

**SUPPLEMENT NO. 3 TO THE  
3-A SANITARY STANDARDS FOR FITTINGS USED ON MILK AND  
MILK PRODUCTS EQUIPMENT AND USED ON SANITARY LINES  
CONDUCTING MILK AND MILK PRODUCTS**

*Formulated by  
International Association of Milk and Food Sanitarians, Inc.  
United States Public Health Service  
The Dairy Industry Committee*

April 26, 1955

In keeping with the provisions of the 3-A Sanitary Standards for Sanitary Fittings and Connections Used On Milk and Milk Products Equipment, this supplement incorporates the following paragraphs covering "Special Sanitary Fittings" into the standards:

**SPECIAL SANITARY FITTINGS**

As 3-A Sanitary Standards are not intended to limit individual ingenuity, this supplement sets forth a basis for the approval of special sanitary fittings to meet specific applications where standard 3-A Sanitary Fittings designs are not applicable.

Where special sanitary fittings are required and interchangeability with respect to face to face, or centerline to face dimensions is not important, the following conditions must be met:

These special fittings must qualify with respect to material, finish, construction, thread dimensions, and use of gaskets as set forth for approved 3-A fittings in the standard to which this statement is a supplement. All product contact surfaces of such fittings shall be accessible for cleaning and inspection. All internal angles shall have radii of not less than 1/16-inch, except gasket recesses and grooves in which all sharp corners shall be avoided.

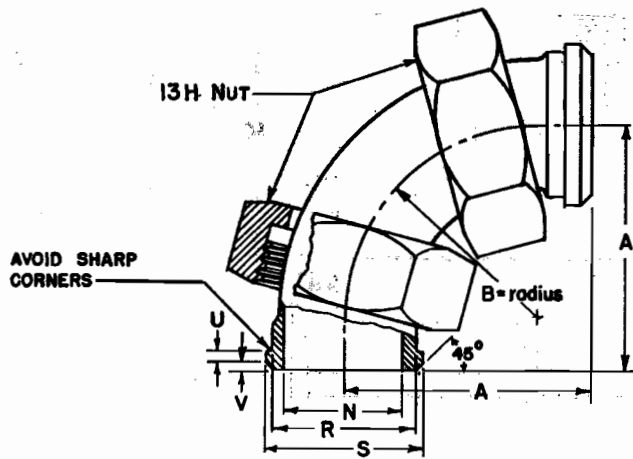
**SUPPLEMENT NO. 4 TO THE  
3-A SANITARY STANDARDS FOR FITTINGS USED ON MILK AND  
MILK PRODUCTS EQUIPMENT AND USED ON SANITARY LINES  
CONDUCTING MILK AND MILK PRODUCTS**

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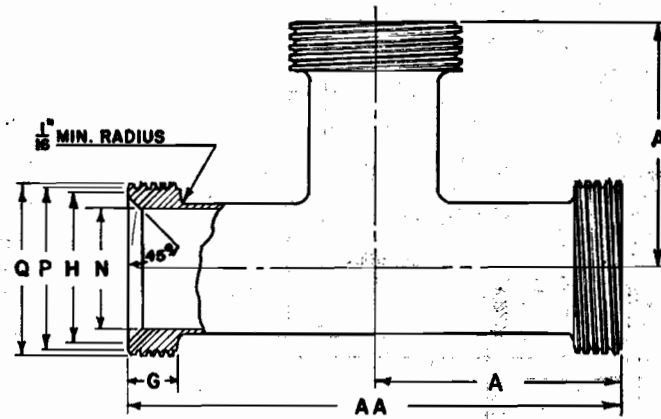
April 26, 1955

In keeping with the provisions of the 3-A Sanitary Standards for Sanitary Fittings and Connections Used on Milk and Milk Products Equipment, this supplement incorporates the following fittings into these standards:

