

KSC-STD-P-0002A
October 20, 1988

Supersedes
KSC-STD-P-0002
May 26, 1976

**PREPARATION OF COMPONENT
PROCUREMENT/PERFORMANCE SPECIFICATIONS
STANDARD FOR**

ENGINEERING DEVELOPMENT DIRECTORATE

National Aeronautics and
Space Administration

John F. Kennedy Space Center



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**PREPARATION OF COMPONENT
PROCUREMENT/PERFORMANCE SPECIFICATIONS
STANDARD FOR**

Approved By:

for Walter T. Murphy
James D. Phillips
Director of Engineering Development

JOHN F. KENNEDY SPACE CENTER, NASA

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PREPARATION OF COMPONENT
PROCUREMENT/PERFORMANCE SPECIFICATIONS
STANDARD FOR

This standard has been approved by the Engineering Development Directorate (DE) of the John F. Kennedy Space Center (KSC) and is mandatory for use by KSC and associated contractors.

1. SCOPE

This standard establishes the guidelines and procedures for the preparation of component procurement/performance specifications. This standard applies to the preparation of new component procurement/performance specifications for which KSC has responsibility. A component procurement/performance specification will be prepared when industry, Federal, Military, or NASA specifications for the item to be purchased do not exist or when existing industry, Military, Federal, or NASA specifications do not adequately define, control, or document the component.

2. APPLICABLE DOCUMENTS

Governmental.

Specifications.

John F. Kennedy Space Center, NASA

KSC-C-123	Surface Cleanliness of Fluid Systems, Specification for
KSC-SPEC-Z-0019	Age Control of Elastomeric Parts, Specification for

Publications.

John F. Kennedy Space Center, NASA

KSC-DE-512-SM	Guide for Design Engineering of Ground Support Equipment and Facilities for Use at Kennedy Space Center
KSC-DF-107	DE Technical Publications Style Guide
GP-435	Engineering Drafting Practices Manual

3. REQUIREMENTS

3.1 General Requirements. - Component procurement/performance specifications shall contain all information required to adequately define the component for procurement. Minimum acceptance standards or characteristics that apply to the design requirements and performance required, such as operating pressure, flow factor, fluid compatibility, lubrication, critical dimensions, electrical characteristics, maintainability, safety, reliability, and quality assurance, shall be stated. Whenever practicable, requirements shall be stated in terms of functions to be performed or performance to be required. Market research shall be utilized to the extent practicable and specifications shall state requirements in such a manner as to promote full and open competition. Restrictive provisions or conditions shall be included only to the extent necessary to satisfy the minimum needs of KSC or as authorized by law. The applicable requirements of KSC-DE-512-SM shall be specified in the appropriate paragraphs of the specification.

Whenever available, industry specifications shall be used in defining a new component. When an appropriate industry specification does not exist, Federal specifications followed by Military and then NASA specifications shall be used.

There are two types of component procurement/performance specifications:

- a. Multicomponent: This type of specification will reflect a family of components, such as one type of pressure switch with various settings or one style of check valve with different port sizes.
- b. Single Item: Only a single component is identified in this type of specification.

The KSC B-size drawing formats, Form 21-4 and Form 21-4B, shall be used in the preparation of component procurement/performance specifications. A sample component procurement/performance specification is shown in Figure 1.

3.2 Writing Requirements. - Writing requirements such as writing mechanics and style, abbreviations, symbols, capitalization, punctuation, etc., shall be in accordance with KSC-DF-107, DE Technical Documentation Style Guide.

3.3 Detailed Requirements. - Detailed requirements appropriate to the type of component for which a component procurement/performance specification is being prepared shall be specified to ensure all technical requirements will be met.

3.3.1 Requirements for All Component Specifications. - The following requirements apply to all component procurement/performance specifications.

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PART NO.		REVISED		DATE		APPROVAL	
A		A		A		A	
B		B		B		B	
C		C		C		C	
D		D		D		D	
E		E		E		E	
F		F		F		F	
G		G		G		G	
H		H		H		H	
I		I		I		I	
J		J		J		J	
K		K		K		K	
L		L		L		L	
M		M		M		M	
N		N		N		N	
O		O		O		O	
P		P		P		P	
Q		Q		Q		Q	
R		R		R		R	
S		S		S		S	
T		T		T		T	
U		U		U		U	
V		V		V		V	
W		W		W		W	
X		X		X		X	
Y		Y		Y		Y	
Z		Z		Z		Z	

