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 TP 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 OVERIDE KNOB ROTATION: 210°
WEIGHT: 0.17 LBS MAX
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



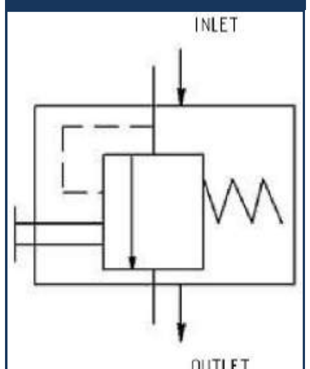
PART NUMBER: 2P5618, MANUAL DEPRESSURIZATION/RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

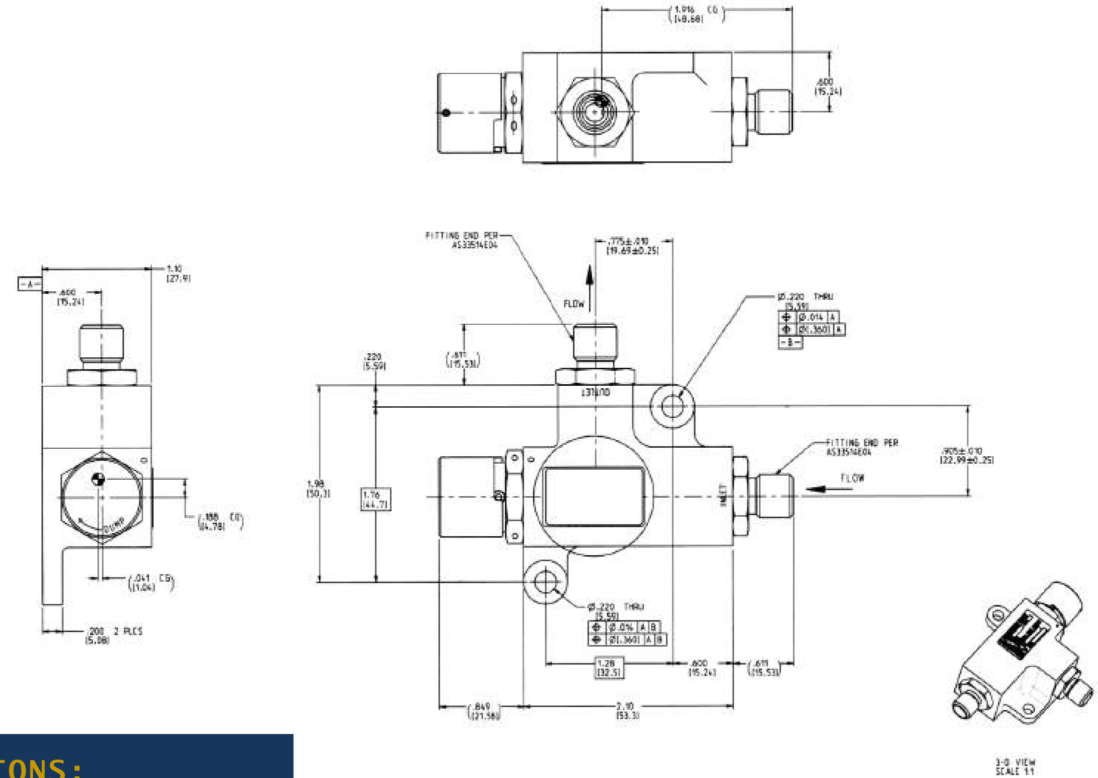
FLUIDS: MIL-PRF-5606*
MATERIAL: BODY 17-4PH
POPPET 440C CRES
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 3000 PSIG (WITH TRANSIENTS UP TP 3750 PSIG)
PROOF PRESSURE: 5400 PSIG
CRACKING PRESSURE: 3600 PSID MAX AT 20 CC/MIN
FLOW: RELIEF: 3600 PSID MAX AT 0.24 GPM MIN AND 100±20°F
MANUAL BLEED: 3000 PSID MAX AT 0.17 GPM MIN AND 100±20°F
RESEAT PRESSURE: 3200 PSID MAX AT 10 CC/MIN
INTERNAL LEAKAGE: 1 DPM MAX AT 3000 PSID
ZERO LEAKAGE AT 2000 PSID
WEIGHT: 0.17 LBS MAX
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



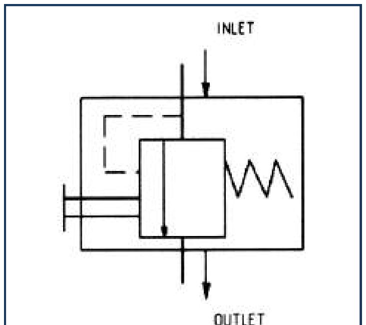
CATEGORY 6: MANUAL OPERATED VALVES - MANUAL DUMP WITH THERMAL RELIEF VALVES

PART NUMBER: 2P5622 ,DUMP/THERMAL RELIEF VALVE



PERFORMANCE SPECIFICATIONS:

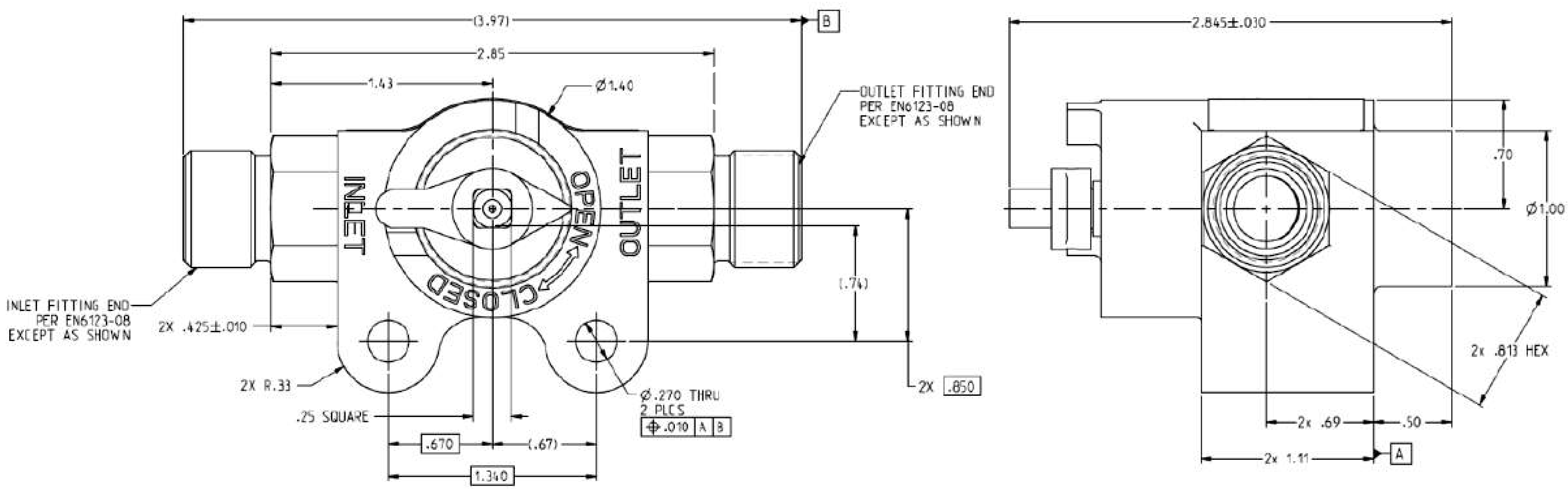
FLUIDS: SKYDROL*
MATERIAL: HOUSING 7075-T73 AL
TEMPERATURE RANGE: -65°F TO 225°F
OPERATING PRESSURE: 3000 PSIG
TRANSIENT PRESSURE (DURING NORMAL OPERATION: 3750 PSIG
PROOF PRESSURE: 4500 PSIG
CRACKING PRESSURE: 3600 PSID MIN
FLOW: RELIEF: 0.24 GPM MIN AT 3750 PSID
MANUAL DUMP: 0.6 GPM MINIMUM AT 3000 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



HYDRAULIC SCHEMATIC

CRISSAIR INC.

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

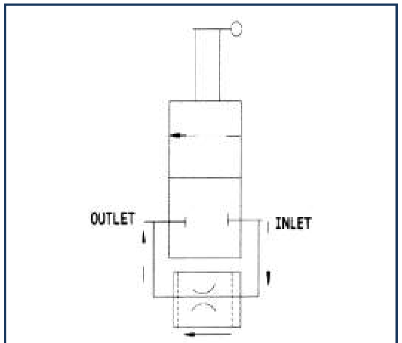
FLOW: 7.92 GPM AT 7.25 PSID MAX

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

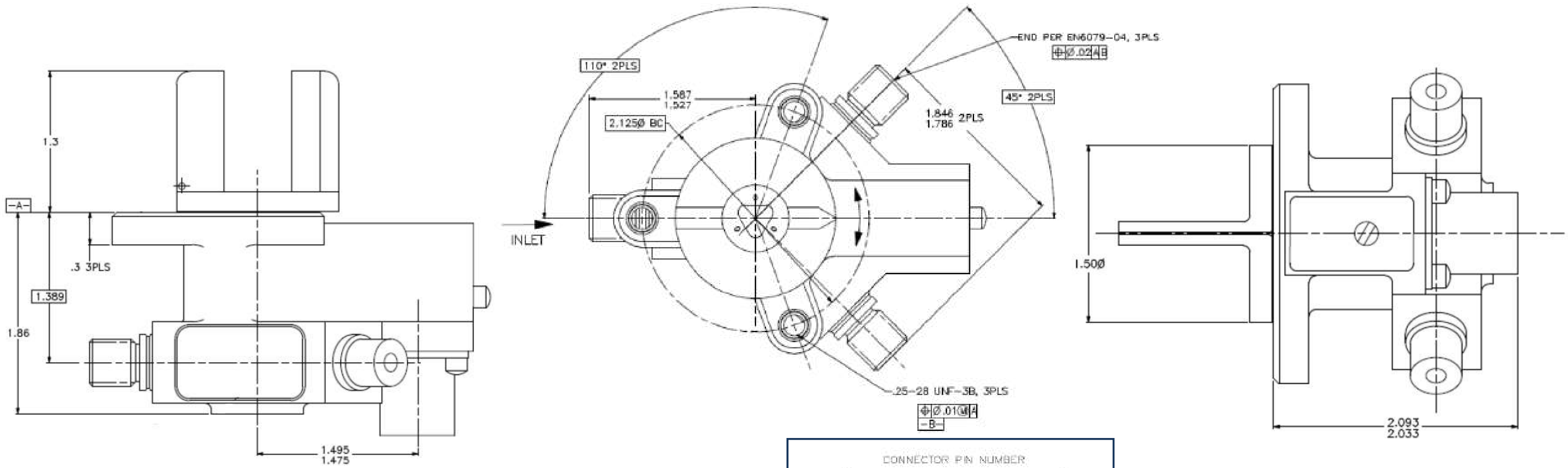
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC

PART NUMBER: 3P1050 ,FILL SELECTOR VALVE

CRISSAIR INC.



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

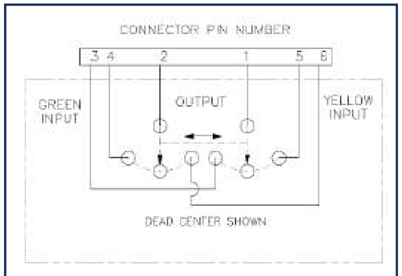
LEAKAGE: 4 DPM MAX AT CLOSED PORTS WITH 290 PSIG AT INLET PORT

ELECTRICAL: ELECTRICAL CONNECTOR PER EN2997YE01006M7
DIELECTRIC STRENGTH: 0.5 MILLIAMPS MAX @ 500VAC
CURRENT: 1.0 AMPS MAX CARRY UP TO 125VAC

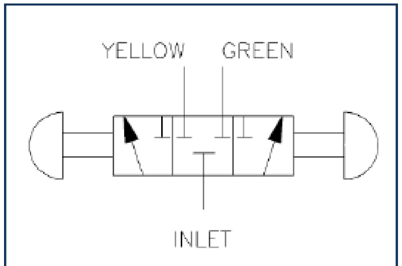
HANDLE TORQUE: OPERATING 10 IN-LBS MAX AT 100 PSID,
STOPS 110 IN-LBS MAX

WEIGHT: 0.71 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



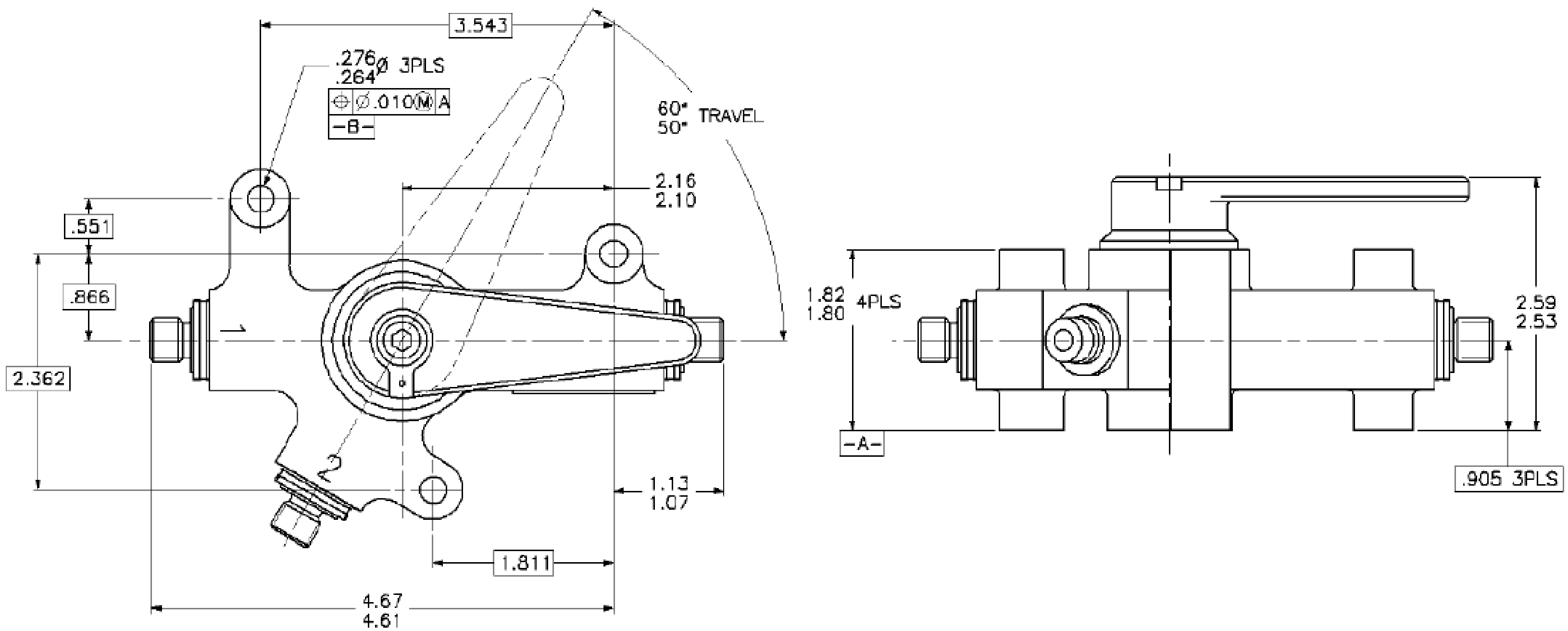
ELECTRICAL SCHEMATIC



HYDRAULIC SCHEMATIC

CATEGORY 6: MANUAL OPERATED VALVES

PART NUMBER: 3P1054 ,SELECT VALVE, HIGH PRESSURE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-83282*

MATERIAL: HOUSING 6AL-4V TI

TEMPERATURE RANGE: -40°F TO 275°F

OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 6000 PSIG

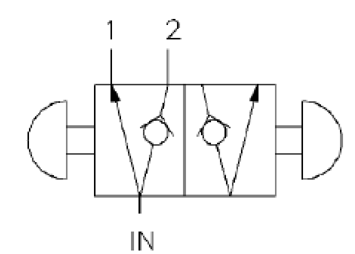
FLOW: PORT "IN" TO "1"; 1 GPM AT 50 PSID MAX
PORT "IN" TO "2"; 1 GPM AT 50 PSID MAX

INTERNAL LEAKAGE: WITH PORT "IN" AT 4000 PSID, CLOSED PORT 25 CC/MIN MAX

SHAFT OPERATING TORQUE: NOT GREATER THAN 45 IN-LBS AT 4000 PSID
NOT LESS THAN 6 IN-LBS AT 0 PSID

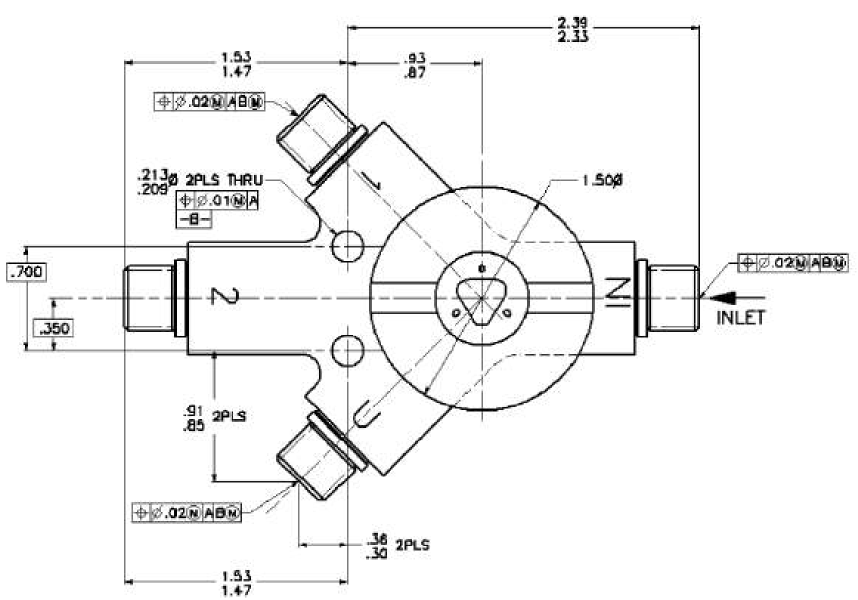
WEIGHT: 2.4 LBS MAX

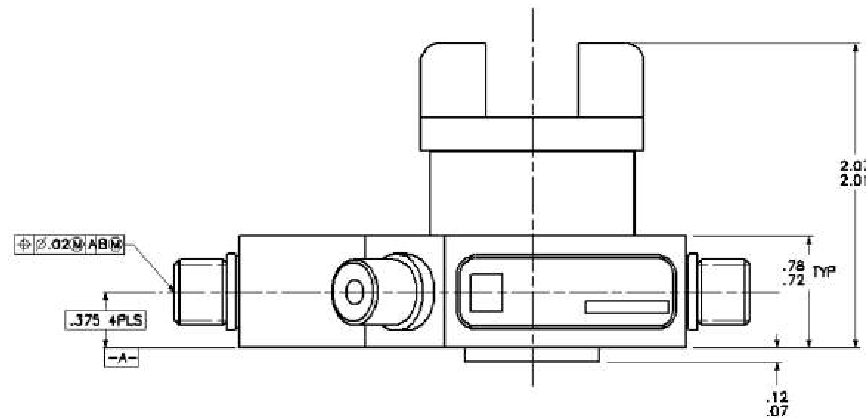
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC

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

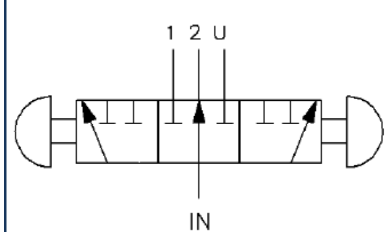
LEAKAGE: EXTERNAL: TO BE 1 DROP MAX IN 25 CYCLES AND ZERO DROPS IN 12 HOURS WITH 7.5 ± 2.5 PSIG APPLIED AT INLET PORT

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

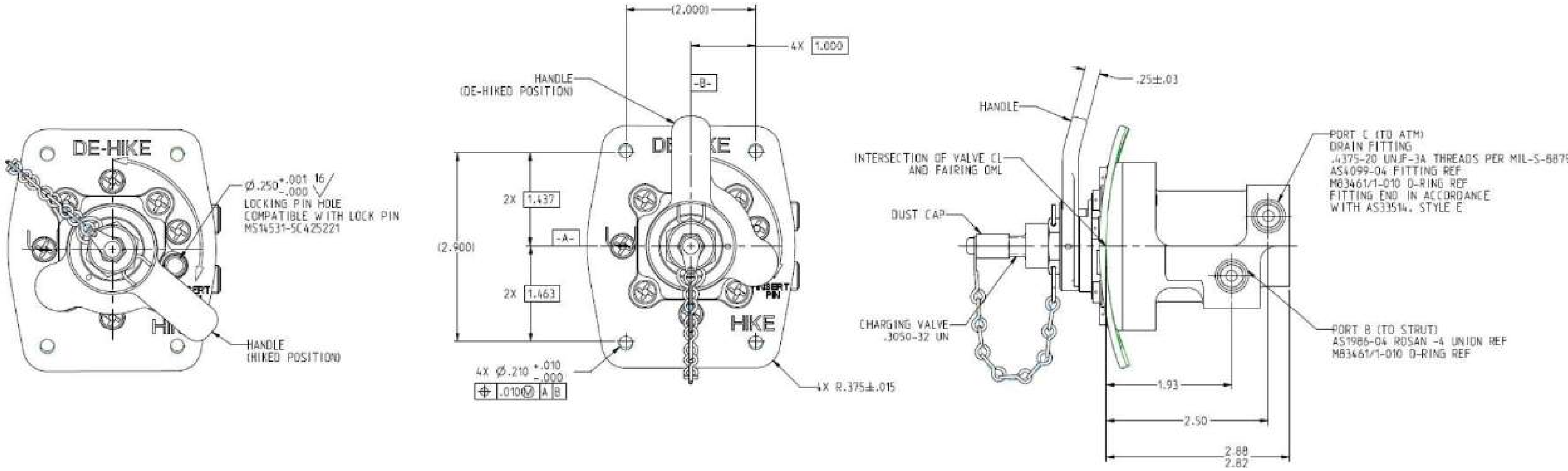
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC

CATEGORY 6: MANUAL OPERATED VALVES

PART NUMBER: 3P1058 ,HIKE SELECT VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: DRY AIR OR NITROGEN PER MIL-PRF-27401

MATERIAL: HOUSING 7075-T73 OR 7351

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 2800 PSIG

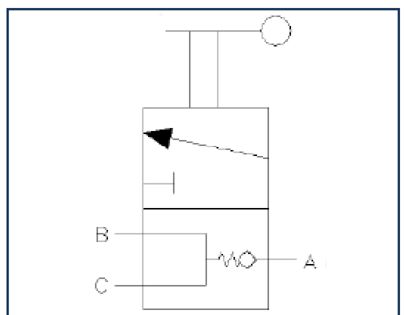
PROOF PRESSURE: 4500 PSIG

FLOW: PRESSURIZE 110 CUBIC INCHES IN 12 SEC'S (PORT A TO B),
DEPRESSURIZE 110 CUBIC INCHES IN 9.5 SEC'S (PORT B TO C)

LEAKAGE: 5 PSIG MAX LOSS OVER 2 HOURS FROM 110 CUBIC INCHES INITIALLY PRESSURIZED TO 2000 PSIG

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

WEIGHT: 1.80 LBS MAX



HYDRAULIC SCHEMATIC

CATEGORY 6: MANUAL OPERATED VALVES

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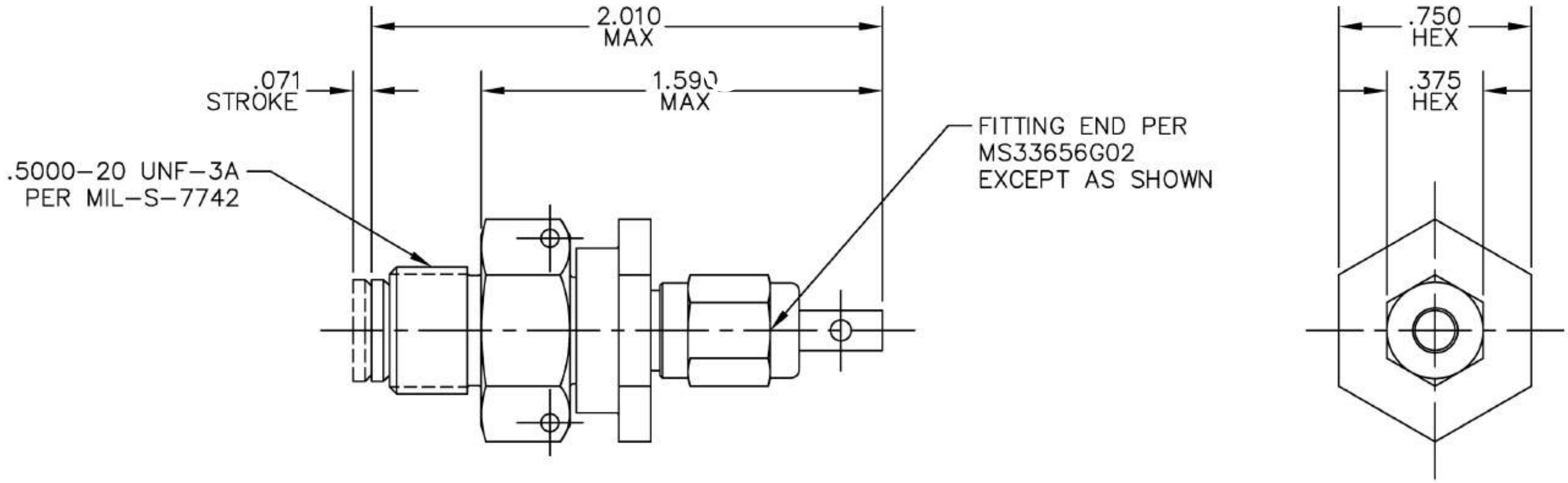
CRISSAIR INC.

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

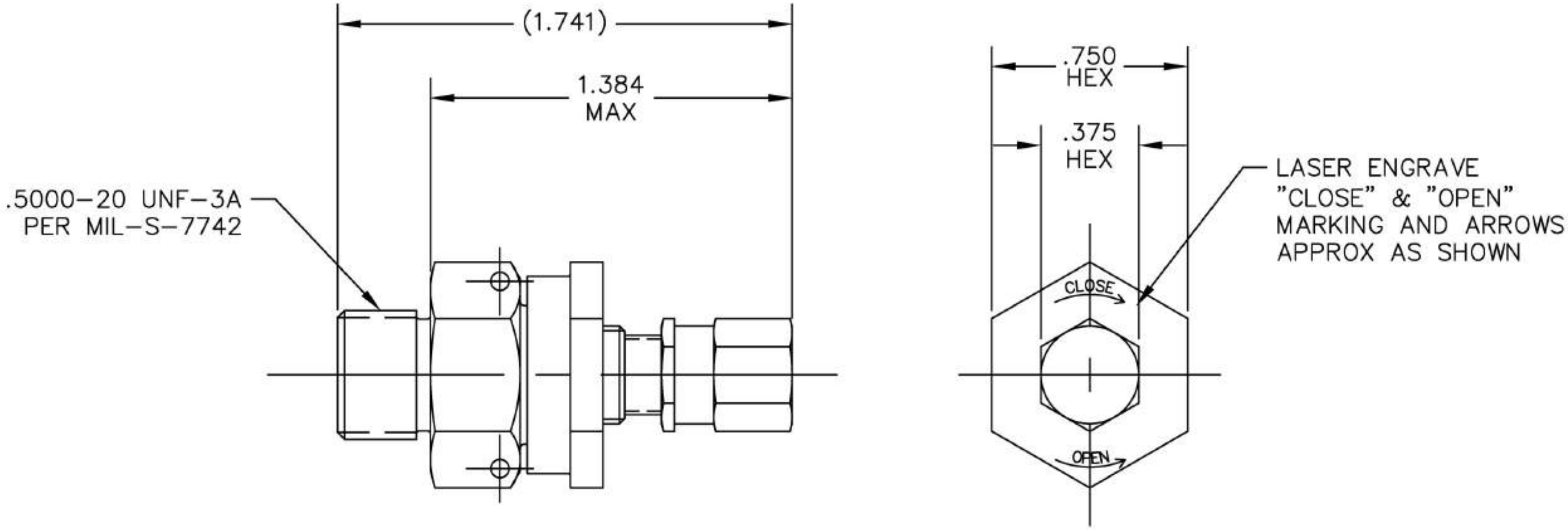
PROOF PRESSURE: 800 PSIG

FLOW: 5 LB/MIN H_2O 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

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



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR AND GN_2

MATERIAL: BODY 304 CRES

NUT 303SE CRES

TEMPERATURE RANGE: -65°F TO 250°F

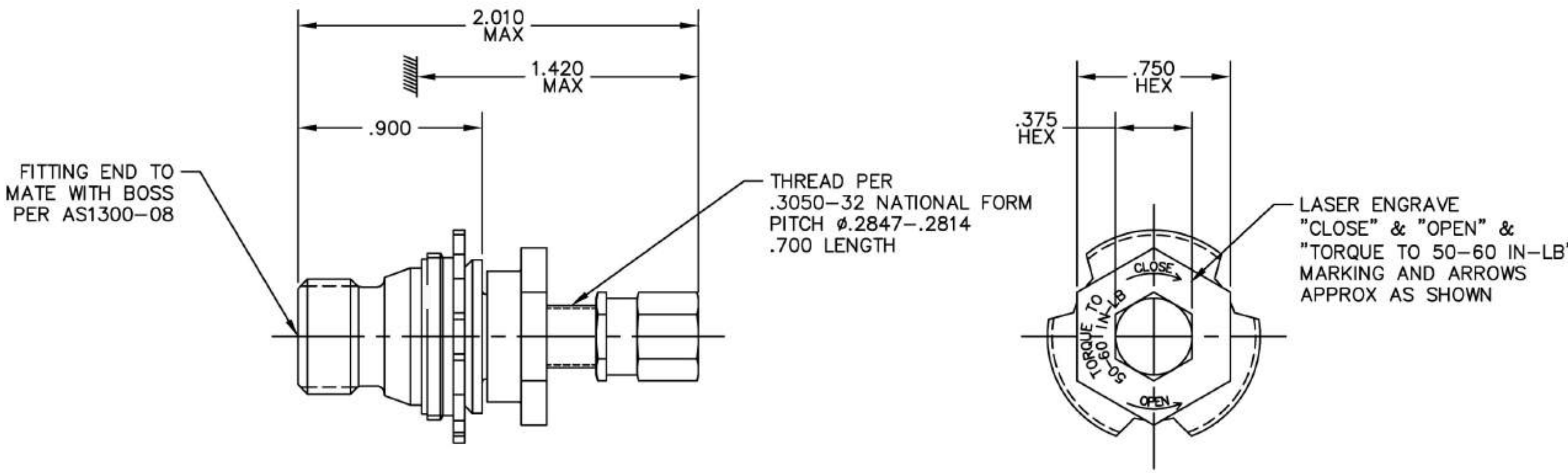
OPERATING PRESSURE MINIMUM: 5000 PSIG

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

PART NUMBER: 2P5184, CHARGING VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR AND NITROGEN

MATERIAL: BODY 17-4PH CRES

NUT 303SE CRES

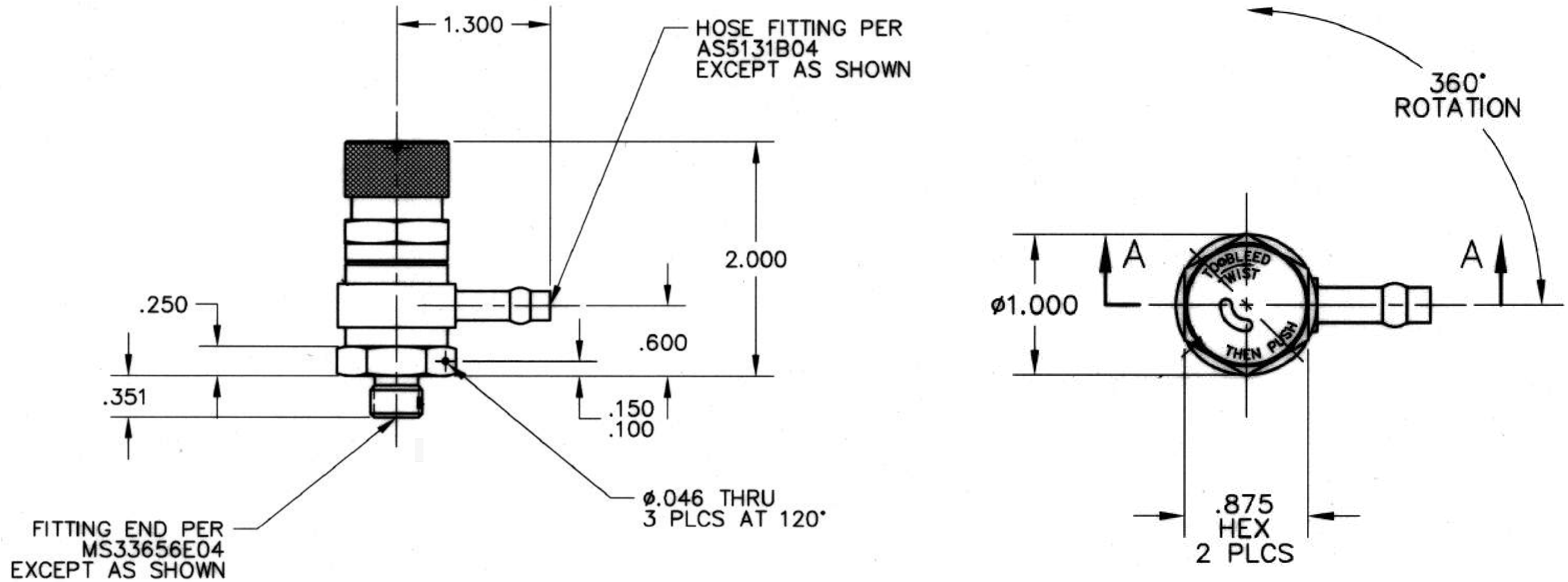
TEMPERATURE RANGE: -65°F TO 250°F

OPERATING PRESSURE: 5400 PSIG

PROOF PRESSURE: 10800 PSIG

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

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

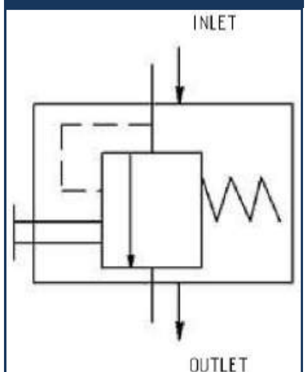
FLOW: 8.0 GPM AT 300 PSID MAX AT 77°F (RELIEF MODE)
1.8 GPM MIN AT 50 PSID MAX AT 77°F (BLEED MODE)

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

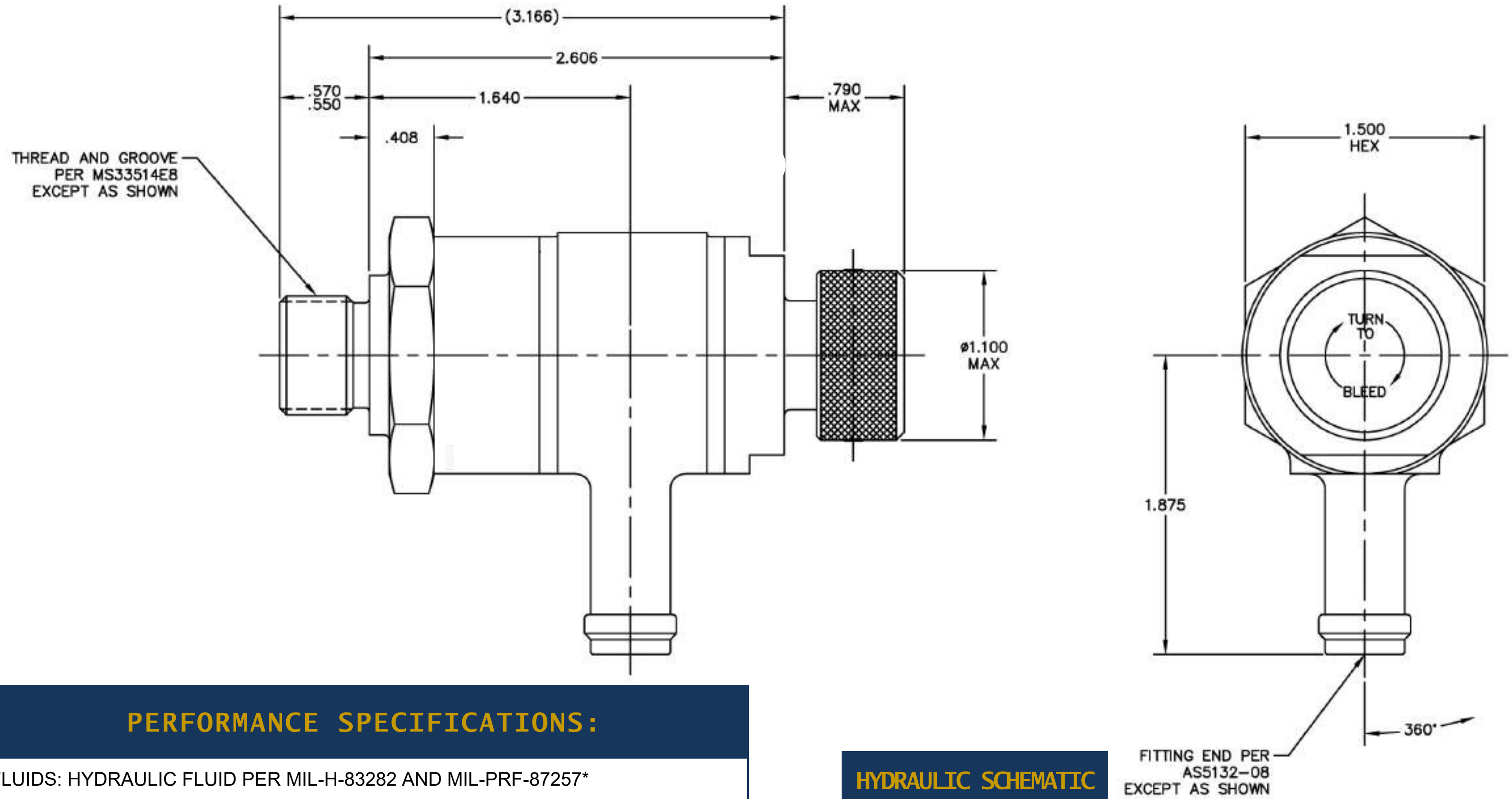
WEIGHT: 0.18 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

HYDRAULIC SCHEMATIC



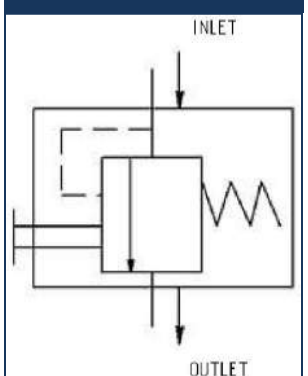
PART NUMBER: 2P5396, RELIEF VALVE WITH MANUAL BLEED



PERFORMANCE SPECIFICATIONS:

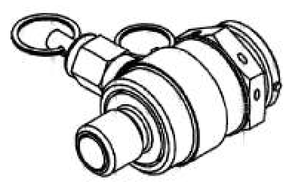
FLUIDS: HYDRAULIC FLUID PER MIL-H-83282 AND MIL-PRF-87257*
MATERIAL: BODY 2024-T351 AL
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 150 PSIG
PROOF PRESSURE: 225 PSIG
RELIEF PRESSURE: 100 PSID REF
RESEAT PRESSURE: 80 PSID MIN
FLOW: FULL FLOW OF 7 GPM AT 125 PSID MAX (RELIEF MODE)
3 GPM AT 30 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

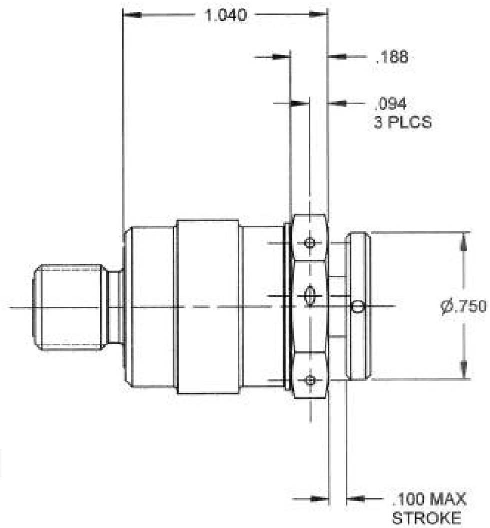


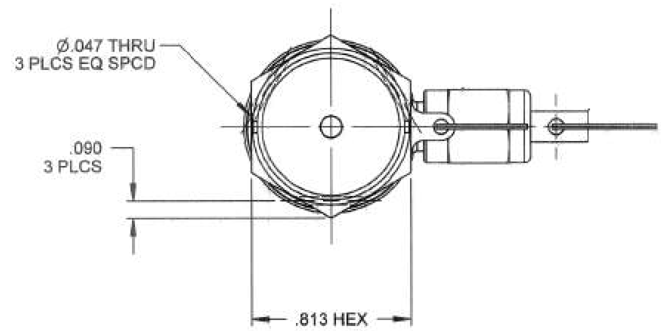
CRISSAIR INC.