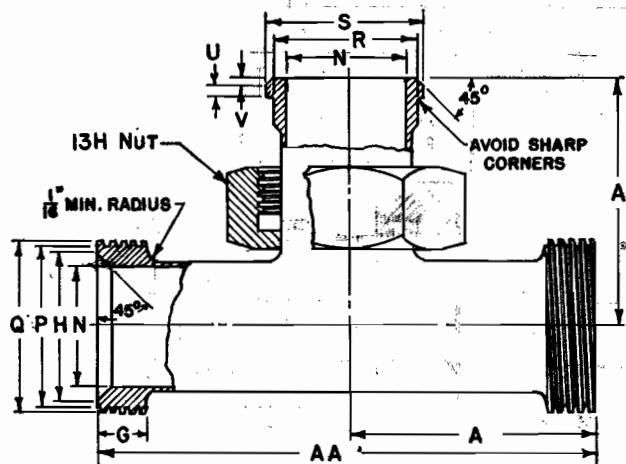
<i>PART NAME</i>	<i>3-A DRAWING NO.</i>
2E Bend	3A-100-22
7X Tee	3A-100-22
7AX Tee	3A-100-22
7BX Tee	3A-100-22
2EG Bend	3A-100-23
7XG Tee	3A-100-23
7AXG Tee	3A-100-23
7BXG Tee	3A-100-23