1. SERVICE: AIR, OXYGEN

2. SET PRESSURE: SEE SHT 3

3. PROOF PRESSURE: 1-1/2 TIMES SET PRESSURE (INLET ONLY)

4. BURST PRESSURE: 4 TIMES SET PRESSURE MIN (INLET ONLY)

5. FLOW CHARACTERISTICS: SEE SHT 3

6. OPERATION: DIRECT ACTING; SPRING LOADED. VALVES ACTIVATE AT SET PRESSURES SPECIFIED ON SHT 3. OTHER OPERATING PRESSURE VALUES SHALL BE ACCORDING TO THE FOLLOWING DEFINITIONS & REQUIREMENTS: AT WHICH FIRST LEAKAGE OCCURS THRU CRACKING PRESSURE IS THAT INLET PRESSURE SET AT PRESSURES BELOW 50 PSIG THE VALVE ON INCREASING PRESSURE. VALVES SET AT PRESSURE. VALVES SET AT SHALL NOT CRACK AT LESS THAN 95% OF SPECIFIED SET PRESSURE. VALVES SET AT 50 TO 99 PSIG SHALL NOT CRACK AT LESS THAN 95% OF SPECIFIED SET PRESSURE. VALVES SET AT 100 PSIG & HIGHER SHALL NOT CRACK AT LESS THAN 95% OF SPECIFIED SET PRESSURE.

7. PNEUMATIC CONNECTIONS: INLET PORT - MS31849-9
OUTLET PORT - MS31849-16

8. CLEANING: CLEAN, PROTECT & INSPECT PER KSC-C-123

A. PROCEDURE: AS APPLICABLE

B. CLEANLINESS: LEVEL 100A

C. TEST METHOD: AS APPLICABLE

D. CERTIFICATION REQUIRED

9. LEAKAGE: BUBBLE TIGHT EXTERNALLY. BUBBLE TIGHT INTERNALLY ON INCREASING PRESSURE UP TO CRACKING PRESSURE. INTERNAL LEAKAGE OCCURRING AFTER RESEAT SHALL BE ACCEPTABLE PROVIDED IT DOES NOT REDUCE ON INCREASING PRESSURE AFTER THE INLET PRESSURE HAS BEEN REDUCED TO ZERO. TEST PRESSURES SHALL BE HELD FOR ONE MINUTE (MIN).

10. OPERATING TEMPERATURE: -20°F TO 160°F

11. LUBRICATION: USE KRYTOX 240AC OR AN APPROVED EQUAL.

NOTES: A. SEE QMG 79K80459 FOR MAINTENANCE REQUIREMENTS. VENDOR SHALL PROVIDE COMPONENTS & SOFT GOODS KITS CONSISTING OF THE PARTS DESCRIBED IN THE MAINTENANCE QMG.