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

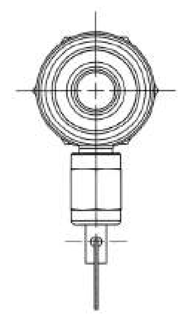
PROOF PRESSURE: 3100 PSIG

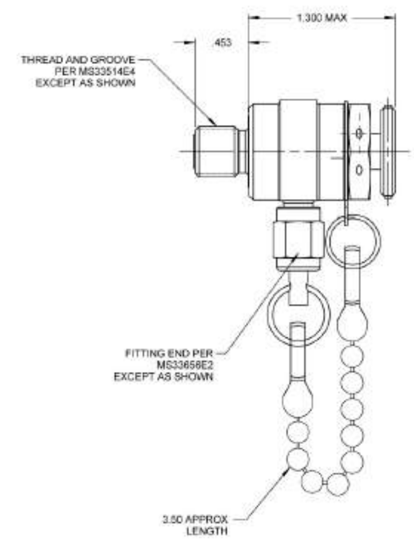
INTERNAL LEAKAGE: 1 DPM MAX AT 5 PSID
NONE AT 100 TO 1550 PSID

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

WEIGHT: 0.19 LBS MAX

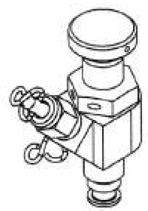
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



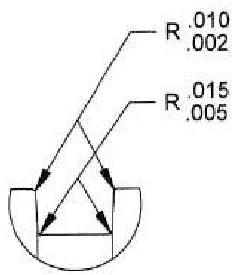


CATEGORY 6: MANUAL OPERATED VALVES

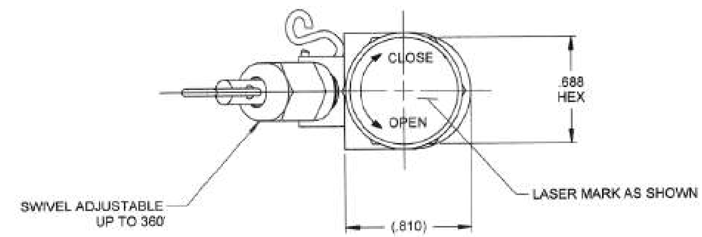
PART NUMBER: 2P5406, SAMPLING VALVE

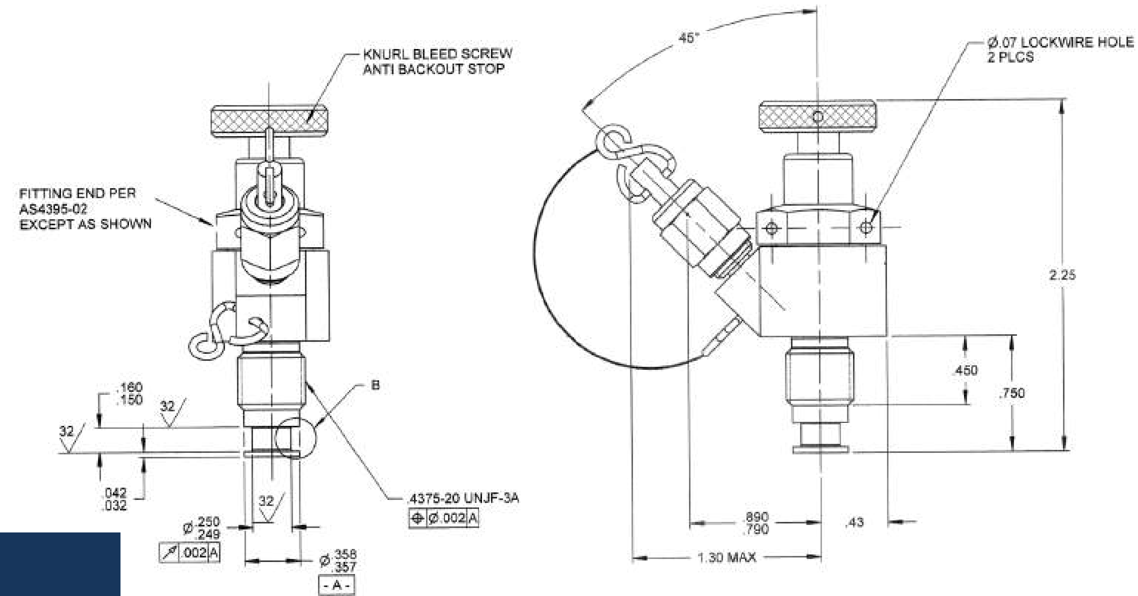


ISOMETRIC VIEW
FOR REFERENCE ONLY



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

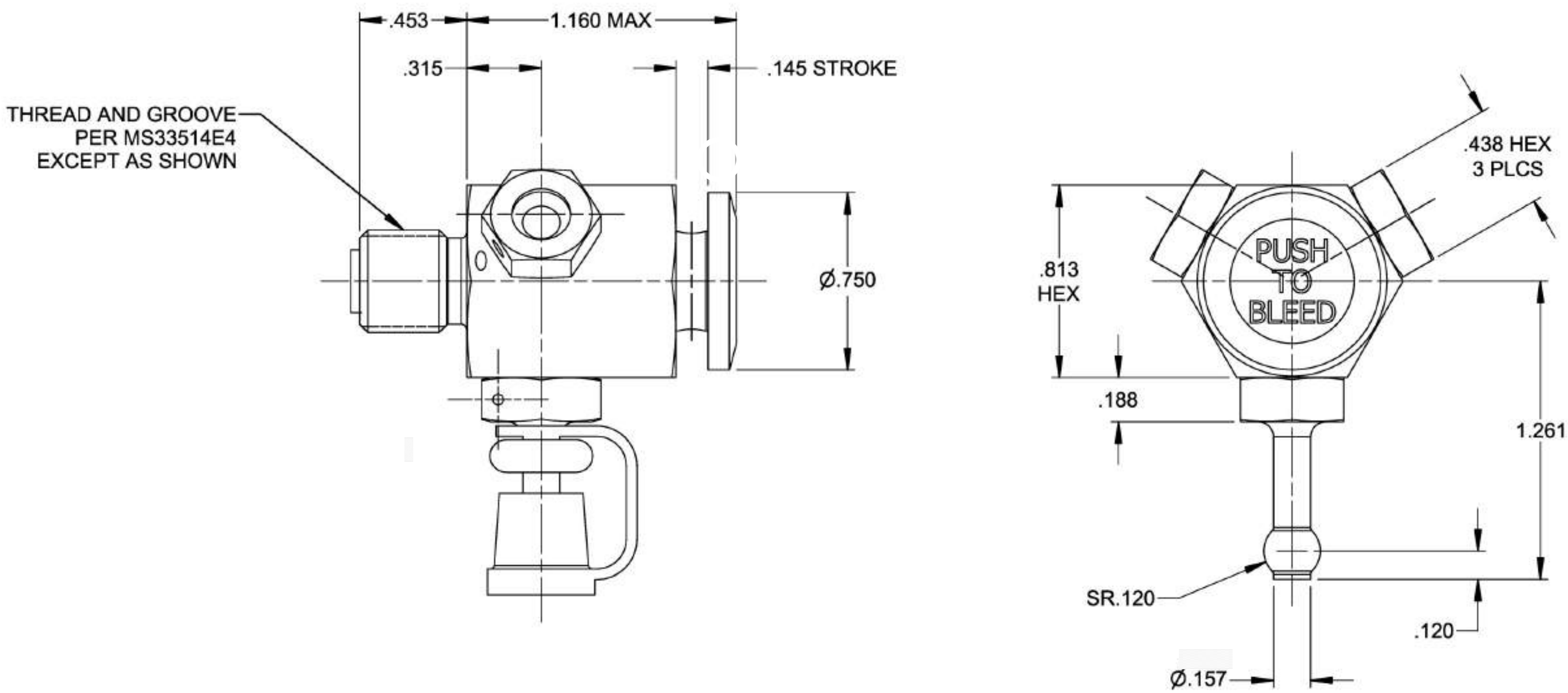
INTERNAL LEAKAGE: NONE IN CLOSED POSITION FROM 0 TO 5076 PSID

WEIGHT: 0.22 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CRISSAIR INC.

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

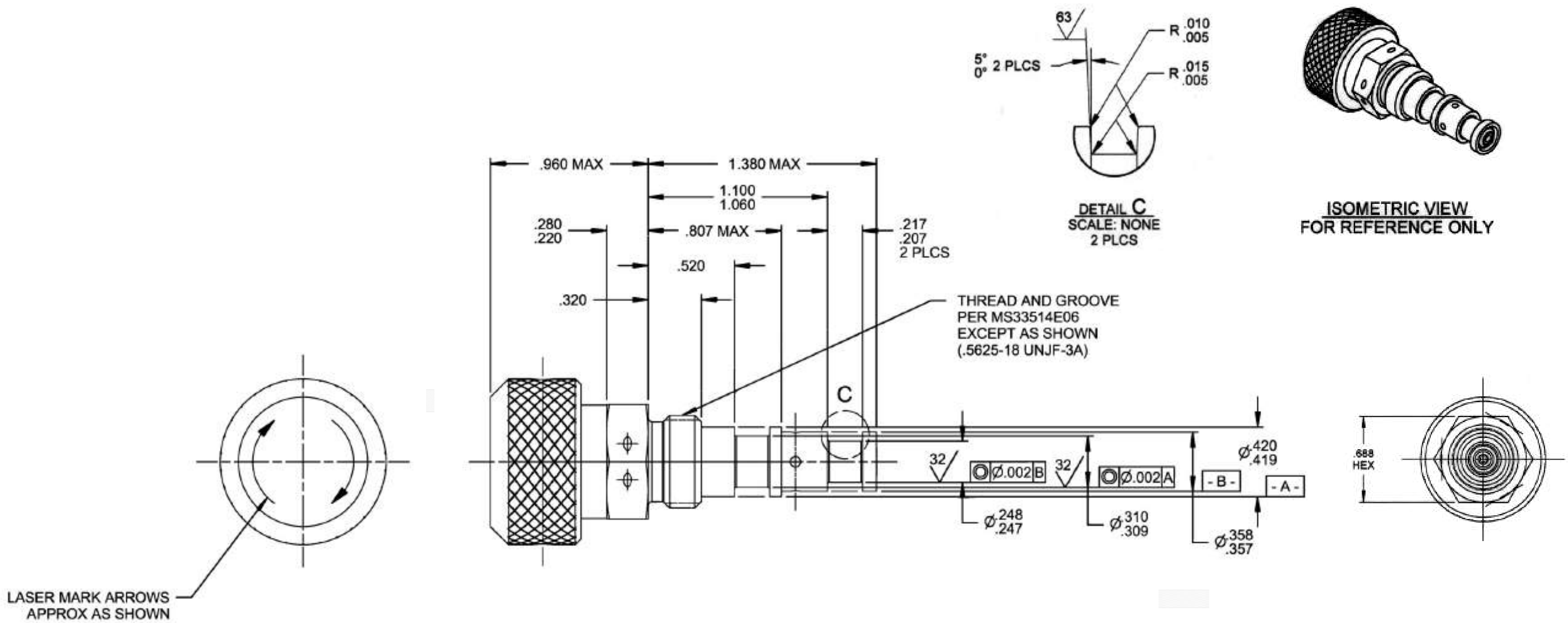
INTERNAL LEAKAGE: NONE AT 5 TO 1500 PSID

WEIGHT: 0.079 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

ISOMETRIC VIEW
FOR REFERENCE ONLY

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 IN^3 IN 2 SECONDS

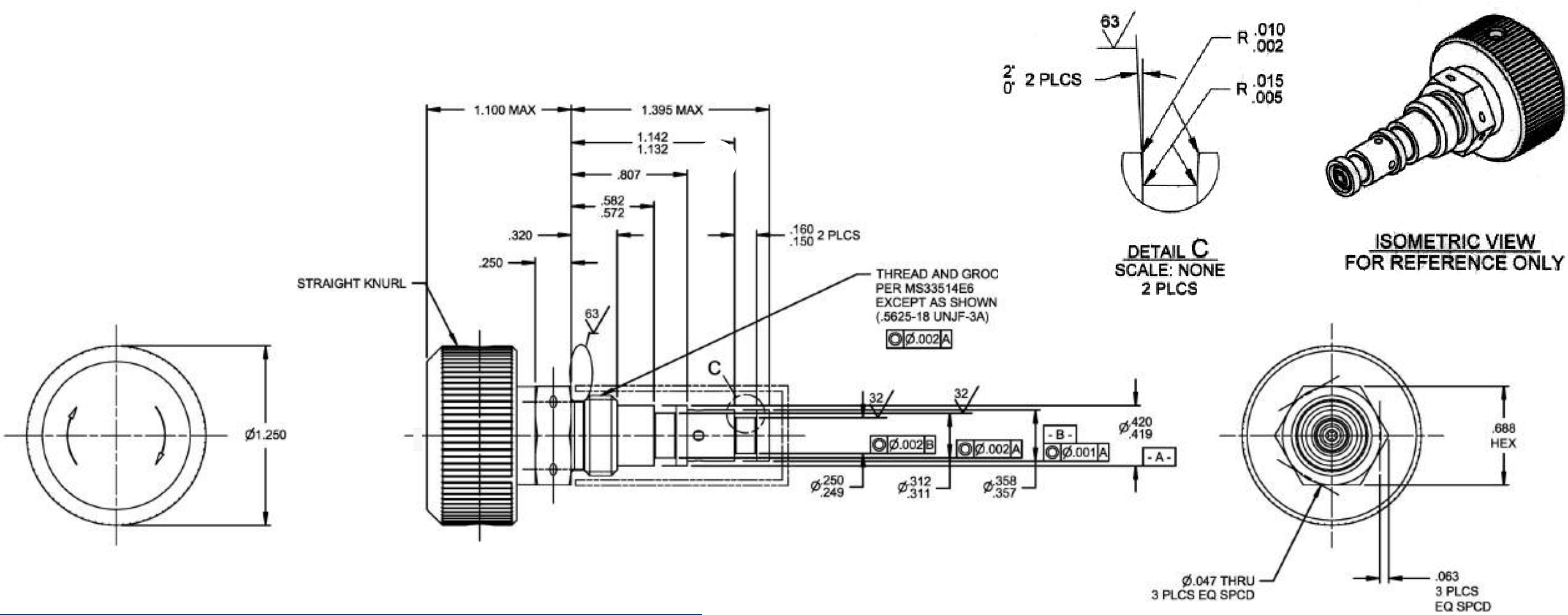
INTERNAL LEAKAGE: 1 DPH MAX AT 3100 PSIG

WEIGHT: 0.40 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CRISSAIR INC.

PART NUMBER: 2P5614, MANUAL DECOMPRESSION VALVE



PERFORMANCE SPECIFICATIONS:

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

MATERIAL: BODY: 15-5PH CRES

POPPET 440C CRES

TEMPERATURE RANGE: -104°F TO 203°F

OPERATING PRESSURE: 5075 PSIG

PROOF RETURN PRESSURE: 5075 PSIG

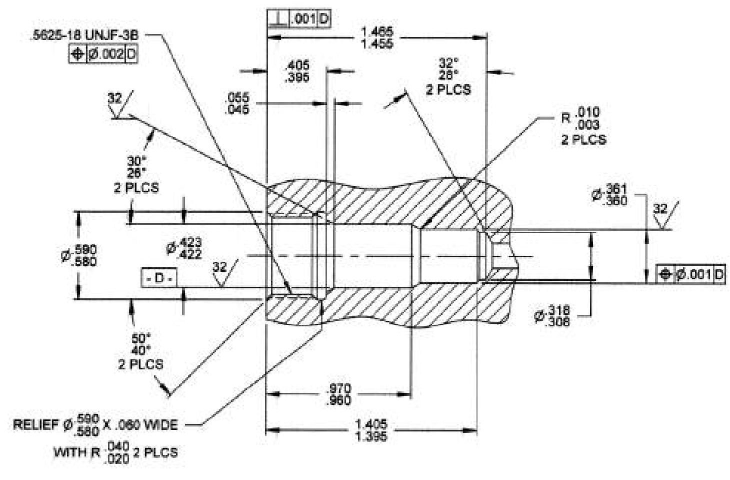
PROOF SUPPLY PRESSURE: 8700 PSIG

FLOW: 3.2 GPM MINIMUM AT 5075 PSIG SUPPLY, 174 PSIG RETURN AND FLUID TEMPERATURE OF 100°F

INTERNAL LEAKAGE: 1 DPM MAX AT (5075 PSIG) SUPPLY AND ZERO RETURN

WEIGHT: 0.20 LBS MAX

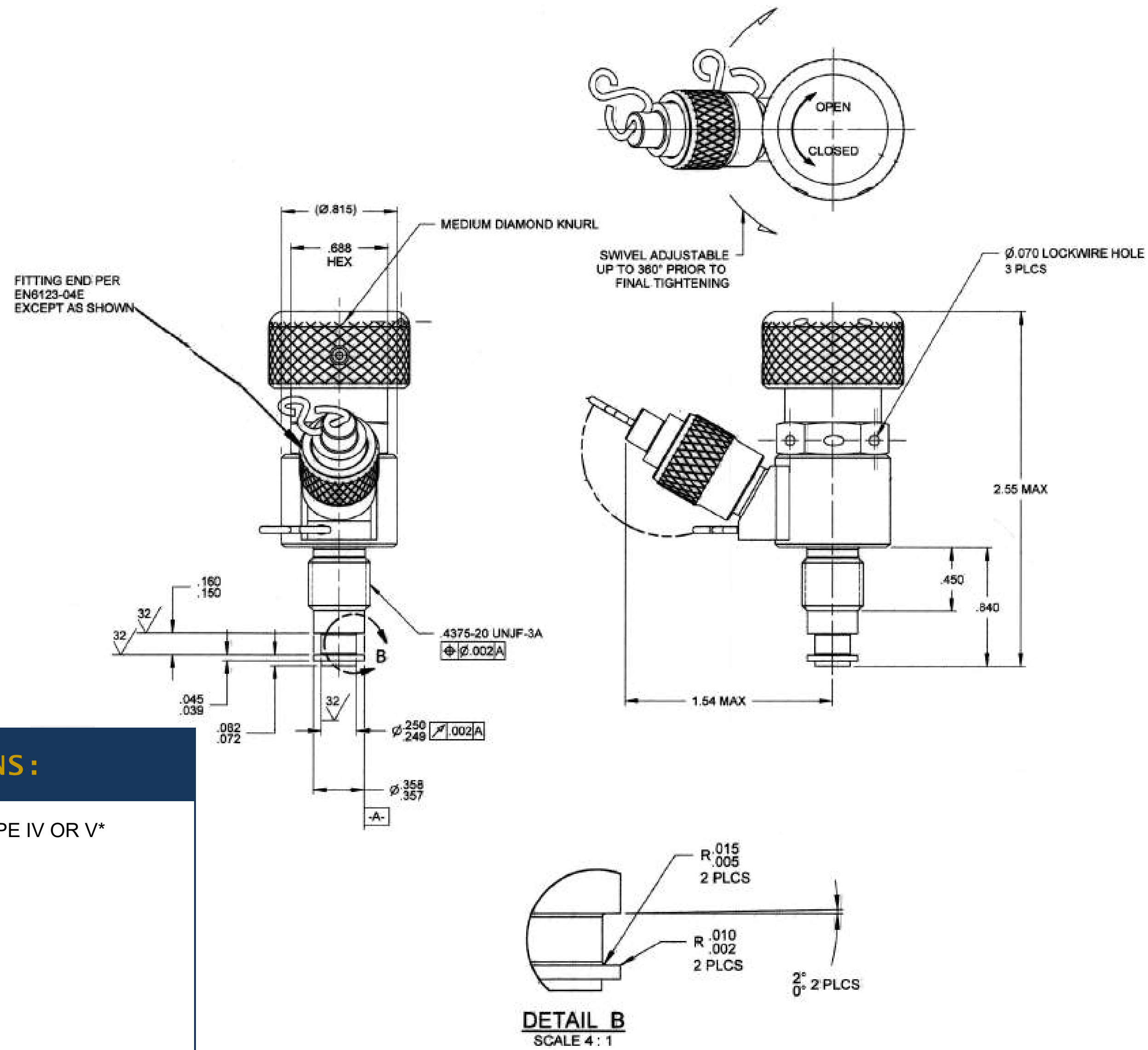
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



INSTALLATION CAVITY

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

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.

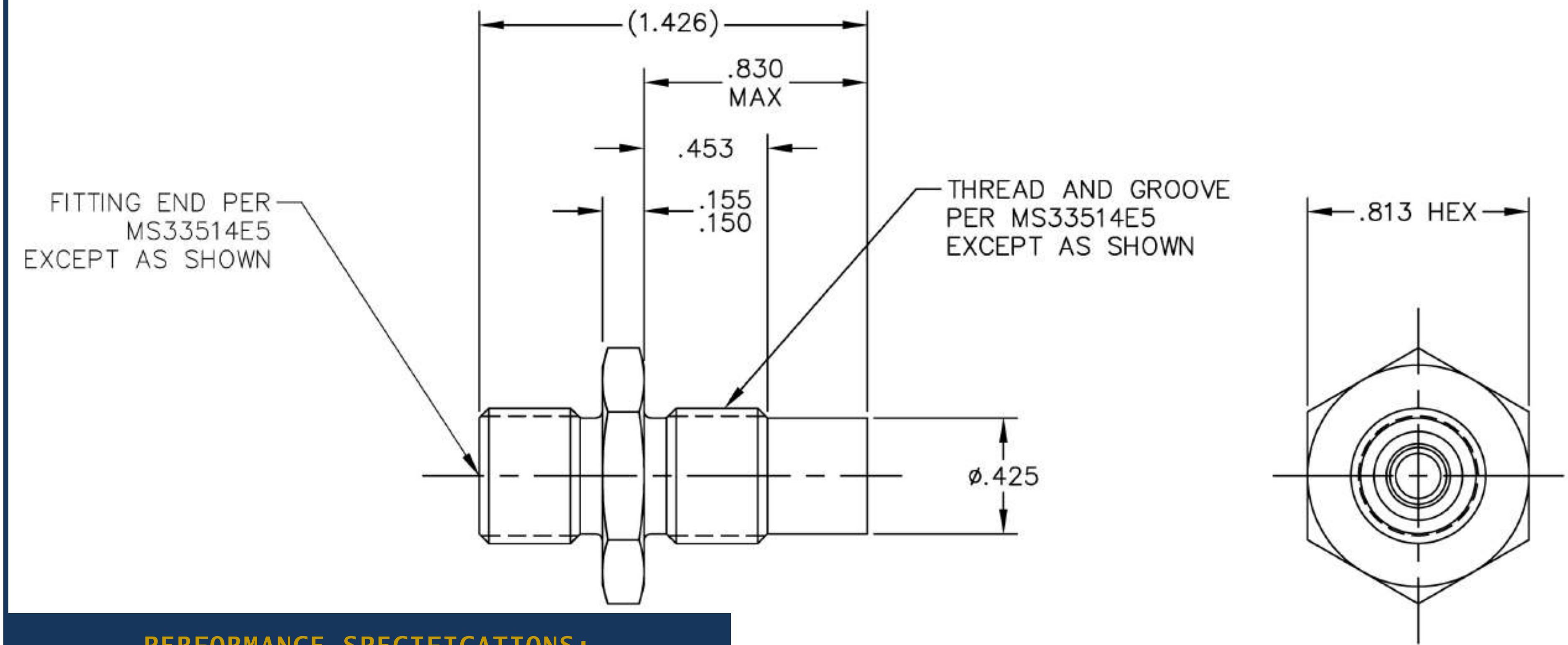
CRISSAIR INC.

FUSES/DRAIN VALVES

- Flow Fuses, also called Drain Valves for some applications, are designed to remain open and allow free flow until the differential pressure across the valve increases beyond a specified value.
- Flow Fuses are used to stop the flow of fluid in the event of a sudden increase in flow beyond allowable limits, often times caused by a line or component failure downstream. The Flow Fuse Valve will protect the system from rapidly losing fluid.
- Drain Valve applications generally drain residual fluid from depressurized systems, but close and remain closed when system pressures are in the normal operating ranges.

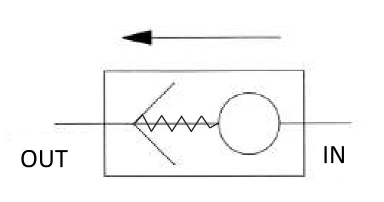
This catalog contains a small sample of drawings. Please contact Crissair for additional drawings and/or configurations.

PART NUMBER: 2D2450, FLOW FUSE



PERFORMANCE SPECIFICATIONS:

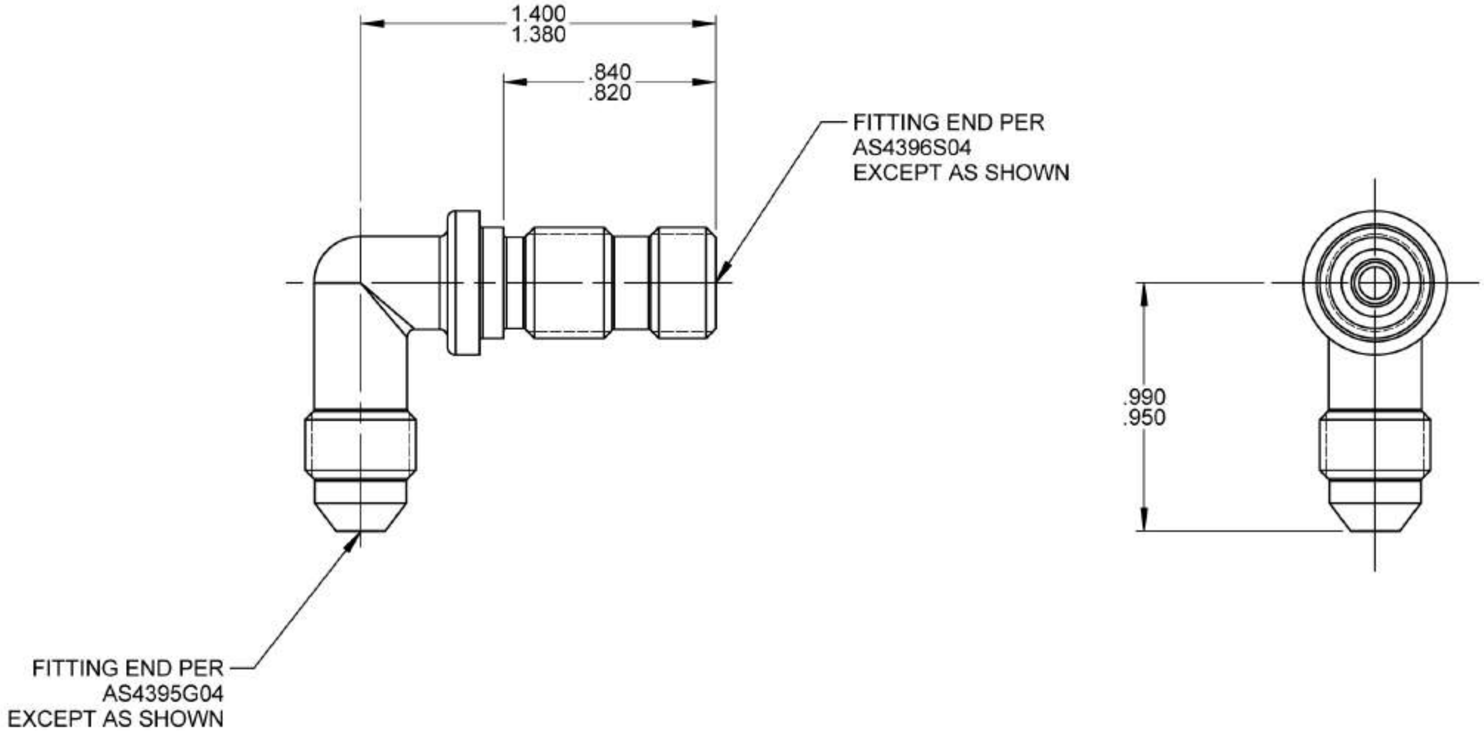
FLUIDS: ANY AIRCRAFT HYDRAULIC, LUBRICATION, OR FUEL FLUID
MATERIAL: BODY 15-5PH CRES
POPPET PH13-8MO CRES
TEMPERATURE RANGE: (FLUID OPERATING) –67°F TO 230°F
(AMBIENT OPERATING) –67°F TO 158°F
(FLUID NON-OPERATING) –67°F TO 248°
(AMBIENT NON-OPERATING) –67°F TO 185°F
OPERATING PRESSURE: 2150-2350 PSIG
8500 PSIG SPIKES
PROOF PRESSURE: 8500 PSIG FOR 3 MINUTES
CLOSING PRESSURE: 5 TO 15 PSID
FLOW: 2.6 GPM AT 50 PSID MAX USING MIL-PRF-87257 AT 70°F
INTERNAL LEAKAGE: 1 CC/H MAX AT 1000 PSID
WEIGHT: 0.070 LBS MAX



HYDRAULIC SCHEMATIC

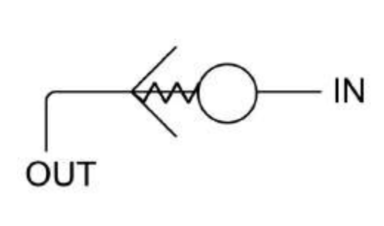
CATEGORY 7: FUSE/DRAIN VALVES

PART NUMBER: 2D2452, FLOW FUSE



PERFORMANCE SPECIFICATIONS:

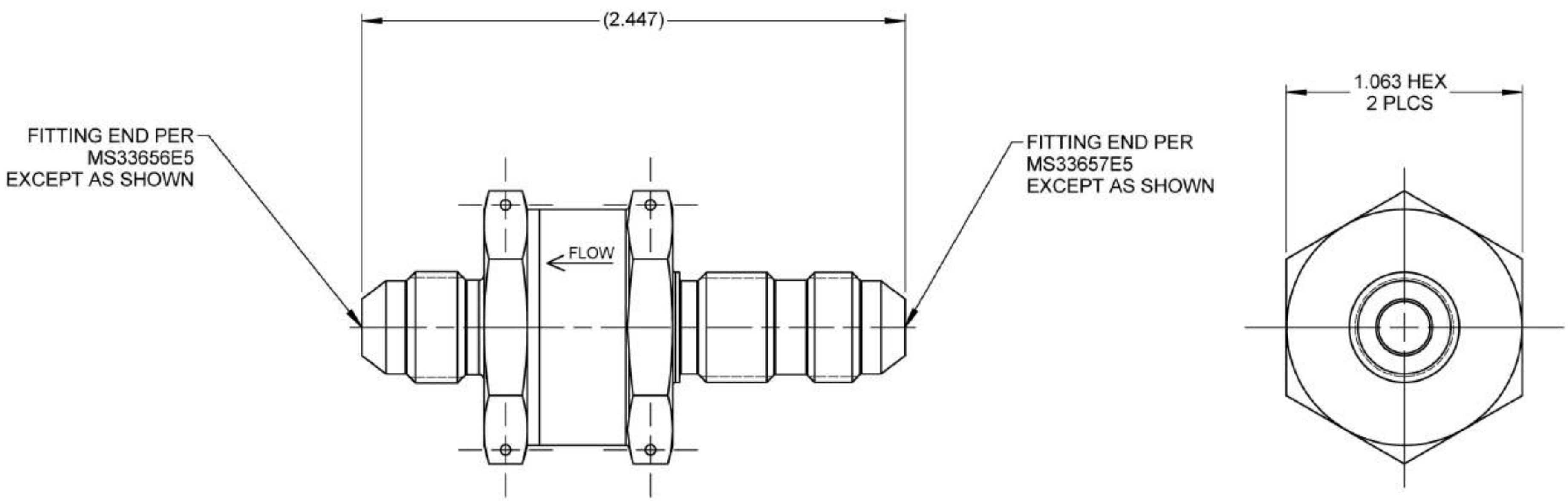
FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS & AIR
MATERIAL: BODY 304 CRES
POPPET 440C CRES
TEMPERATURE RANGE: –65°F TO 500°F
OPERATING PRESSURE: 70 PSIG
PROOF PRESSURE: 105 PSIG
CLOSING PRESSURE: 2 TO 5 PSID
INTERNAL LEAKAGE: 200 CC/MIN OF AIR AT 70 PSID
WEIGHT: 0.087 LBS MAX

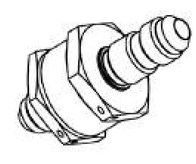


HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 2D2454, DRAIN VALVE





ISOMETRIC VIEW
FOR REFERENCE ONLY

PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS AND AIR

MATERIAL: BODY 321 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 900°F

OPERATING PRESSURE: 0 TO 325 PSIG

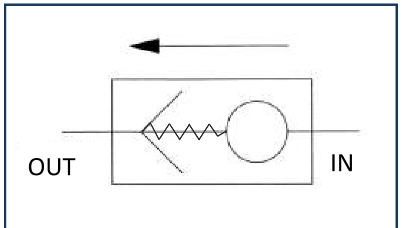
PROOF PRESSURE: 650 PSIG AT 900°F

CLOSING PRESSURE: 8 PSID MINIMUM

REOPEN PRESSURE: 4 TO 8 PSID

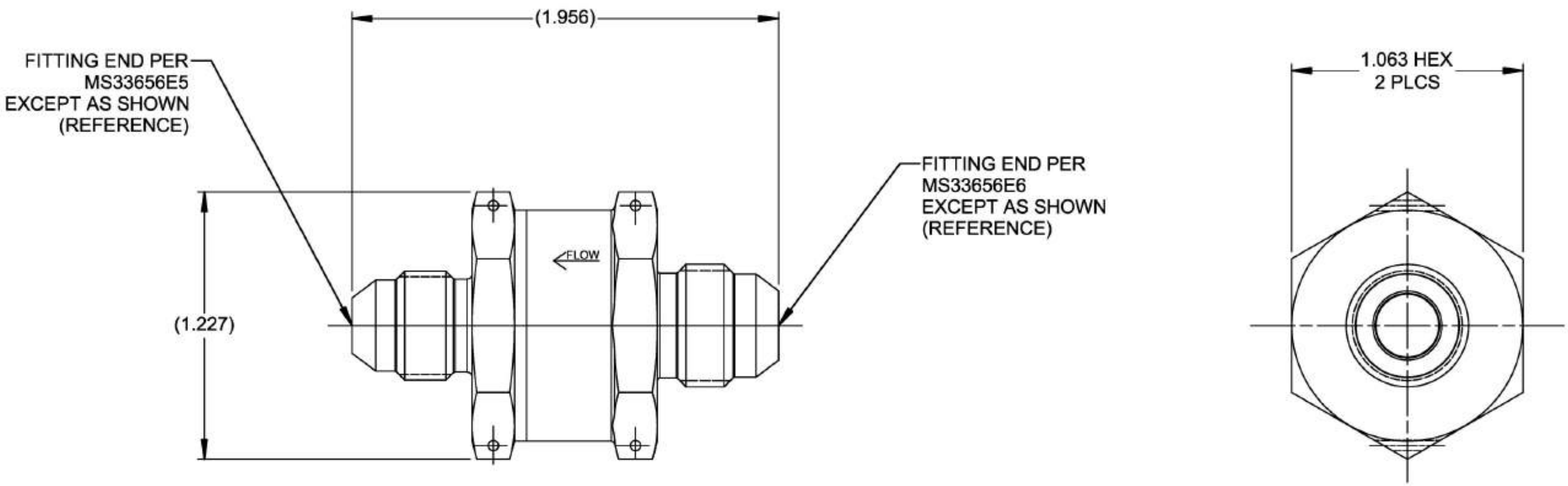
INTERNAL LEAKAGE: 400 SCC/MIN MAX AT 325 PSID

WEIGHT: 0.26 LBS MAX



HYDRAULIC SCHEMATIC

PART NUMBER: 2D2456, DRAIN VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ALL AIRCRAFT HYDRAULIC FLUID AND AIR

MATERIAL: BODY 321 CRES

POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 900°F

OPERATING PRESSURE: 0 TO 325 PSIG

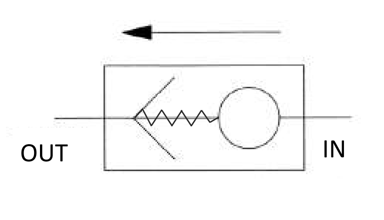
PROOF PRESSURE: 650 PSIG AT 900°F

CLOSING PRESSURE: 8 PSID MINIMUM

REOPEN PRESSURE: 4 TO 8 PSID

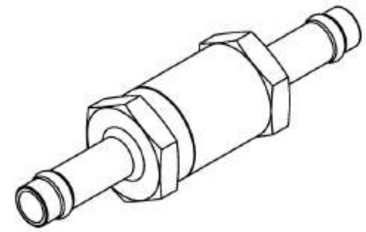
INTERNAL LEAKAGE: 400 SCC/MIN MAX AT 325 PSID AIR

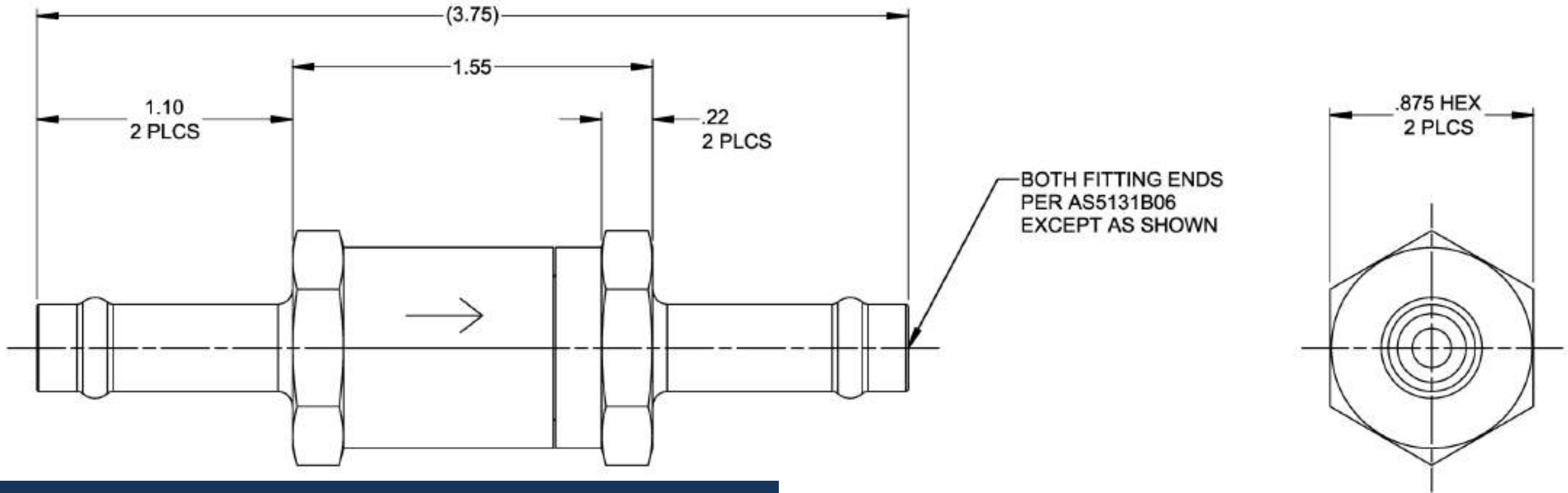
WEIGHT: 0.24 LBS MAX



HYDRAULIC SCHEMATIC

PART NUMBER: 2D2458, DRAIN VALVE





PERFORMANCE SPECIFICATIONS:

FLUIDS: WATER AND AIR

MATERIAL: BODY 2024-T351 AL

TEMPERATURE RANGE: -4°F TO 131°F

OPERATING PRESSURE: -4 TO 9 PSID

PROOF PRESSURE: 13.6 PSID

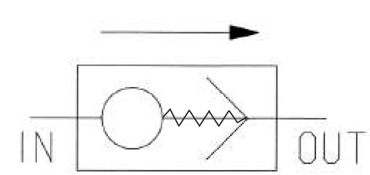
CLOSING PRESSURE: 5 PSID MIN

REOPEN PRESSURE: 5 PSID MAX

FLOW: 20 GPH AT 1 PSIG MIN (WATER FLOWING TO AMBIENT)

INTERNAL LEAKAGE: 1 DPM MAX AT 9 PSIG

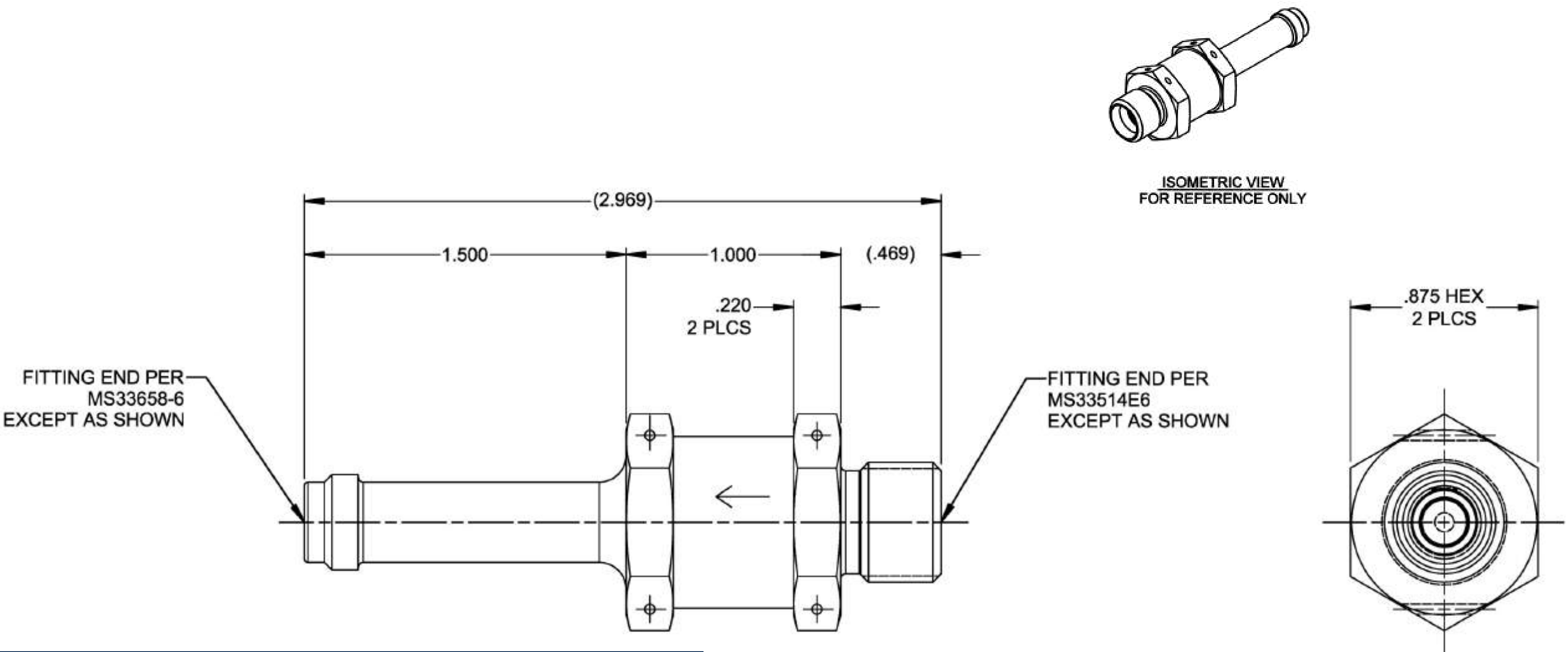
WEIGHT: 0.096 LBS MAX



HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 2D2416, DRAIN VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: WATER AND AIR