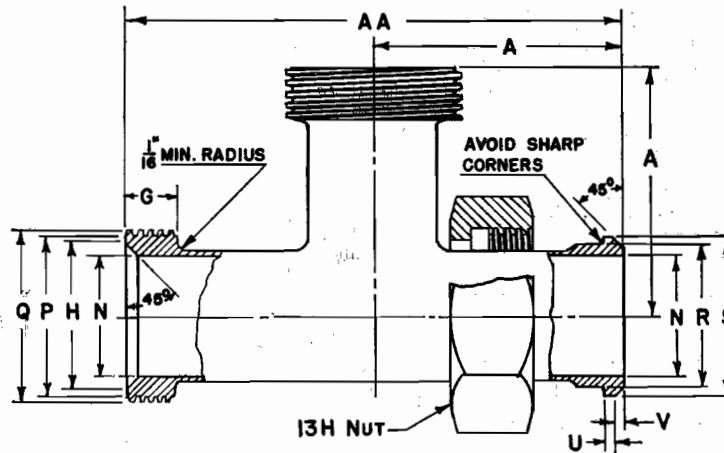
2-E BEND



7X TEE



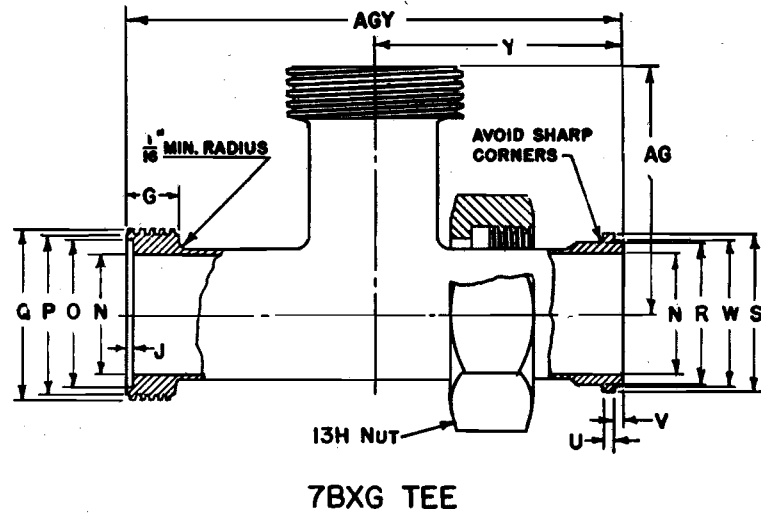
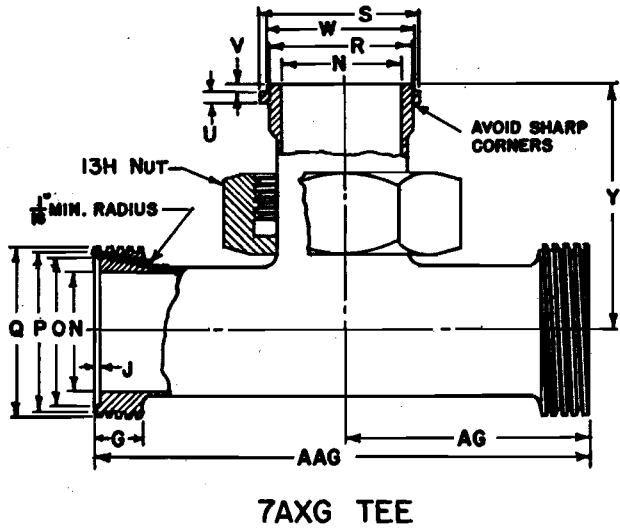
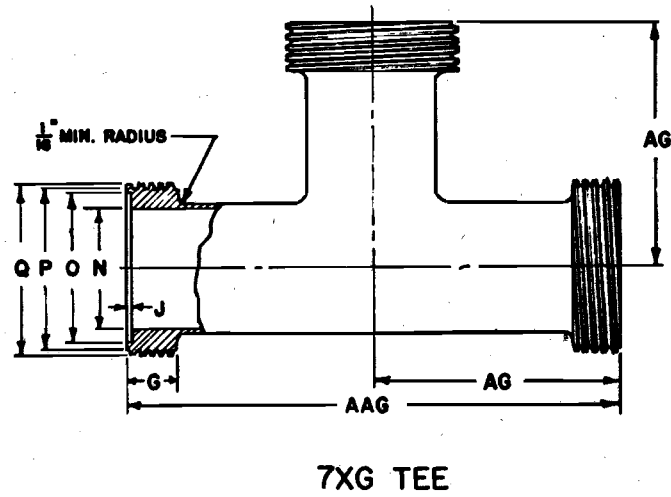
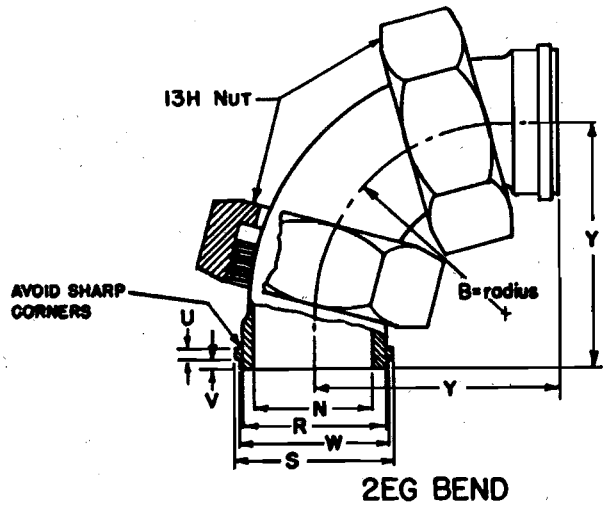
7AX TEE