B. WEIGHTS OF VALVES

C. 79K80459-1 THRU -13, WT = 4.3 LBS

D. 79K80459-14, -15, WT = 13.3 LBS

COMPONENT SPECIFICATION

VALVE, SAFETY-RELIEF
1/2"X1"187 ORIFICE
AIR & OXYGEN SERVICE
20-7400 PSIG PRESS RANGE

DATE: 7-1-82
DRAWN BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

ORIGINAL DATE OF DRAWING: 7-1-82

UNLESS OTHERWISE SPECIFIED

WORKING AND IN INCHES

TOLERANCES ON DIMENSIONS

FRACTIONS DECIMALS ANGLES

1/16 0.0625 30

1/8 0.125 45

3/16 0.1875 60

1/4 0.25 75

5/16 0.3125 90

3/8 0.375 105

7/16 0.4375 120

1/2 0.5 135

5/8 0.625 150

3/4 0.75 165

7/8 0.875 180

1 1.0 195

1 1/8 1.125 210

1 1/4 1.25 225

1 3/8 1.375 240

1 1/2 1.5 255

1 5/8 1.625 270

1 3/4 1.75 285

1 7/8 1.875 300

2 2.0 315

2 1/8 2.125 330

2 1/4 2.25 345

2 3/8 2.375 360

2 1/2 2.5 375

2 5/8 2.625 390

2 3/4 2.75 405

2 7/8 2.875 420

3 3.0 435

3 1/8 3.125 450

3 1/4 3.25 465

3 3/8 3.375 480

3 1/2 3.5 495

3 5/8 3.625 510

3 3/4 3.75 525

3 7/8 3.875 540

4 4.0 555

4 1/8 4.125 570

4 1/4 4.25 585

4 3/8 4.375 600

4 1/2 4.5 615

4 5/8 4.625 630

4 3/4 4.75 645

4 7/8 4.875 660

5 5.0 675

5 1/8 5.125 690

5 1/4 5.25 705

5 3/8 5.375 720

5 1/2 5.5 735

5 5/8 5.625 750

5 3/4 5.75 765

5 7/8 5.875 780

6 6.0 795

6 1/8 6.125 810

6 1/4 6.25 825

6 3/8 6.375 840

6 1/2 6.5 855

6 5/8 6.625 870

6 3/4 6.75 885

6 7/8 6.875 900

7 7.0 915

7 1/8 7.125 930

7 1/4 7.25 945

7 3/8 7.375 960

7 1/2 7.5 975

7 5/8 7.625 990

7 3/4 7.75 1005

7 7/8 7.875 1020

8 8.0 1035

8 1/8 8.125 1050

8 1/4 8.25 1065

8 3/8 8.375 1080

8 1/2 8.5 1095

8 5/8 8.625 1110

8 3/4 8.75 1125

8 7/8 8.875 1140

9 9.0 1155

9 1/8 9.125 1170

9 1/4 9.25 1185

9 3/8 9.375 1200

9 1/2 9.5 1215

9 5/8 9.625 1230

9 3/4 9.75 1245

9 7/8 9.875 1260

10 10.0 1275

10 1/8 10.125 1290

10 1/4 10.25 1305

10 3/8 10.375 1320

10 1/2 10.5 1335

10 5/8 10.625 1350

10 3/4 10.75 1365

10 7/8 10.875 1380

11 11.0 1395

11 1/8 11.125 1410

11 1/4 11.25 1425

11 3/8 11.375 1440

11 1/2 11.5 1455

11 5/8 11.625 1470

11 3/4 11.75 1485

11 7/8 11.875 1500

12 12.0 1515

12 1/8 12.125 1530

12 1/4 12.25 1545

12 3/8 12.375 1560

12 1/2 12.5 1575

12 5/8 12.625 1590

12 3/4 12.75 1605

12 7/8 12.875 1620

13 13.0 1635

13 1/8 13.125 1650

13 1/4 13.25 1665

13 3/8 13.375 1680

13 1/2 13.5 1695

13 5/8 13.625 1710

13 3/4 13.75 1725

13 7/8 13.875 1740

14 14.0 1755

14 1/8 14.125 1770

14 1/4 14.25 1785

14 3/8 14.375 1800

14 1/2 14.5 1815

14 5/8 14.625 1830

14 3/4 14.75 1845

14 7/8 14.875 1860

15 15.0 1875

15 1/8 15.125 1890

15 1/4 15.25 1905

15 3/8 15.375 1920

15 1/2 15.5 1935

15 5/8 15.625 1950

15 3/4 15.75 1965

15 7/8 15.875 1980

16 16.0 1995

16 1/8 16.125 2010

16 1/4 16.25 2025

16 3/8 16.375 2040

16 1/2 16.5 2055

16 5/8 16.625 2070

16 3/4 16.75 2085

16 7/8 16.875 2100

17 17.0 2115

17 1/8 17.125 2130

17 1/4 17.25 2145

17 3/8 17.375 2160

17 1/2 17.5 2175

17 5/8 17.625 2190

17 3/4 17.75 2205

17 7/8 17.875 2220

18 18.0 2235

18 1/8 18.125 2250

18 1/4 18.25 2265

18 3/8 18.375 2280

18 1/2 18.5 2295

18 5/8 18.625 2310

18 3/4 18.75 2325

18 7/8 18.875 2340

19 19.0 2355

19 1/8 19.125 2370

19 1/4 19.25 2385

19 3/8 19.375 2400

19 1/2 19.5 2415

19 5/8 19.625 2430

19 3/4 19.75 2445

19 7/8 19.875 2460

20 20.0 2475

20 1/8 20.125 2490

20 1/4 20.25 2505

20 3/8 20.375 2520

20 1/2 20.5 2535

20 5/8 20.625 2550