MATERIAL: BODY 7075-T73 AL

POPPET 7075-T73 AL

TEMPERATURE RANGE: -65°F TO 122°F

OPERATING PRESSURE: 20 PSIG

PROOF PRESSURE: 30 PSIG

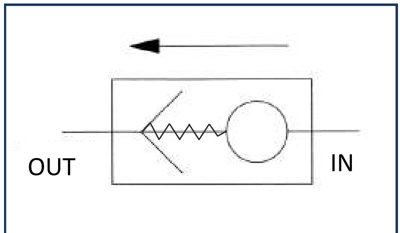
CLOSING PRESSURE: SHALL BE CLOSED FROM 1 TO 30 PSID

RE-OPEN PRESSURE: SHALL BE OPEN BELOW 2 PSID

FLOW: 500 MILLILITERS PER MINUTE MINIMUM AT 20 PSID (WATER)

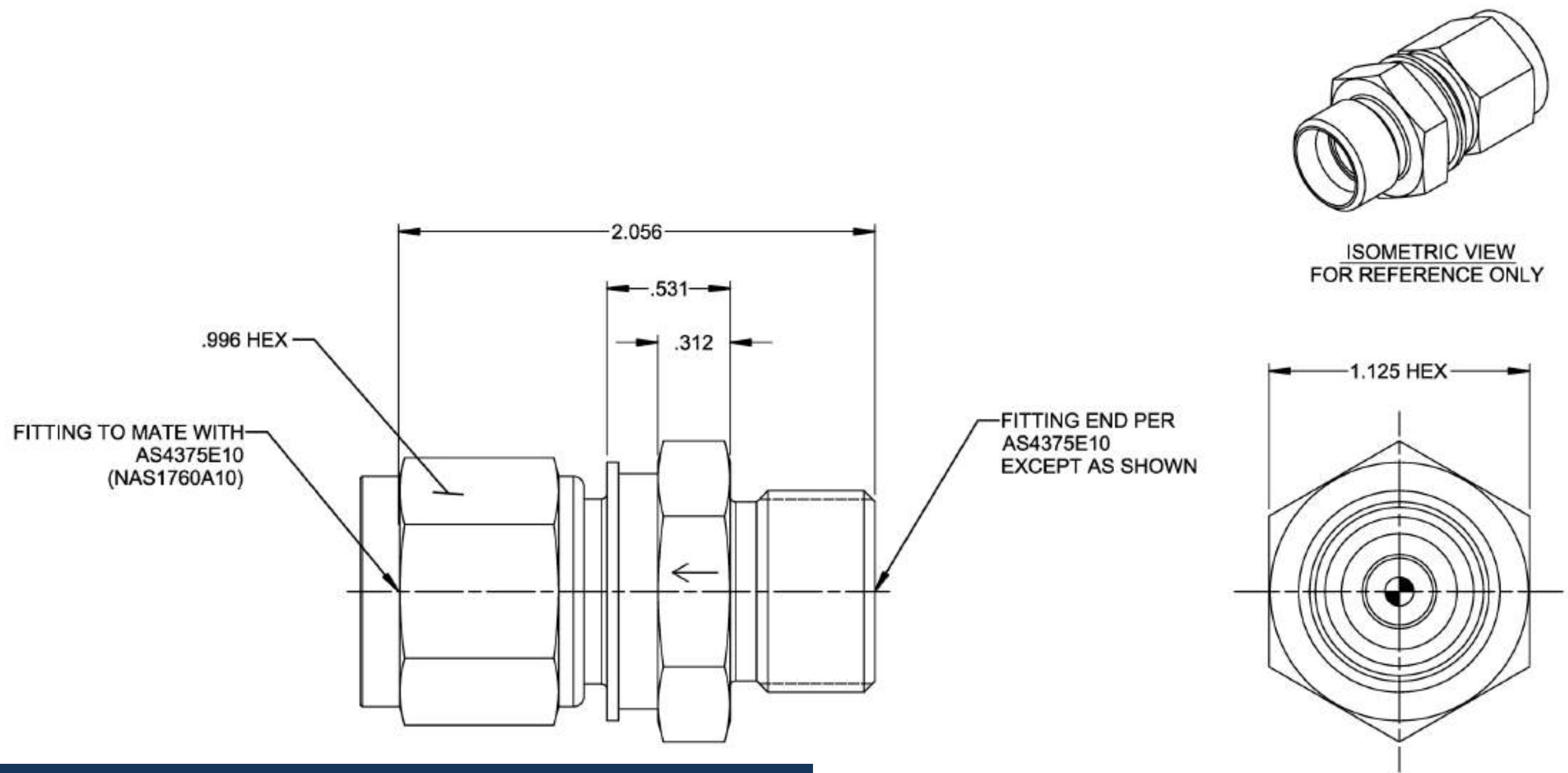
INTERNAL LEAKAGE: 0 AT 10 PSID

WEIGHT: 0.07 LBS MAX



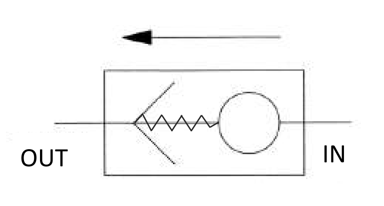
HYDRAULIC SCHEMATIC

PART NUMBER: 2D2420, DRAIN VALVE



PERFORMANCE SPECIFICATIONS:

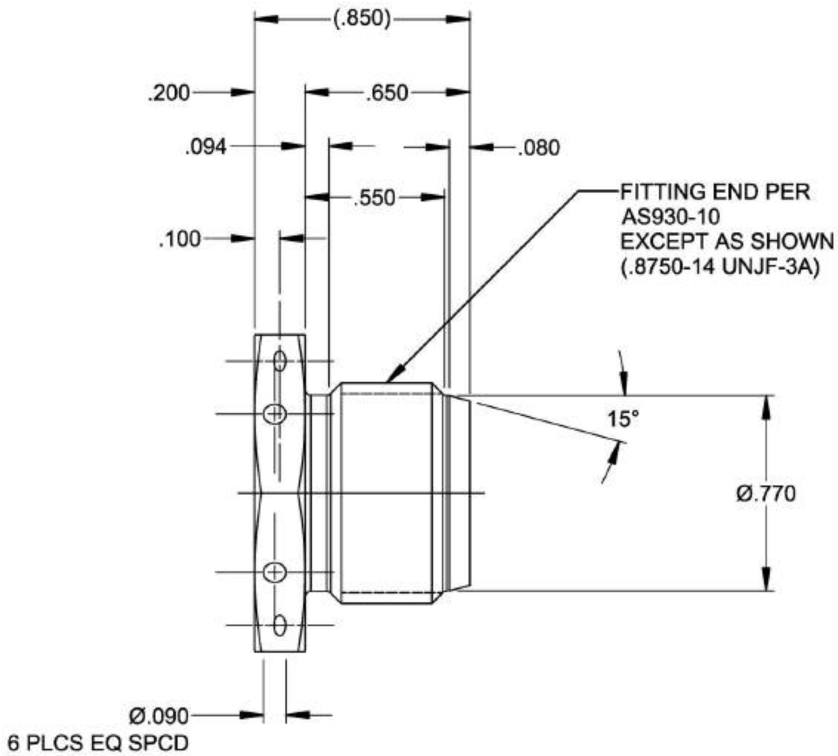
FLUIDS: ALL AIRCRAFT HYDRAULIC FLUIDS
MATERIAL: BODY 15-5PH CRES
POPPET 440C CRES
SWIVEL NUT 304 CRES
TEMPERATURE RANGE: -65°F TO 275°F
OPERATING PRESSURE: 80 PSIG (FLOW DIRECTION)
3000 PSIG (CHECK DIRECTION)
PROOF PRESSURE: 4500 PSIG
CLOSING PRESSURE: 10 TO 15 PSID (CHECK DIRECTION)
FLOW: 16 GPM AT 80 PSID MAX
INTERNAL LEAKAGE (CHECK DIRECTION): 5 DPM MAX AT 15 TO 3000 PSID
WEIGHT: 0.372 LBS MAX



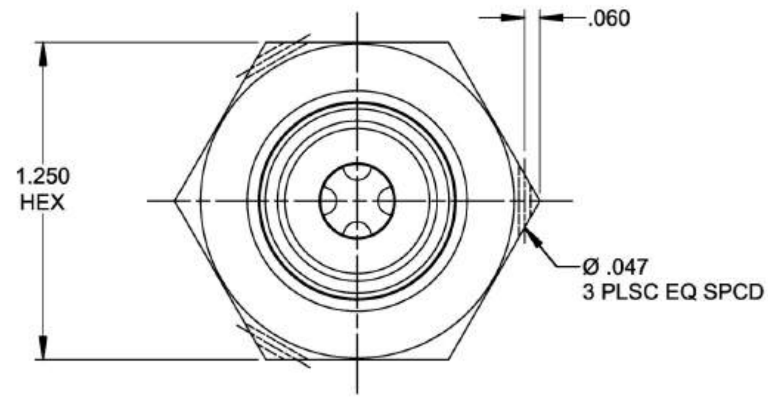
HYDRAULIC SCHEMATIC

CATEGORY 7: FUSE/DRAIN VALVES

PART NUMBER: 2D2460, DUCT DRAIN BLEED



ISOMETRIC VIEW
FOR REFERENCE ONLY



PERFORMANCE SPECIFICATIONS:

FLUIDS: BLEED AIR AND WATER

MATERIAL: BODY 304L CRES

POPPET PH13-8MO CRES

TEMPERATURE RANGE: -67°F TO 500°F

OPERATING PRESSURE: 56 PSIG MAX AT 450°F

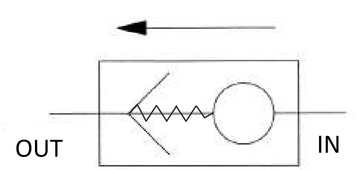
PROOF PRESSURE: 210 PSIG AT 450°F

CLOSING PRESSURE: 6 PSID MAX

REOPENING PRESSURE: 6 PSID MAX

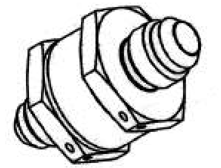
INTERNAL LEAKAGE: 20 CC/MIN MAX AT 10 TO 50 PSID

WEIGHT: 0.151 LBS MAX

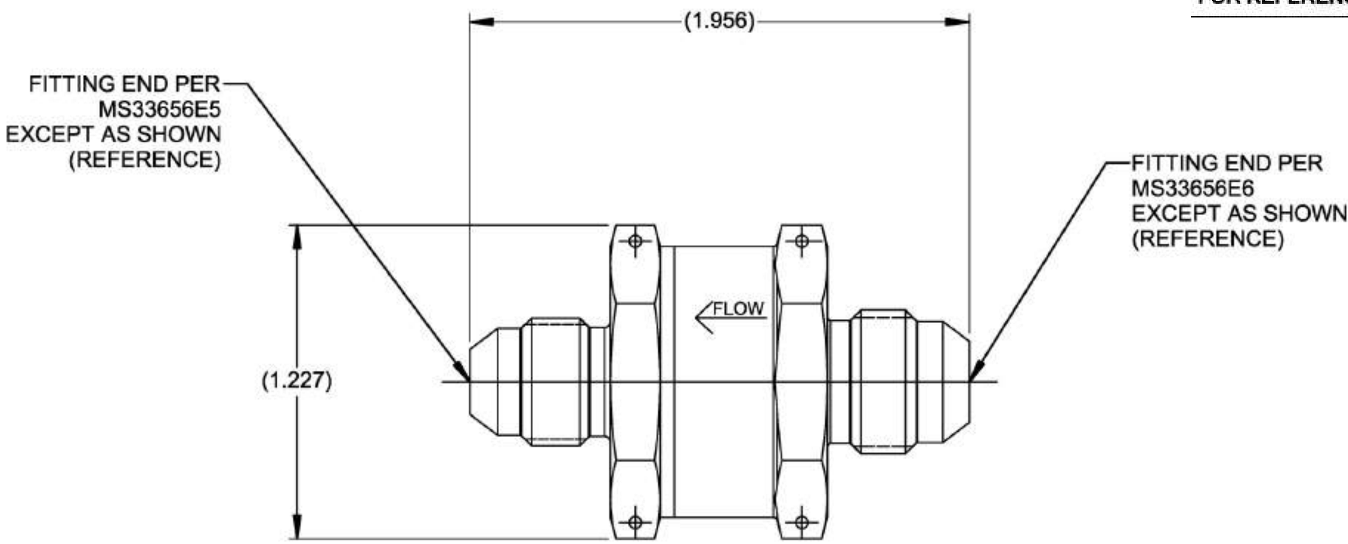


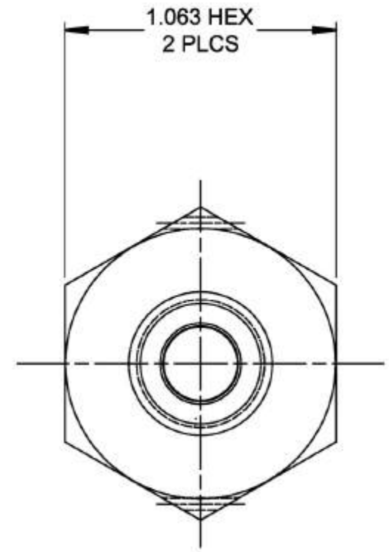
HYDRAULIC SCHEMATIC

PART NUMBER: 2D2462, DUCT DRAIN BLEED



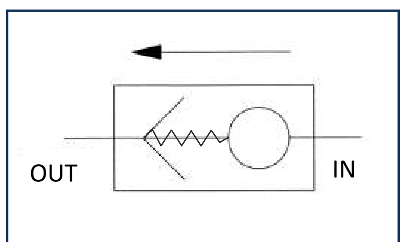
ISOMETRIC VIEW
FOR REFERENCE ONLY





PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR
MATERIAL: BODY 321 CRES
POPPET 440C CRES
TEMPERATURE RANGE: -65°F TO 900°F
OPERATING PRESSURE: 0 TO 325 PSIG
PROOF PRESSURE: 650 PSIG AT 900°F
CLOSING PRESSURE: 8 TO 15 PSID
REOPENING PRESSURE: 20 PSID MAX
INTERNAL LEAKAGE: 400 SCC/MIN MAX AT 325 PSID (AIR)
WEIGHT: 0.24 LBS MAX

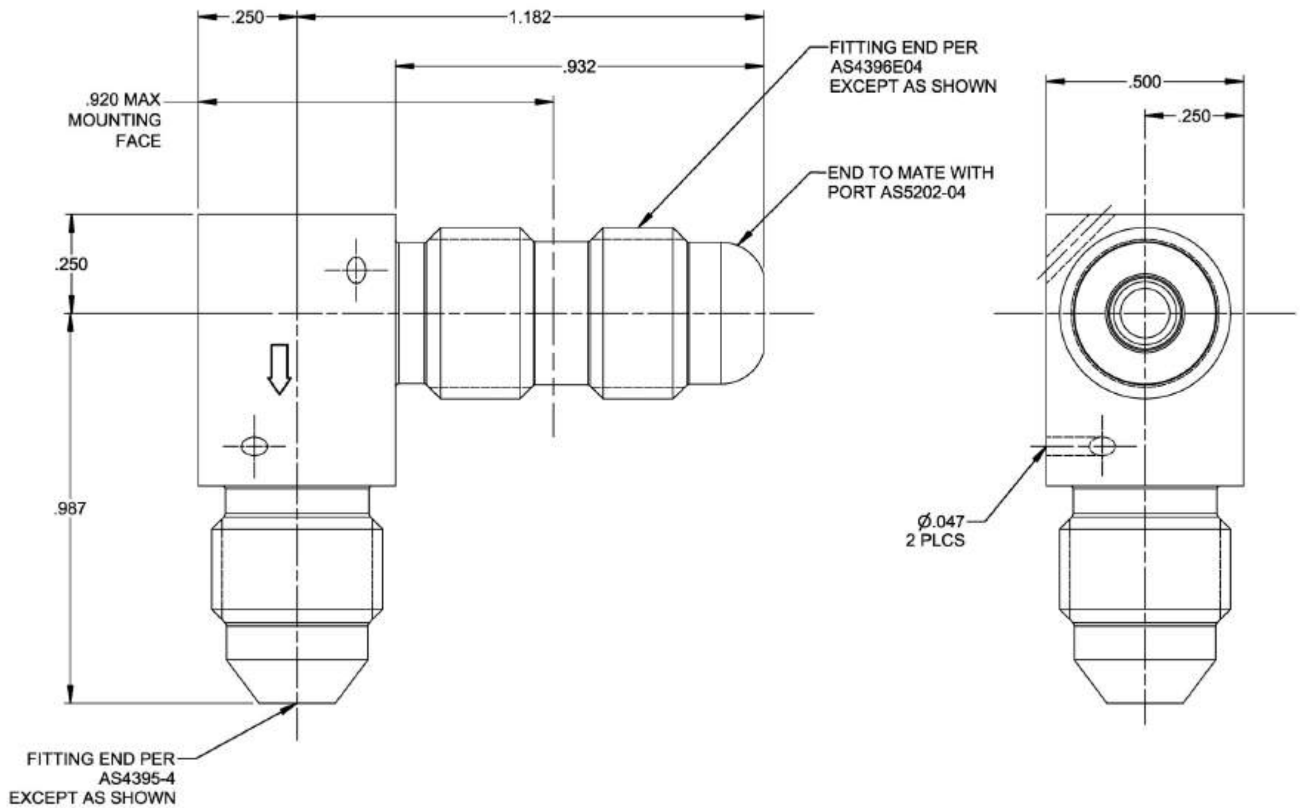


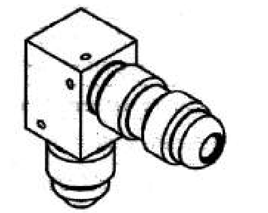
HYDRAULIC SCHEMATIC

CATEGORY 7: FUSE/DRAIN VALVES

CRISSAIR INC.

PART NUMBER: 2D2464, ELBOW DRAIN VALVE





ISOMETRIC VIEW
FOR REFERENCE ONLY

PERFORMANCE SPECIFICATIONS:

FLUIDS: AVIATION FUELS, FUEL VAPORS AND AIR

MATERIAL: BODY 304 CRES
POPPET 440C CRES

TEMPERATURE RANGE: -65°F TO 800°F

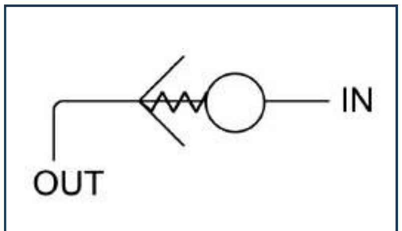
OPERATING PRESSURE: 200 PSIG

PROOF PRESSURE: 300 PSIG

CLOSING PRESSURE: 2.0 TO 5.0 PSID ON GRADUAL APPLICATION OF SYSTEM PRESSURE

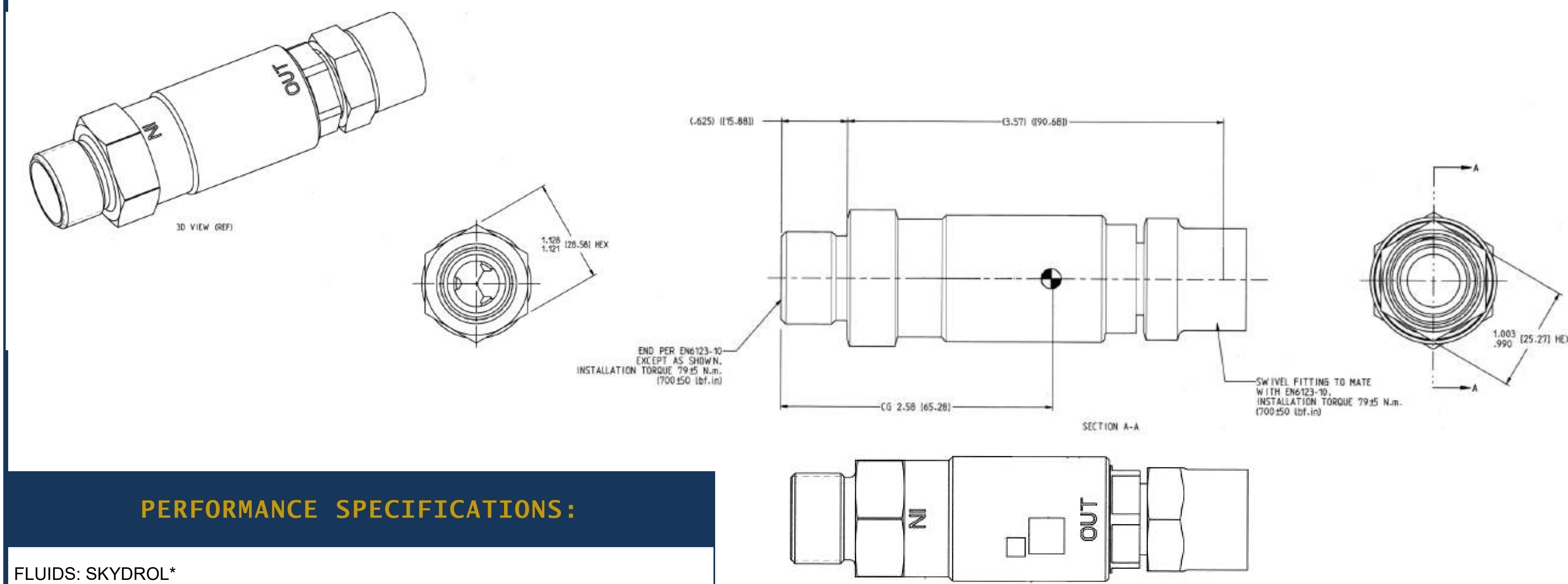
INTERNAL LEAKAGE: 1 DPM MAX AT 200 PSID

WEIGHT: 0.144 LBS MAX



HYDRAULIC SCHEMATIC

PART NUMBER: 5F0020 , FLOW FUSE



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL*

MATERIAL: BODY 17-4PH CRES

POPPET PH13-8 MO CRES

TEMPERATURE RANGE: (FLUID) –67°F TO 158°F
(AMBIENT) –67°F TO 185°F

OPERATION: VALVE IS OPEN UP TO 21.9 GPM
VALVE IS CLOSED BY 26.4 GPM
CLOSING VOLUME IS 2.64 GALLONS MAX
VALVE REOPENS BELOW 29 PSID

OPERATING PRESSURE: 5075 PSIG

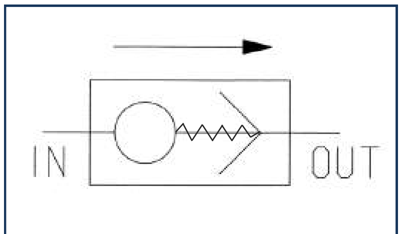
PROOF PRESSURE: 7613 PSIG

FLOW: 18.5 GPM AT 43.5 PSID MAX AND 68°F TO 95°F

INTERNAL LEAKAGE: 2 CC/MIN MAXIMUM AT 72.5 PSID
1 CC/MIN MAXIMUM AT 5075 PSID

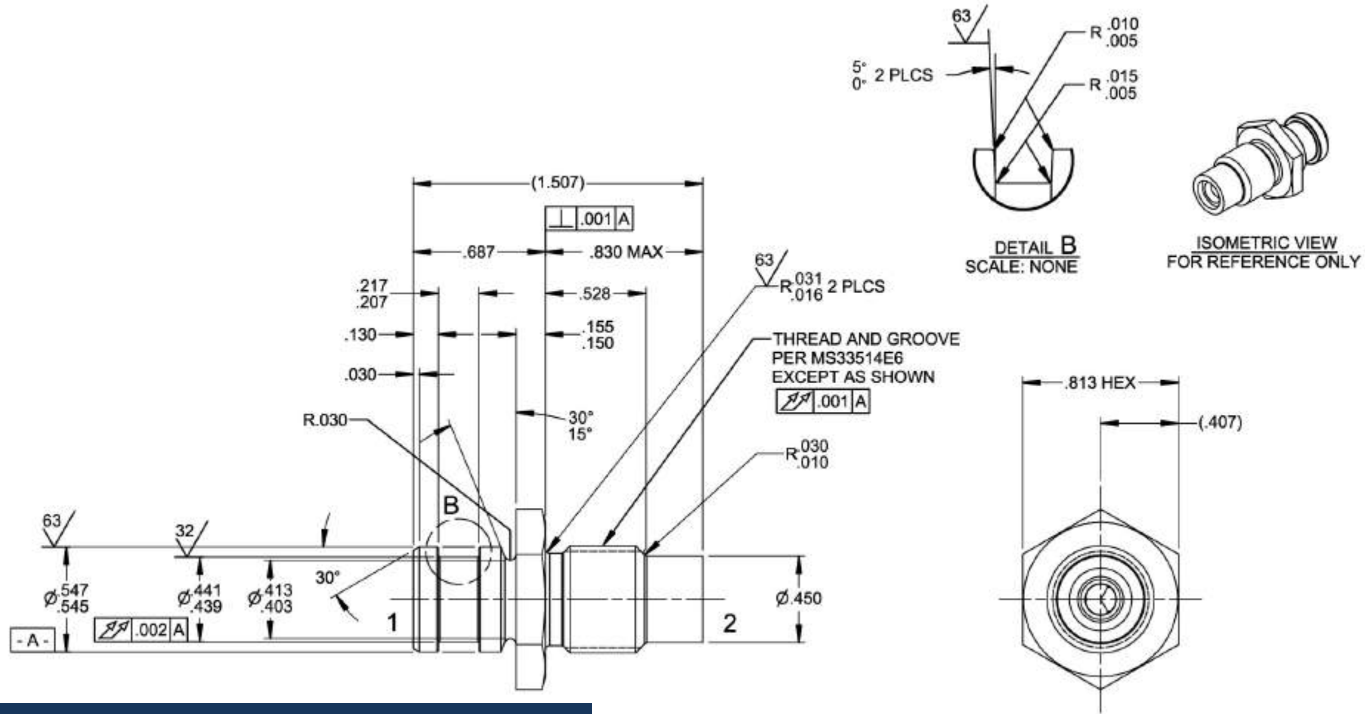
WEIGHT: 0.88 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC

PART NUMBER: 5F0022 , FLOW FUSE



PERFORMANCE SPECIFICATIONS:

FLUIDS: HYDRAULIC FLUID PER MIL-PRF-87257

MATERIAL: BODY 15-5PH CRES

POPPET PH13-8MO CRES

TEMPERATURE RANGE: (FLUID) –67°F TO 248°F
(AMBIENT) –67°F TO 158°F

OPERATING PRESSURE: 2115 TO 2315 PSIG

9100 PSIG SPIKES

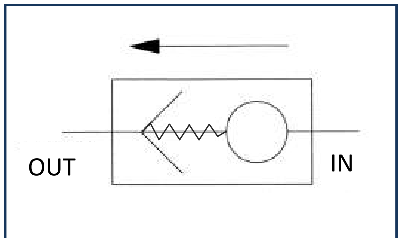
PROOF PRESSURE: 9100 PSIG FOR 3 MINUTES

CLOSING PRESSURE: 5 TO 15 PSID (PRESSURE APPLIED TO PORT 2)

FLOW: 2.6 GPM AT 50 PSID MAX USING MIL-PRF-87257 AT 68°F

INTERNAL LEAKAGE: 1 CC/HR MAXIMUM AT 1000 PSID

WEIGHT: 0.084 LBS MAX

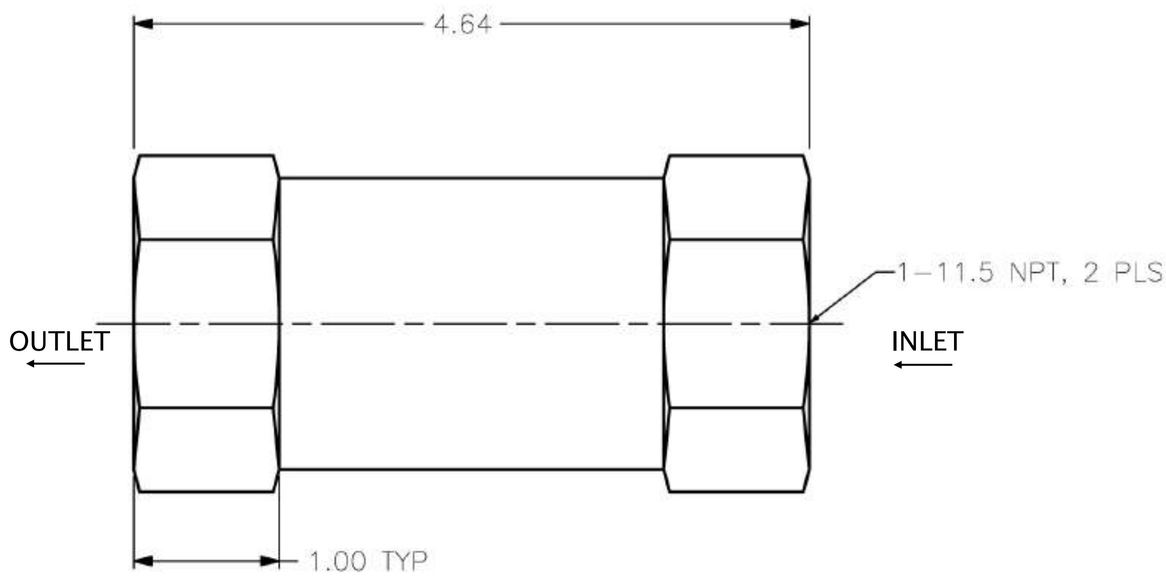


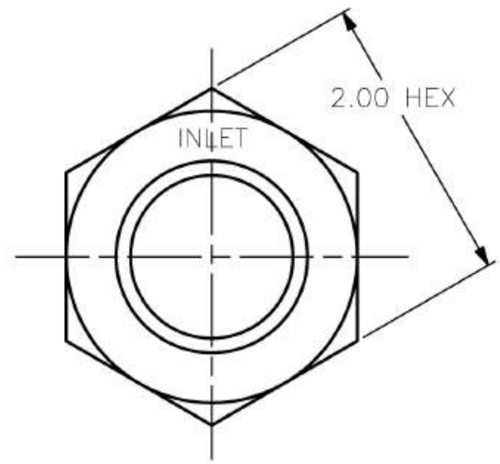
HYDRAULIC SCHEMATIC

CATEGORY 7: FUSE/DRAIN VALVES

CRISSAIR INC.

PART NUMBER: 5F0024, FLOW FUSE





PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-L-23699*

MATERIAL: BODY 303 CRES

POPPET 15-5PH CRES

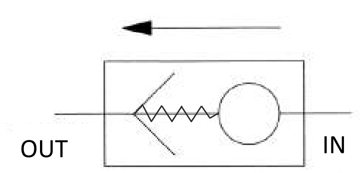
TEMPERATURE RANGE: –65°F TO 200°F

OPERATION: VALVE IS OPEN AT 5 PSI MINIMUM ON FALLING PRESSURE
VALVE IS CLOSING AT 1.3 GPM AND 5 PSID
VALVE IS CLOSED BY 7 ± 1 PSID

PROOF PRESSURE: 4500 PSIG

INTERNAL LEAKAGE: 0.05 CC MAXIMUM IN 5 MINUTES AT 10 TO 3000 PSID

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC

CRISSAIR HAS VARIOUS OTHER FUSE AND DRAIN 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.

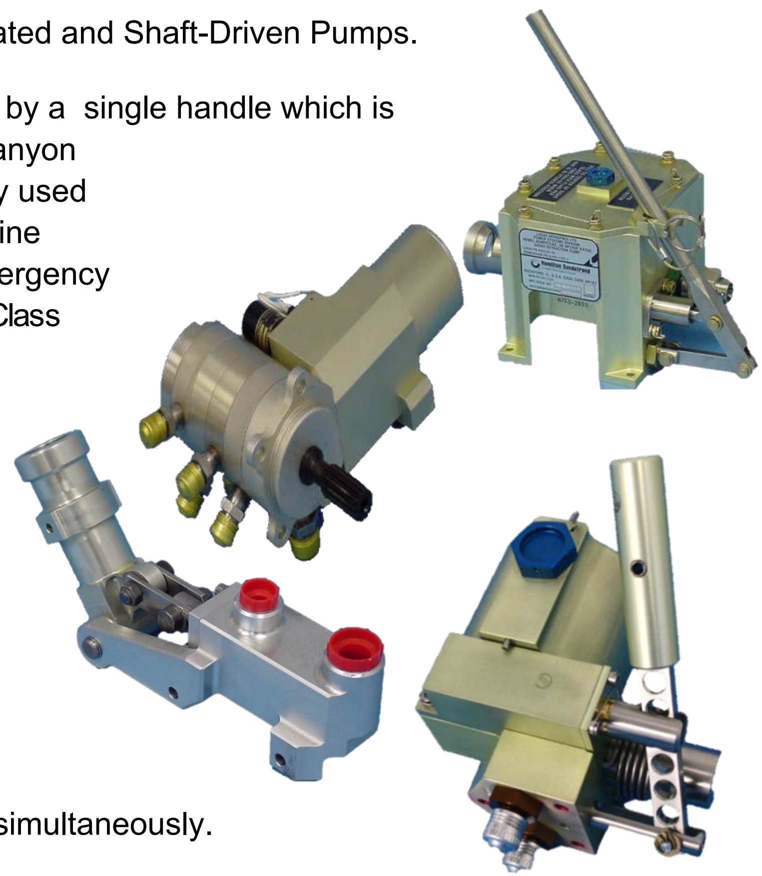
YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

CRISSAIR INC.

PUMPS

Crissair Inc. designs and manufactures Hand-Operated and Shaft-Driven Pumps.

- Hand-Operated Pumps are generally driven by a single handle which is designed for specific extension adapters. Canyon has several Restow Pumps which are widely used on regional jets to Restow the Ram Air Turbine (RAT). Other Hand Pumps are used for emergency power and are designed per MIL-P-5515 D, Class 3000; and AN 6248-3.

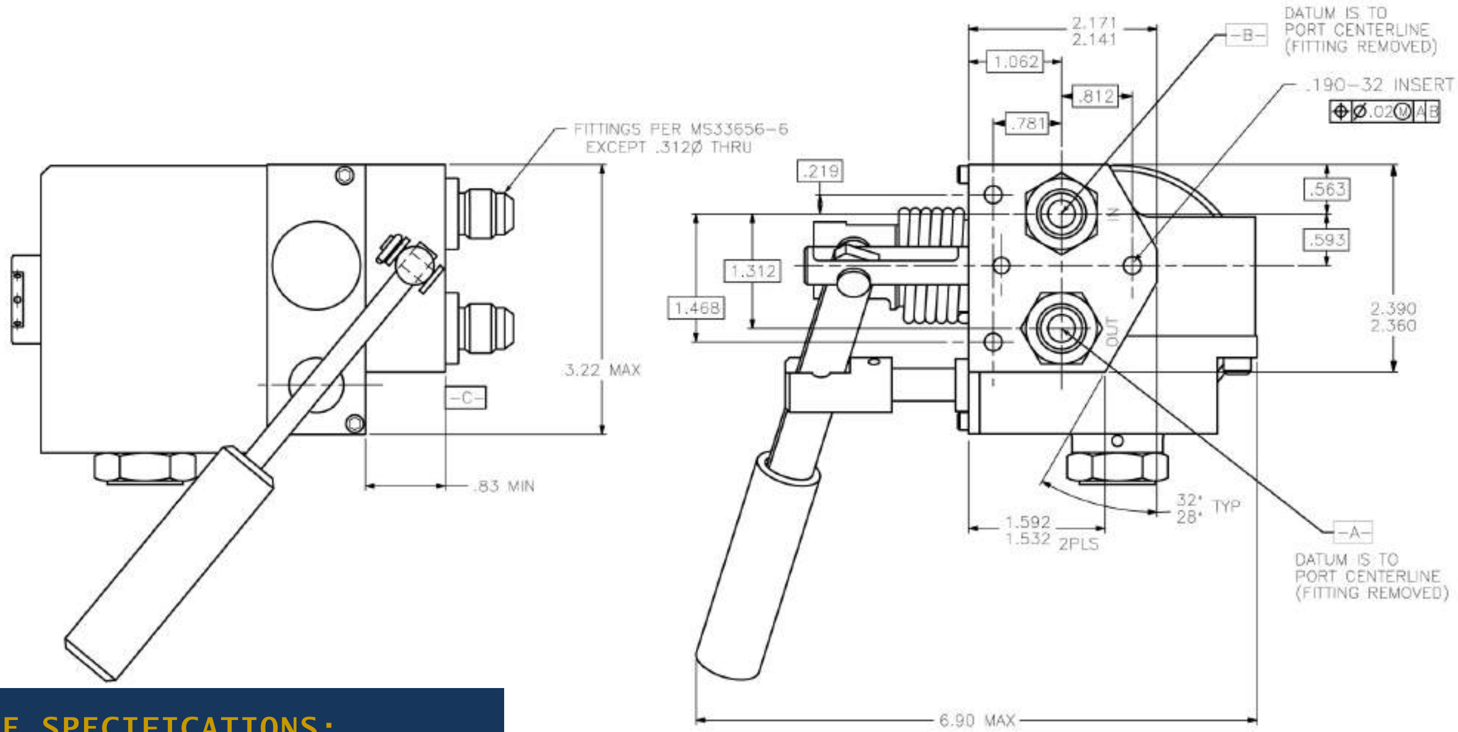


- Shaft-Driven Pumps mainly include rotary gear pumps (G-Rotor Pumps). They are mostly used in Gearbox applications where they are considered Lube and Scavenge Pumps. However, in some applications, these pumps are also used to pressurize the lubrication reservoir by pumping air into it. Other applications have used these pumps to pressurize lubrication oil and fuel simultaneously.

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

CRISSAIR INC.