7BX TEE

SIZE	ACME THD. PER INCH	A	AA	B	G <sub>max</sub>	H	N	P	Q	R	S	U	V
1"	8	2"	4"	1 1/2"	9/16"	1 3/16"	.902"	1.317"	1.462"	1.160"	1.316"	3/16"	1/8"
1 1/2"	8	2 7/8"	5 3/4"	2 1/4"	9/16"	1 23/32"	1.402"	1.849"	1.994"	1.676"	1.848"	3/16"	5/32"
2"	8	3 23/32"	7 1/16"	3"	19/32"	2 1/4"	1.870"	2.381"	2.526"	2.192"	2.380"	1/4"	5/32"
2 1/2"	8	4 27/32"	9 1/16"	4"	23/32"	2 3/4"	2.370"	2.913"	3.058"	2.708"	2.912"	1/4"	3/16"
3"	8	5 29/32"	11 13/16"	5"	3/4"	3 5/16"	2.870"	3.445"	3.590"	3.224"	3.444"	9/32"	3/16"
4"	6	8 1/16"	16 1/8"	7"	7/8"	4 1/4"	3.834"	4.509"	4.695"	4.256"	4.508"	5/16"	1/4"

3A STANDARD  
SANITARY FITTINGS  
3A-100-22  
1-25-55



SIZE	ACME THDS PER INCH	AG	AAG	AGY	B	G	J	N	O	P	Q	R	S	U	V	W	Y
1"	8	1 $\frac{7}{8}$	3 $\frac{3}{4}$	3 $\frac{5}{64}$	1 $\frac{1}{2}$	$\frac{7}{16}$	.062"	.902"	1.219"	1.317"	1.462"	1.160"	1.316"	$\frac{9}{64}$	$\frac{3}{32}$	1.187"	1 $\frac{59}{64}$
1 $\frac{1}{2}$ "	8	2 $\frac{3}{4}$	5 $\frac{1}{2}$	5 $\frac{35}{64}$	2 $\frac{1}{4}$	$\frac{7}{16}$	.062"	1.402"	1.750"	1.849"	1.994"	1.676"	1.848"	$\frac{9}{64}$	$\frac{3}{32}$	1.718"	2 $\frac{49}{64}$
2"	8	3 $\frac{9}{16}$	7 $\frac{1}{8}$	7 $\frac{3}{16}$	3"	$\frac{7}{16}$	.062"	1.870"	2.250"	2.381"	2.526"	2.192"	2.380"	$\frac{7}{32}$	$\frac{3}{32}$	2.218"	3 $\frac{5}{8}$
2 $\frac{1}{2}$ "	8	4 $\frac{21}{32}$	9 $\frac{5}{16}$	9 $\frac{3}{8}$	4"	$\frac{7}{32}$	.062"	2.370"	2.750"	2.913"	3.058"	2.708"	2.912"	$\frac{1}{32}$	$\frac{3}{32}$	2.718"	4 $\frac{23}{32}$
3"	8	5 $\frac{23}{32}$	11 $\frac{1}{16}$	11 $\frac{1}{2}$	5"	$\frac{9}{16}$	.062"	2.870"	3.312"	3.445"	3.590"	3.224"	3.444"	$\frac{1}{4}$	$\frac{3}{32}$	3.280"	5 $\frac{25}{32}$
4"	6	7 $\frac{7}{8}$	15 $\frac{3}{4}$	15 $\frac{19}{64}$	7"	$\frac{11}{16}$	.062"	3.834"	4.312"	4.509"	4.695"	4.256"	4.508"	$\frac{9}{32}$	$\frac{7}{64}$	4.280"	7 $\frac{5}{64}$

**3A STANDARD  
SANITARY FITTINGS  
3A-100-23**

1-25-55

**SUPPLEMENT NO. 5 TO THE  
3-A SANITARY STANDARDS FOR FITTINGS USED ON MILK AND  
MILK PRODUCTS EQUIPMENT AND USED ON SANITARY LINES  
CONDUCTING MILK AND MILK PRODUCTS**

*Formulated by  
International Association of Milk and Food Sanitarians, Inc.  
United States Public Health Service  
The Dairy Industry Committee*

April 26, 1955

In keeping with the provisions of the 3-A Sanitary Standards for Sanitary Fittings and Connections Used on Milk and Milk Products Equipment, this supplement incorporates the following fittings into these standards:

**I. FITTING NAME**

*Compression Type Tank Outlet Valves* (Nos. 60-TF, 60-CF or Nos. 60TFG, 60-CFG).

All such valves shall be readily cleanable, close coupled and with no stuffing box. All product contact surfaces shall be accessible for cleaning and inspection. The valve bore shall be of such design as to be self-draining in its installed position.

Threaded terminals on valve outlet connections shall be provided with a 3-A Sanitary Standard Fitting or snap-on type moulded rubber composition or plastic cap.

The valve may be of metal to metal or rubber-like material to metal seat. If rubber or rubber-like seals are used, they shall be non-toxic, readily removable, relatively non-absorbent and grooves and material shall be readily cleanable.

All internal angles shall have radii of not less than 1/16-inch.

(See attached 3-A Drawing No. 3A-100-24.)

**II. FITTING NAME**

*Compression Type In-Line Valves* (Nos. 60-T, 60-C, 60-TG, 60-CG)