20 3/4 20.75 2565

20 7/8 20.875 2580

21 21.0 2595

21 1/8 21.125 2610

21 1/4 21.25 2625

21 3/8 21.375 2640

21 1/2 21.5 2655

21 5/8 21.625 2670

21 3/4 21.75 2685

21 7/8 21.875 2700

22 22.0 2715

22 1/8 22.125 2730

22 1/4 22.25 2745

22 3/8 22.375 2760

22 1/2 22.5 2775

22 5/8 22.625 2790

22 3/4 22.75 2805

22 7/8 22.875 2820

23 23.0 2835

23 1/8 23.125 2850

23 1/4 23.25 2865

23 3/8 23.375 2880

23 1/2 23.5 2895

23 5/8 23.625 2910

23 3/4 23.75 2925

23 7/8 23.875 2940

24 24.0 2955

24 1/8 24.125 2970

24 1/4 24.25 2985

24 3/8 24.375 3000

24 1/2 24.5 3015

24 5/8 24.625 3030

24 3/4 24.75 3045

24 7/8 24.875 3060

25 25.0 3075

25 1/8 25.125 3090

25 1/4 25.25 3105

25 3/8 25.375 3120

25 1/2 25.5 3135

25 5/8 25.625 3150

25 3/4 25.75 3165

25 7/8 25.875 3180

26 26.0 3195

26 1/8 26.125 3210

26 1/4 26.25 3225

26 3/8 26.375 3240

26 1/2 26.5 3255

26 5/8 26.625 3270

26 3/4 26.75 3285

26 7/8 26.875 3300

27 27.0 3315

27 1/8 27.125 3330

27 1/4 27.25 3345

27 3/8 27.375 3360

27 1/2 27.5 3375

27 5/8 27.625 3390

27 3/4 27.75 3405

27 7/8 27.875 3420

28 28.0 3435

28 1/8 28.125 3450

28 1/4 28.25 3465

28 3/8 28.375 3480

28 1/2 28.5 3495

28 5/8 28.625 3510

28 3/4 28.75 3525

28 7/8 28.875 3540

29 29.0 3555

29 1/8 29.125 3570

29 1/4 29.25 3585

29 3/8 29.375 3600

29 1/2 29.5 3615

29 5/8 29.625 3630

29 3/4 29.75 3645

29 7/8 29.875 3660

30 30.0 3675

30 1/8 30.125 3690

30 1/4 30.25 3705

30 3/8 30.375 3720

30 1/2 30.5 3735

30 5/8 30.625 3750

30 3/4 30.75 3765

30 7/8 30.875 3780

31 31.0 3795

31 1/8 31.125 3810

31 1/4 31.25 3825

31 3/8 31.375 3840

31 1/2 31.5 3855

31 5/8 31.625 3870

31 3/4 31.75 3885

31 7/8 31.875 3900

32 32.0 3915

32 1/8 32.125 3930

32 1/4 32.25 3945

32 3/8 32.375 3960

32 1/2 32.5 3975

32 5/8 32.625 3990

32 3/4 32.75 4005

32 7/8 32.875 4020

33 33.0 4035

33 1/8 33.125 4050

33 1/4 33.25 4065

33 3/8 33.375 4080

33 1/2 33.5 4095

33 5/8 33.625 4110

33 3/4 33.75 4125

33 7/8 33.875 4140

34 34.0 4155

34 1/8 34.125 4170

34 1/4 34.25 4185

34 3/8 34.375 4200

34 1/2 34.5 4215

34 5/8 34.625 4230

34 3/4 34.75 4245

34 7/8 34.875 4260

35 35.0 4275

35 1/8 35.125 4290

35 1/4 35.25 4305

35 3/8 35.375 4320

35 1/2 35.5 4335

35 5/8 35.625 4350

35 3/4 35.75 4365

35 7/8 35.875 4380

36 36.0 4395

36 1/8 36.125 4410

36 1/4 36.25 4425

36 3/8 36.375 4440

36 1/2 36.5 4455

36 5/8 36.625 4470

36 3/4 36.75 4485

36 7/8 36.875 4500

37 37.0 4515

37 1/8 37.125 4530

37 1/4 37.25 4545

37 3/8 37.375 4560

37 1/2 37.5 4575

37 5/8 37.625 4590

37 3/4 37.75 4605

37 7/8 37.875 4620

38 38.0 4635

38 1/8 38.125 4650

38 1/4 38.25 4665

38 3/8 38.375 4680

38 1/2 38.5 4695

38 5/8 38.625 4710

38 3/4 38.75 4725

38 7/8 38.875 4740

39 39.0 4755

39 1/8 39.125 4770

39 1/4 39.25 4785

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40 5/8 40.625 4950

40 3/4 40.75 4965

40 7/8 40.875 4980

41 41.0 4995

41 1/8 41.125 5010

41 1/4 41.25 5025

41 3/8 41.375 5040

41 1/2 41.5 5055

41 5/8 41.625 5070

41 3/4 41.75 5085

41 7/8 41.875 5100

42 42.0 5115

42 1/8 42.125 5130

42 1/4 42.25 5145

42 3/8 42.375 5160

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42 3/4 42.75 5205

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43 7/8 43.875 5340

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47 5/8 47.625 5790