PART NUMBER: 1H0014 ,RESTOW PUMP, DUAL STAGE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV AND V*

MATERIAL: HOUSING 6061-T6

OPERATING TEMPERATURE: -65°F TO 122°F

OPERATING PRESSURE:1375 PSIG

PUMP FLOW: 0.30 CUBIC INCHES PER STROKE (1ST STAGE—LOW PRESSURE)
0.075 CUBIC INCHES PER STROKE (2ND STAGE—HIGH PRESSURE)

PUMP PRESSURE: 400 PSIG MAX (1ST STAGE—LOW PRESSURE)
1375 PSIG MAX (2ND STAGE—HIGH PRESSURE)

RELIEF VALVE CRACKING PRESSURE:1350±25 PSIG

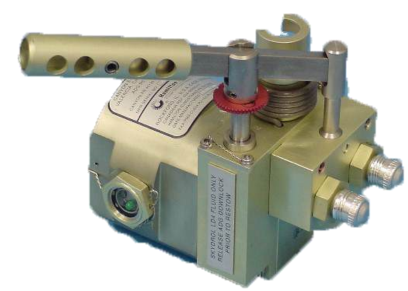
RESERVOIR CAPACITY:12.5±0.5 CUBIC INCHES

BYPASS FLOW: (INLET TO OUTLET WITH PUMP DISENGAGED):
8 GPM @ 32 PSID MAX

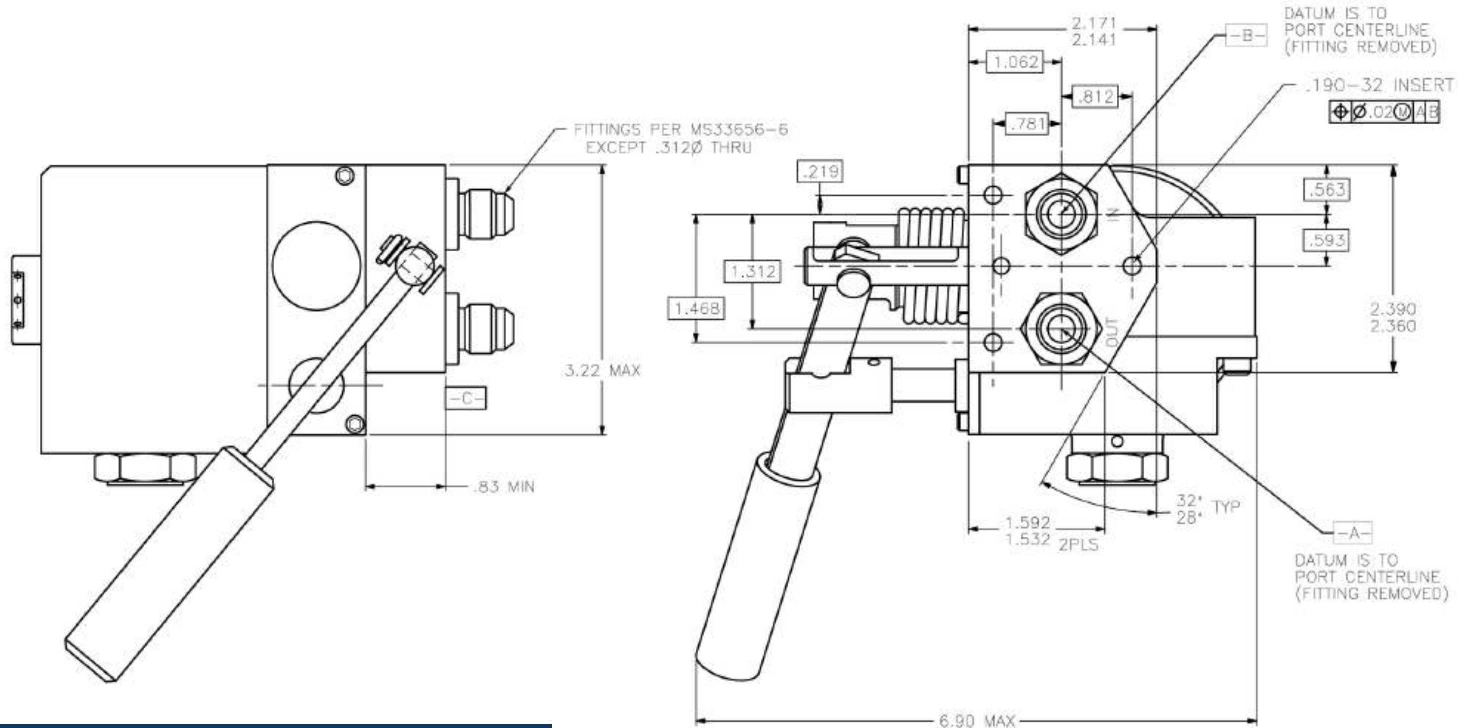
HANDLE FORCE: 50 LBS MAX

WEIGHT: 3.0 LBS MAX

*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE



PART NUMBER: 1H0020 ,RESTOW PUMP, SINGLE STAGE



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PER-83282*

MATERIAL: HOUSING 6061-T6

OPERATING TEMPERATURE: -65°F TO 122°F

OPERATING PRESSURE:1375 PSIG MAX

PUMP FLOW: 0.075 CUBIC INCHES PER STROKE

PUMP PRESSURE: 1375 PSIG MAX

RELIEF VALVE CRACKING PRESSURE:1350±25 PSIG

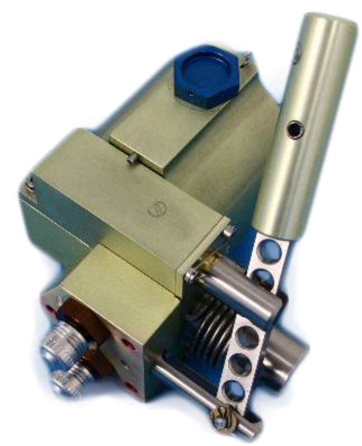
RESERVOIR CAPACITY:12.5±0.5 CUBIC INCHES

BYPASS FLOW: (INLET TO OUTLET WITH PUMP DISENGAGED):
8 GPM @ 32 PSID MAX

HANDLE FORCE: 50 LBS MAX

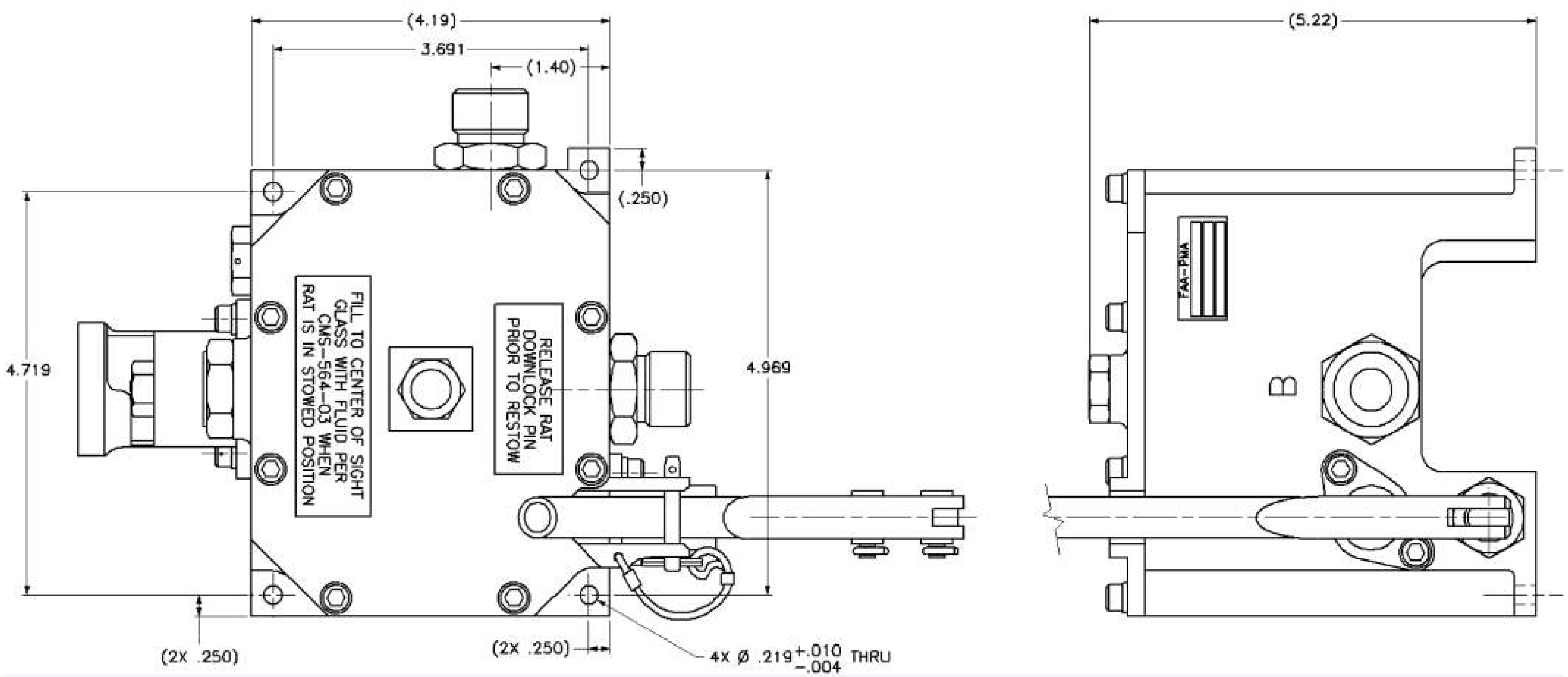
WEIGHT: 3.0 LBS MAX

*FOR PHOSPHATE ESTER BASE TYPE IV OR V CHOOSE PART NUMBER 40400-X



CRISSAIR INC.

PART NUMBER: 1H0016 ,HAND PUMP, SINGLE STAGE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV AND V*

MATERIAL: HOUSING 6061-T651

OPERATING TEMPERATURE: -65°F TO 165°F

OPERATING PRESSURE: 550 PSIG

PUMP FLOW: 0.69 CUBIC INCHES PER STROKE

PUMP PRESSURE: 550 PSIG

RELIEF VALVE CRACKING PRESSURE: 500-550 PSIG

RESERVOIR CAPACITY: 27.5 CUBIC INCHES

BYPASS FLOW: (INLET TO OUTLET WITH PRUMP DISENGAGED):
0.196 SQUARE INCHES MINIMUM

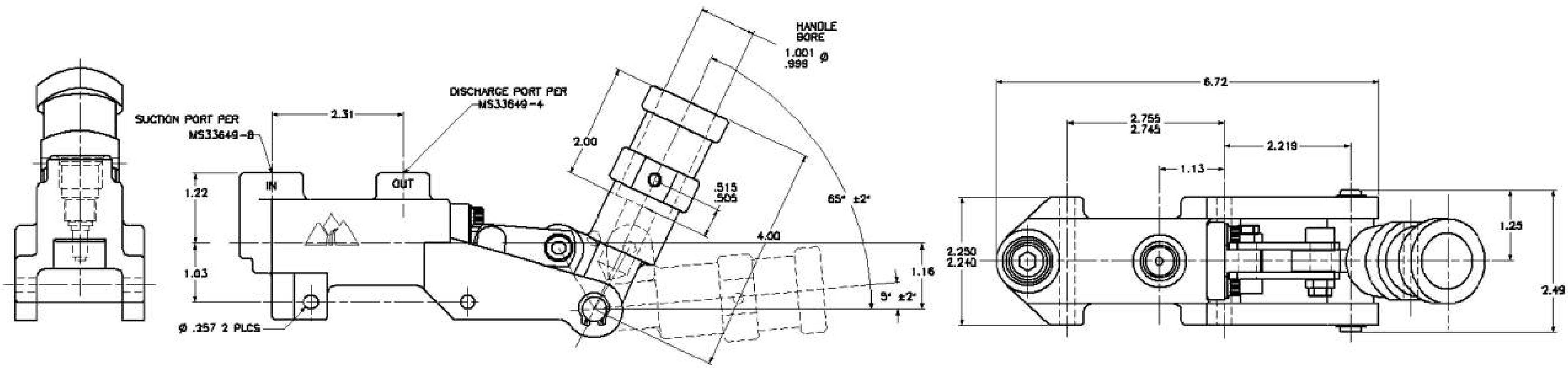
HANDLE FORCE: 50 LBS MAX

WEIGHT: 5.4 LBS MAX

*MIL-PRF-83282 ACCEPTABLE WITH ELASTOMER CHANGE

CATEGORY 8: HAND PUMPS

PART NUMBER: 1H0018,HYDRAULIC HAND PUMP



PERFORMANCE SPECIFICATIONS:

FLUIDS: PHOSPHATE ESTER FLUID TYPE IV AND V*

MATERIAL: BODY 6061-T6

OPERATING TEMPERATURE: -65°F TO 165°F

OPERATING PRESSURE: 3000 PSIG

PUMP FLOW: 0.70 CUBIC INCHES PER STROKE

PUMP PRESSURE: 3000 PSIG MAX

LEAKAGE: 1 DPM MAX AT 3000 PSID

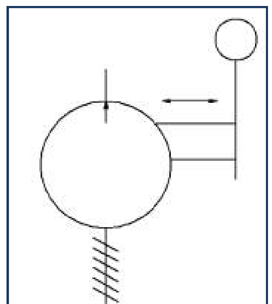
RELIEF VALVE CRACKING PRESSURE:500-550 PSIG

MEETS OR EXCEEDS MIL-P-5515-P D, CLASS 3000; AND AN 6248-3

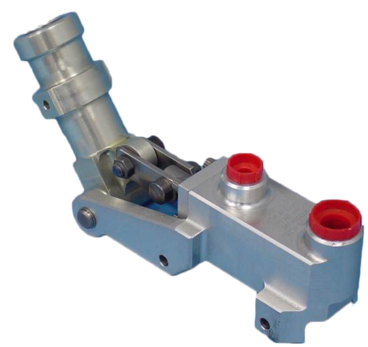
HANDLE FORCE: 50LBS MAX

WEIGHT: 2.1 LBS MAX

*MIL-PRF-83282 FLUID CHOOSE PART NUMBER 40770

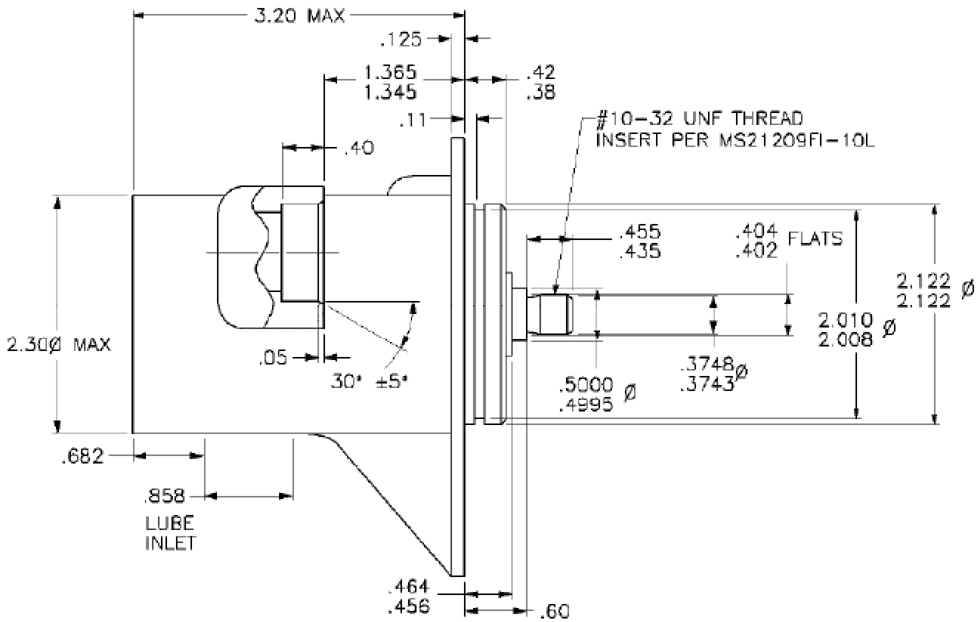


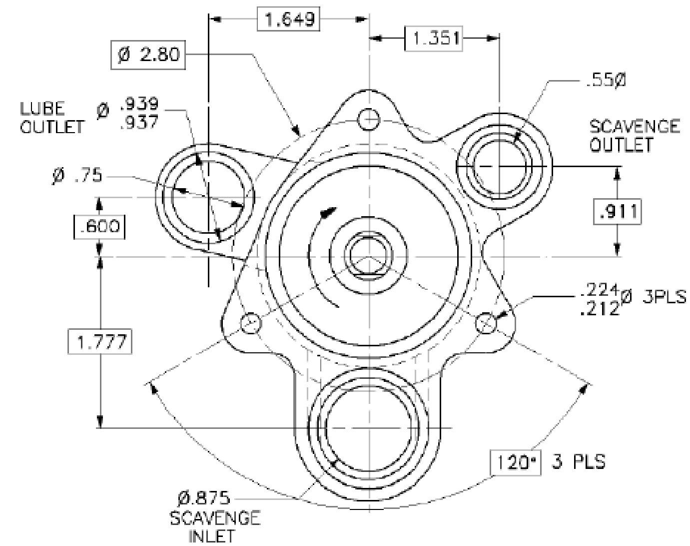
HYDRAULIC SCHEMATIC



CRISSAIR INC.

PART NUMBER: 4G0010 ,LUBE AND SCAVENGE PUMP





PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-23699 OR MIL-L-7808

MATERIAL: HOUSING A356-T6

OPERATING TEMPERATURE: -40°F TO 300°F

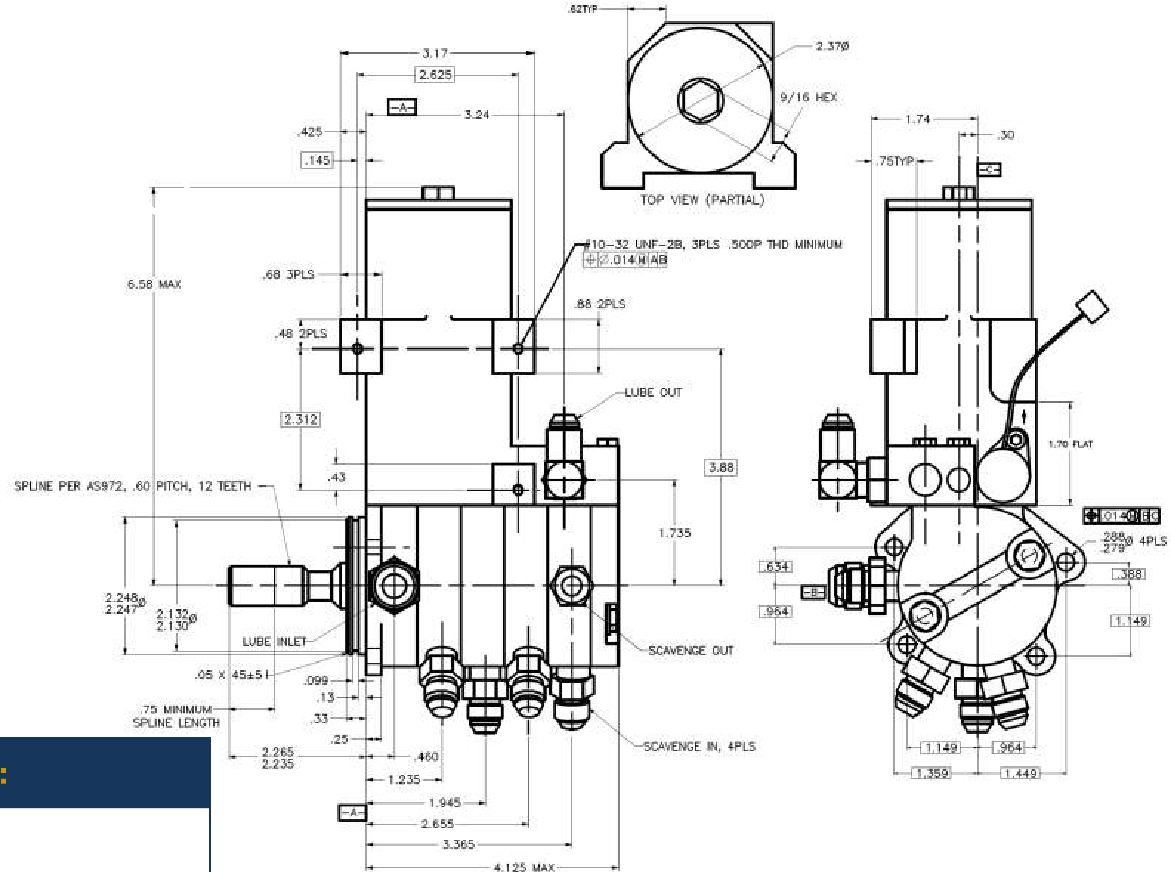
PERFORMANCE:

ELEMENT	SPEED (RPM)	INLET PRESSURE (PSIA)	DISCHARGE (PSIG)	FLOW (GPM)
LUBRICATION	11653	14.7	270	4.3 MAXIMUM
	11653	7.4	270	3.5 MAXIMUM
SCAVENGE	11653	7.4	15	7.0 MAXIMUM

WEIGHT: 1.65 LBS MAX

CRISSAIR INC.

PART NUMBER: 40250 , LUBE AND SCAVENGE PUMP (WITH PRESSURE SWITCH, FILTER AND REGULATOR)



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-L-23699

MATERIAL: HOUSING 6061-T6

OPERATING TEMPERATURE: -25°F TO 330°F

REGULATION FUNCTON: 48 TO 58 PSIG AT 4500 TO 6000 RPM

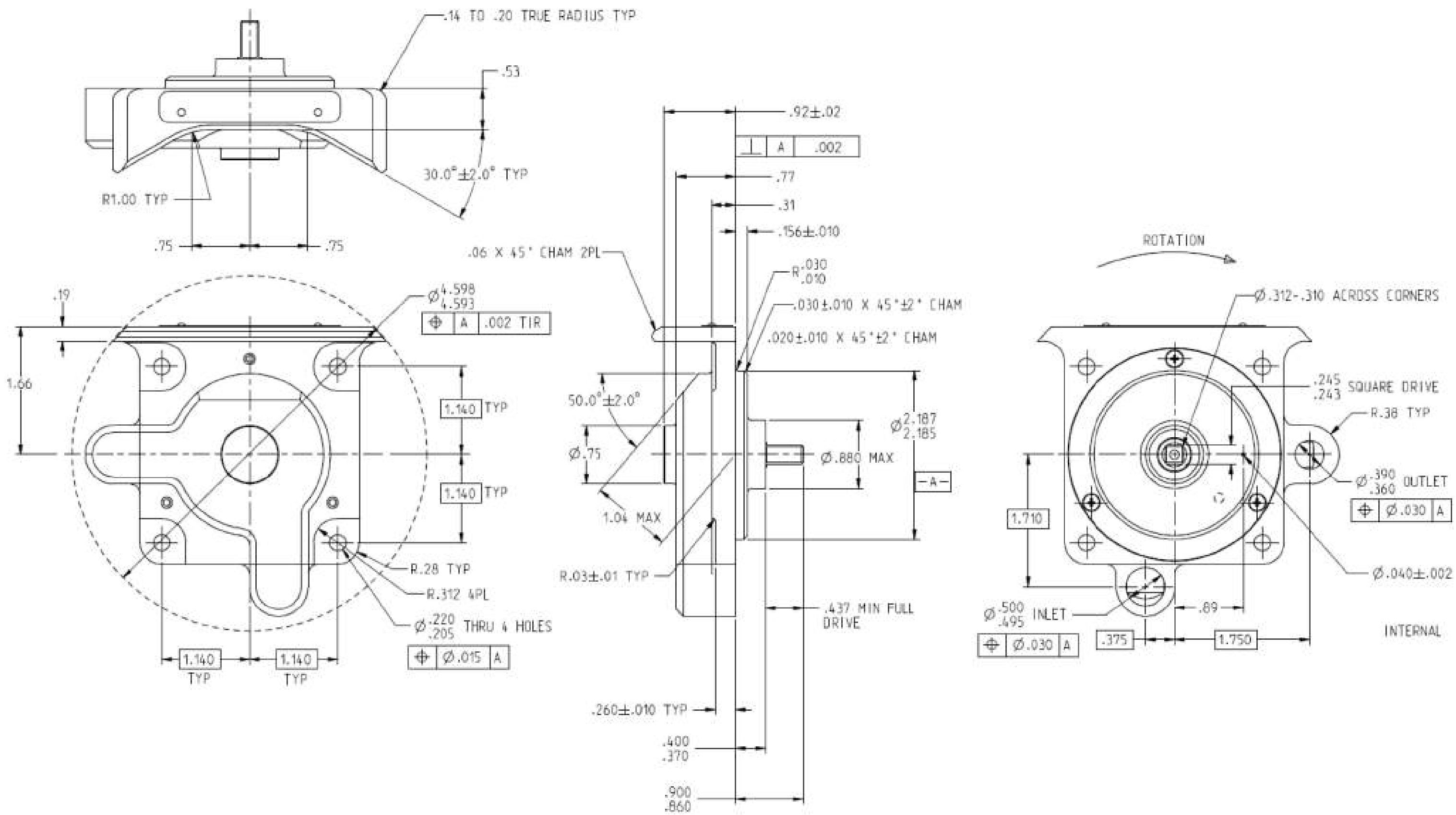
PERFORMANCE:

ELEMENT	SPEED (RPM)	INLET PRESSURE (PSIA)	DISCHARGE (PSIG)	FLOW (GPM)
LUBRICATION	4500-6000	14.7	53	3.2 REFERENCE
	4500-6000	8.3	53	2.4 MINIMUM
SCAVENGE	4500-6000	14.7	15	2.5 REFERENCE
	4500-6000	8.3	15	2.0 MINIMUM

WEIGHT: 5.0 LBS MAX

CRISSAIR INC.

PART NUMBER: 4G0012 ,SCAVENGE PUMP



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-PRF-23699

MATERIAL: HOUSING 6061-T6

OPERATING TEMPERATURE: -65°F TO 275°F

PERFORMANCE: 4.60±0.3 GPM AT 6019±50 RPM AND 10-20 PSIG

WEIGHT: .80 LBS MAX

CRISSAIR HAS VARIOUS OTHER PUMPS 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.

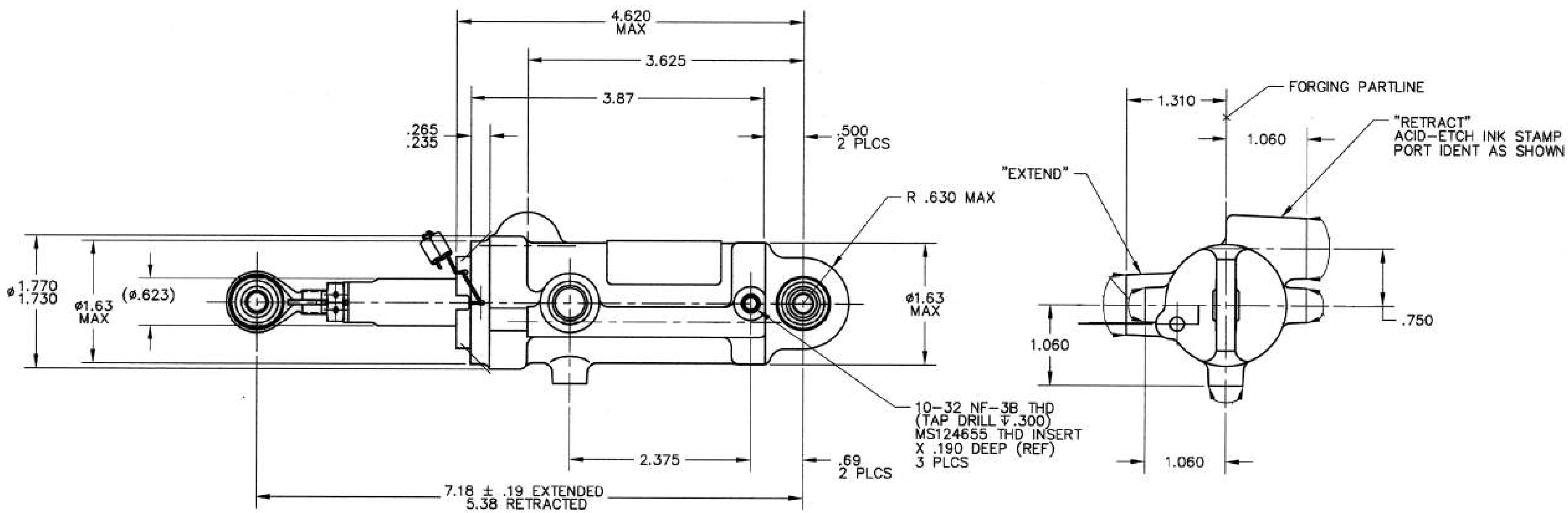
CRISSAIR INC.

ACTUATORS

Crissair Inc. designs and manufactures small to medium-sized actuators for hydraulic systems. Applications include, but are not limited to, side brace support for large commercial airplane landing gear and spoiler control on military fighter jets.

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

PART NUMBER: 2A1102 , ACTUATOR, HYDRAULIC



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUIDS

MATERIAL: BODY 7075-T73 AL

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

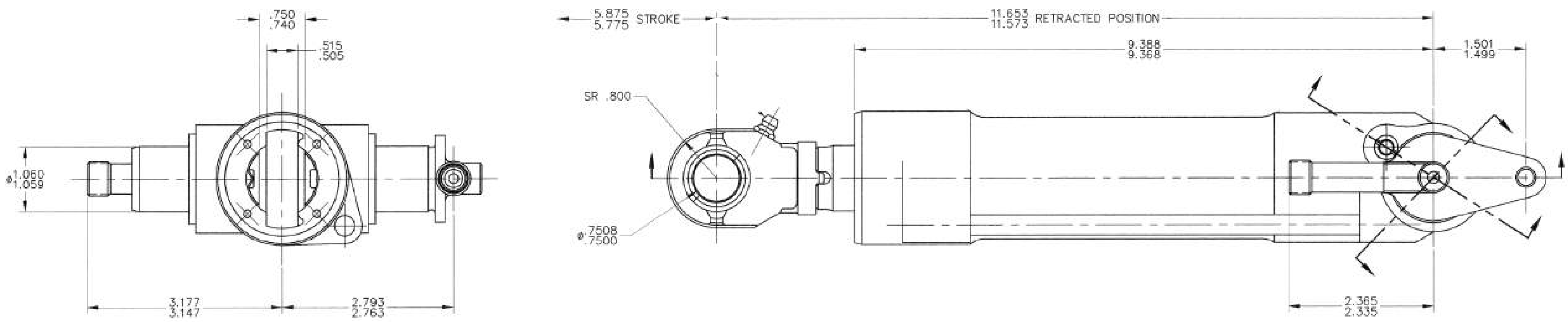
PROOF PRESSURE: 4500 PSIG

STALL LOAD: 3500 LBS AT 2900 PSID IN EXTENDED POSITION

INTERNAL LEAKAGE: 1 DROP PER 25 CYCLES

WEIGHT: 1.30 LBS MAX

PART NUMBER: 2A1070-X, ACTUATOR



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL

MATERIAL: HOUSING 15-5PH CRES

TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

INTERNAL LEAKAGE: 1 CC/MIN MAX AT 5 TO 15 PSID
1 CC/MIN MAX AT 3000 PSID

WEIGHT: 8.0 LBS MAX

CRISSAIR HAS VARIOUS OTHER ACTUATORS NOT LISTED IN THE

CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

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YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

OTHER AEROSPACE VALVES

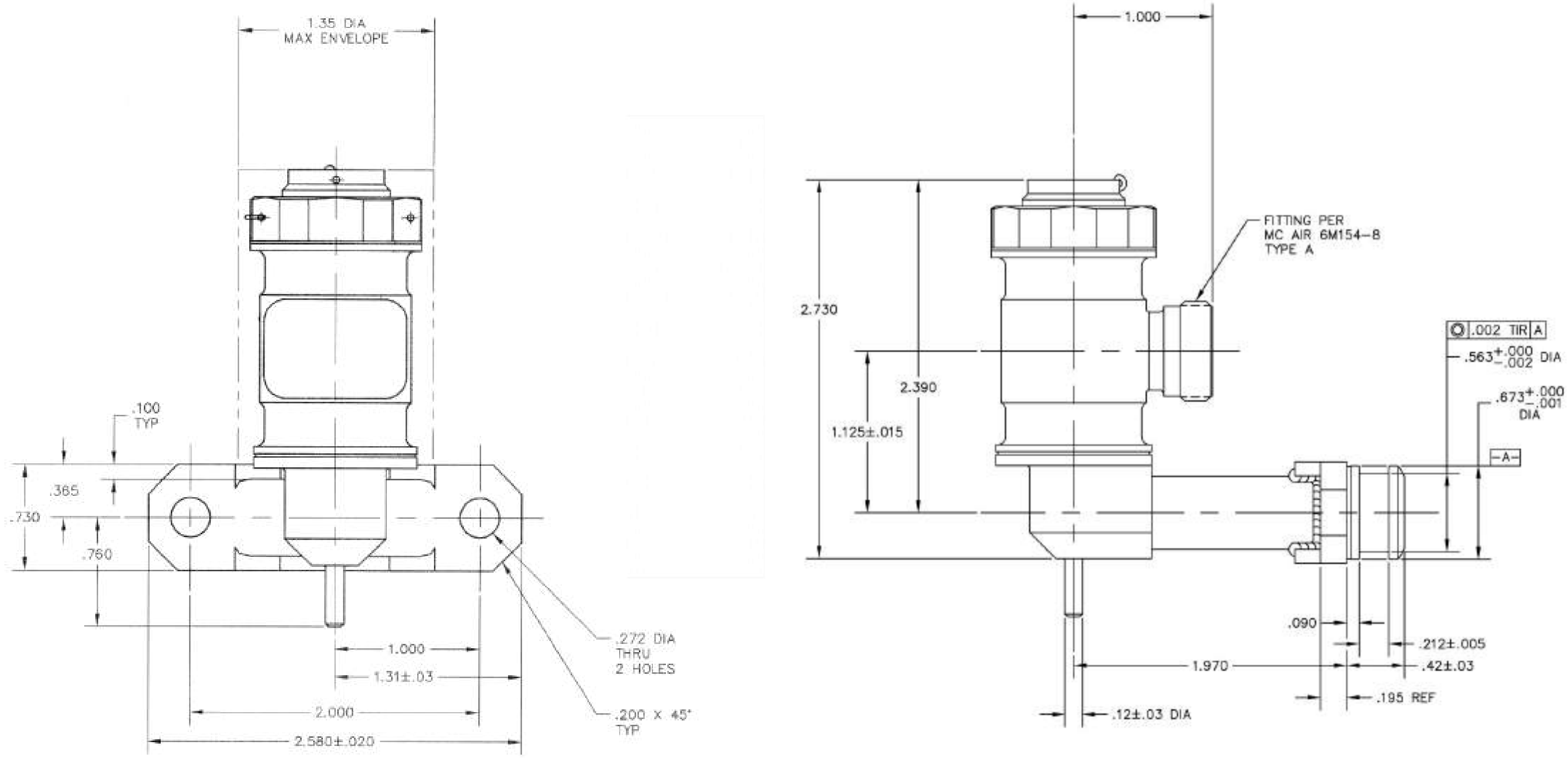
In addition to the standard valves previously listed in this catalog, Crissair Inc. designs and manufactures various other components, valves, and assemblies that fall outside of the previous categories.

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

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

CRISSAIR INC.

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

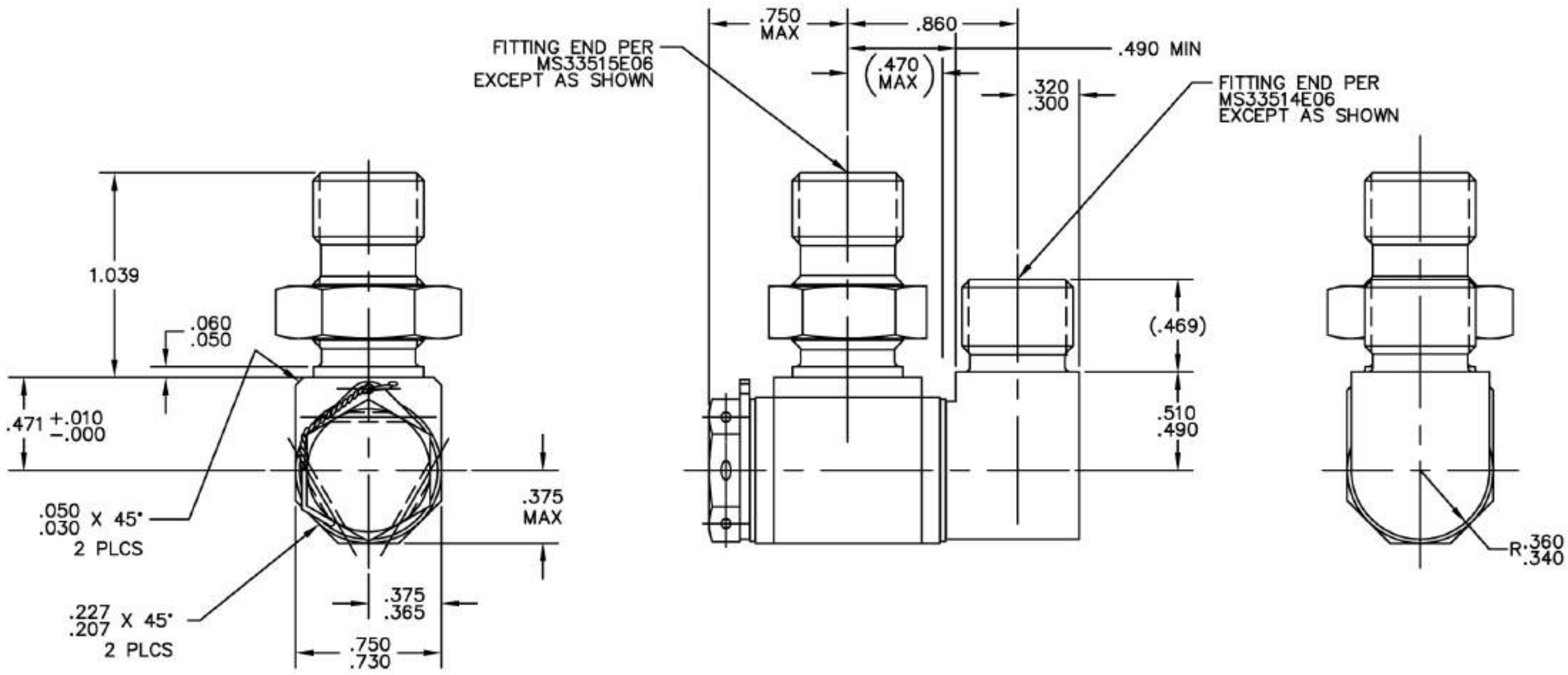


PERFORMANCE SPECIFICATIONS:

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 ℄ 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

CRISSAIR INC.

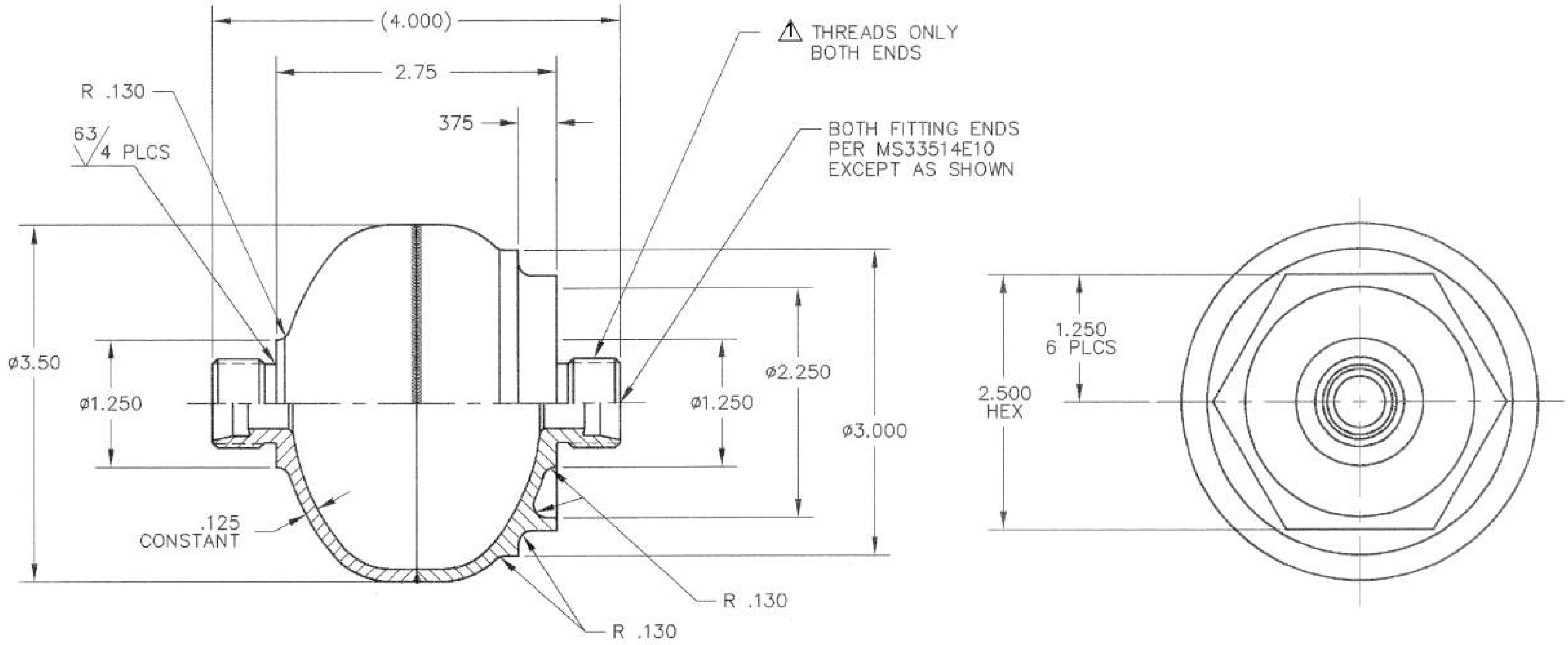
PART NUMBER: 2E2294 , SWIVEL JOINT, SIZE 6



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

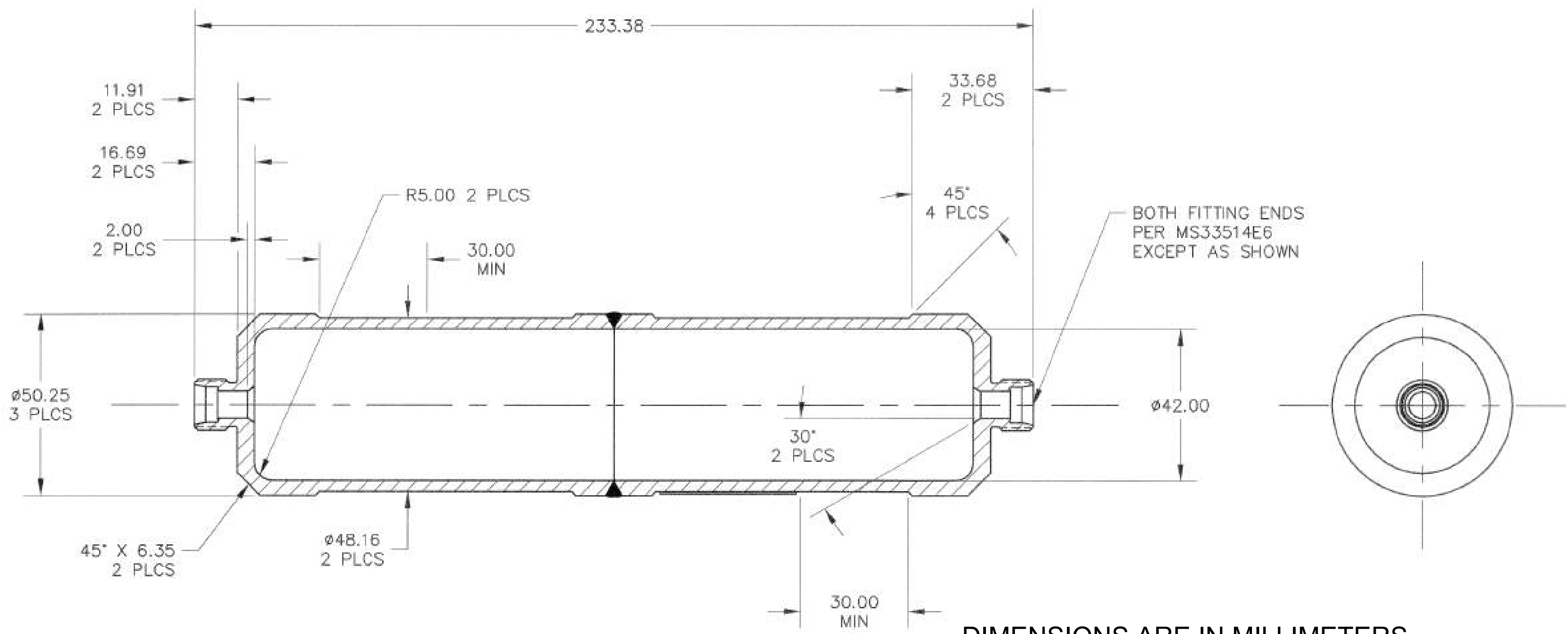
TEMPERATURE RANGE: -65°F TO 225°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

1 DRY FILM LUBE ON THREADS ONLY

PART NUMBER: 3A1160 , PULSATION DAMPER



DIMENSIONS ARE IN MILLIMETERS

PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

TEMPERATURE RANGE: -40°F TO 212°F

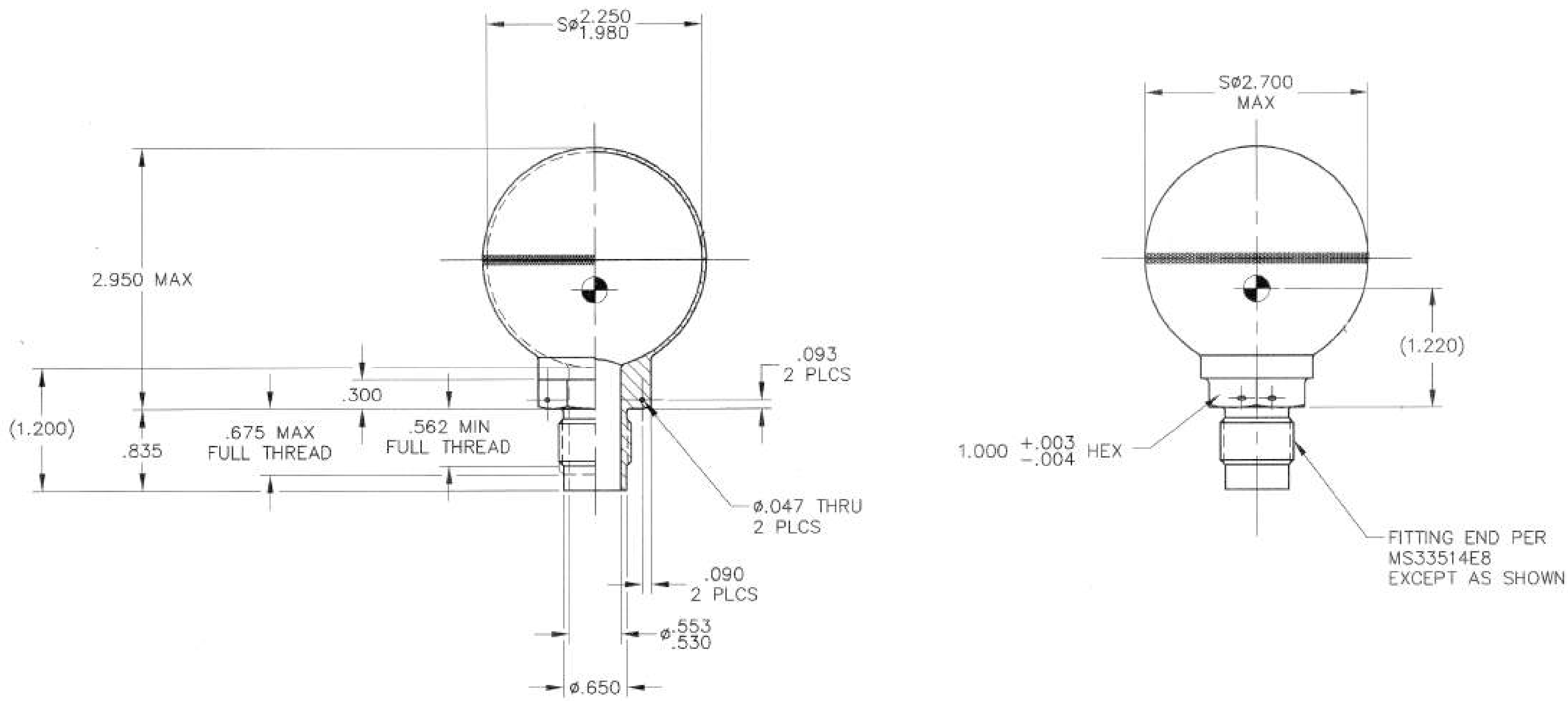
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

WEIGHT: 1.94 LBS MAX

CRISSAIR INC.