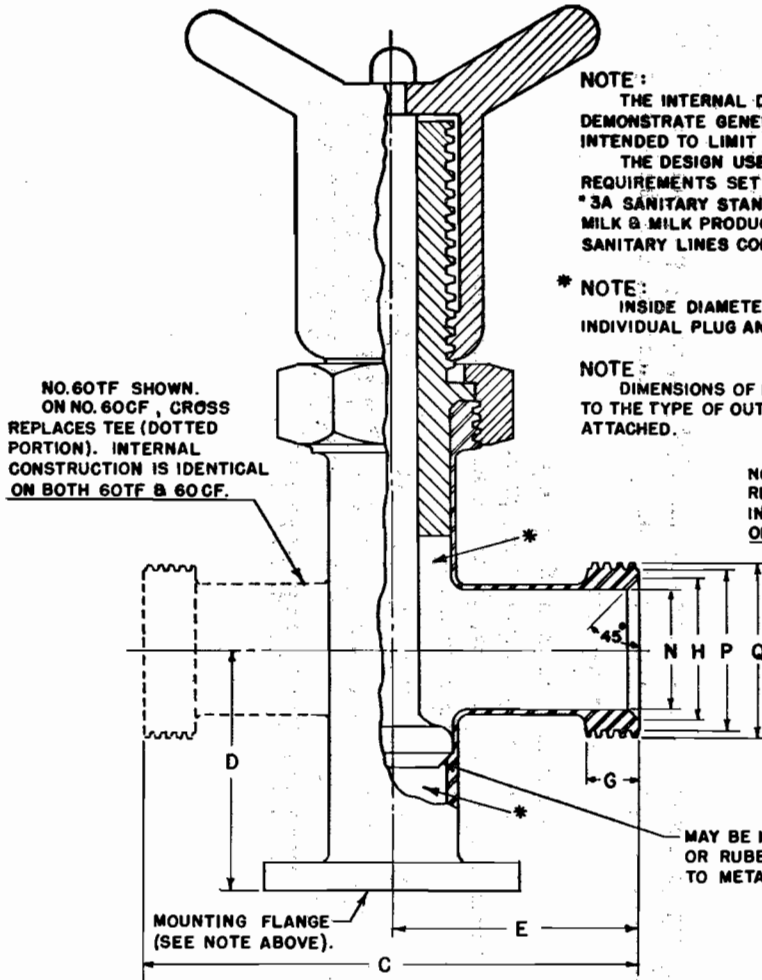
All such valves shall be readily cleanable and with no stuffing box. The valve bore shall be of such design as to be self-draining in its installed position. All product contact surfaces shall be accessible for cleaning and inspection.

The valve may be metal or rubber-like material to metal seat. If rubber or rubber-like seals are used, they shall be non-toxic, readily removable, relatively non-absorbent, and grooves and material shall be readily cleanable.

All internal angles shall have radii of not less than 1/16-inch.

Center to face and face to face dimensions shall conform to 3-A Fittings standards.

(See attached 3-A Drawing No. 3A-100-25.)



NO. 60TF SHOWN.  
ON NO. 60CF, CROSS  
REPLACES TEE (DOTTED  
PORTION). INTERNAL  
CONSTRUCTION IS IDENTICAL  
ON BOTH 60TF & 60CF.

NOTE:  
THE INTERNAL DESIGN SHOWN IS INTENDED TO  
DEMONSTRATE GENERAL PRINCIPAL ONLY, AND IS NOT  
INTENDED TO LIMIT INDIVIDUAL INGENUITY.  
THE DESIGN USED SHALL CONFORM WITH SANITARY  
REQUIREMENTS SET FORTH IN SUPPLEMENT 5 OF THE  
"3A SANITARY STANDARDS FOR FITTINGS USED ON  
MILK & MILK PRODUCTS EQUIPMENT, AND USED ON  
SANITARY LINES CONDUCTING MILK & MILK PRODUCTS."

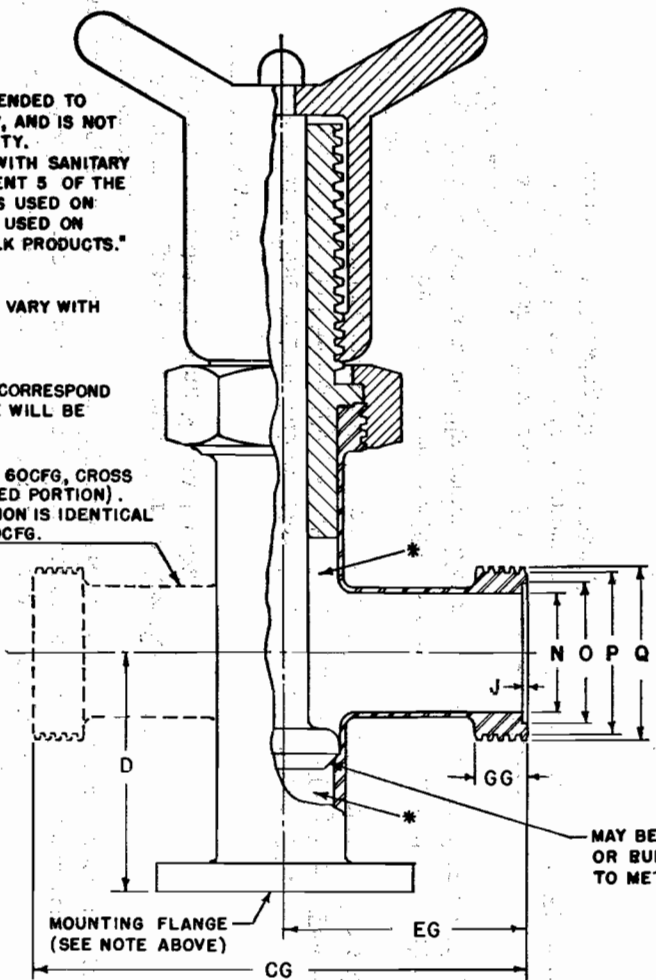
\* NOTE:  
INSIDE DIAMETER IN THIS AREA WILL VARY WITH  
INDIVIDUAL PLUG AND SEAT DESIGN.