47 3/4 47.75 5805

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48 1/8 48.125 5850

48 1/4 48.25 5865

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48 1/2 48.5 5895

48 5/8 48.625 5910

48 3/4 48.75 5925

48 7/8 48.875 5940

49 49.0 5955

49 1/8 49.125 5970

49 1/4 49.25 5985

49 3/8 49.375 6000

49 1/2 49.5 6015

49 5/8 49.625 6030

49 3/4 49.75 6045

49 7/8 49.875 6060

50 50.0 6075

50 1/8 50.125 6090

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50 3/8 50.375 6120

50 1/2 50.5 6135

50 5/8 50.625 6150

50 3/4 50.75 6165

50 7/8 50.875 6180

51 51.0 6195

51 1/8 51.125 6210

51 1/4 51.25 6225

51 3/8 51.375 6240

51 1/2 51.5 6255

51 5/8 51.625 6270

51 3/4 51.75 6285

51 7/8 51.875 6300

52 52.0 6315

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52 1/4 52.25 6345

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52 1/2 52.5 6375

52 5/8 52.625 6390

52 3/4 52.75 6405

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53 53.0 6435

53 1/8 53.125 6450

53 1/4 53.25 6465

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53 3/4 53.75 6525

53 7/8 53.875 6540

54 54.0 6555

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54 1/4 54.25 6585

54 3/8 54.375 6600

54 1/2 54.5 6615

54 5/8 54.625 6630

54 3/4 54.75 6645

54 7/8 54.875 6660

55 55.0 6675

55 1/8 55.125 6690

55 1/4 55.25 6705

55 3/8 55.375 6720

55 1/2 55.5 6735

55 5/8 55.625 6750

55 3/4 55.75 6765

55 7/8 55.875 6780

56 56.0 6795

56

KSC-STD-P-0002A
October 20, 1988

COMPONENT SPECIFICATION SHEET			
SYM	DESCRIPTION	DATE	APPROVAL
A	NO CHG	1-17-83	277
B	NO CHG	12-7-88	277

20. APPROVAL: ANY CHANGE TO THE COMPONENTS DESCRIBED BY THIS DWG REQUIRES PRIOR KSC DESIGN ENGINEERING APPROVAL.

21. VENDOR DATA: WHEN SPECIFIED ON THE PURCHASE ORDER, THE VENDOR SHALL PROVIDE THREE (3) SETS OF NON-RESTRICTIVE ASSEMBLY DWGS, PARTS LISTS, TECHNICAL DATA, INSTRUCTIONS, ETC., SUITABLE FOR INSPECTION, TEST & MAINTENANCE. O-RINGS SHALL BE IDENTIFIED ON THE PARTS LIST BY THE APPROPRIATE GOVERNMENT STANDARD PART NUMBER (NS, AN, WAS, ETC.) OR BY THE ASS68 DASH NUMBER, TYPE OF MATERIAL & HARDNESS (DURUMETER). ALL OTHER PARTS DESCRIBED BY A GOVERNMENT SPECIFICATION/STANDARD & USED WITHOUT FURTHER ALTERATION OR SELECTION SHALL BE IDENTIFIED ON THE PARTS LIST BY THE APPROPRIATE SPECIFICATION/STANDARD PART NUMBER. (EXAMPLES: BOLT, FULL THREADED, NAS568-33; RING, RETAINING, MS16624-4025).

12. MATERIALS: BODY - 316 SST
SPRING - 316 SST OR 17-7PH SST
INTERNAL METAL PARTS - 300 SERIES SST
SEAL - VITON-A
BUSHING SEAL - VITON-A
BUSHING SEAL - TEFLON

SEALS SHALL CONFORM TO MIL, AMS OR NAS SPECIFICATIONS/STANDARDS.
ALL MATERIALS IN CONTACT WITH THE FLUID TO BE OXYGEN COMPATIBLE PER NAS 806.11. BATCH TEST VITON-A REQUIRED PER DWG 79K19556.

13. AGE CONTROL: PER KSC-SPEC-Z-0019. THE INSTALLATION DATE OF ELASTOMERIC PARTS SHALL BE MARKED UPON THE ASSEMBLY.

14. COMPONENT MARKING: THE VENDOR'S NAME, PART NO., SERIAL NO. (IF APPLICABLE), & KSC DWG NO. SHALL APPEAR PERMANENTLY & LEGIBLY UPON THE ASSEMBLY. A SEPARATE 300 SERIES SST TAG APPROXIMATELY 1" X 3" X .002" SHALL BE SECURED BY THE SEAL WIRE TO THE RELIEF VALVE. THE VENDOR SHALL STAMP, ENGRAVE OR ETCH THE KSC PART NO. ON THE TAG IN CHARACTERS APPROXIMATELY 1/8" HIGH. SEE INT 4. KSC WILL ADD A SECOND DASH NO. WHICH WILL BE THE ACTUAL SET PRESSURE.