PART NUMBER: 3A1162 , ATTENUATOR BALL



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 15-5PH CRES

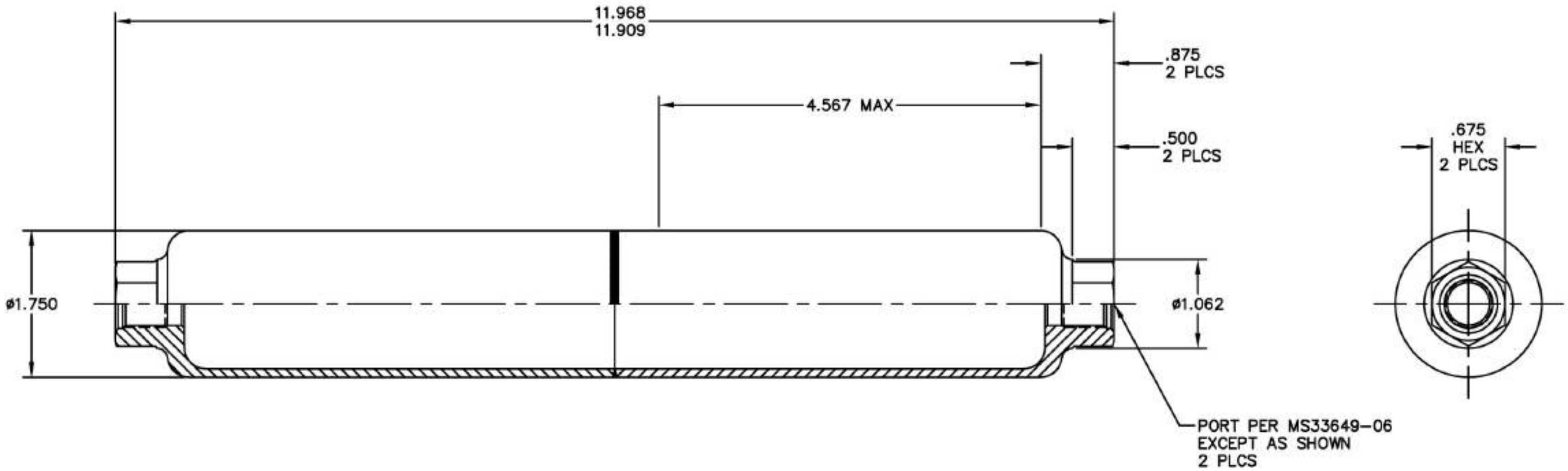
TEMPERATURE RANGE: -65°F TO 275°F

OPERATING PRESSURE: 72 PSIG

PROOF PRESSURE: 150 PSIG

WEIGHT: 0.38 LBS MAX

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

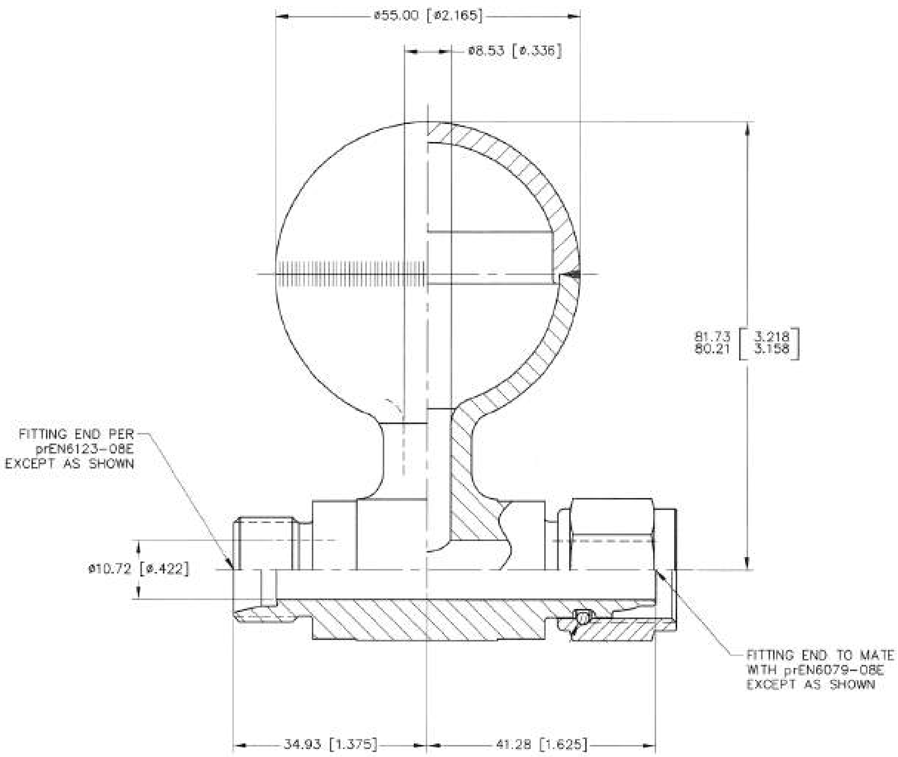
PROOF PRESSURE: 4500 PSIG

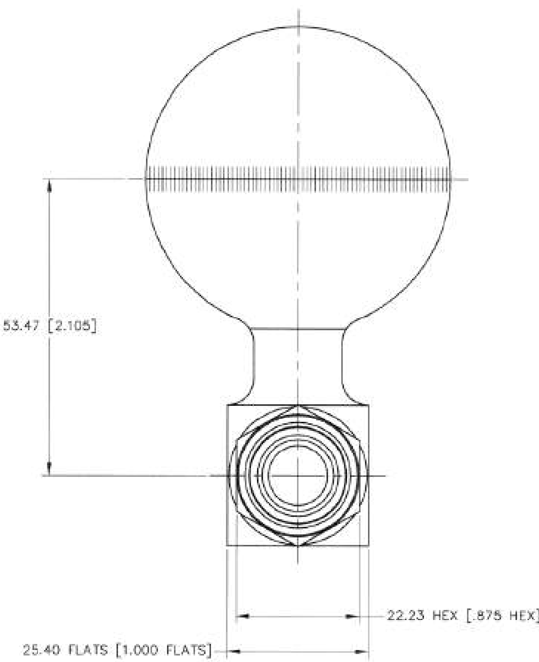
FLOW: 6.1 GPM AT 75 PSID MAX PRESSURE DROP WITH 3000 PSI AT 100°F

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

WEIGHT: 2.02 LBS MAX

PART NUMBER: 3A1046-X, RIPPLE DAMPER

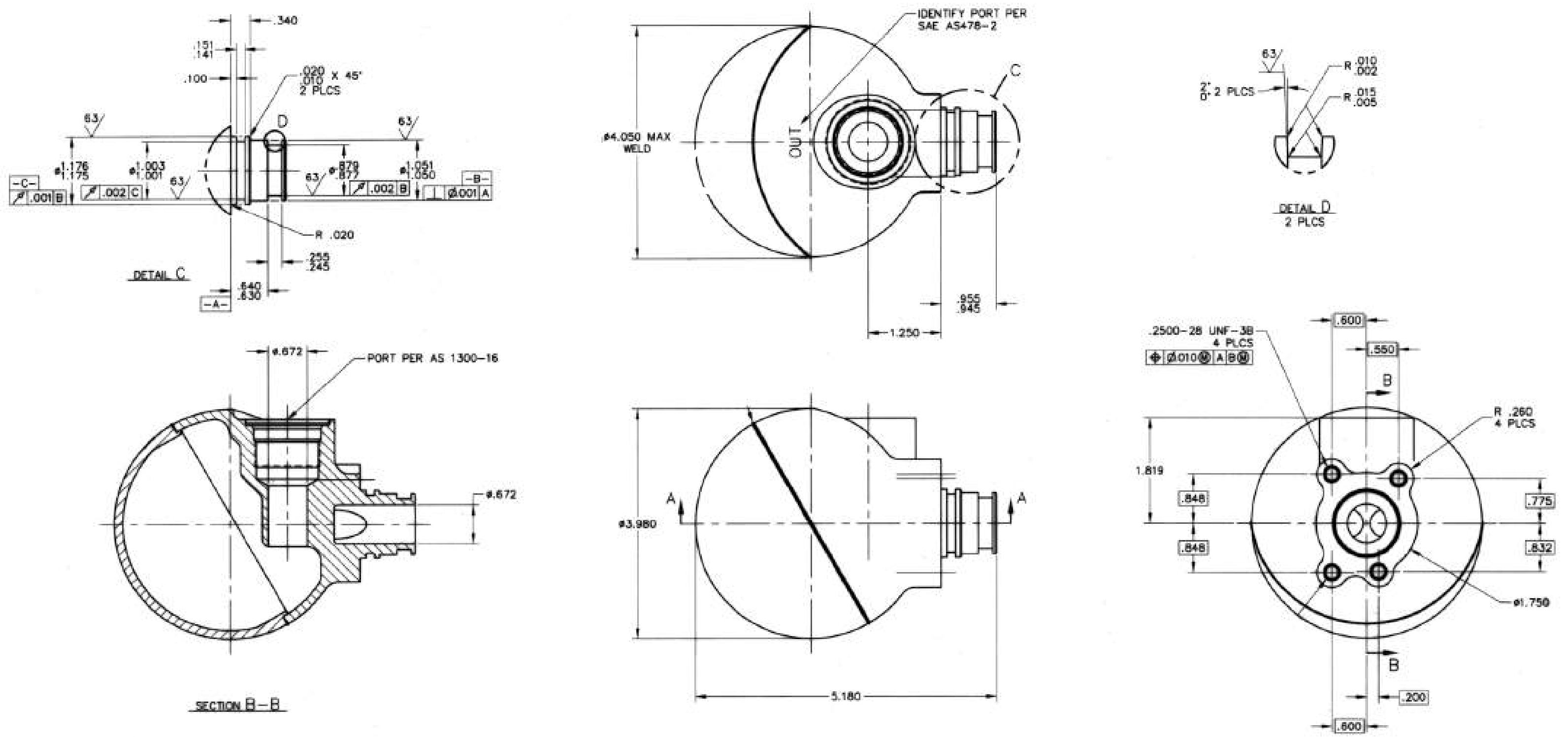




PERFORMANCE SPECIFICATIONS:

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

PART NUMBER: 3A1166 , ATTENUATOR



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6AL-4V TI

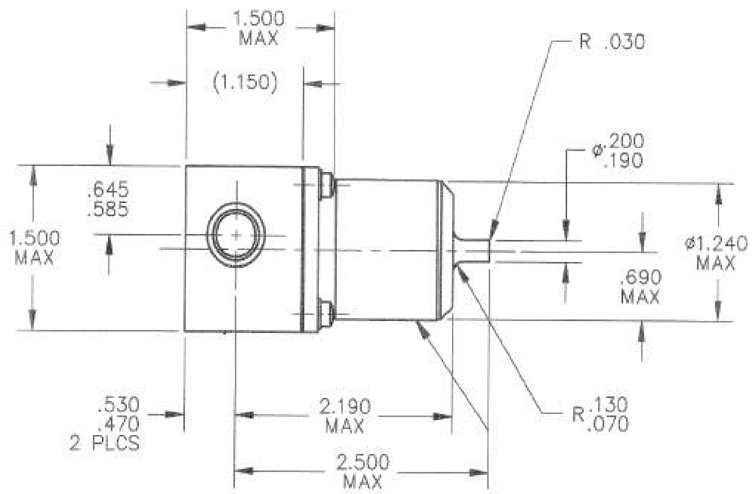
TEMPERATURE RANGE: -65°F TO 300°F

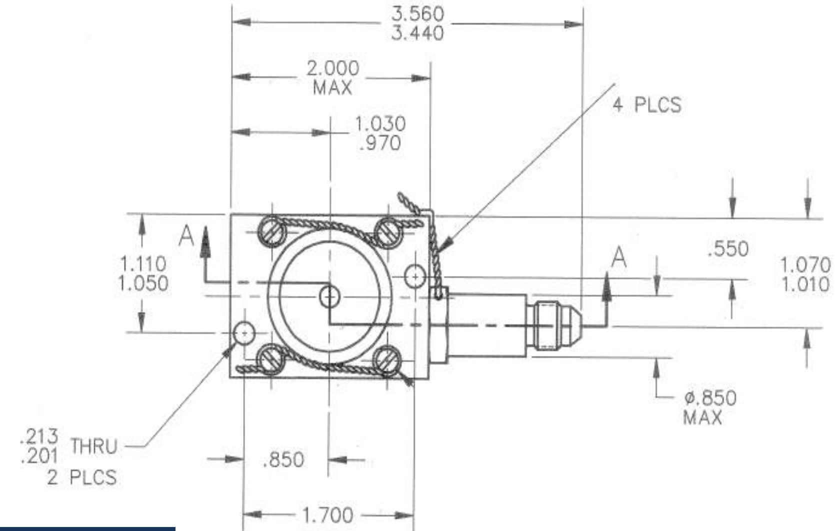
OPERATING PRESSURE: 5050 PSIG

PROOF PRESSURE: 7620 PSIG

WEIGHT: 1.97 LBS MAX

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



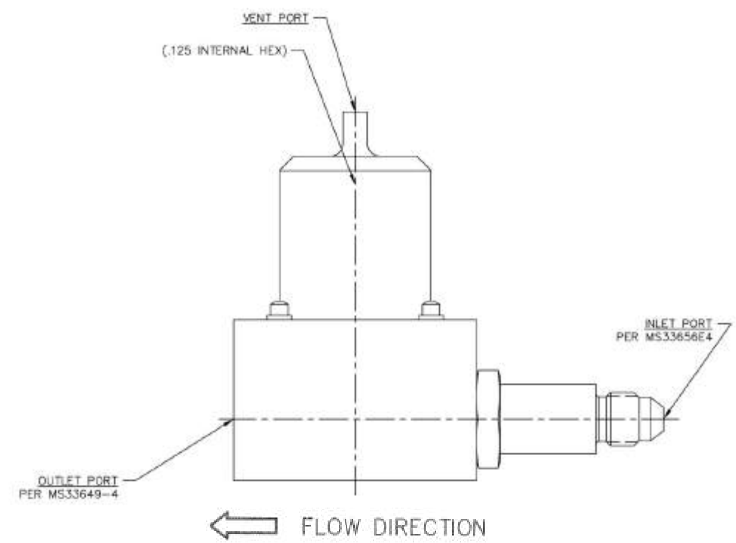


PERFORMANCE SPECIFICATIONS:

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)

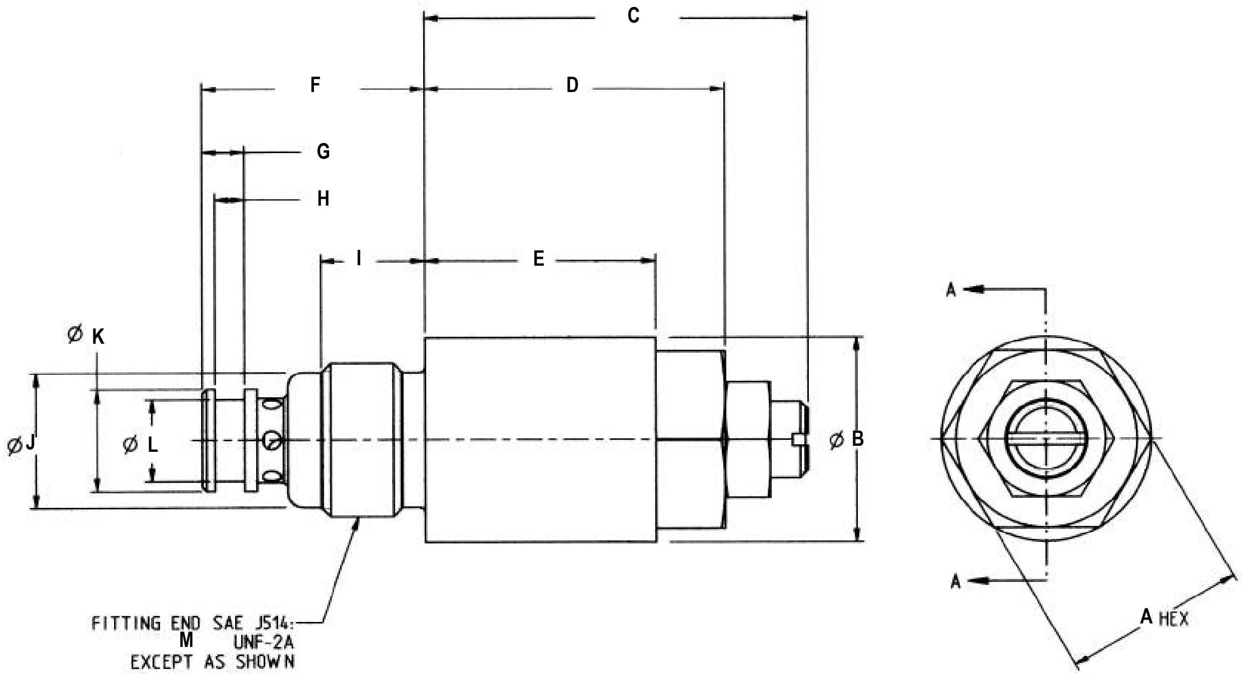
PRESSURES:	INLET	OUTLET	VENT
OPERATING:	20-105 PSIG (ACT)	20±2 PSIG (PRESET)	25 PSIG MAX
	120 PSIG MAX		
PROOF:	250 PSIG	50 PSIG	50 PSIG

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



CATEGORY 10 OTHER AEROSPACE VALVES: PRESSURE REGULATORS

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)

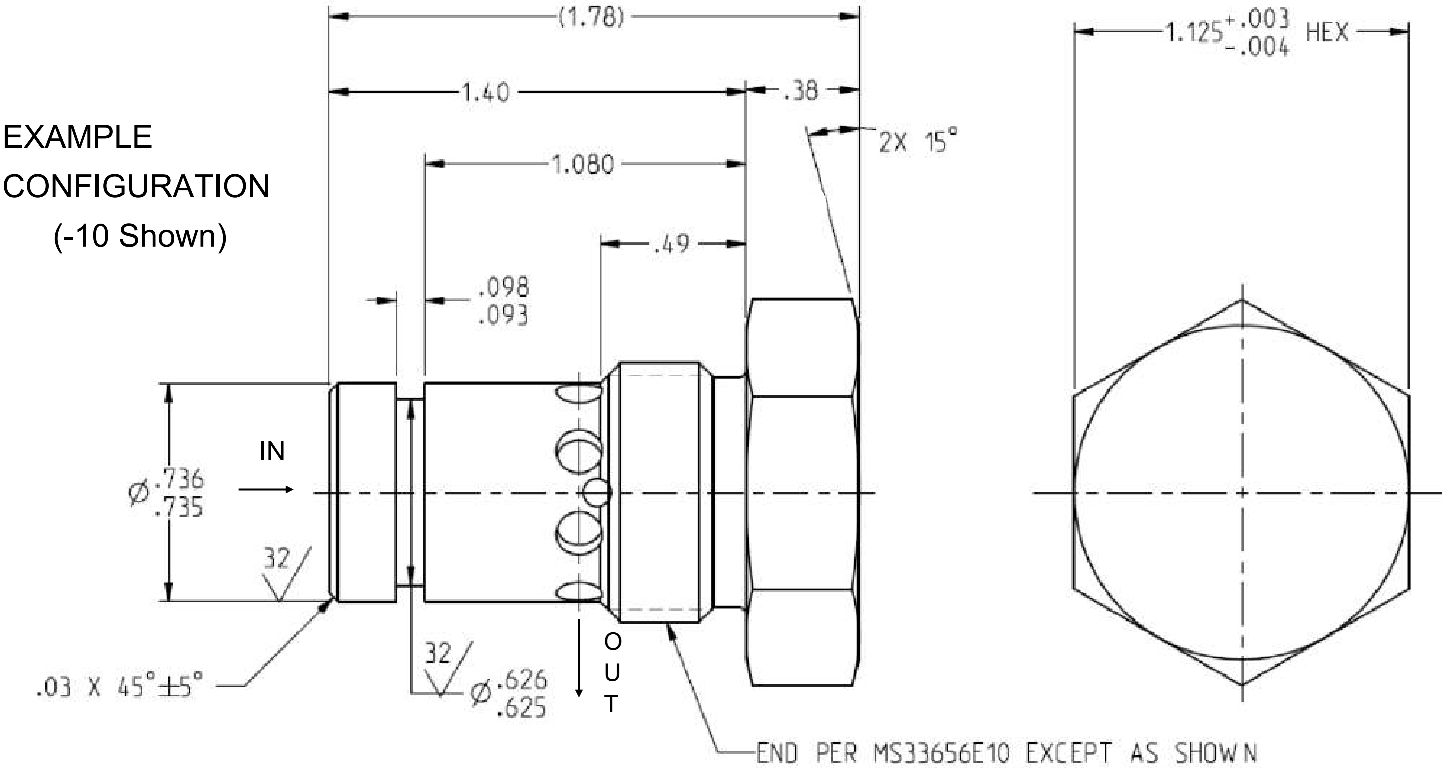
PART NUMBER	FLOW RANGE (GPM)	FLOW POINT TOLERANCE (FROM SET POINT)	PRESSURE RANGE (PSID)
35370-X	0.30-0.36	+/-.023 GPM	200-3000
35360-X	0.44-0.59	+/-0.04 GPM	200-3000
35350-X	0.97-1.21	+/-0.11 GPM	200-3000
35340-X	1.22-2.09	+/-0.13 GPM	350-3000
35330-X	2.93-3.58	+/-0.23 GPM	200-3000
35320-X	5.44-6.64	+/-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

CRISSAIR INC.

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)

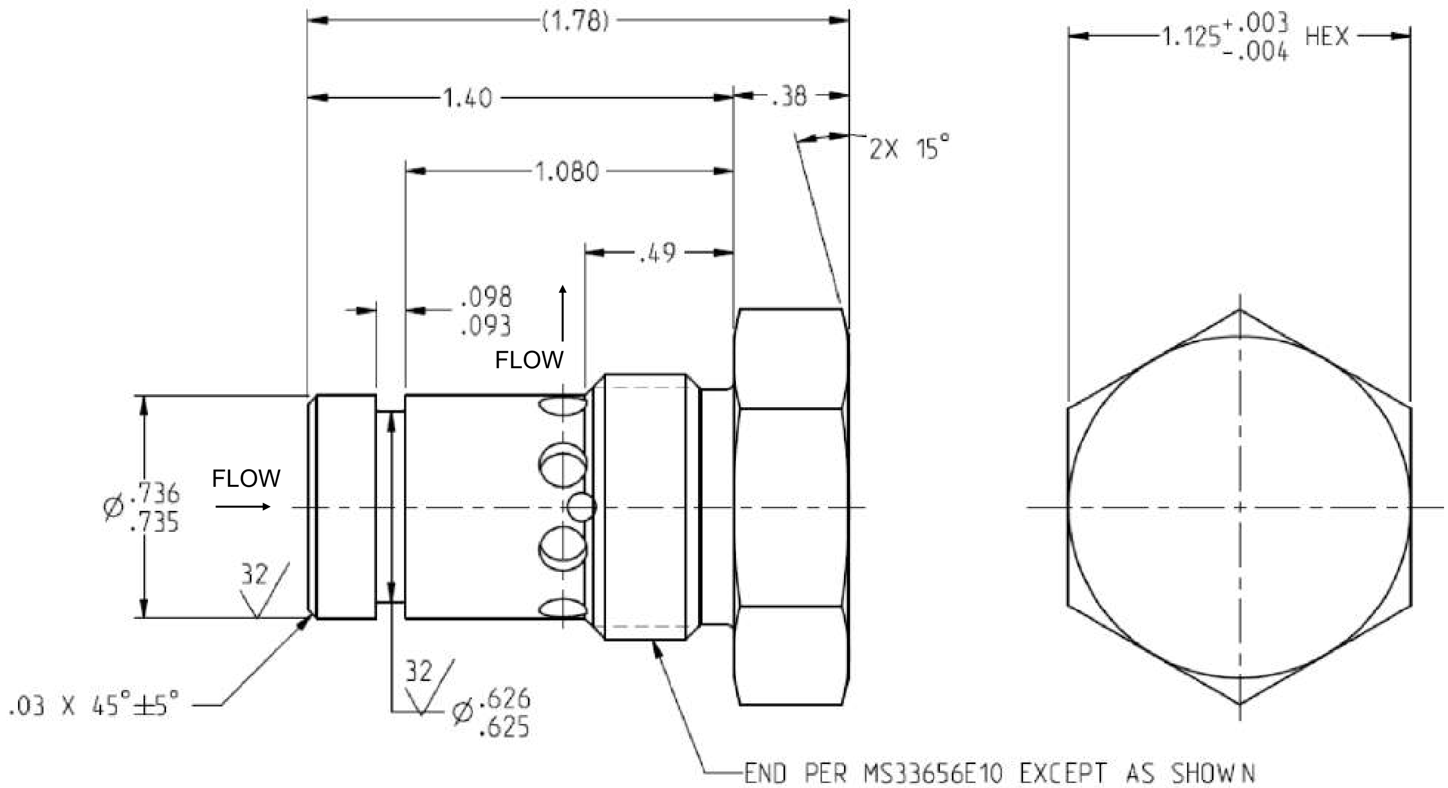
TEMPERATURE RANGE: -65°F TO 400°F

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.

PART NUMBER: 3F1086 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6061 AL

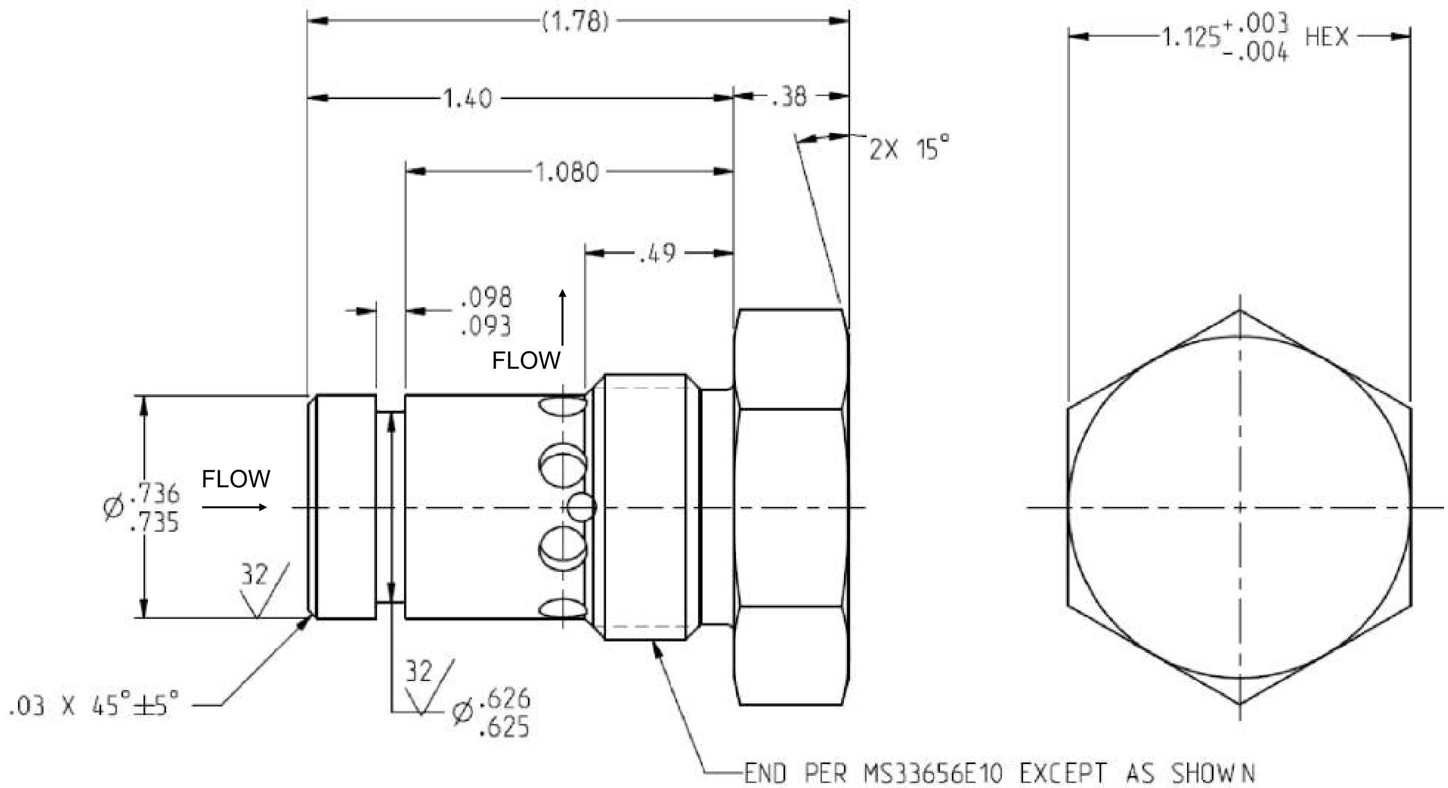
TEMPERATURE RANGE: 150°F +10/-0°F

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

PART NUMBER: 3F1088 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6061 AL

TEMPERATURE RANGE: 150°F +10/-0°F

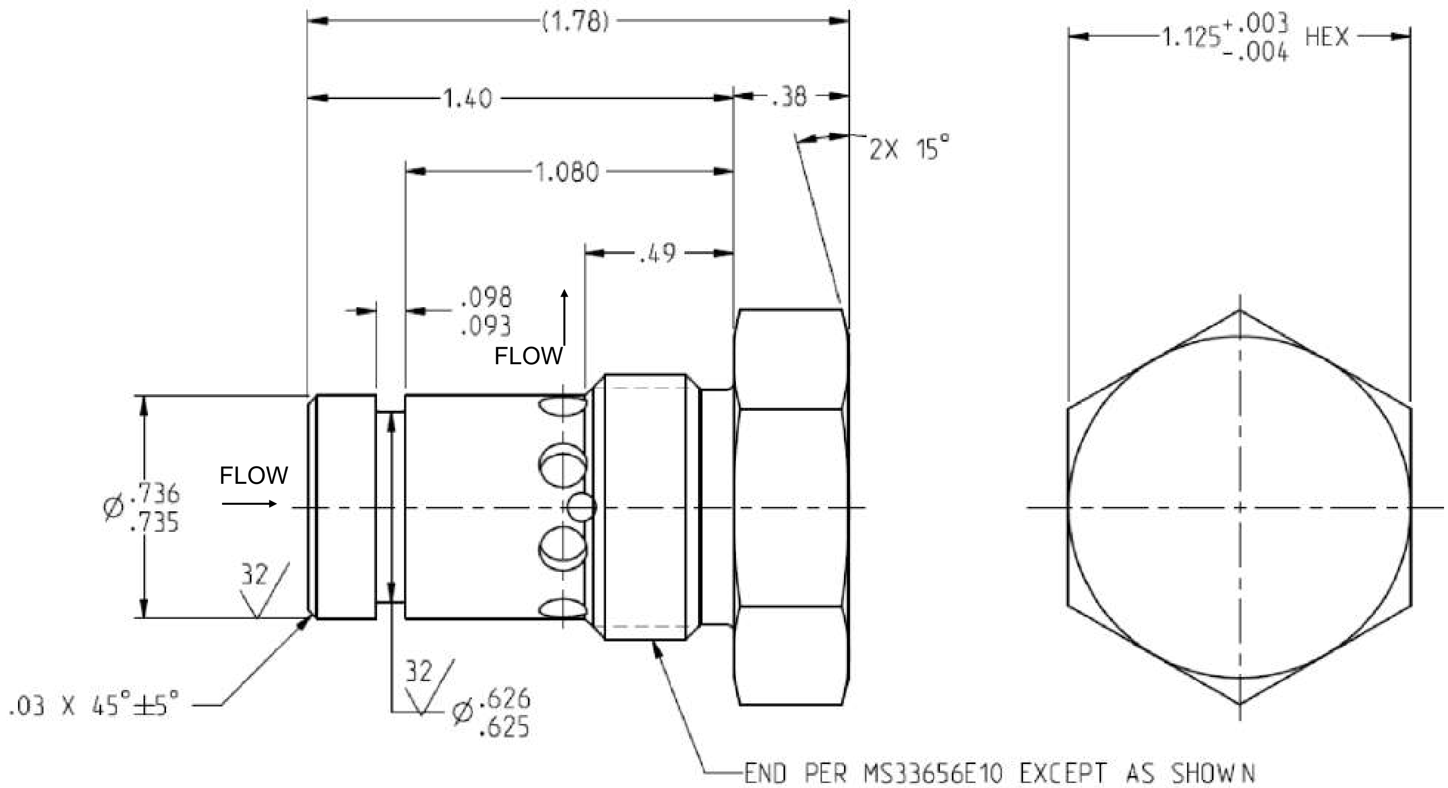
OPERATING PRESSURE: 1800 PSIG MAX

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

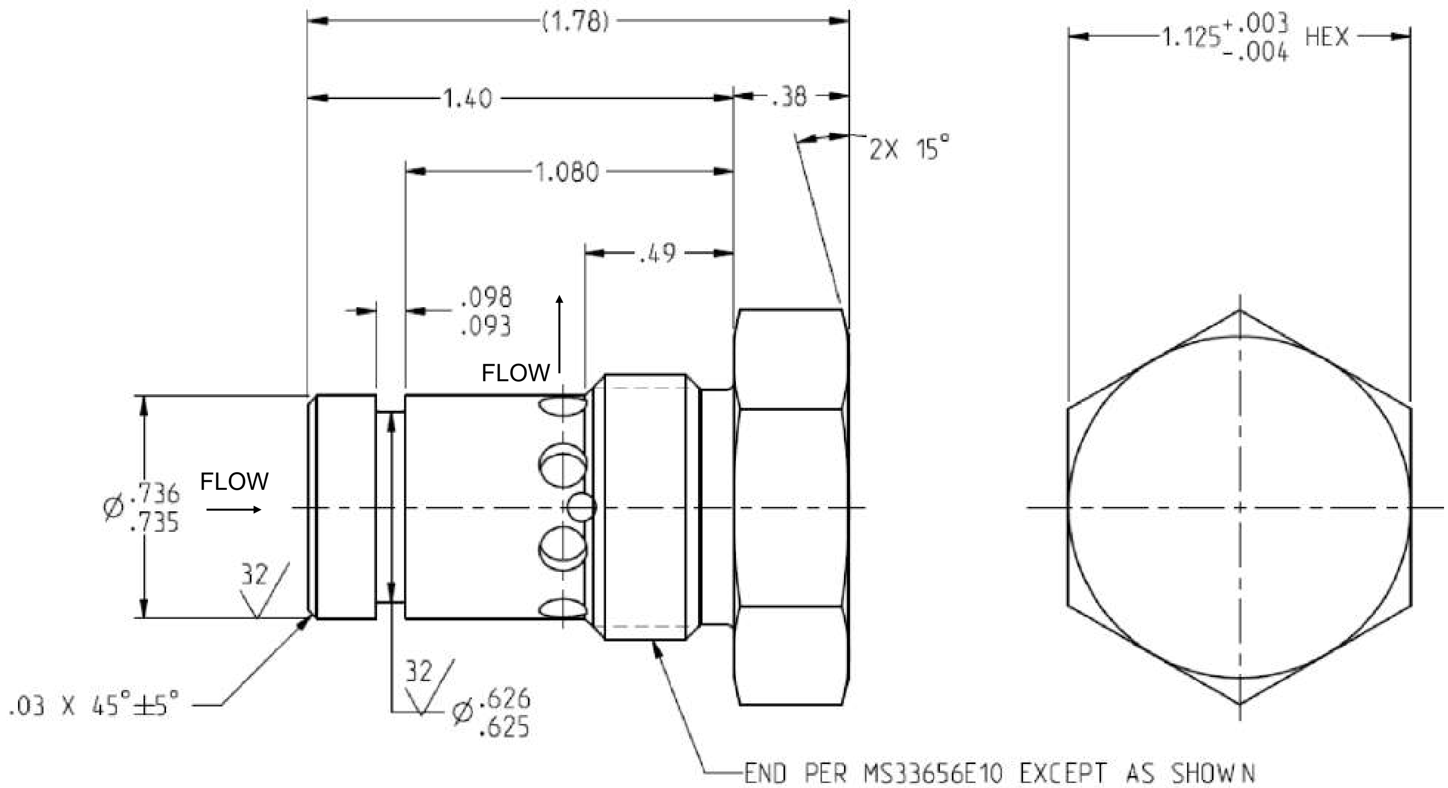
PROOF PRESSURE: 2400 PSIG MINIMUM

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

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

CRISSAIR INC.