NOTE:  
DIMENSIONS OF FLANGED PORT WILL CORRESPOND  
TO THE TYPE OF OUTLET TO WHICH VALVE WILL BE  
ATTACHED.

NO. 60TFG SHOWN. ON 60CFG, CROSS  
REPLACES TEE (DOTTED PORTION).  
INTERNAL CONSTRUCTION IS IDENTICAL  
ON BOTH 60TFG & 60CFG.

MAY BE METAL TO METAL,  
OR RUBBER-LIKE MATERIAL  
TO METAL SEAT.

60TF & 60CF COMPRESSION VALVE

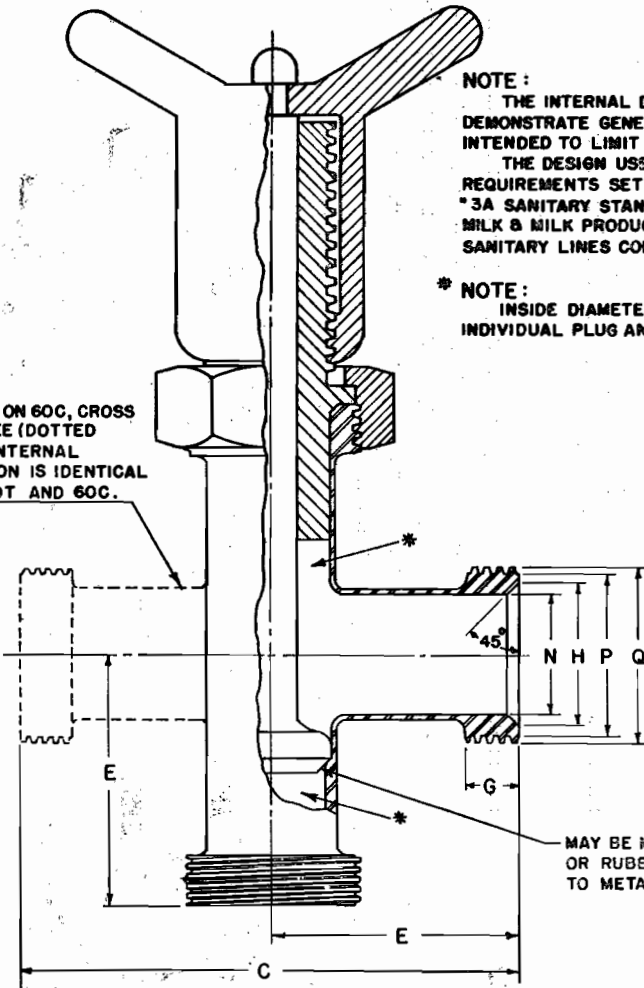


MAY BE METAL TO METAL,  
OR RUBBER-LIKE MATERIAL  
TO METAL SEAT.