15. MOUNTING ATTITUDE: UPRIGHT VERTICAL POSITION.

16. DIMENSIONS: ENVELOPE IN ACCORDANCE WITH SMT 4.

17. TESTING: THE MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION OF THE FOLLOWING: PROOF TEST PER ITEM 3; OPERATIONAL TEST PER ITEM 6; LEAKAGE TEST PER ITEM 9. PROOF TEST MUST BE PERFORMED PRIOR TO FUNCTIONAL & LEAK TEST. FUNCTIONAL TEST SHALL VERIFY AS A MINIMUM THAT VALVE IS LEAK TIGHT AS SPECIFIED.

18. PACKAGING: PER MANUFACTURER'S STANDARD COMMERCIAL PRACTICE, PROVIDED THAT PACKING SHALL BE SUFFICIENT TO PROTECT COMPONENT AGAINST DAMAGE DURING SHIPMENT. EXTERIOR SHIPPING CONTAINERS SHALL CONFORM TO FREIGHT CLASSIFICATION RULES & APPLICABLE CONTAINER SPECIFICATIONS.

19. MANUFACTURER: ANDERSON, GREENWOOD & CO.
P.O. BOX 1097
BELLAIRE, TEXAS 77401
FSCN 01343

SUPPLIER IS: NIARCO EQUIPMENT & INDUSTRIAL SALES INC.
5-2865 TAYLOR ROAD
ORCHARD PARK, NEW YORK 14127

OR KSC DESIGN ENGINEERING APPROVED EQUAL.

COMPONENT SPECIFICATION

CODE IDENT NO.	DWG SIZE
22284	B

79K80459

SHEET 2

Figure 1. A Sample Component Procurement/Performance Specification
(Sheet 2 of 4)

CONTINUATION OF SHEET			
S/N	DESCRIPTION	DATE	APPROVAL
A	NO C/S	6-17-73	JH
B	NO C/S	11-7-76	MZ

NOTES:

- VENDOR SHALL SUPPLY THE VALVES SET AT MID-RANGE OF THE INDICATED SET PRESSURE RANGE.
- FLOW CAPACITIES SHOWN ARE FOR AIR. FLOWS ARE GIVEN AT MID-RANGE OF SET PRESSURE (10% ACCUMULATION) WITH AIR AT 40°F & 14.7 PSIA. FOR OXYGEN, THESE FLOWS ARE WITHIN 5%.
- SOFT GOODS KITS CONSIST OF BLOW - DOWN SEAL, BUSHING SEAL & SEAT.
- EACH SOFT GOODS KIT INCLUDES ALL SEAT SIZES, BUSHING SEALS & BLOW-DOWN SEALS, BUT EXCLUDES THE CAP SEAL.

ASC PART NUMBER	VENDOR PART NUMBER	SET PRESSURE RANGE - PSIG	FLOW CAPACITY CFM	SPRING VENDOR PART NUMBER	SOFT GOODS KIT-VENDOR PART NUMBER
79K8C459-1	83J548-3	20-31	17.7	03-C043-002	04-4805-015BT
79K8C459-2	83J549-3	32-46	23.6	03-C042-002	04-4805-015BT
79K8C459-3	83J549-3	47-69	32.1	03-C043-002	04-4805-015BT
79K8C459-4	83J548-3	70-104	45.2	03-C043-002	04-4805-015BT
79K8C459-5	83J548-3	105-156	65	03-C043-002	04-4805-015BT
79K8C459-6	83J548-3	157-235	94	03-C046-002	04-4805-015BT
79K8C459-7	83J548-3	236-350	138	03-C047-002	04-4805-015BT
79K8C459-8	83J548-3	351-526	205	03-C043-002	04-4805-015BT
79K8C459-9	83J548-3	527-790	305	03-C043-002	04-4805-015BT
79K8C459-10	83J548-3	791-1130	452	03-C050-002	04-4805-015BT
79K8C459-11	83J548-3	1131-1775	674	03-C051-002	04-4805-015BT
79K8C459-12	83J548-3	1776-2675	1013	03-C052-002	04-4805-015BT
79K8C459-13	83J548-3	2676-4000	1516	03-C053-002	04-4805-015BT
79K8C459-14	83J548-3	4001-6000	2268	03-C054-002	04-4805-015BT
79K8C459-15	83J548-3	6001-7400	3037	03-C055-002	04-4805-015BT

COMPONENT SPECIFICATION

CODE	DWG NO.	SIZE
2226-A	B	79K80459
		SHEET 3

Figure 1. A Sample Component Procurement/Performance Specification
(Sheet 3 of 4)