PART NUMBER: 3F1092 ,FLOW CONTROL VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: ANY AIRCRAFT HYDRAULIC FLUID

MATERIAL: BODY 6061 AL

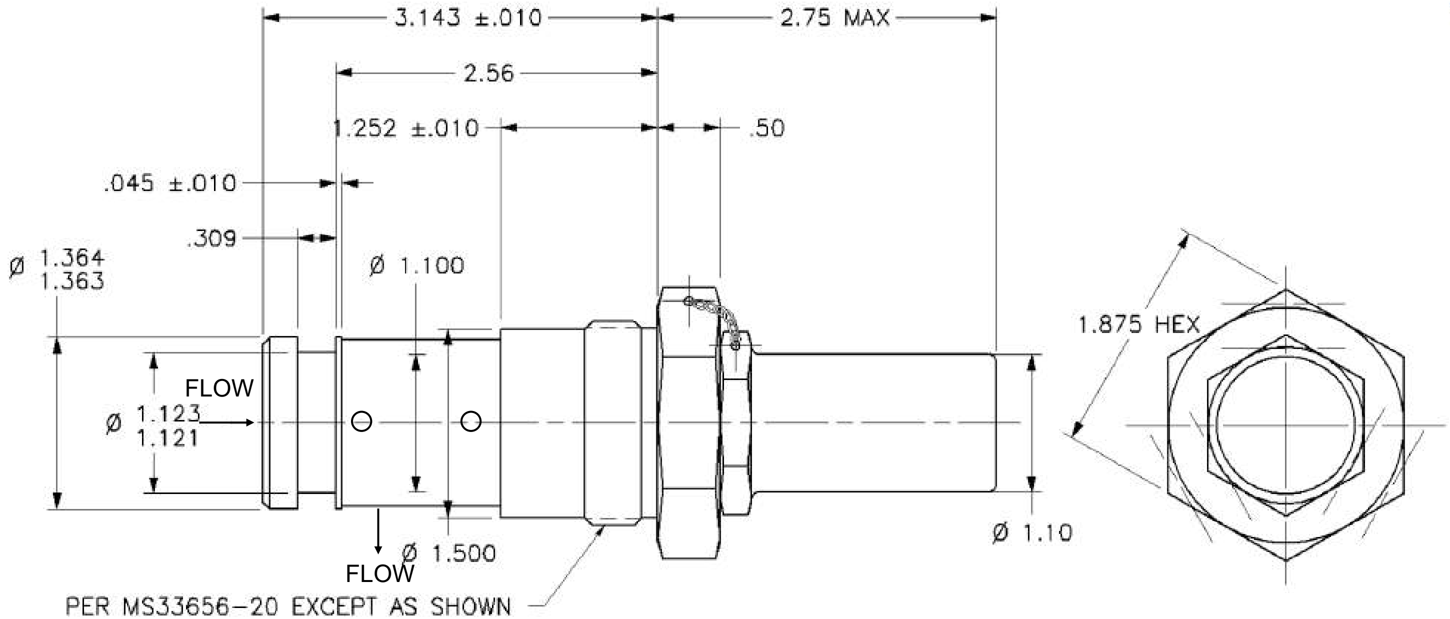
TEMPERATURE RANGE: 150°F +10/-0°F

OPERATING PRESSURE: 1800 PSIG MAX

PROOF PRESSURE: 2400 PSIG MINIMUM

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

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

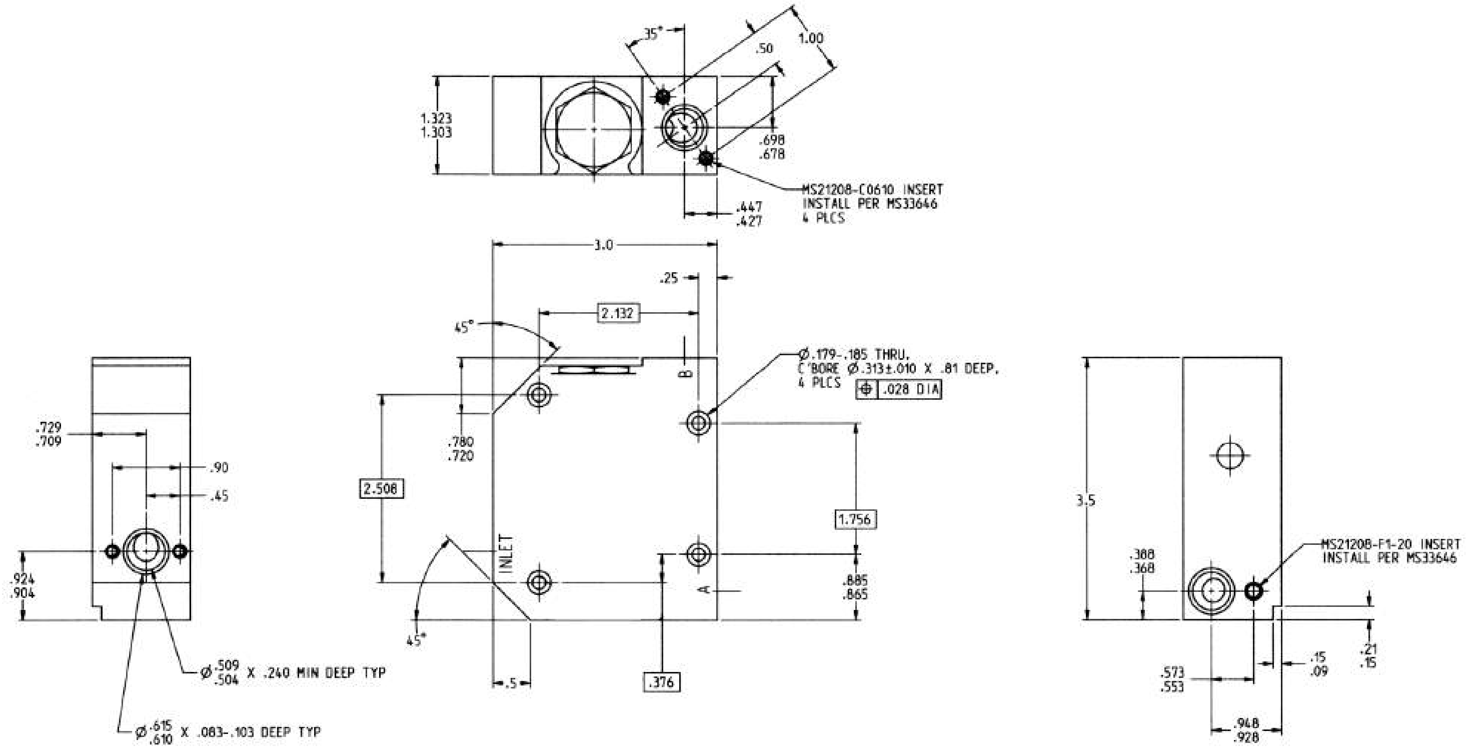
PROOF PRESSURE: 4500 PSIG

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

PART NUMBER: 5T0022 ,TEMPERATURE REGULATING VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: PAO (POLYALPHAOLEFIN)*

MATERIAL: HOUSING 6061-T6511 AL

TEMPERATURE RANGE: -65°F TO 266°F

OPERATING PRESSURE: 100 PSIG

PROOF PRESSURE: 150 PSIG

FLOW REGULATION: 5 PSID MAX AT 4 GPM (ALL POSITIONS)

OPERATION: WITH 100% FLOW AT INLET AND AN INLET OIL TEMPERATURE OF 50°F OR LESS THERE SHALL BE 95% MINIMUM FLOW THRU PORT A (5% MAX PORT B). AT 59°F INLET OIL TEMPERATURE THERE SHALL BE 50±20% FLOW THRU PORT A (50±20% PORT B). AT AN INLET OIL TEMPERATURE GREATER THAN 86°F THERE SHALL BE 95% MINIMUM FLOW THRU PORT B (5% MAX PORT A).

RESPONSE: WITH AN INLET FLOWRATE OF 3 GPM, THE FLOW SHALL CHANGE FROM PORT A TO PORT B WITHIN THREE MINUTES WHEN COOLANOL INLET TEMPERATURE IS INSTANTANEOUSLY CHANGED FROM 50°F TO 86°F

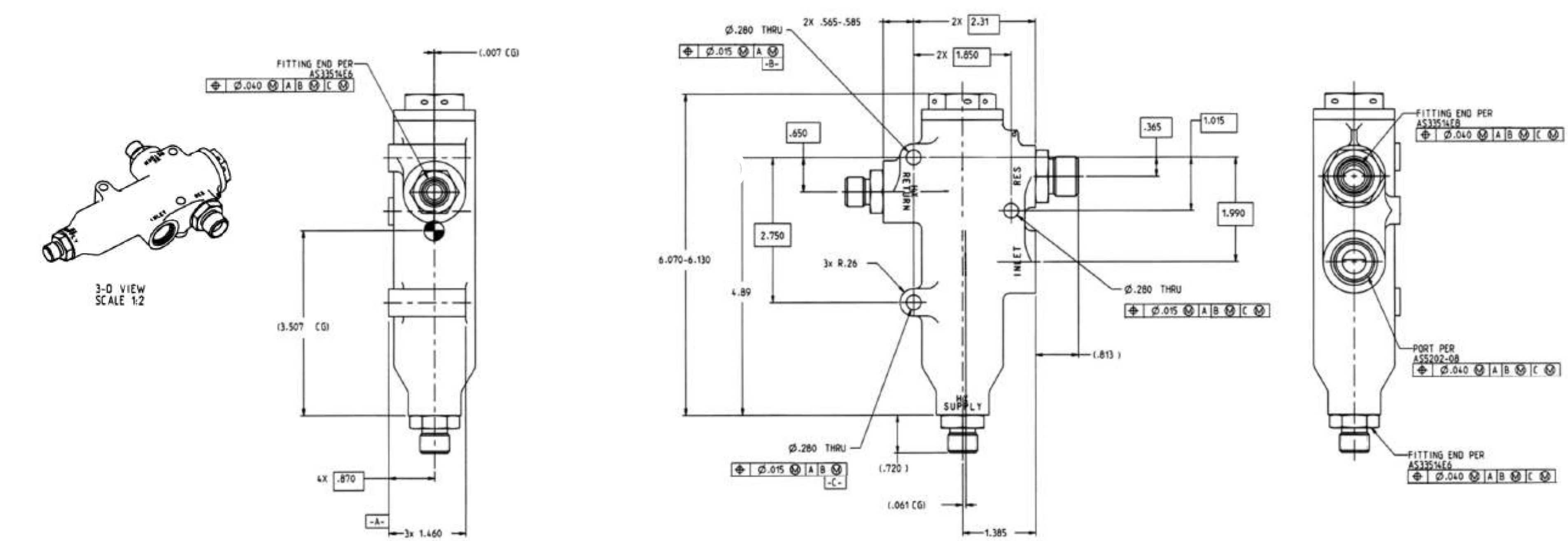
WEIGHT: 1.20 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

CATEGORY 10 OTHER AEROSPACE VALVES: THERMAL CONTROL VALVES

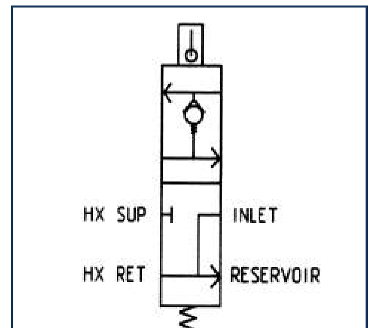
CRISSAIR INC.

PART NUMBER: 5T0024 ,HEAT EXCHANGER BYPASS VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: SKYDROL*
MATERIAL: HOUSING 6061-T6 AL
TEMPERATURE RANGE: -65°F TO 225°F
OPERATING PRESSURE: 150 PSIG
TRANSIENT PRESSURE DURING NORMAL OPERATION: 250 PSIG
PROOF PRESSURE: 500 PSIG
PERFORMANCE: CLOSED (BYPASS) MODE: 7 PSID MAX (INLET TO RESERVOIR PORT) AT 5.0 GPM AND
95°F OR LESS FLUID TEMP AT INLET
CLOSED (BYPASS) MODE: INTERNAL LEAKAGE SHALL BE 200 CC/MINUTE MAX (INLET TO HX SUPPLY PORT)
@ 5.0 PSID AND 95°F OR LESS FLUID TEMP AT INLET
OPEN MODE: 12 PISD MAX (INLET TO HX SUPPLY PORT) AT 5.0 GPM AND 125°F OR GREATER FLUID TEMP AT INLET
OPEN MODE: 11 PSID MAX (HX RETURN TO RESERVOIR PORT) AT 5.0 GPM AND 125°F OR GREATER FLUID TEMP AT INLET
RELIEF VALVE (OPEN MODE ONLY): CRACK: 170 PSID MAX
(INLET TO OUTLET PORT) FROM 150°F TO 275°F FLUID TEMP AT INLET
FLOW: 200 PSID MAX (INLET TO OUTLET PORT) @ 5.0 GPM AND
140°F OR GREATER FLUID TEMP AT INLET
RESEAT: 100 PSID MIN (INLET TO OUTLET PORT) AND 140°F OR
GREATER FLUID TEMP AT INLET
WEIGHT: 2.49 LBS MAX
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC

CATEGORY 10 OTHER AEROSPACE VALVES: THERMAL CONTROL VALVES

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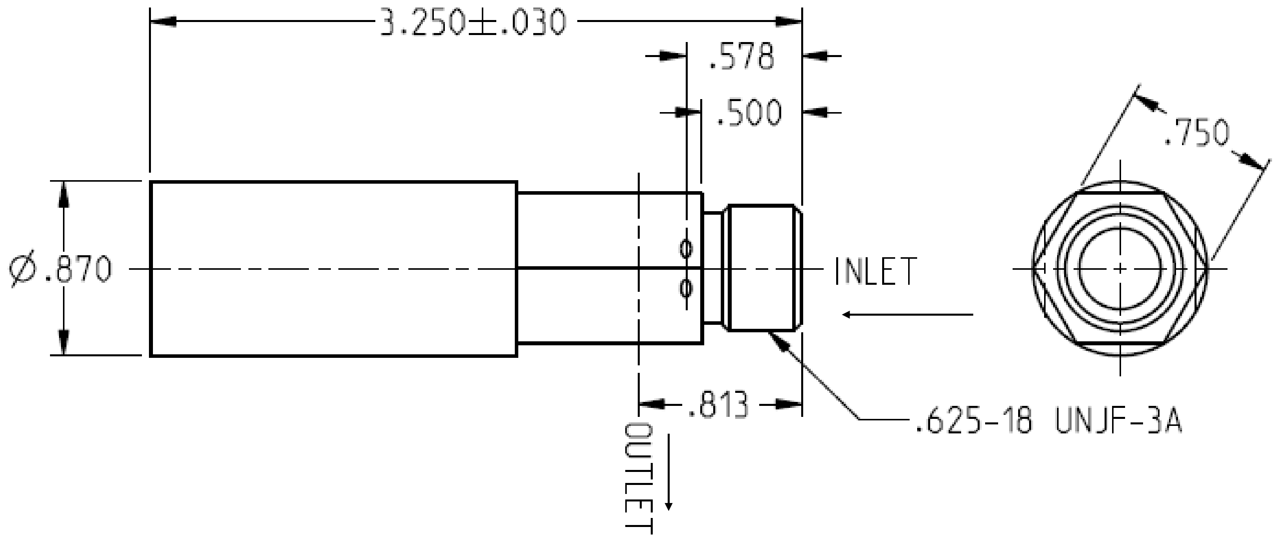
CRISSAIR INC.

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

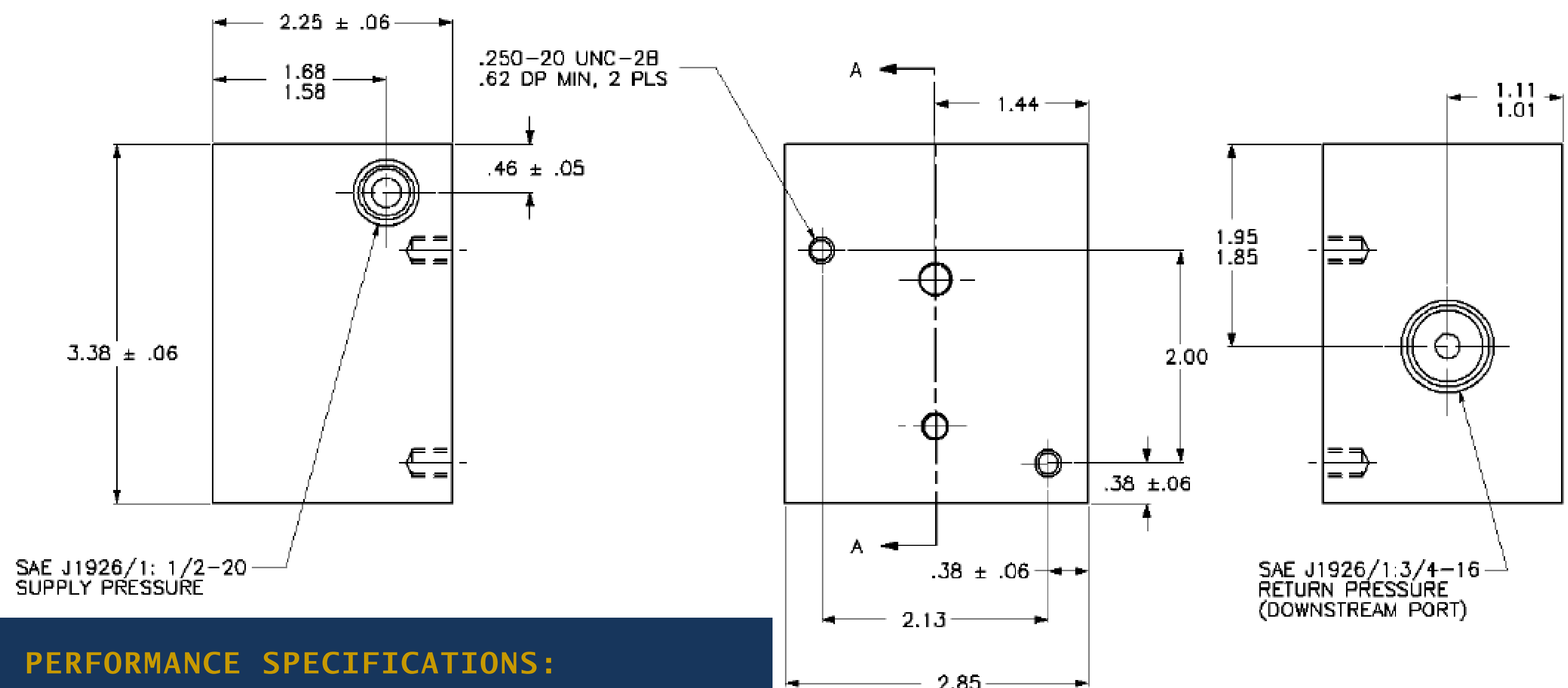
CLOSED CONDITION LEAKAGE: 200 CC/MIN MAX AT 40 PSID AND 155°F

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

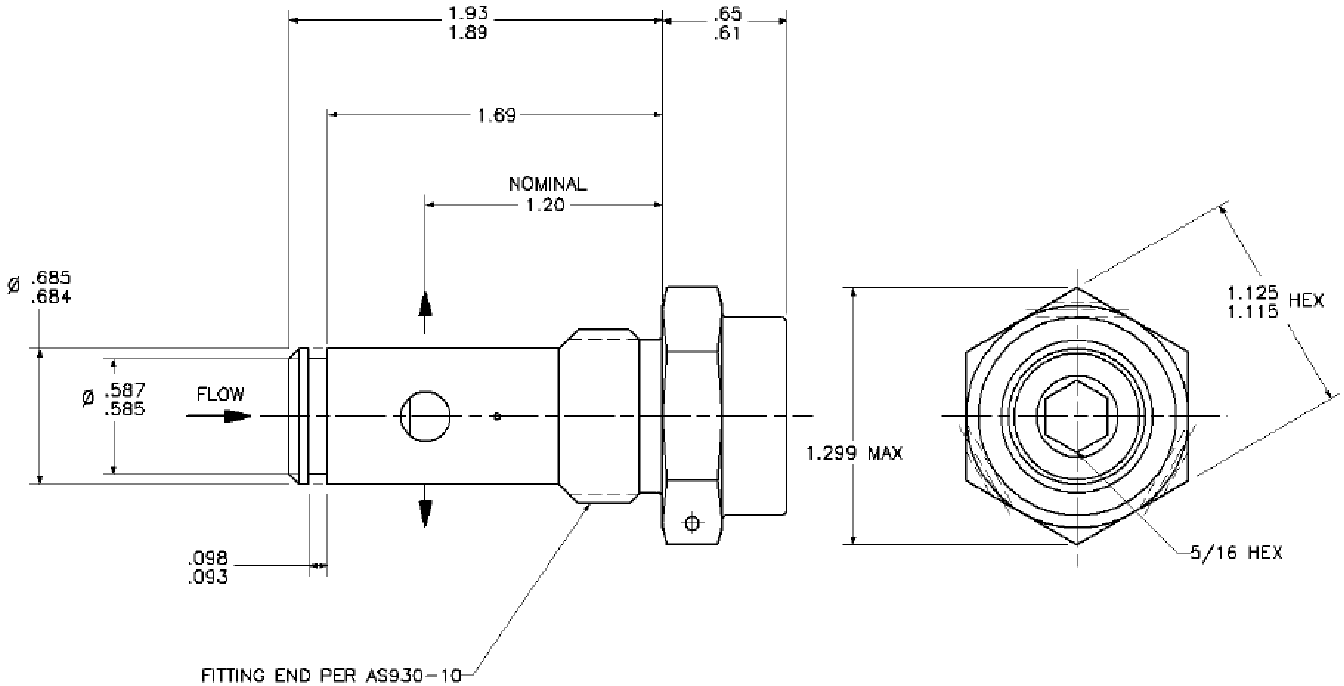
PROOF PRESSURE: 450 PSIG

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

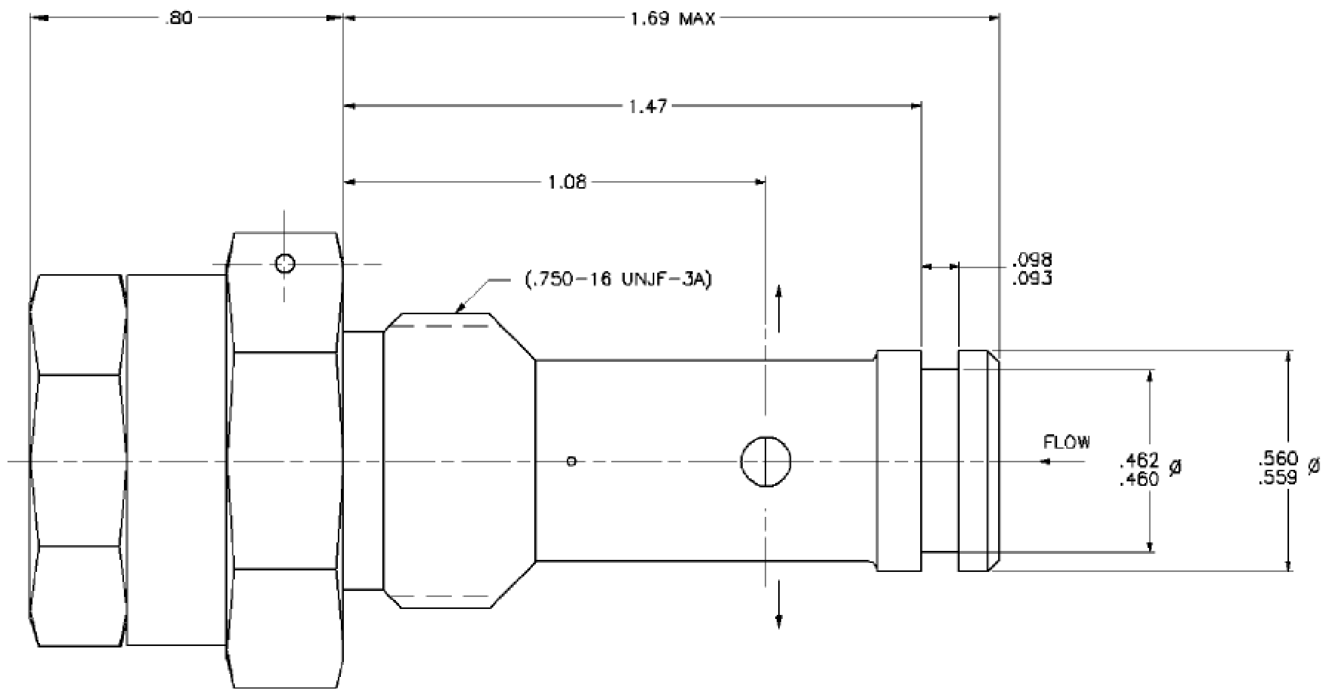
INTERNAL LEAKAGE: 5 CC/MIN MAXIMUM AT PRESSURES BELOW RESEAT

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

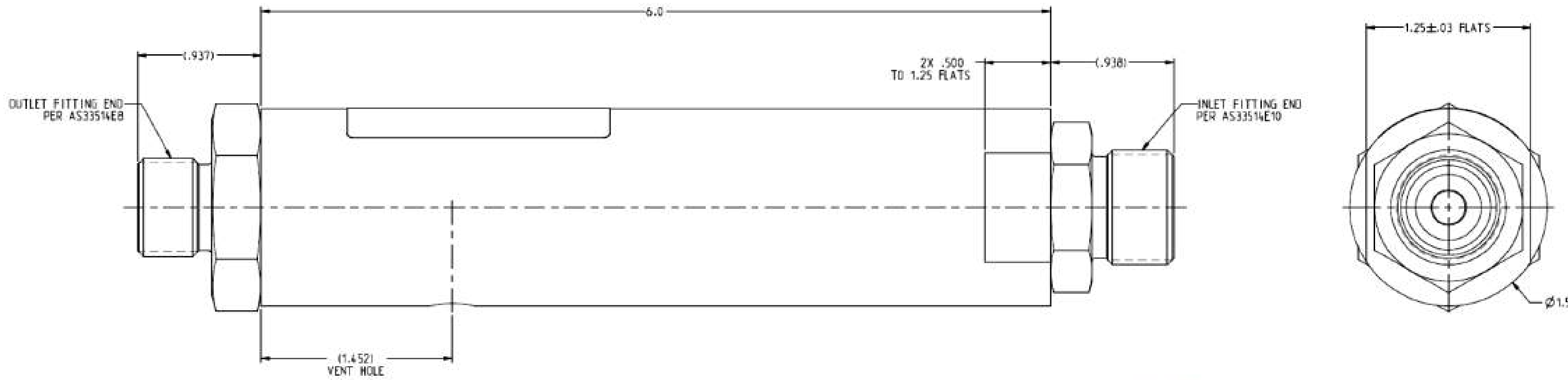


PERFORMANCE SPECIFICATIONS:

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
CRACKINGING PRESSURE: 800 ± 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

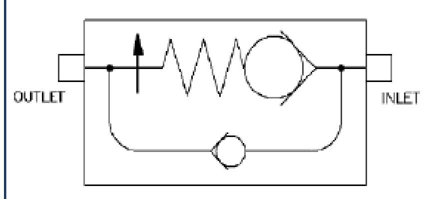
CRISSAIR INC.

PART NUMBER: 5P1018 ,PRIORITY VALVE



PERFORMANCE SPECIFICATIONS:

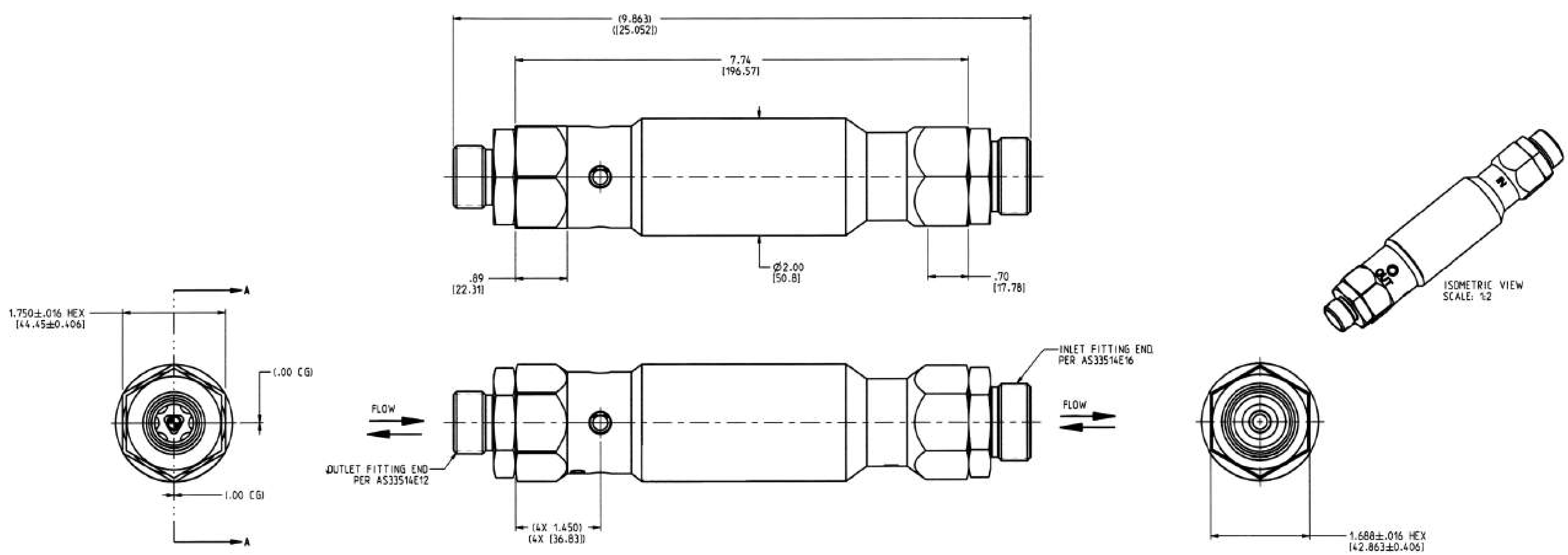
FLUIDS: LOW DENSITY PHOSPHATE ESTER FLUID TYPE IV AND V (SKYDROL)*
MATERIAL: HOUSING 2024-T351
POPPET 440C CRES
TEMPERATURE RANGE: -67°F TO 185°F
OPERATING PRESSURE: 3000 PSIG
PROOF PRESSURE: 4500 PSIG
CRACK: 2450 PSIG MAX AT 10 CC/MIN
FLOW: 2450 PSIG MAX AND 100 PSID MAX AT 7.3 GPM
RESEAT PRESSURE: 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

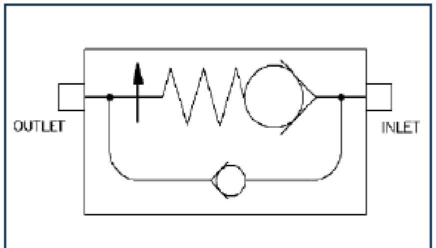
CATEGORY 10 OTHER AEROSPACE VALVES: PRIORITY VALVES

PART NUMBER: 5P1020 ,PRIORITY VALVE



PERFORMANCE SPECIFICATIONS:

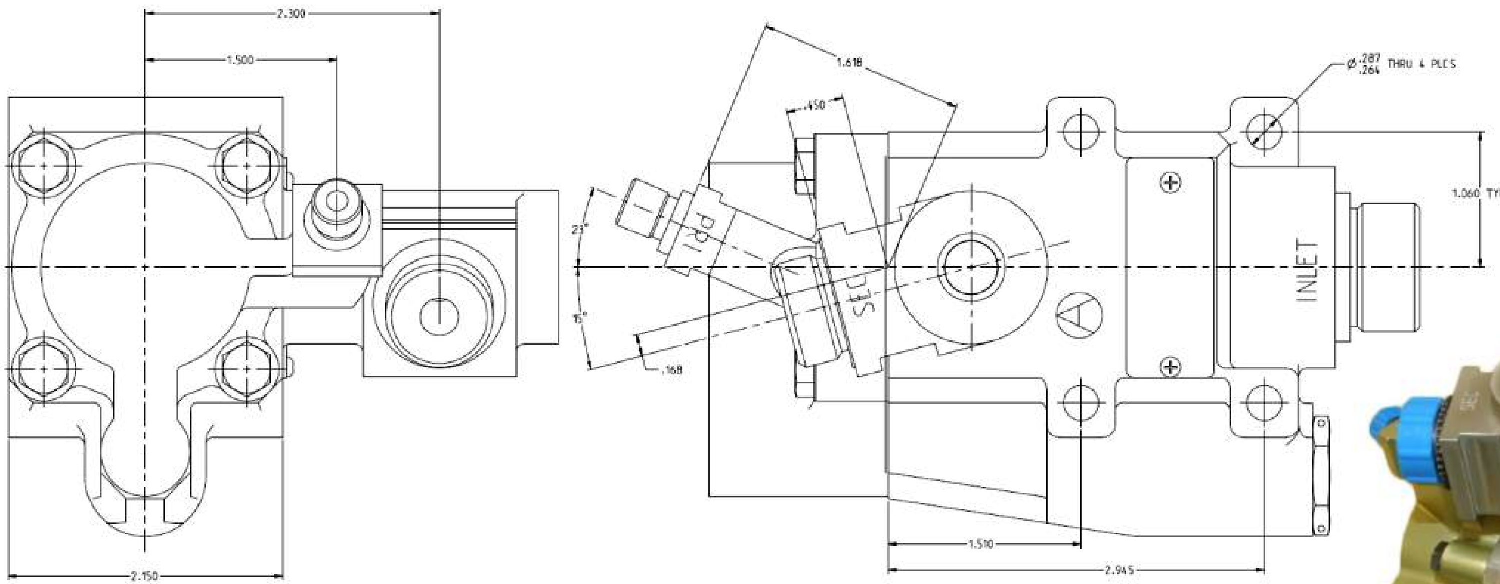
FLUIDS: SKYDROL*
MATERIAL: HOUSING 2024-T351
POPPET 17-4 PH
TEMPERATURE RANGE: 20°F TO 225°F
OPERATING PRESSURE: 3000 PSIG
TRANSIENT PRESSURE DURING NORMAL OPERATION: 3750 PSIG
PROOF PRESSURE: 4500 PSIG
PERFORMANCE (INLET TO OUTLET)
REFERENCE CRACKING PRESSURE: 2400 PSIG MINIMUM
FLOW: 20 GPM AT 180 PSID 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

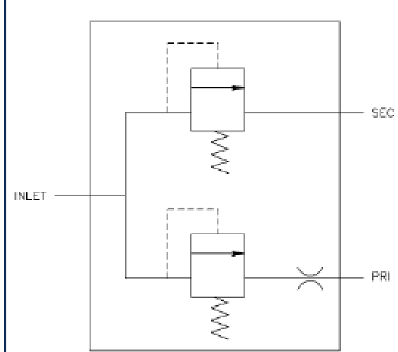
CATEGORY 10 OTHER AEROSPACE VALVES: PRIORITY VALVES

PART NUMBER: 1M1514 ,FUEL FLOW DIVIDER



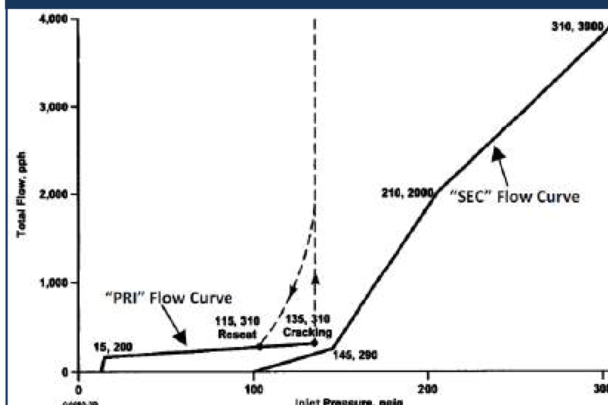
PERFORMANCE SPECIFICATIONS:

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



HYDRAULIC SCHEMATIC

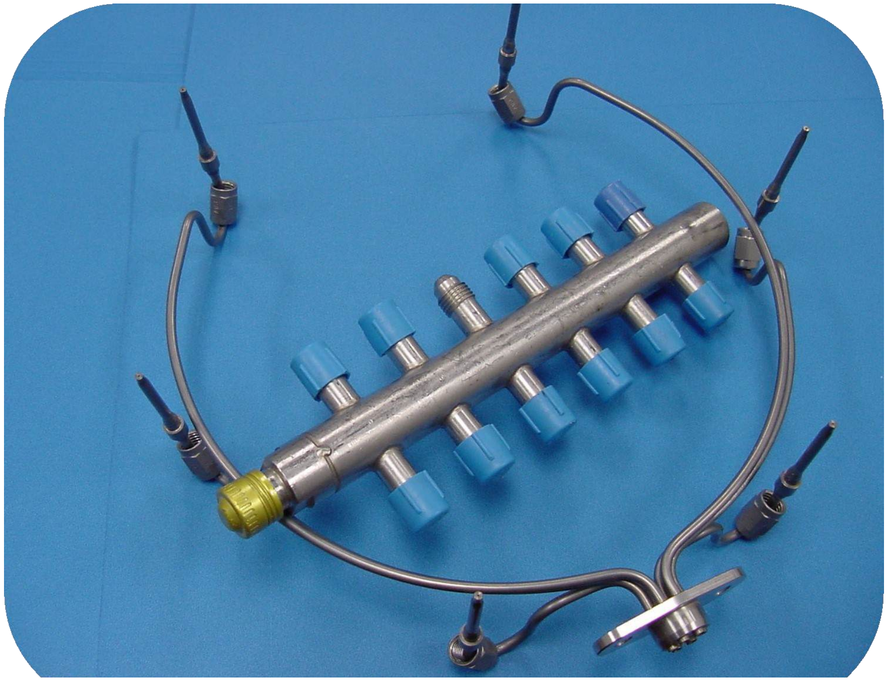
FLOW CURVE, LAB TESTED



CATEGORY 10 OTHER AEROSPACE VALVES: FUEL FLOW DIVIDERS

CRISSAIR INC.

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 ±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.

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.

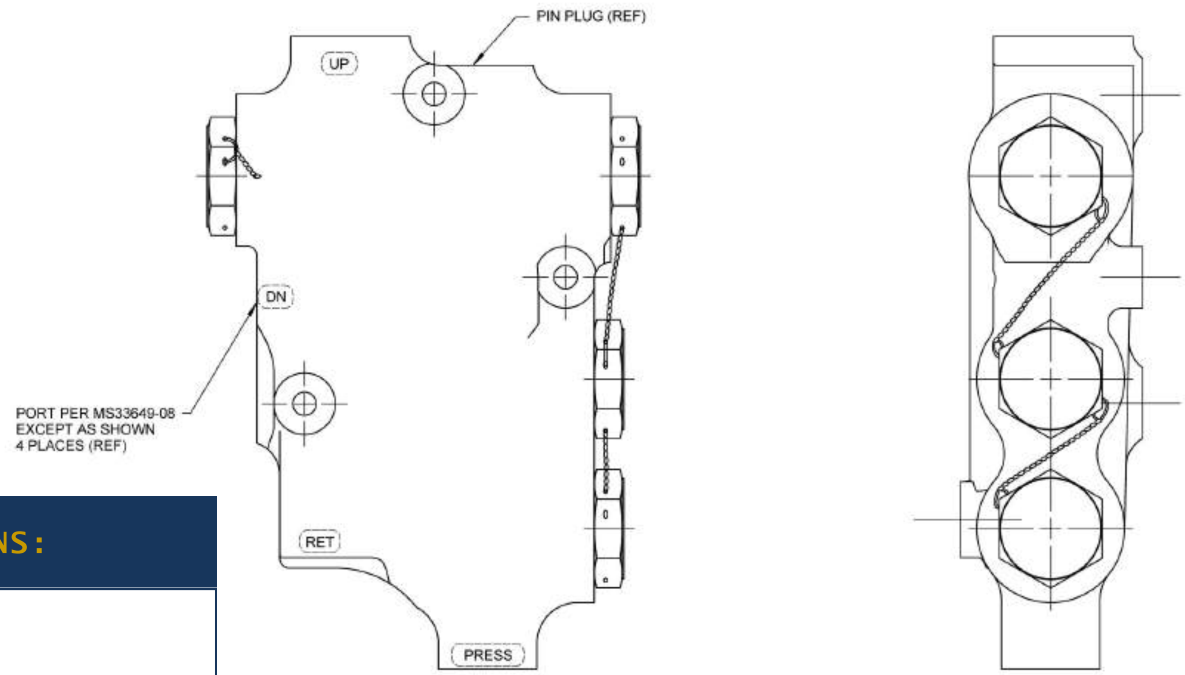
MANIFOLD ASSEMBLIES

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.

CRISSAIR INC.