60TFG & 60CFG COMPRESSION VALVE

SIZE	ACME THDS PER INCH	C	CG	D	E	EG	G <sub>MAX</sub>	GG <sub>MAX</sub>	H	J	N	O	P	Q
1"	8	3 5/8"	3 3/8"	1 1/2"	1 13/32"	1 11/16"	9/16"	7/16"	1 3/16"	.062"	.902"	1.219"	1.317"	1.462"
1 1/2"	8	4 3/4"	4 1/2"	2 3/16"	2 3/8"	2 1/4"	9/16"	7/16"	1 23/32"	.062"	1.402"	1.750"	1.849"	1.994"
2"	8	5 9/16"	5 1/4"	2 19/32"	2 25/32"	2 5/8"	19/32"	7/16"	2 1/4"	.062"	1.870"	2.250"	2.381"	2.526"
2 1/2"	8	6 3/8"	6"	3"	3 3/16"	3"	23/32"	17/32"	2 3/4"	.062"	2.370"	2.750"	2.913"	3.058"
3"	8	7"	6 5/8"	3 9/32"	3 1/2"	3 5/16"	3/4"	9/16"	3 5/16"	.062"	2.870"	3.312"	3.445"	3.590"
4"	6	9 5/16"	8 15/16"	4 13/32"	4 21/32"	4 15/32"	7/8"	11/16"	4 1/4"	.062"	3.834"	4.312"	4.509"	4.695"

3A STANDARD  
SANITARY FITTINGS  
3A-100-24  
6-23-55



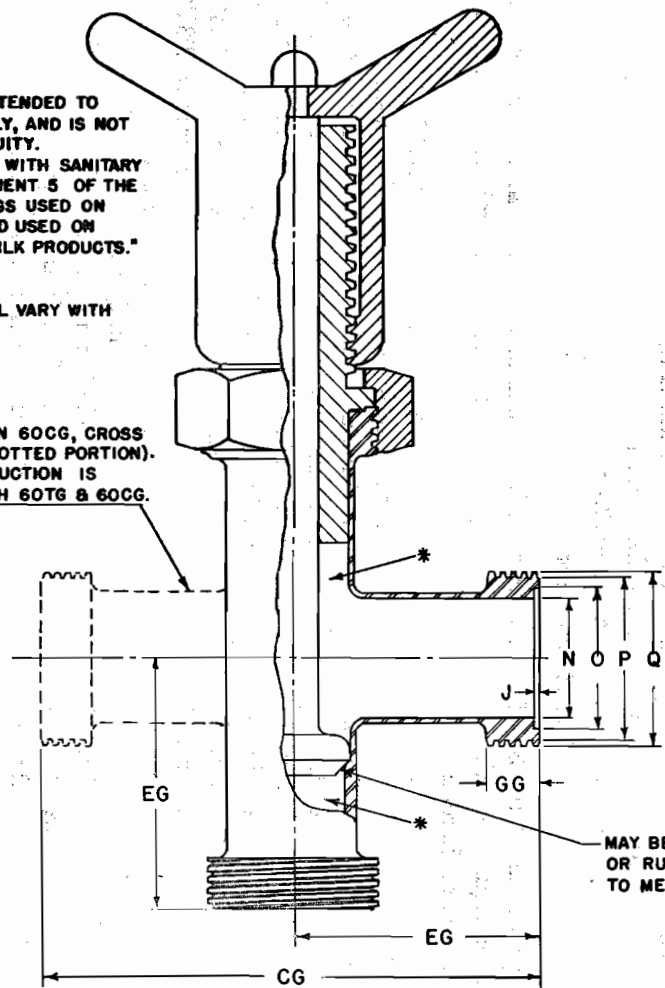
60T SHOWN. ON 60C, CROSS REPLACES TEE (DOTTED PORTION). INTERNAL CONSTRUCTION IS IDENTICAL ON BOTH 60T AND 60C.

**NOTE:**  
THE INTERNAL DESIGN SHOWN IS INTENDED TO DEMONSTRATE GENERAL PRINCIPAL ONLY, AND IS NOT INTENDED TO LIMIT INDIVIDUAL INGENUITY.  
THE DESIGN USED SHALL CONFORM WITH SANITARY REQUIREMENTS SET FORTH IN SUPPLEMENT 5 OF THE "3A SANITARY STANDARDS FOR FITTINGS USED ON MILK & MILK PRODUCTS EQUIPMENT, AND USED ON SANITARY LINES CONDUCTING MILK & MILK PRODUCTS."

\* **NOTE:**  
INSIDE DIAMETER IN THIS AREA WILL VARY WITH INDIVIDUAL PLUG AND SEAT DESIGN.

MAY BE METAL TO METAL, OR RUBBER-LIKE MATERIAL TO METAL SEAT.

**60T & 60C COMPRESSION VALVE**



60TG SHOWN. ON 60CG, CROSS REPLACES TEE (DOTTED PORTION). INTERNAL CONSTRUCTION IS IDENTICAL ON BOTH 60TG & 60CG.