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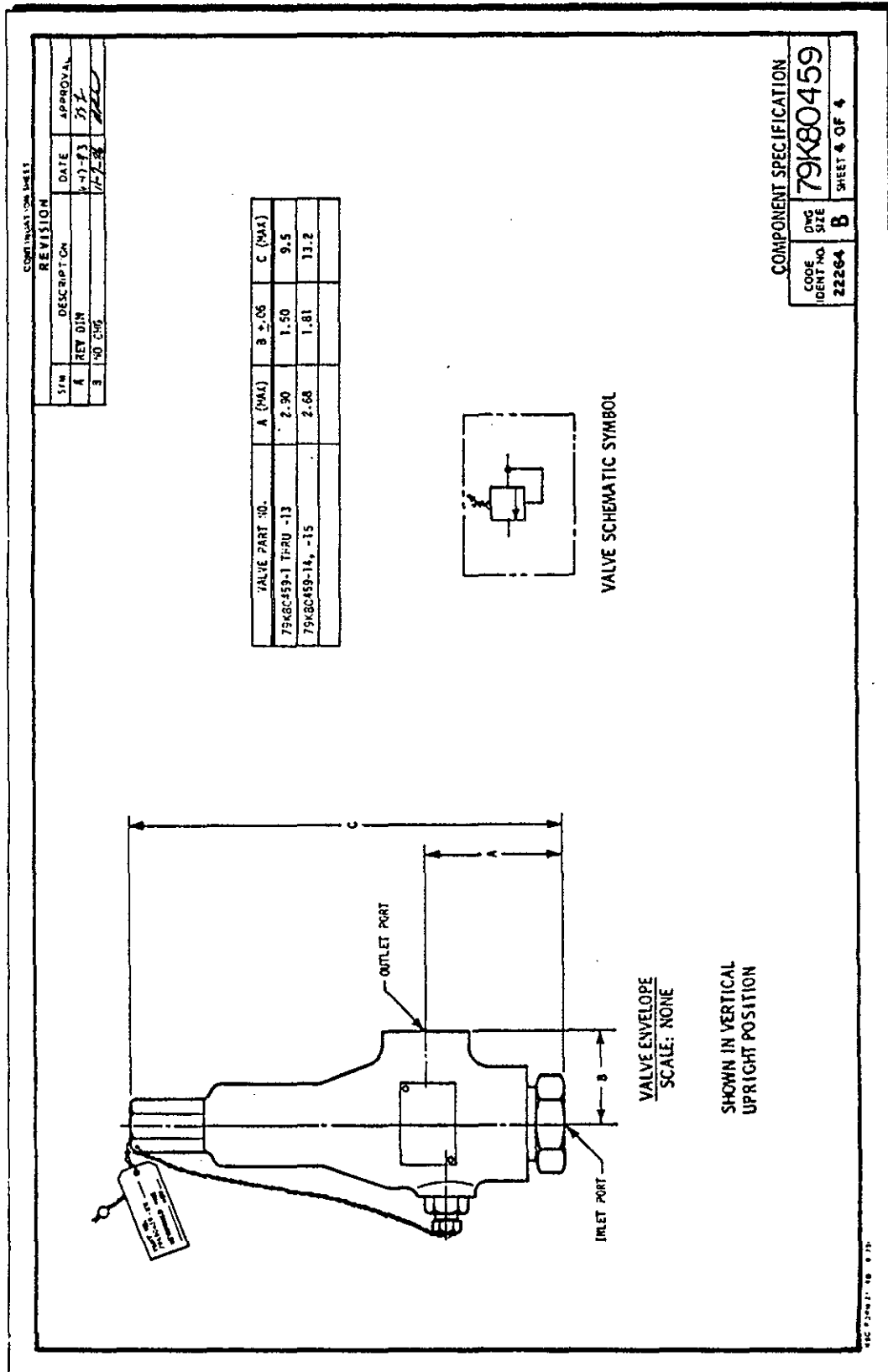


Figure 1. A Sample Component Procurement/Performance Specification
(Sheet 4 of 4)

3.3.1.1 Component Marking. - The vendor's name, part number, serial number (if applicable), KSC drawing number, and direction of flow or other component-specific characteristics (e.g., set pressure, filter delta P) shall appear permanently and legibly upon the assembly if space permits. Minimum markings shall include the KSC drawing number and direction of flow or labeling of inlet/outlet ports, if applicable.

3.3.1.2 Quality Assurance Tests and/or Inspections. - Quality assurance provisions, including tests, test data, inspections, and certification of compliance, shall be specified as required to ensure that the component meets the requirements of the specification.

3.3.1.3 Packaging. - Packaging shall be in accordance with the manufacturer's standard commercial practice, provided that packaging shall be sufficient to protect the component against damage during shipment. Exterior shipping containers shall conform to freight classification rules and applicable container specifications.