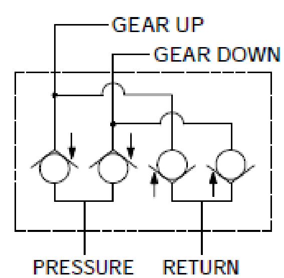
PART NUMBER:1M1516 , HYDRAULIC RETURN MANIFOLD



CATALOG USE ONLY

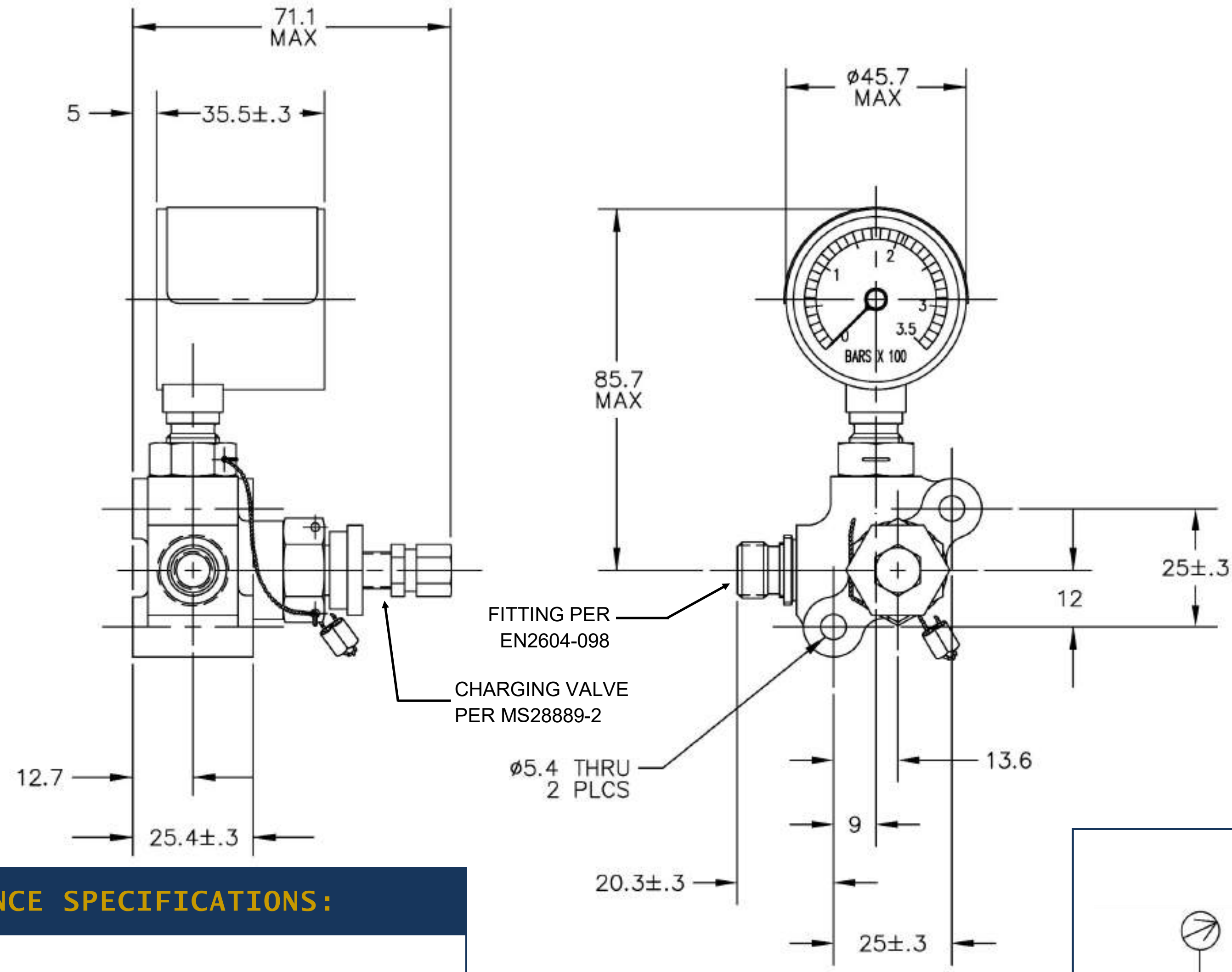
PERFORMANCE SPECIFICATIONS:

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

CATEGORY 11: MANIFOLD ASSEMBLIES



PERFORMANCE SPECIFICATIONS:

FLUIDS: MIL-H-83282*

MATERIAL: MANIFOLD 2024-T351 AL

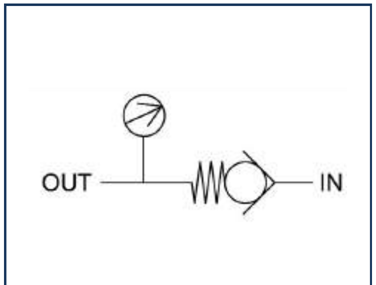
TEMPERATURE RANGE: -22°F TO 248°F

OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 6000 PSIG

INTERNAL LEAKAGE: NONE

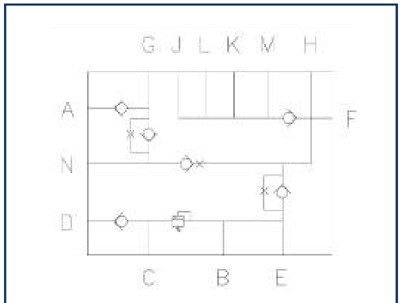
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



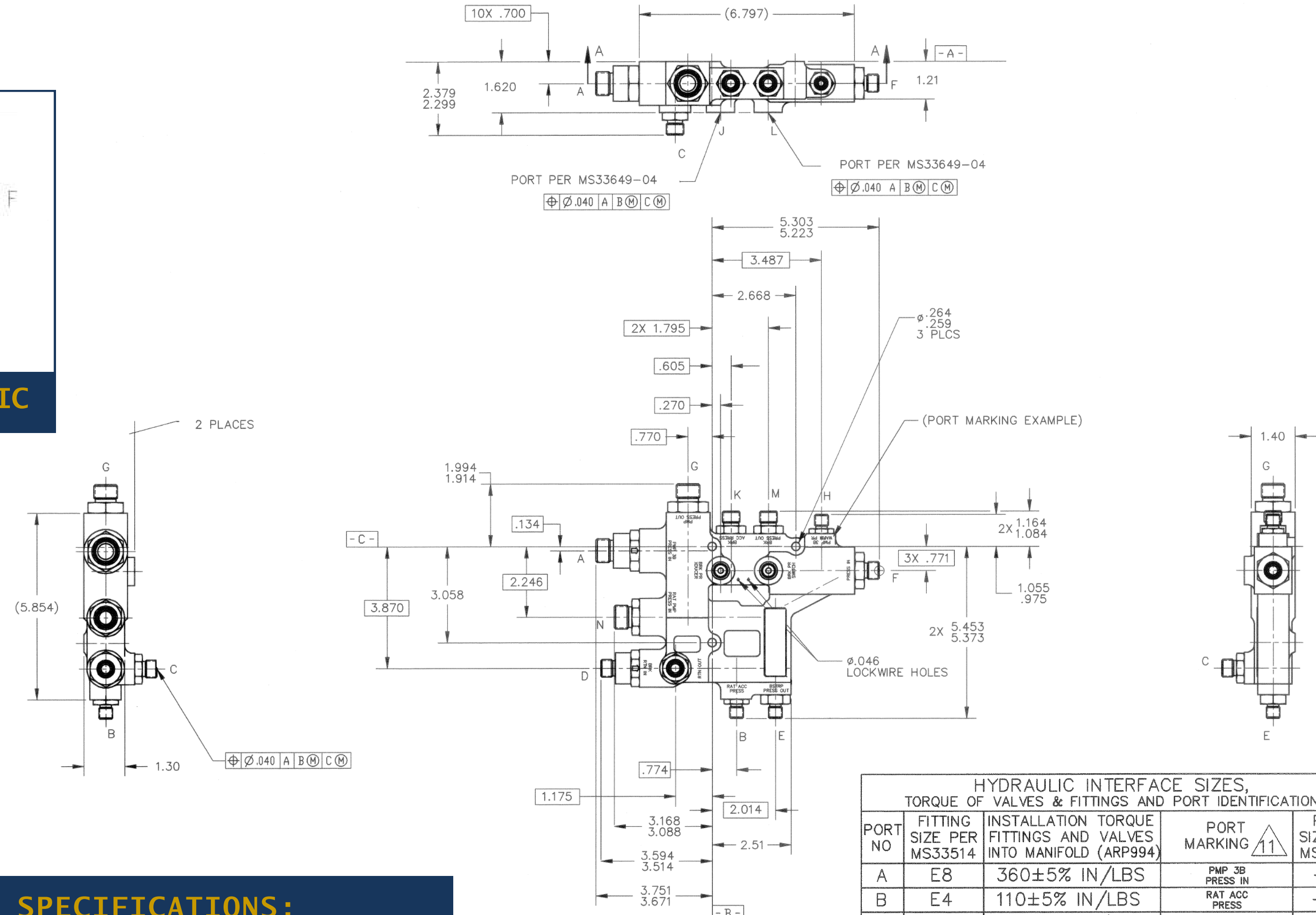
HYDRAULIC SCHEMATIC

PART NUMBER: 1M1520, MANIFOLD ASSEMBLY VALVE

CRISSAIR INC.



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

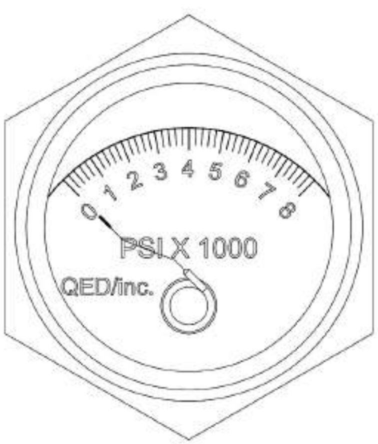
WEIGHT: 3.90 LBS MAX

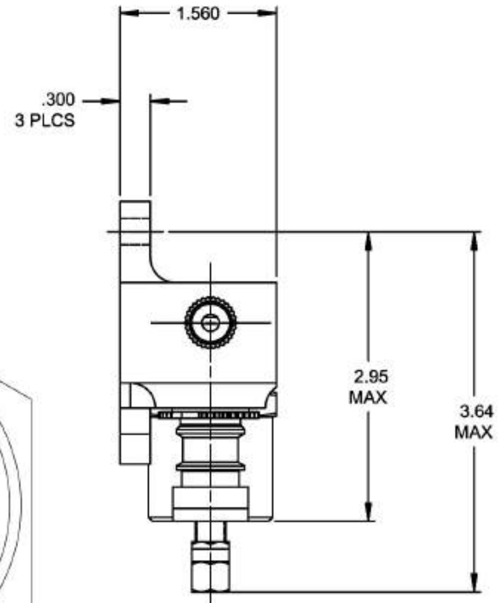
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

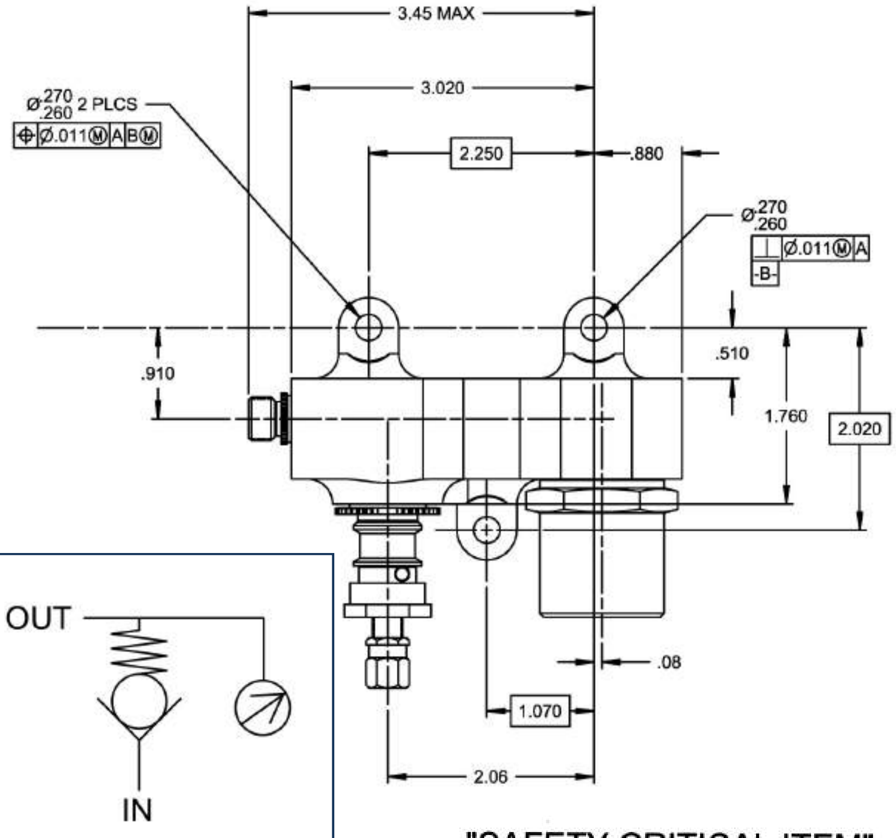
HYDRAULIC INTERFACE SIZES, TORQUE OF VALVES & FITTINGS AND PORT IDENTIFICATION

PORT NO	FITTING SIZE PER MS33514	INSTALLATION TORQUE FITTINGS AND VALVES INTO MANIFOLD (ARP994)	PORT MARKING 11	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

PART NUMBER:1M1538 , HIGH PRESSURE PNEUMATIC MANIFOLD

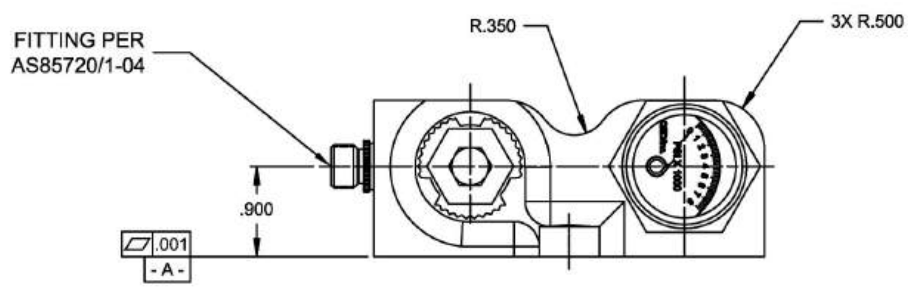






HYDRAULIC SCHEMATIC

"SAFETY CRITICAL ITEM"



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR AND NITROGEN

MATERIAL: MANIFOLD 6AL-4V TI

TEMPERATURE RANGE: -65°F TO 250°F

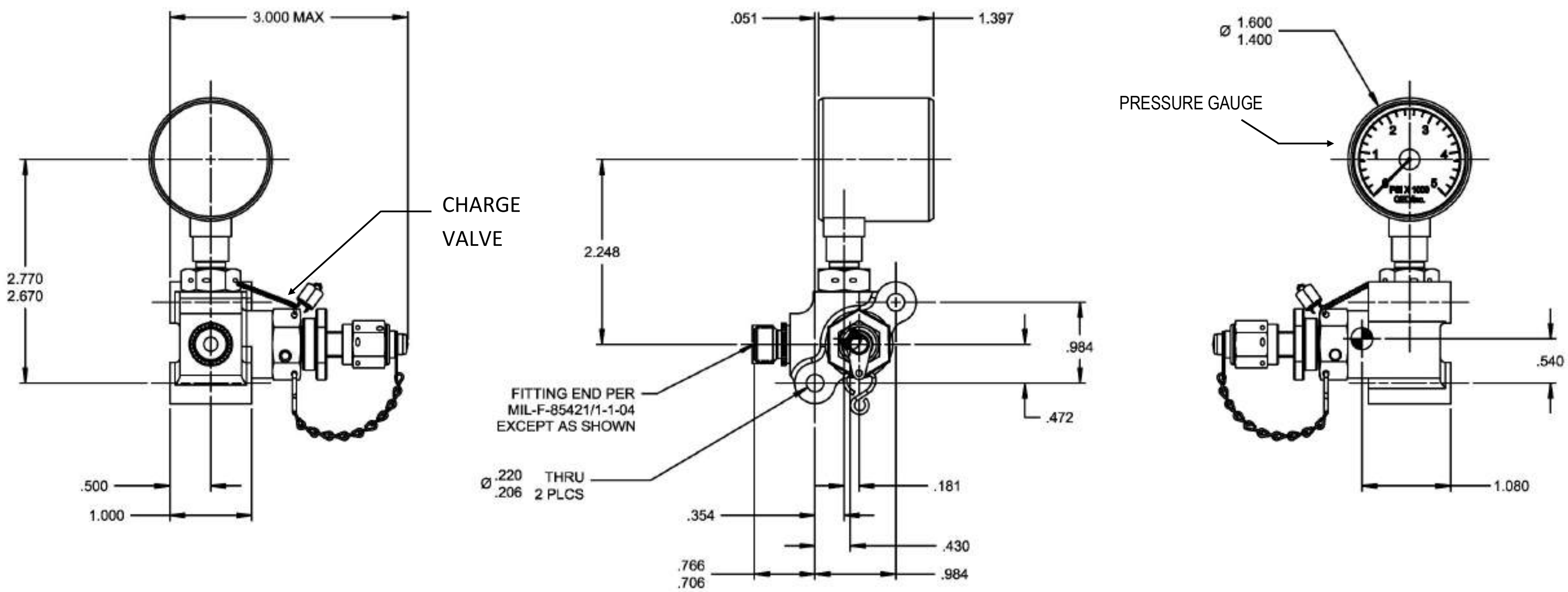
OPERATING PRESSURE: 5400 PSIG

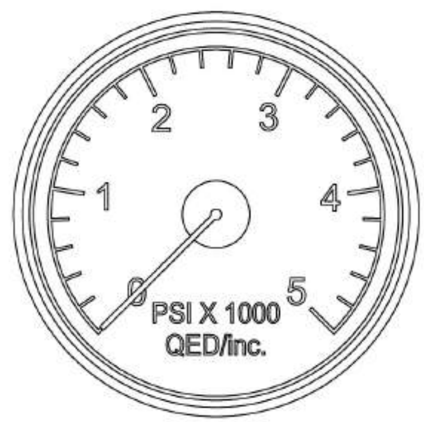
PROOF PRESSURE: 10800 PSIG

INTERNAL LEAKAGE: NONE FROM 0 TO 5400 PSID WITH NUT ON ITEM 2 TORQUED TO 50-60 INCH/LBS

CRISSAIR INC.

PART NUMBER: 1M1522 , CHARGING MANIFOLD





PERFORMANCE SPECIFICATIONS:

FLUIDS: NITROGEN

MATERIAL: MANIFOLD 6AL-4V TI

TEMPERATURE RANGE: -65°F TO 185°F

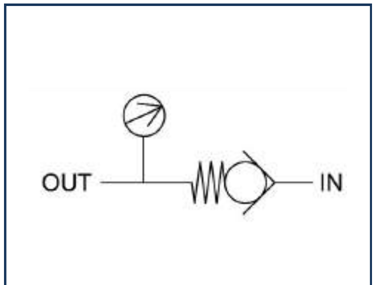
OPERATING PRESSURE: 4000 PSIG

PROOF PRESSURE: 6000 PSIG

FLOW: 80 L/MIN MINIMUM

INTERNAL LEAKAGE: NOT APPLICABLE

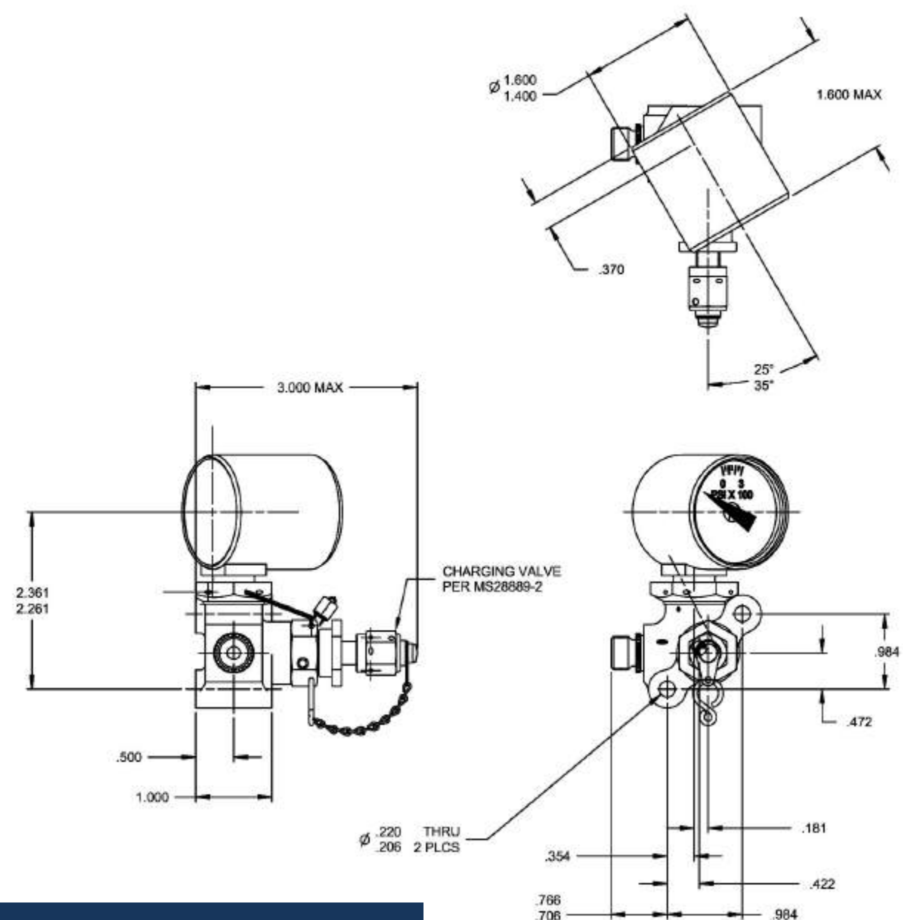
WEIGHT: 2.45 LBS MAX

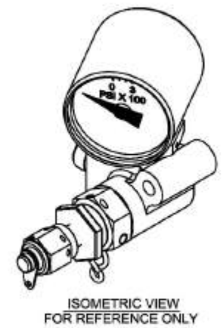


HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 1M1524





PERFORMANCE SPECIFICATIONS:

FLUIDS: NITROGEN

MATERIAL: MANIFOLD 6AL-4V TI

TEMPERATURE RANGE: -65°F TO 185°F

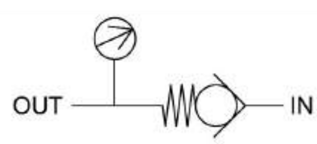
OPERATING PRESSURE: 3000 PSIG

PROOF PRESSURE: 4500 PSIG

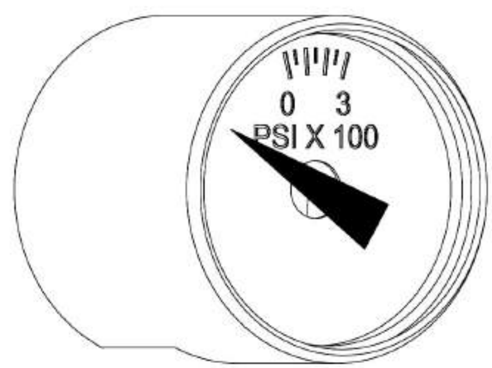
FLOW: 80 L/MIN MINIMUM

INTERNAL LEAKAGE: NOT APPLICABLE

WEIGHT: 0.88 LBS MAX

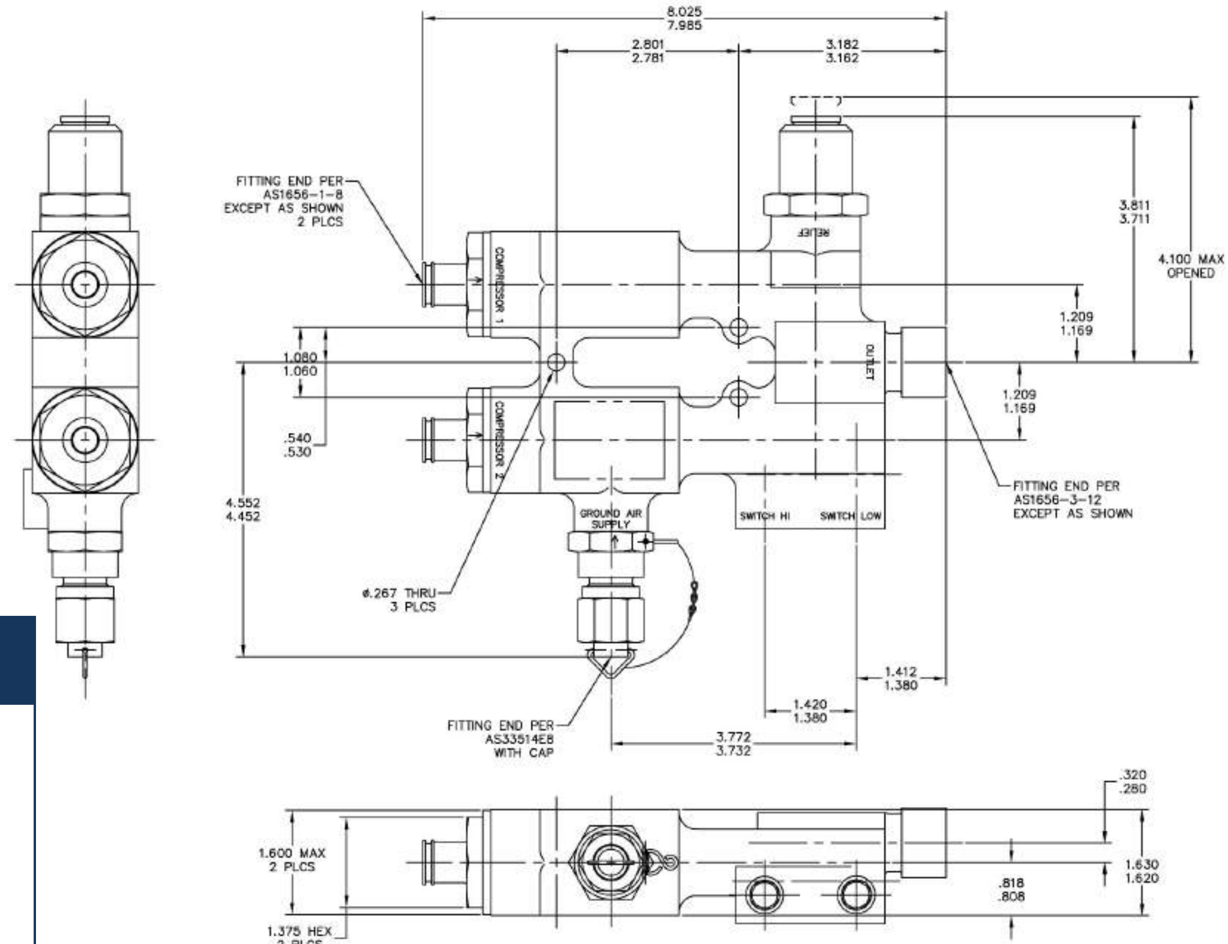


HYDRAULIC SCHEMATIC



CRISSAIR INC.

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

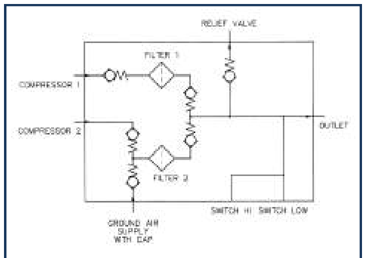
CRACKING PRESSURE: 1.5 TO 8 PSID

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

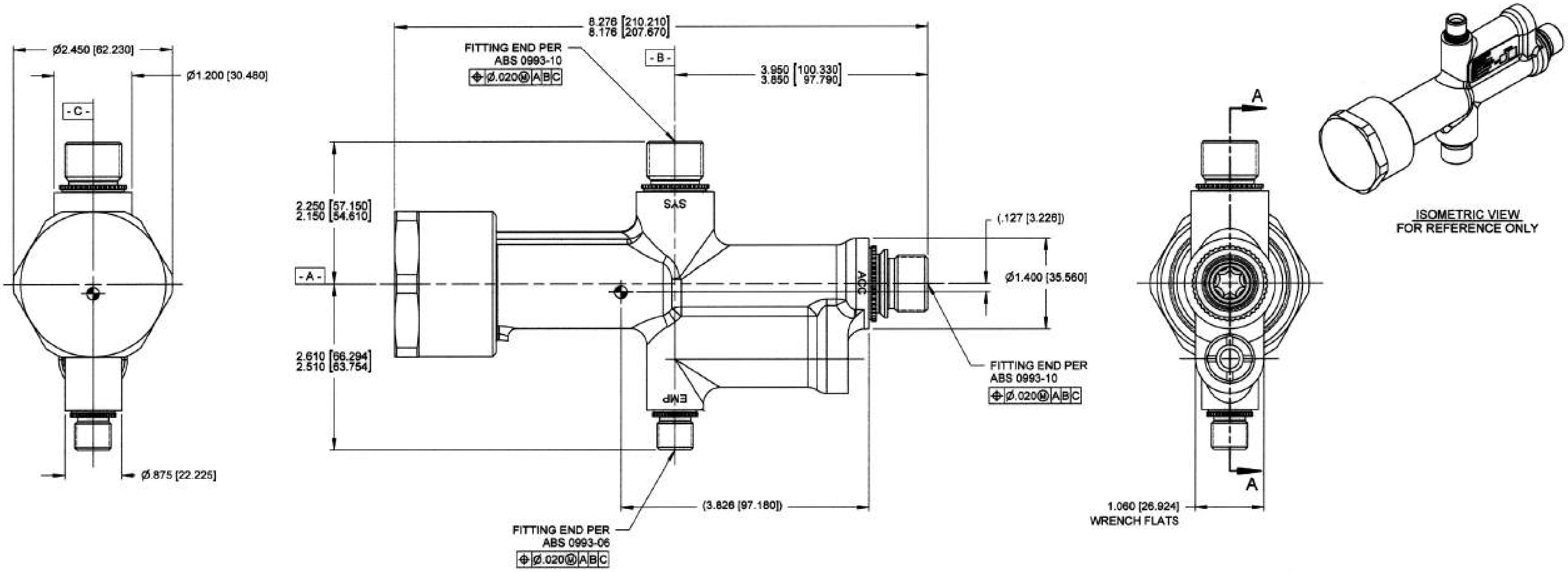
WEIGHT: 2.70 LBS MAX



HYDRAULIC SCHEMATIC

CATEGORY 11: MANIFOLD ASSEMBLIES

PART NUMBER: 1M1528 , 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

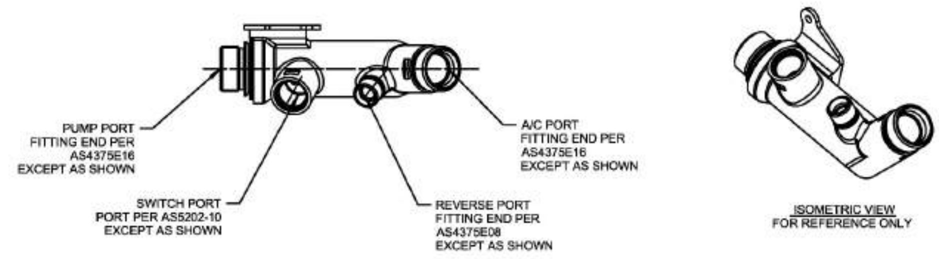
FLOW: 6.6 GPM AT 45 PSID MAX AT 68°F FROM EMP AND ACCUM
28.5 GPM AT 126 PSID MAX AT 68°F FROM SYS TO ACCUM AND ACCUM TO SYS

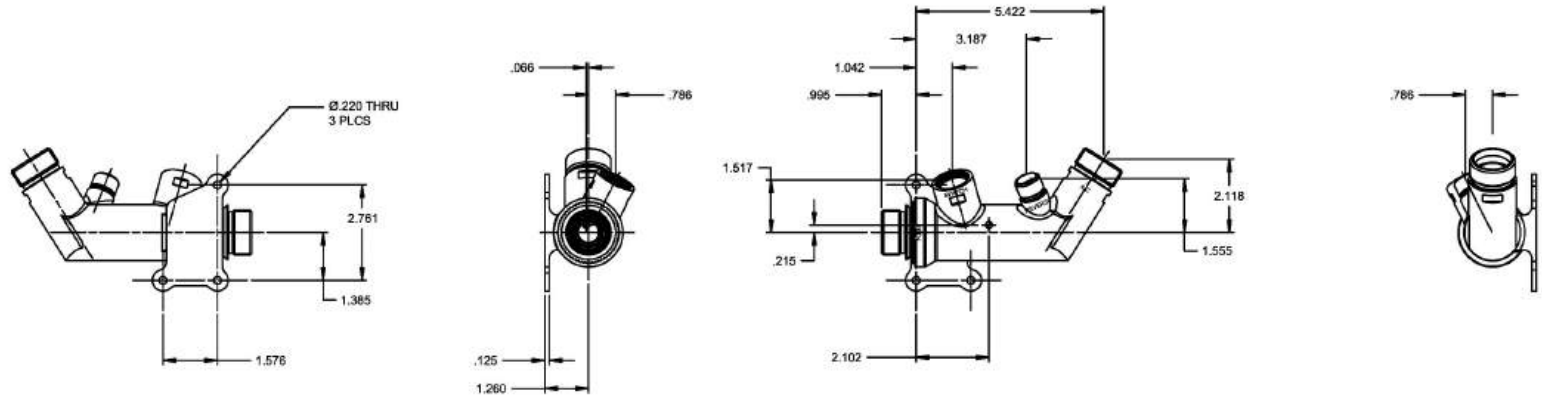
INTERNAL LEAKAGE: 2 DPM MAX FROM 1000 TO 5076 PSID
FROM ACCUM TO EMP AND ACCUM TO SYS

WEIGHT: 3.93 LBS MAX

*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE

PART NUMBER: 1M1280-X, CHECK VALVE MANIFOLD





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

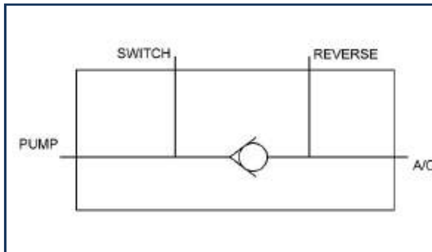
CRACKING PRESSURE: 2 TO 7.2 PSID

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

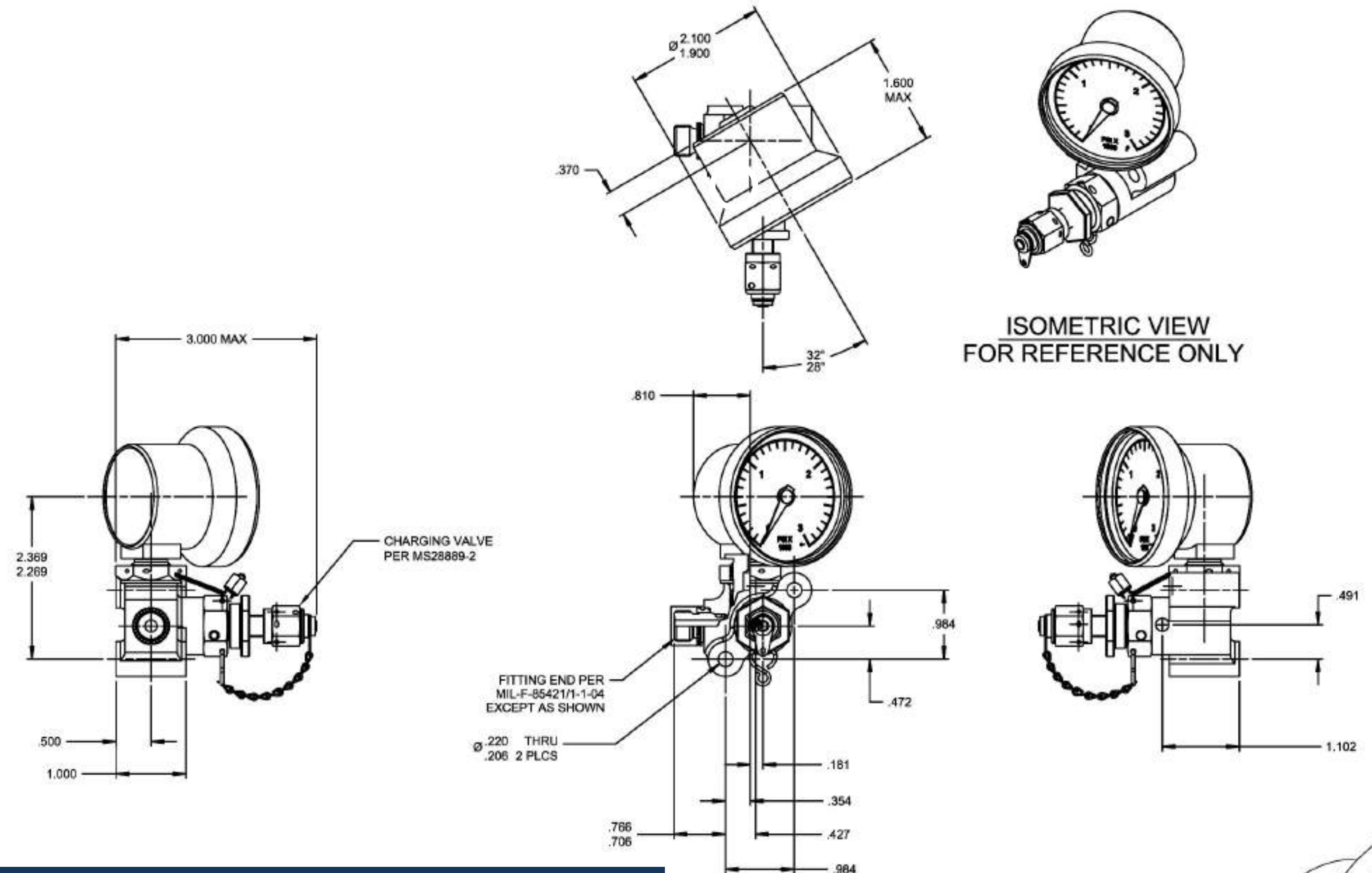
*OTHER FLUIDS MAY BE ACCEPTABLE WITH ELASTOMER CHANGE



HYDRAULIC SCHEMATIC

CRISSAIR INC.

PART NUMBER: 1M1532 , CHARGING MANIFOLD



PERFORMANCE SPECIFICATIONS:

FLUIDS: NITROGEN

MATERIAL: MANIFOLD 6AL-4V TI

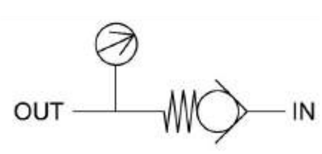
TEMPERATURE RANGE: -65°F TO 185°F

OPERATING PRESSURE: 3000 PSIG

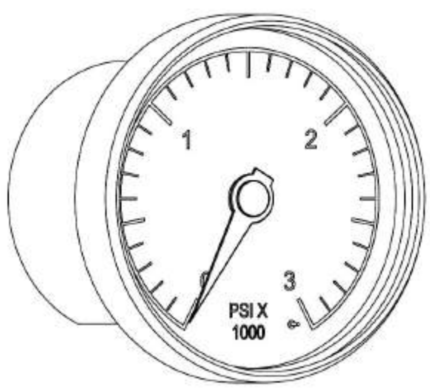
PROOF PRESSURE: 4500 PSIG

INTERNAL LEAKAGE: NOT APPLICABLE

WEIGHT: 0.88 LBS MAX



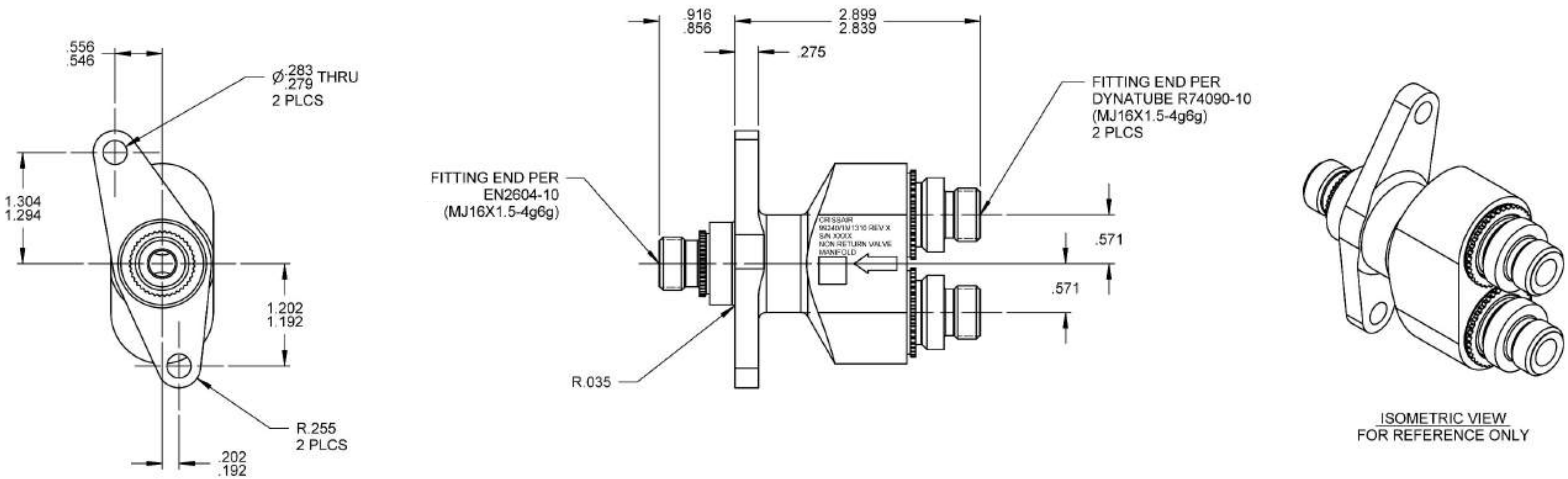
HYDRAULIC SCHEMATIC



CATEGORY 11: MANIFOLD ASSEMBLIES

Previous Section Return to Table of Contents Next Section

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

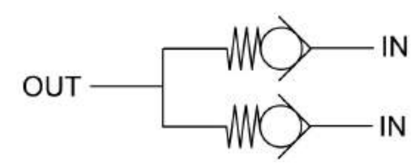
PROOF PRESSURE: 4800 PSIG

CRACKING PRESSURE: 2 TO 8 PSID

FLOW: 8 GPM AT 35 PSID MAX
9.5 GPM AT 51 PSID MAX

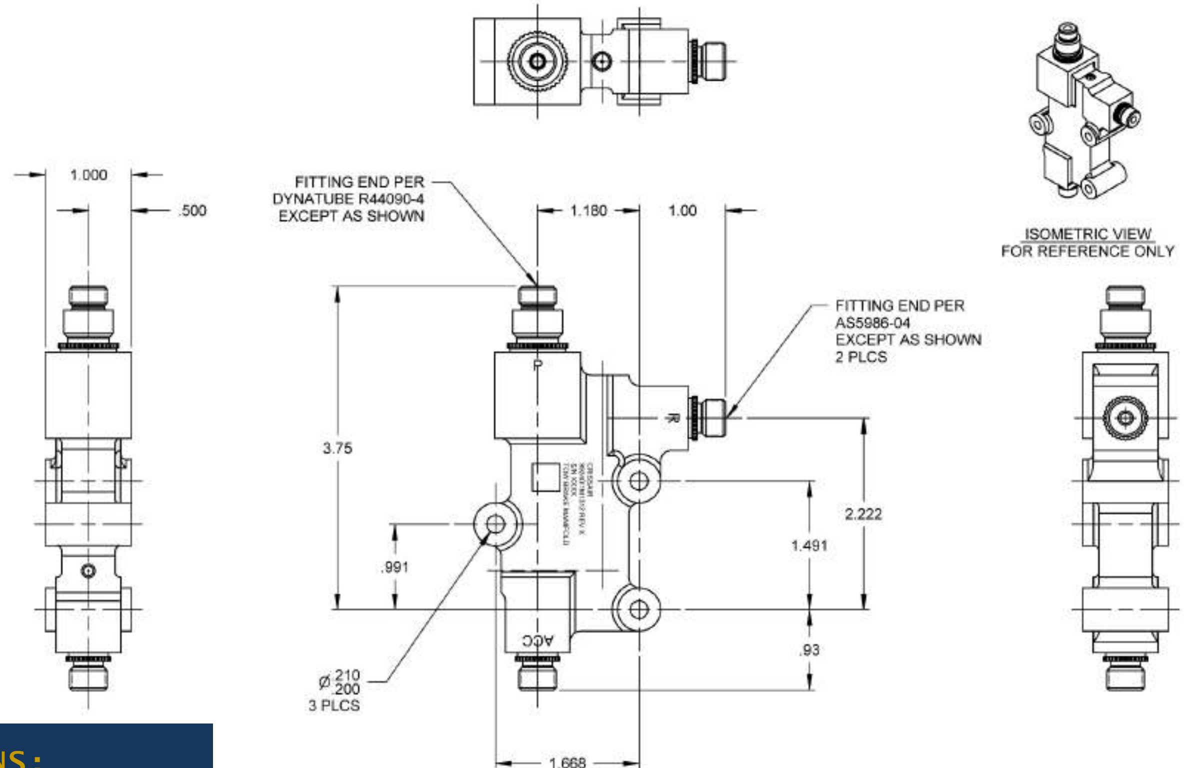
INTERNAL LEAKAGE: 1 DPM MAX AT 5 PSID
NONE AT 1000 TO 3200 PSID

WEIGHT: 0.60 LBS MAX



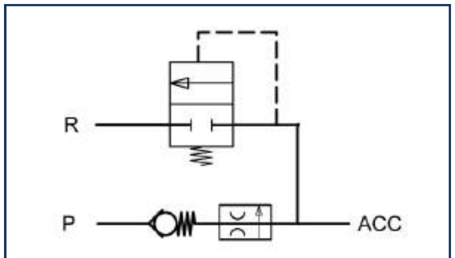
HYDRAULIC SCHEMATIC

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



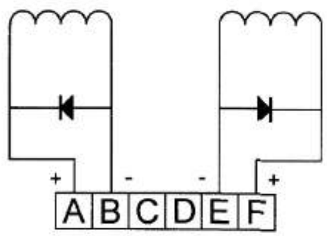
HYDRAULIC SCHEMATIC

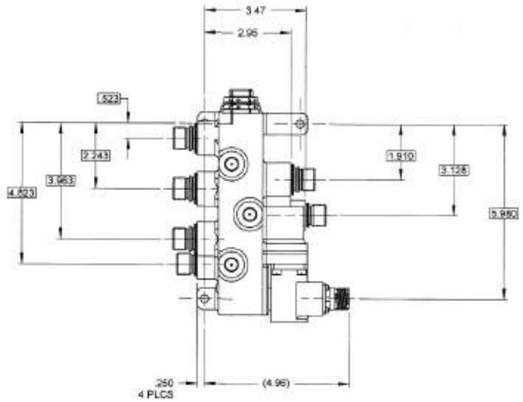
CATEGORY 11: MANIFOLD ASSEMBLIES

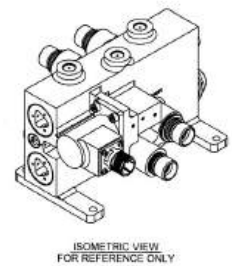
CRISSAIR INC.