MAY BE METAL TO METAL, OR RUBBER-LIKE MATERIAL TO METAL SEAT.

**60TG & 60CG COMPRESSION VALVE**

SIZE	ACME THDS PER INCH	C	CG	E	EG	G <sub>MAX</sub>	GG <sub>MAX</sub>	H	J	N	O	P	Q
1"	8	3 5/8"	3 3/8"	1 13/16"	1 11/16"	9/16"	7/16"	1 3/16"	.062"	.902"	1.219"	1.317"	1.462"
1 1/2"	8	4 3/4"	4 1/2"	2 3/8"	2 1/4"	9/16"	7/16"	1 23/32"	.062"	1.402"	1.750"	1.849"	1.994"
2"	8	5 9/16"	5 1/4"	2 25/32"	2 5/8"	19/32"	7/16"	2 1/4"	.062"	1.870"	2.250"	2.381"	2.526"
2 1/2"	8	6 3/8"	6"	3 3/16"	3"	23/32"	17/32"	2 3/4"	.062"	2.370"	2.750"	2.913"	3.058"
3"	8	7"	6 5/8"	3 1/2"	3 5/16"	3/4"	9/16"	3 5/16"	.062"	2.870"	3.312"	3.445"	3.590"
4"	6	9 5/16"	8 15/16"	4 21/32"	4 15/32"	7/8"	1 1/16"	4 1/4"	.062"	3.834"	4.312"	4.509"	4.695"

**3A STANDARD  
SANITARY FITTINGS  
3A-100-25**

6-23-55

# SUPPLEMENT NO. 6 TO THE 3-A SANITARY STANDARDS FOR FITTINGS USED ON MILK AND MILK PRODUCTS EQUIPMENT AND USED ON SANITARY LINES CONDUCTING MILK AND MILK PRODUCTS

Formulated by  
International Association of Milk and Food Sanitarians, Inc.  
United States Public Health Service  
The Dairy Industry Committee

April 26, 1955

In keeping with the provisions of the 3-A Sanitary Standards for Sanitary Fittings and Connections used on Milk and Milk Products Equipment, this supplement incorporates the following tolerances for each of the types of the fittings as specified herein:

Fitting Name		Centerline-to-face	Face-to-face
Tees, Crosses & 90° Ells	1" thru 2"	plus or minus 1/32"	plus or minus 3/64"
Tees, Crosses & 90° Ells	2½" thru 4"	plus or minus 3/64"	plus or minus 1/16"
Three-Way Plug Valves	1" thru 2"	plus or minus .024"	plus or minus .024"
Three-Way Plug Valves	2½" thru 4"	plus or minus .032"	plus or minus .032"
Straight Way Plug Valves	1" thru 2"	.....	plus or minus .024"
Straight Way Plug Valves	2½" thru 4"	.....	plus or minus .032"

### MAXIMUM TOLERANCE

in degrees

Bends – Angularity of	1" thru 2"	plus or minus ½-degree	
Bends – Angularity of	2½" thru 4"	plus or minus 1-degree	
Bevel – Angularity of	1" thru 2"	plus or minus ½-degree	
Bevel – Angularity of	2½" thru 4"	plus or minus 1-degree	

### MAXIMUM TOLERANCE

in inches

Fitting Name			
All 3-A fittings	1" thru 4"	plus or minus .010"	
Large Diameter of Bevel Seat – Dimension H			
Plain Ferrules	all sizes	present dimension minimum	
U Dimension of the Shoulder			
45 Degree Bends—2K and 2P	all sizes		

From a practical angle, due to the relative impossibility of measurement means, the right is reserved to hold 45 degree bends as close to the tolerances for 90 degree elbows as can be attained.

**APPROVED BY:**

C. A. Abele  
C. A. Abele - Chairman, CSP of IAMFS

John D. Faulkner  
John D. Faulkner - Chief, MF, DSES, USPHS

E. H. Parfitt  
E. H. Parfitt - Chairman, SSS-DIC

George W. Putnam  
George W. Putnam - Chairman, Technical  
D. G. Colony Committee, DISA

July 18, 1955  
(Date)

July 11, 1955  
(Date)

July 29, 1955  
(Date)

July 26, 1955  
(Date)