3.3.1.4 Vendor Data. - When specified on the purchase order, the vendor shall provide three sets of nondestructive assembly drawings, parts lists, technical data, instructions, etc., suitable for inspection, test, and maintenance. Parts lists for the component shall contain:

- a. Description: The name of the part and, when necessary, the size, dimensions, material, and tolerances.
- b. True manufacturer's name: Federal supply code for actual manufacturer.
- c. True manufacturer's part number: The Government standard part number should also be supplied, if applicable.
- d. Repair parts: When repair parts are provided in the form of kits or as quick-change units, each part shall be identified per (a), (b), and (c) of this item.
- e. Quantity: The quantity of each part required.
- f. Spare parts: Coded to reflect recommended spare parts.

3.3.2 Typical Mechanical Component Requirements. - Requirements for a typical mechanical component, such as a valve or regulator, are as follows:

- a. Service: Applicable media, for example air, nitrogen, helium, liquid oxygen, water, etc.
- b. Operating pressure: As applicable.
- c. Hydrostatic test pressure: 1-1/2 times maximum operating pressure.

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- d. Maximum allowable stress: In accordance with ANSI/ASME or other applicable codes.
- e. Flow: Specify whether monodirectional, bidirectional, flow factor, etc.
- f. Operation: As applicable, if manual, list maximum torques.
- g. Connections: As applicable, in accordance with MS 33649, Grayloc, Superpressure, etc.
- h. Leakage: List requirement and define allowable leakage.
- i. Operating temperature: As applicable, show range.
- j. Materials: List types of materials used as applicable (e.g., body: 300 series SST, seat: nylon, seals: O-rings per MIL, etc.). Material compatibility requirements shall be stated, and batch testing requirements, as applicable, shall be indicated.
- k. Cleaning: As applicable per KSC-C-123 (e.g., procedure, cleanliness level, test method, certification required, etc.).
- l. Lubrication: As applicable per Military or oxygen compatibility specification.
- m. Age control: In accordance with KSC-SPEC-Z-0019.
- n. Mounting attitudes: As applicable.
- o. Manufacturer: List the name and address of the previously supplied or qualified component manufacturer and the Federal supply code number of the manufacturer.
- p. Component marking. The vendor's name, part number, KSC drawing number, and direction of flow or other component-specific characteristics shall appear permanently and legibly upon the assembly.
- q. Tests and/or inspections: Tests and inspections shall be specified as required to ensure that the component meets the requirements of the specification.
- r. Packaging: Packaging shall be in accordance with the manufacturer's standard commercial practice, provided that packaging shall be sufficient to protect the component against damage during shipment. Exterior shipping containers shall conform to freight classification rules and applicable container specifications.

- s. Vendor data: When specified on the purchase order, the vendor shall provide three sets of nondestructive assembly drawings, parts lists, technical data, instructions, etc., suitable for inspection, test, and maintenance. Parts lists for the component shall contain:
- (1) Description: The name of the part and, when necessary, the size, dimensions, material, and tolerances.
 - (2) True Manufacturer's Name: Federal supply code for actual manufacturer.
 - (3) True Manufacturer's Part Number: The Government standard part number should also be applied, if applicable.
 - (4) Repair Parts: When repair parts are provided in the form of kits or as quick-change units, each part shall be identified per (1), (2), and (3) of this item.
 - (5) Quantity: Quantity of each part required.
 - (6) Spare parts: Coded to reflect recommended spare parts.

3.3.3 Component Maintenance. - When needed, requirements appropriate to component maintenance shall be included in the specification or shall be presented in a separate component maintenance drawing in accordance with GP-435, Volume 1. Maintenance criteria should include lubrication, torque values, cleaning, leakage, operational parameters to be verified, electrical tests (if applicable), calibration, and a cutaway drawing with complete piece parts breakdown.

3.3.4 Intended Use. - In the preparation of component procurement/performance specifications, applicable notes shall be used to supply information designed to help determine applicability of the specification and to help select the appropriate type, grade, or class of component. The use of the different types, grades, or classes in the specification will be explained.

3.4 Changes, Revisions, and Cancellations. - Component procurement/performance specifications, which carry a XXXXXXXX number, shall be revised or cancelled in accordance with requirements specified in GP-435, Engineering Drafting Practices Manual.

4. NOTES

4.1 Intended Use. - This standard is intended to be used as a guide in order to prepare uniform component procurement/performance specifications of a high quality.

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4.2 Definition

4.2.1 Component. - A component is defined as the smallest assembled item identifiable as a complete, functioning, hardware entity that performs a distinctive function in the operation of an item of equipment or a system.

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