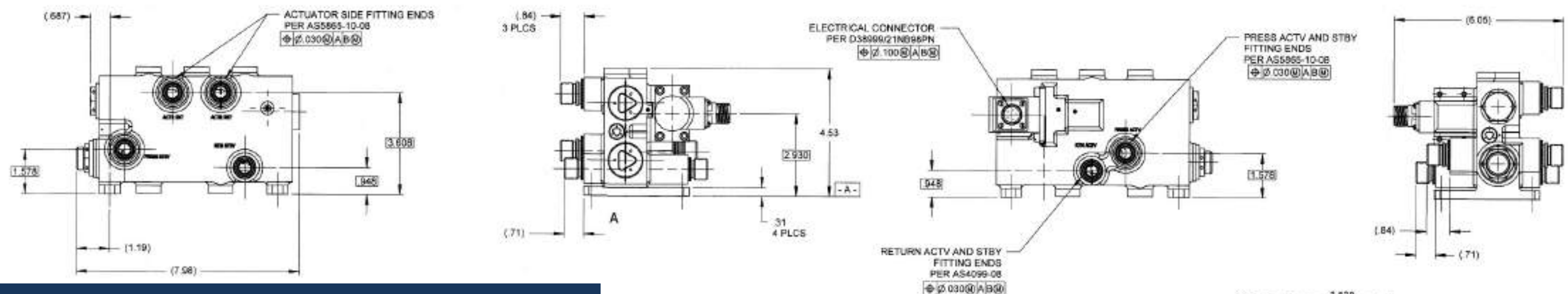
PART NUMBER:1M1540 , SOLENOID OPERATED SPOOL MANIFOLD

ELECTRICAL SCHEMATIC







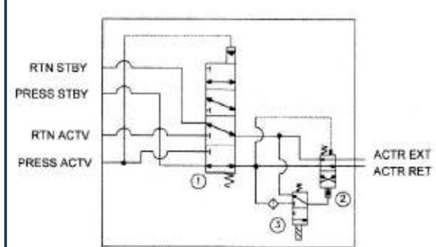


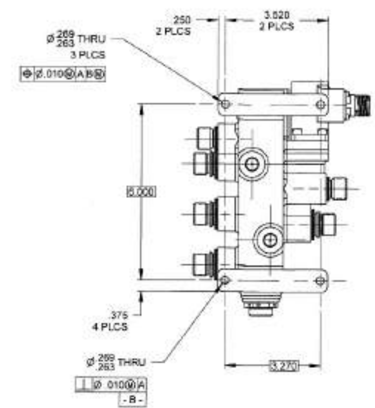
PERFORMANCE SPECIFICATIONS:

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

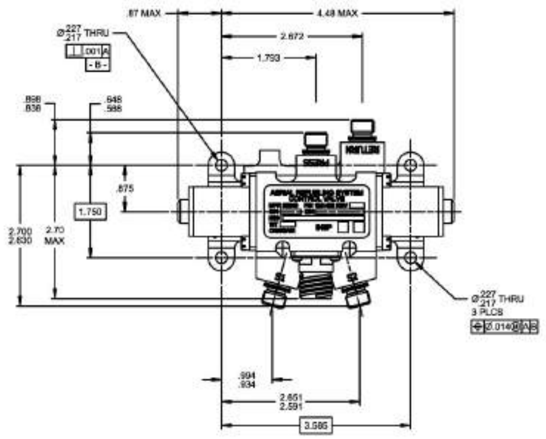


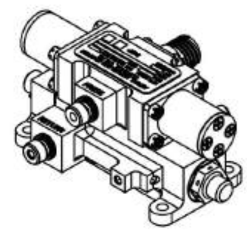


CATEGORY 11: MANIFOLD ASSEMBLIES

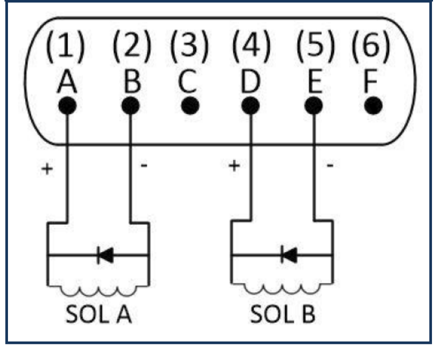
CRISSAIR INC.

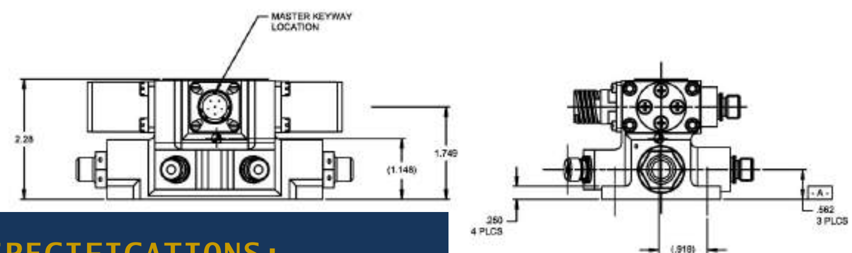
PART NUMBER:1M1542





ELECTRICAL SCHEMATIC

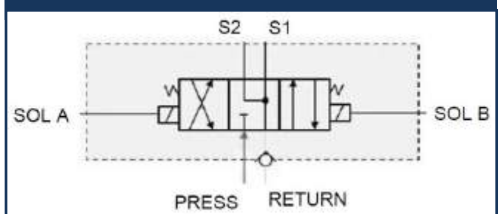




PERFORMANCE SPECIFICATIONS:

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 INC.

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.

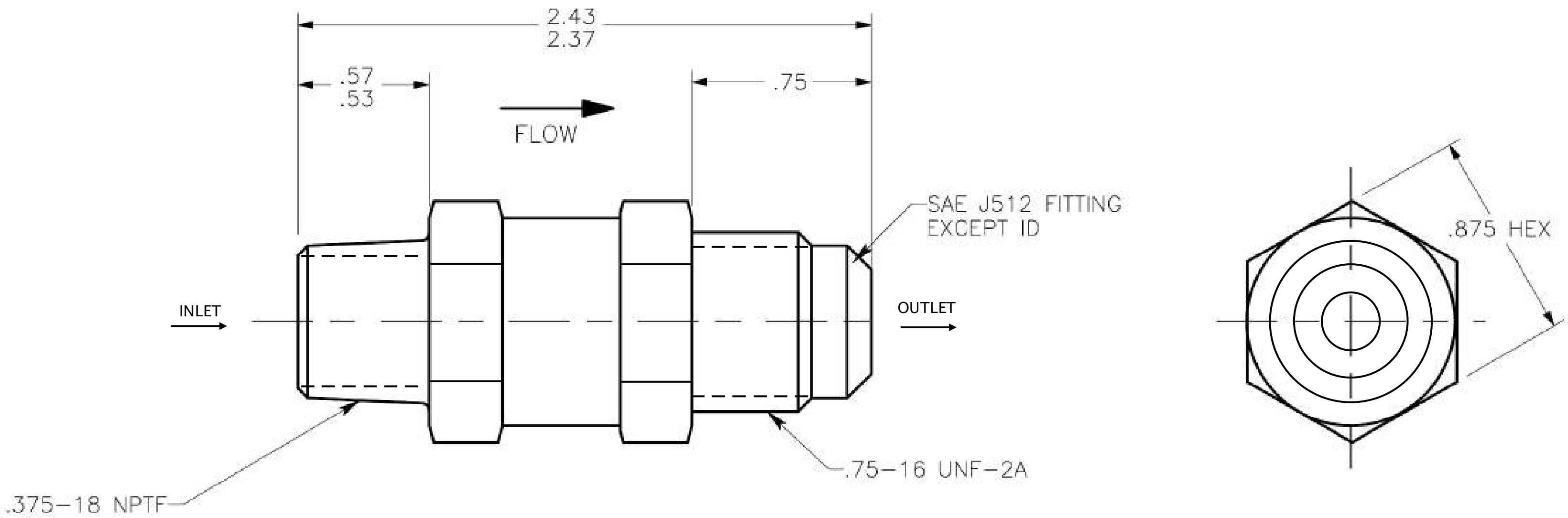
INDUSTRIAL PRODUCT LINE

Crissair Inc. designs and manufactures several products for the Industrial Fluid Control Market: Diesel Engine Fuel Systems, Natural Gas Internal Combustion Engines for Power Generation, and Oil Tool Industry.

- Check Valves for Diesel Engine Fuel Systems are designed with a soft seat to ensure zero leakage at low differential pressures after engine shut-down.
- Gas Admission Valves allow natural gas to free flow into the cylinders of large internal combustion engines used for power generation. The poppet and seat materials are designed to withstand extreme/high temperatures and high cycle life.
- Other Industrial Products include, but are not limited to, water check valves, fuel atomizing nozzles, oil valves, etc.

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

PART NUMBER: 1C6234 ,CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: AIR

MATERIAL: BODY 303 CRES

POPPET 303 CRES

TEMPERATURE RANGE: -40°F TO 225°F

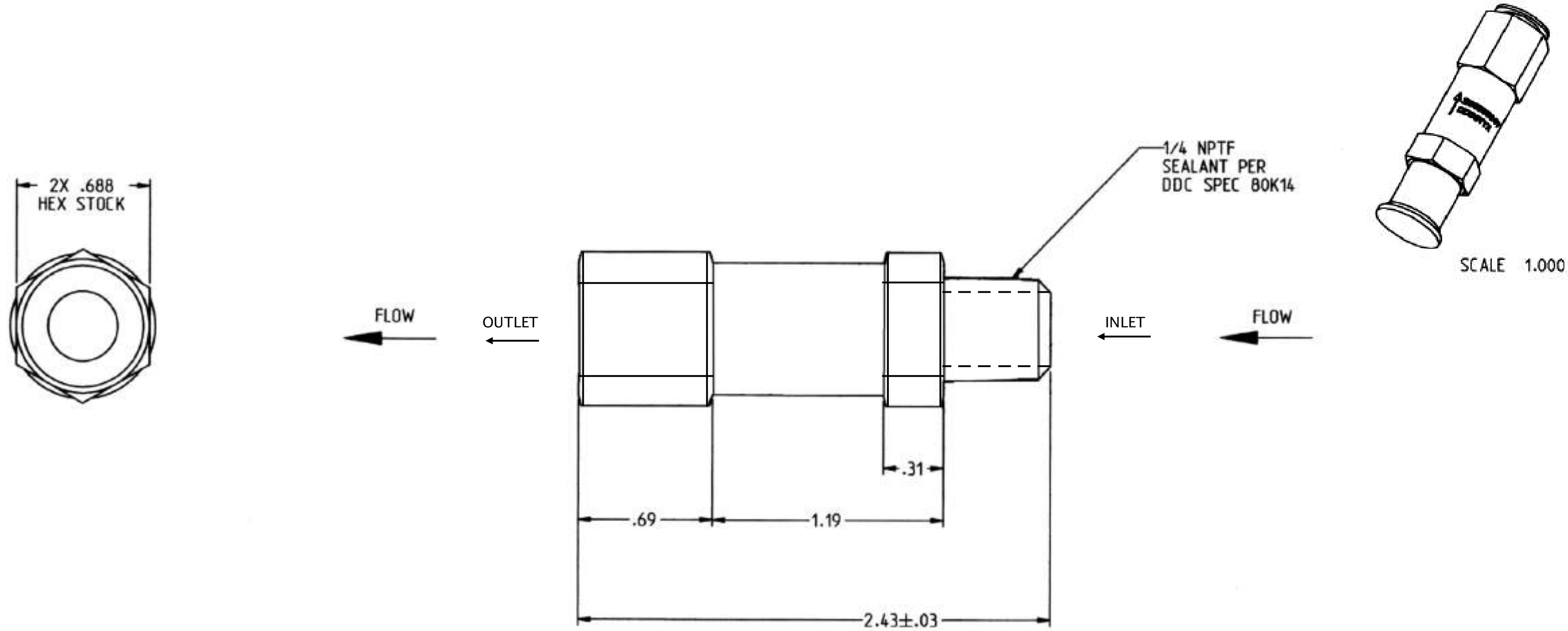
OPERATING PRESSURE: 500 PSIG

CRACKING PRESSURE: 2.0 ± 0.5 PSID

FLOW: 0.5 GPM MINIMUM AT 3.0 PSID AND 80 ±10°F

LEAKAGE (CHECKED DIRECTION): 1 DPM MAX AT 5 PSID AND 80±10°F

PART NUMBER: 3C4794 , CHECK VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: DIESEL # 2

MATERIAL: BODY 303 CRES

POPPET 303 CRES

TEMPERATURE: -40°F TO 225°F

OPERATING PRESSURE: 500 PSIG MAX

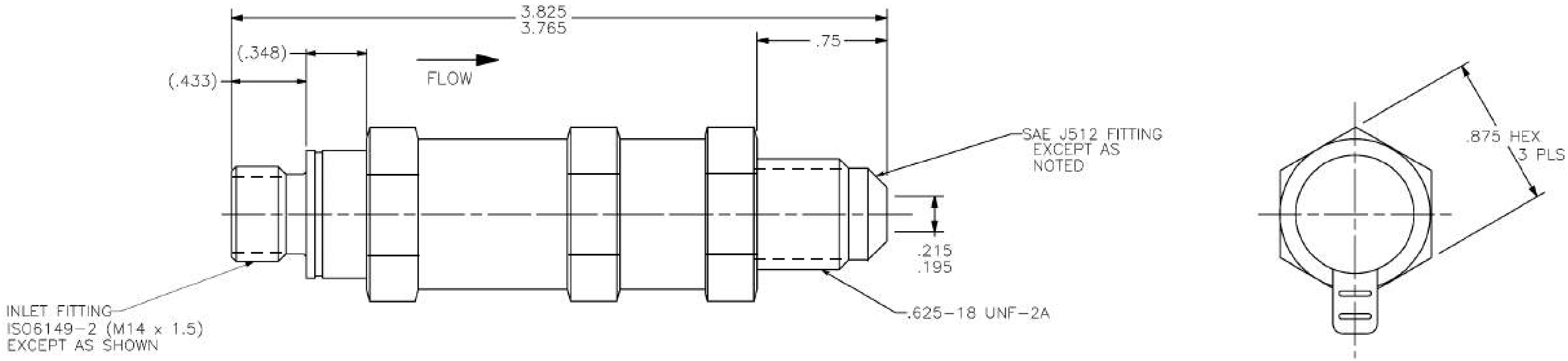
CRACKING PRESSURE: 1.25 ± 0.25 PSID

FLOW: 0.5 GPM MINIMUM AT 3 PSID OVER CRACKING PRESSURE

RESEAT: 0.5 PSID MINIMUM

LEAKAGE (IN THE CHECKED DIRECTION): 0 DPM AT 100 PSID FOR 90 SECONDS

PART NUMBER: 6P0016 , REGULATOR, CHECKED



PERFORMANCE SPECIFICATIONS:

FLUIDS: DIESEL FUEL OR EQUIVALENT

MATERIAL: BODY 303 CRES

POPPET 303 CRES

TEMPERATURE RANGE: -40°F TO 225°F

OPERATING PRESSURE: 100 PSIG

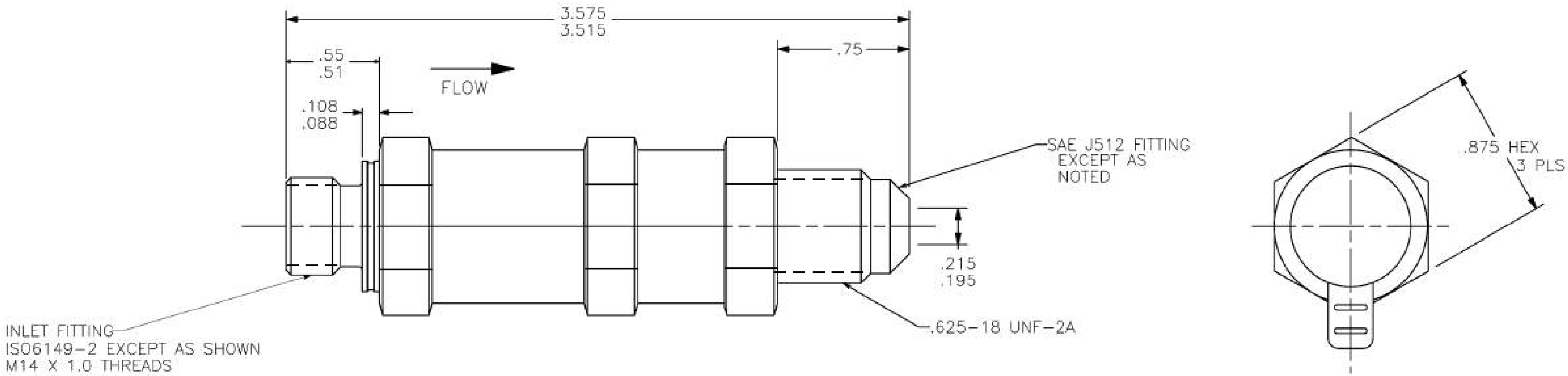
CRACKING PRESSURE: 2 ±0.5 PSID

FLOW POINTS: 14.5 ± 1.5 PSID AT 0.30 GPM

29 PSID MAX AT 2.5 GPM

LEAKAGE (CHECKED DIRECTION): 1 DPM MAX AT 5 PSID

PART NUMBER: 6P0018 , REGULATOR, CHECKED



PERFORMANCE SPECIFICATIONS:

FLUIDS: DIESEL FUEL OR EQUIVALENT

MATERIAL: BODY 303 CRES

POPPET 303 CRES

TEMPERATURE RANGE: -40°F TO 225°F

OPERATING PRESSURE: 100 PSIG

CRACKING PRESSURE: 2 ±.5 PSID

FLOW 1: 70±3 PSID AT 0.23 GPM

FLOW 2: 75 PSID MAX AT 2.0 GPM

LEAKAGE (CHECKED DIRECTION): 1 DPM MAX AT 5 PSID

CATEGORY 12 INDUSTRIAL PRODUCT LINE

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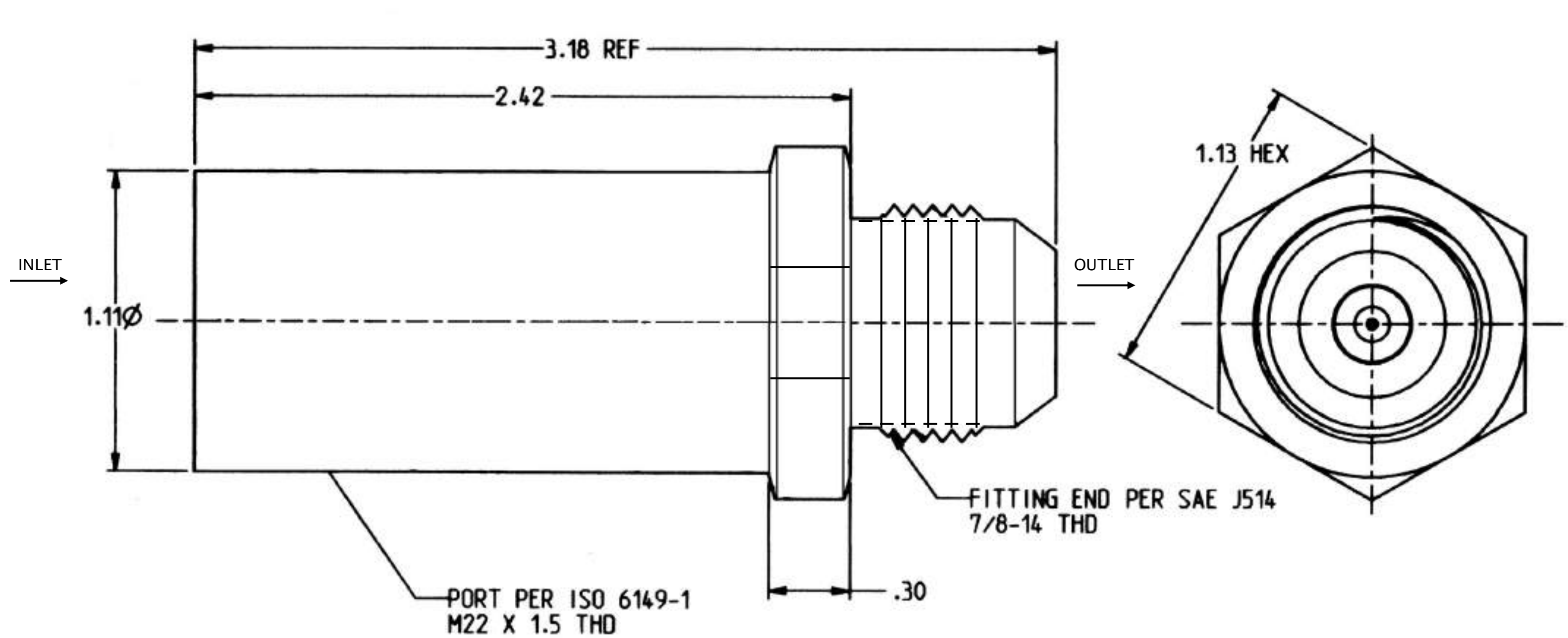
CRISSAIR INC.

PART NUMBER: 6P0020, PRESSURE REGULATOR VALVE



PERFORMANCE SPECIFICATIONS:

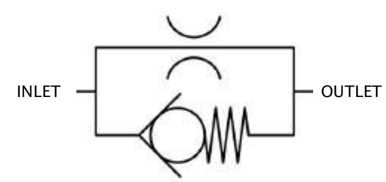
FLUIDS: DIESEL FUEL AT 266°F MAX

MATERIAL: BODY 303 CRES

POPPET 15-5PH

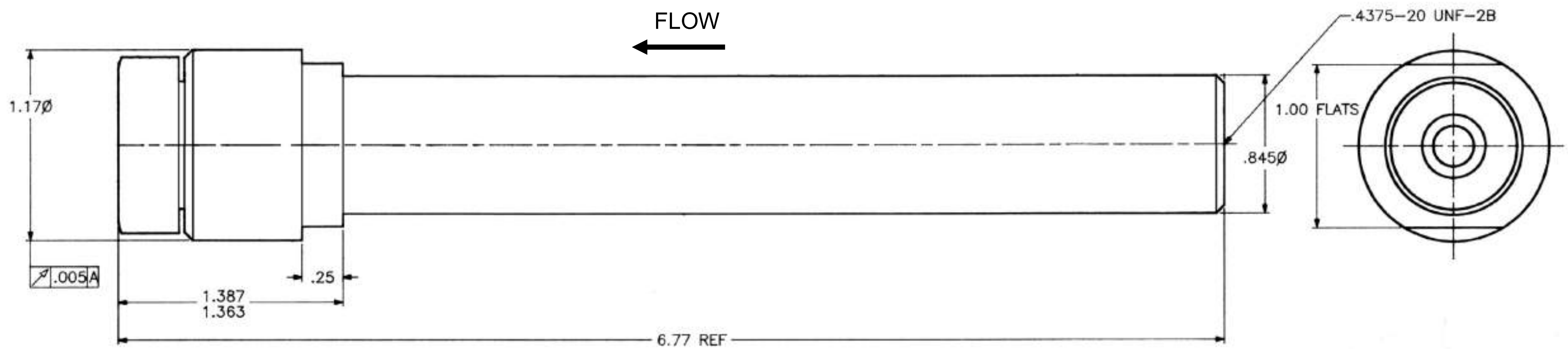
CRACKING PRESSURE: 123 ± 5 PSID

FLOW: 7 GPM AT 150 PSID MAX



HYDRAULIC SCHEMATIC

PART NUMBER: 1C6238 , EXTENDED LIFE ADMISSION VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: NATURAL GAS

MATERIAL: BODY 303 CRES

POPPET 321 CRES

TEMPERATURE RANGE: INLET 200°F, OUTLET 1500°F MAX

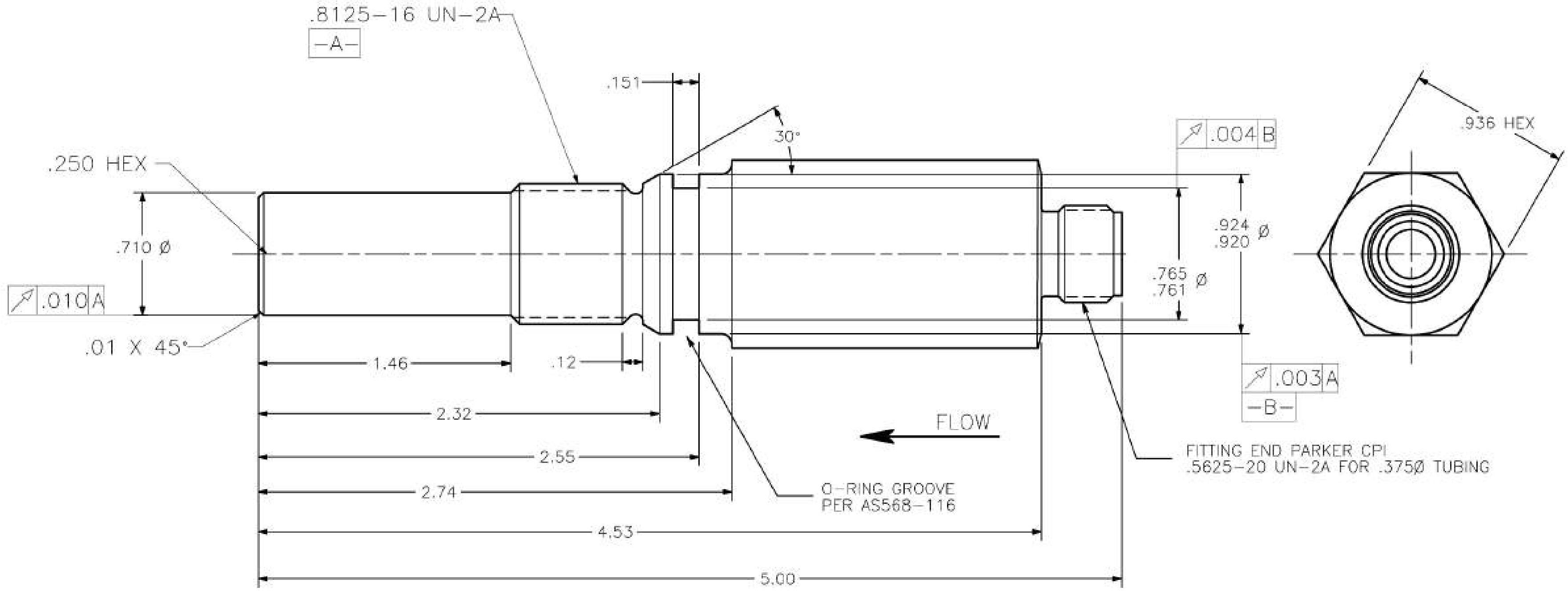
OPERATING PRESSURE: 200 PSIG

CRACKING PRESSURE: 1.0 PSID (REF)

FLOW: 1 CFM AT 2.5 PSID (REF)

CRISSAIR INC.

PART NUMBER: 1C6240 , EXTENDED LIFE ADMISSION VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: NATURAL GAS

MATERIAL: BODY 303 CRES

POPPET 321 CRES

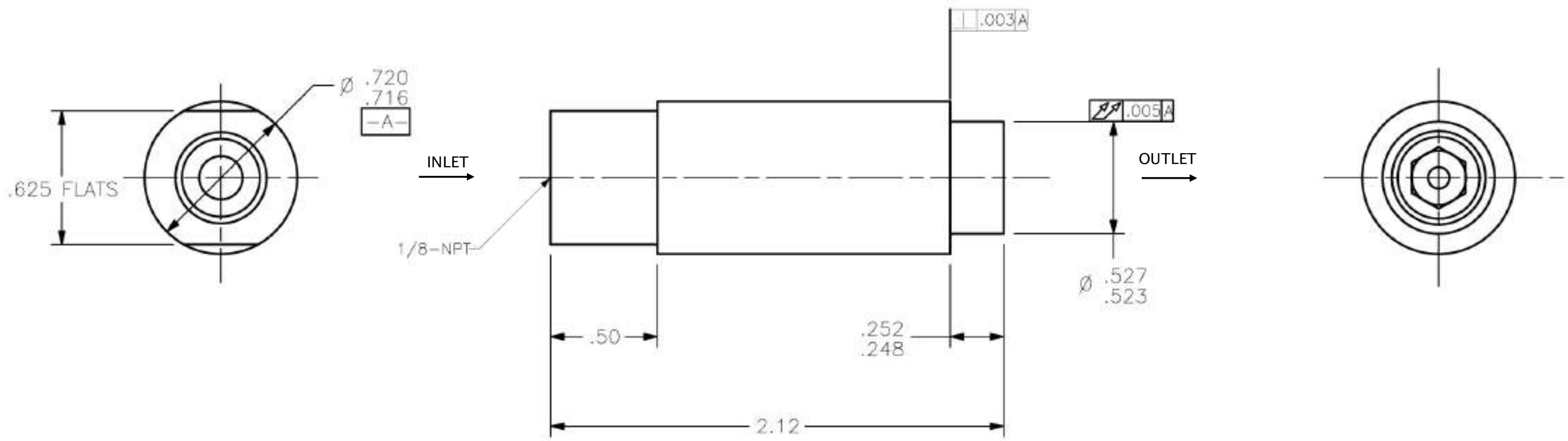
TEMPERATURE: INLET 200°F, OUTLET 1500°F MAX

OPERATING PRESSURE: 200 PSIG

CRACKING PRESSURE: 1.0 PSID (REF)

FLOW: 1 CFM AT 2.5 PSID (REF)

PART NUMBER: 1C6236 , GAS ADMISSION VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: NATURAL GAS

MATERIAL: BODY 303 CRES

POPPET 321 CRES

TEMPERATURE: 932°F MAX

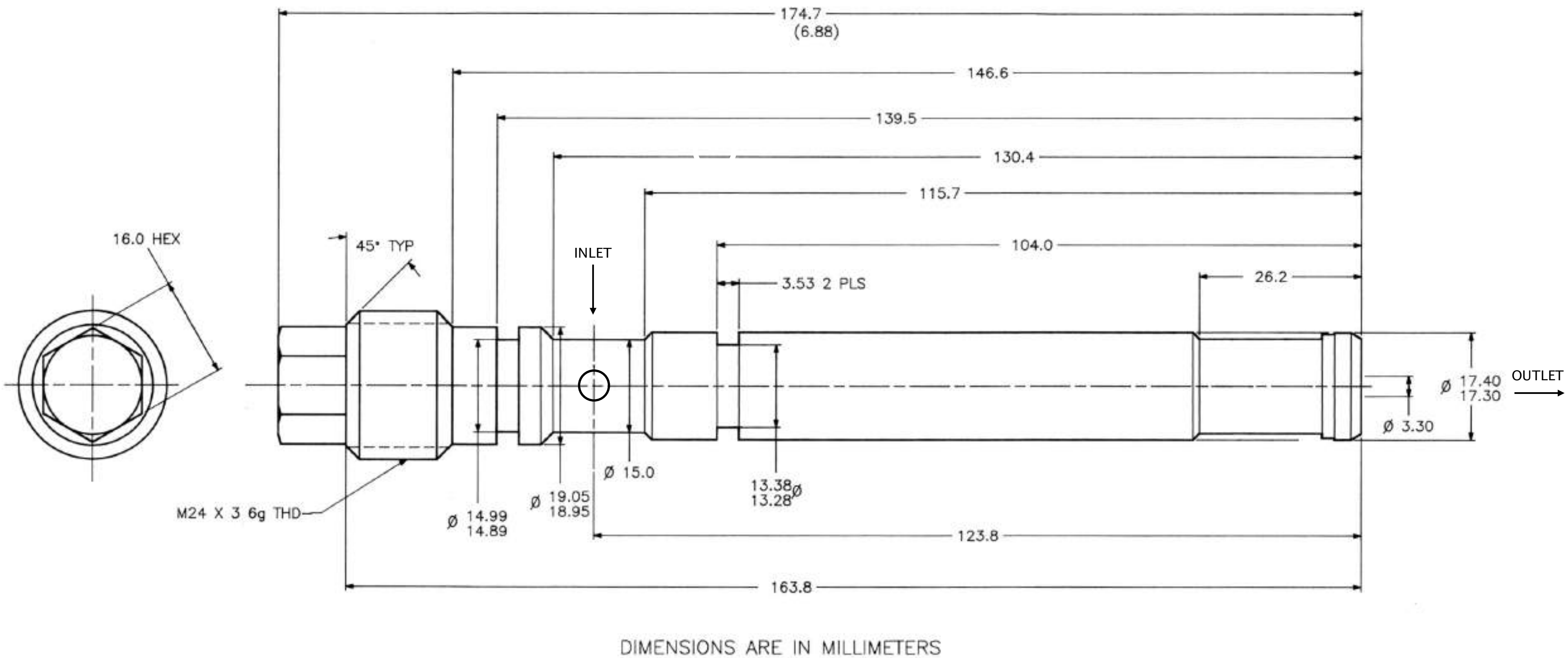
CRACKING PRESSURE: 1.0 ± 5 PSID

FLOW: 1.5 SCFM AT 15 PSIG MAX

LEAKAGE (CHECKED DIRECTION): 10 PSID LOSS MAX IN 10 SEC USING A 4.5 CUBIC INCH VOLUME, STARTING PRESSURE 30 PSIG

CATEGORY 12 INDUSTRIAL PRODUCT LINE

PART NUMBER:1C6242 , GAS ADMISSION VALVE



PERFORMANCE SPECIFICATIONS:

FLUIDS: NATURAL GAS

MATERIAL: BODY 15-5 PH

POPPET INCONEL 718

FLOW: 1.5 SCFM AT 15 PSID MAX

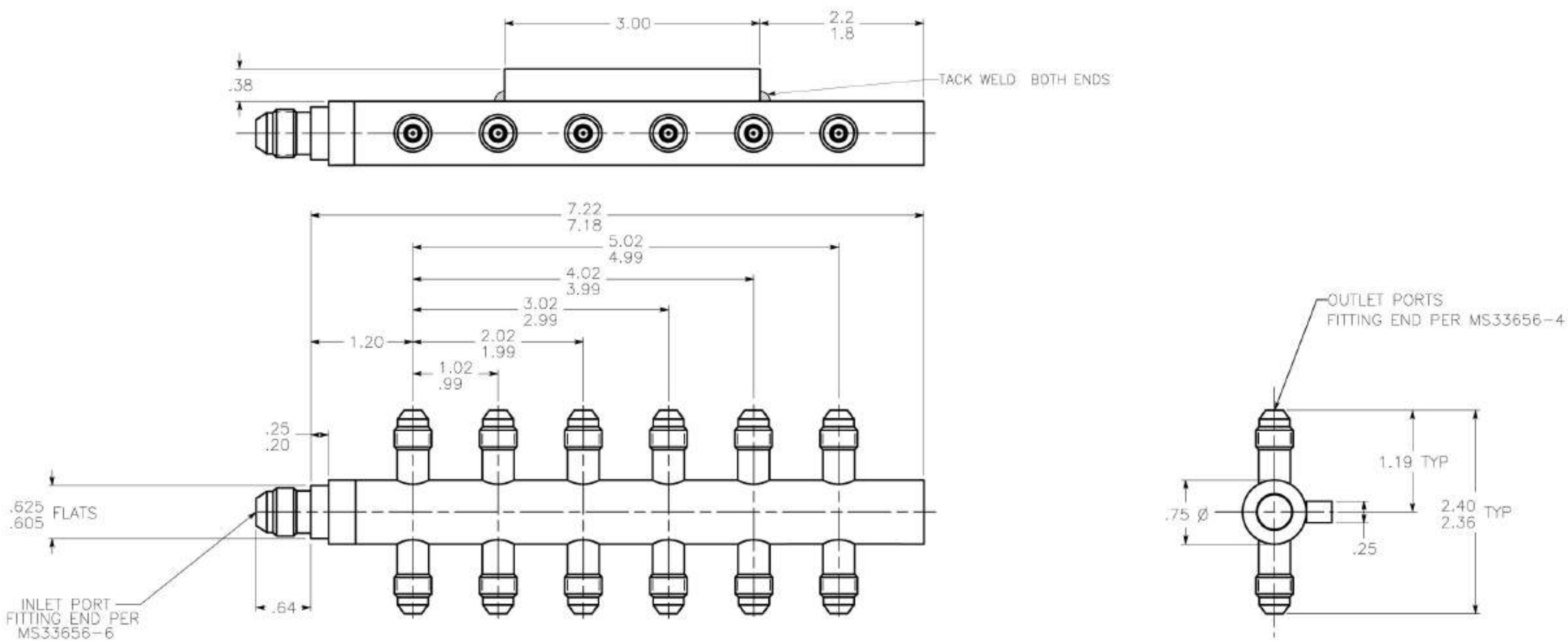
LEAKAGE: 10 PSID LOSS MAX IN 5 SECONDS USING AN 8 CUBIC INCH VOLUME,

STARTING PRESSURE 100 PSIG

CATEGORY 12 INDUSTRIAL PRODUCT LINE

CRISSAIR INC.

PART NUMBER: 1M1544 , FUEL MANIFOLD



PERFORMANCE SPECIFICATIONS:

FLUIDS: # 2 DIESEL FUEL

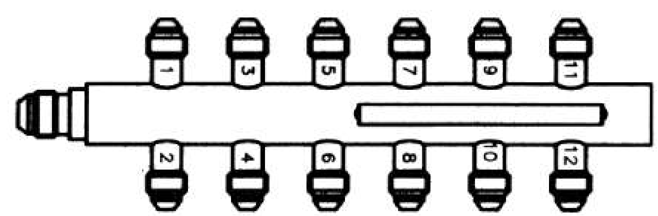
MATERIAL: BODY 316L CRES

TEMPERATURE: -40˚F TO 225˚F

OPERATING PRESSURE: 500 PSIG

PROOF PRESSURE: 750 PSIG FOR 10 MINUTES WITH NO LEAKS

FLOW: 0.321 ± 2% GPM AT 500 PSID PER PORT



MARKING VIEW
SCALE 1:2

CATEGORY 12 INDUSTRIAL PRODUCT LINE

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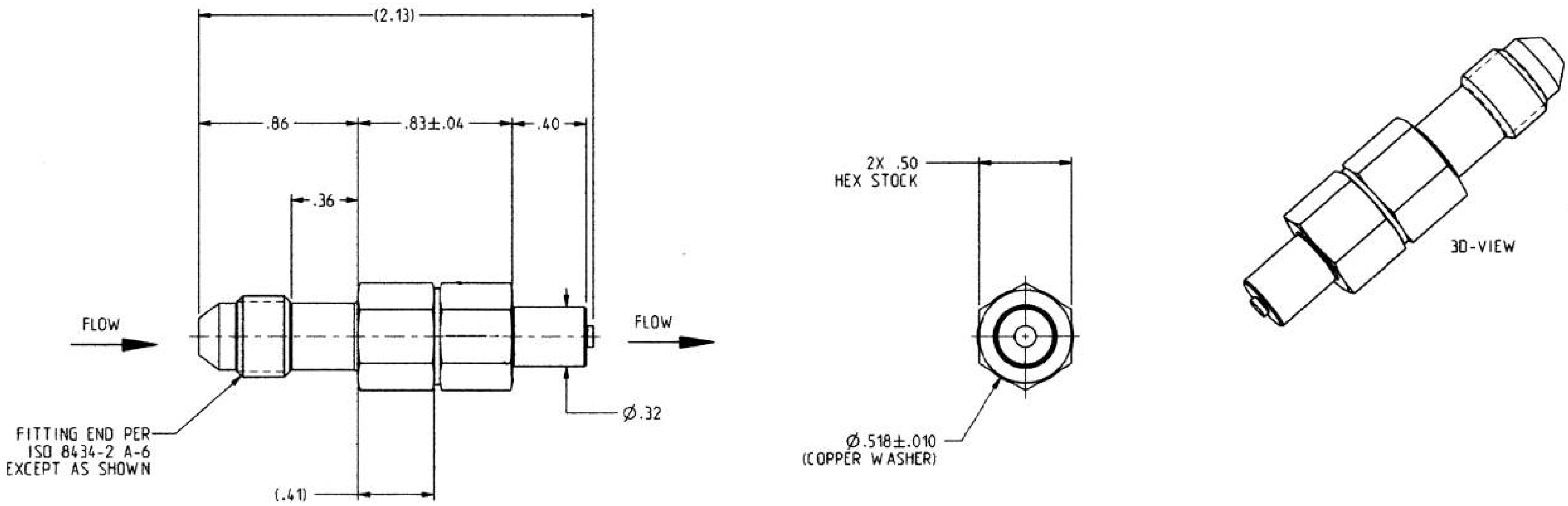
CRISSAIR INC.

PART NUMBER: 1C6244 , INJECTOR NOZZLE



PERFORMANCE SPECIFICATIONS:

FLUIDS: DIESEL FUEL/BIO-FUEL - 80/20

MATERIAL: BODY 321 CRES

TEMPERATURE: 932°F MAX

CRACKING PRESSURE: 40 ± 7 PSID (REF)

NOMINAL FLOW: 14 GPH AT 116 PSID

CRISSAIR HAS VARIOUS OTHER INDUSTRIAL VALVES NOT LISTED IN THE

CATALOG WITH DIFFERENT MATERIALS, FITTINGS, AND SIZE CONFIGURATIONS.

CONTACT CRISSAIR FOR ADDITIONAL INFORMATION/DRAWINGS AT

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YOU CAN ALSO VISIT WWW.CRISSAIR.COM.

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CRISSAIR INC.

MANUFACTURER OF QUALITY AIRCRAFT FLUID CONTROL COMPONENTS SINCE 1954