

Radiator Caps and Filler Necks

1. Scope

This SAE Standard was developed primarily for passenger car and truck application, but may be used in marine, industrial, and similar applications.

1.1 Purpose

The purpose of this document is to provide dimensions for the different pressure ratings of bayonet type radiator pressure caps and filler necks. Use of these dimensions will preclude the use of a high-pressure rated cap on low-pressure systems for the small and medium size applications. (See Tables 1 to 4 and Figures 1 to 4.)

This document will allow use of low-pressure rated cap on a nominal high-pressure system.

1.2 Rationale

Document has been updated to correct errors in spelling, to add missing dimensions to Tables 2A and 2B, and to add a clarifying note to Figure 2.

TABLE 1—PRESSURE TYPE RADIATOR CAP

Nominal Pressure Rating kPa	Nominal Pressure Rating psi	A mm	B mm	C mm	D mm	E mm
Mini						
83-110	12-16	10.70-11.70	11.20-12.00	39.2-40.0	43.43-43.80	66.0
97-124	14-18	10.70-11.70	11.20-12.00	39.2-40.0	43.43-43.80	66.0
Small						
21-34	3-5	10.92-11.94	14.73-15.62	50.80-52.32	57.15-57.79	80.26
41-55	6-8	14.22-15.24	14.73-15.62	50.80-52.32	57.15-57.79	80.26
62-76	9-11	14.22-15.24	14.73-15.62	50.80-52.32	57.15-57.79	80.26
83-110	12-16	20.83-21.84	14.73-15.62	50.80-52.32	57.15-57.79	80.26
97-124	14-18	20.83-21.84	14.73-15.62	50.80-52.32	57.15-57.79	80.26
Medium						
21-34	3-5	9.14-10.16	13.72-14.61	62.74-64.26	69.34-69.98	92.71
41-55	6-8	15.49-16.51	13.72-14.61	62.74-64.26	69.34-69.98	92.71
62-76	9-11	15.49-16.51	13.72-14.61	62.74-64.25	69.34-69.98	92.71
83-110	12-16	20.83-21.84	13.72-14.61	62.74-64.25	69.34-69.98	92.71

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TABLE 2A—RADIATOR FILLER NECKS (F, G, H, I, AND J)

Nominal Pressure Rating kPa	Nominal Pressure Rating psi	F mm	G mm	H mm	I mm	J mm
Mini						
83-110	12-16	38.40-39.00	12.19-13.21	42.80-43.20	31.10-31.7	5.08-5.33
97-124	14-18	38.40-39.00	12.19-13.21	42.80-43.20	31.10-31.7	5.08-5.33
Small						
21-34	3-5	49.78-50.29	12.19-13.21	56.39-56.77	41.15-41.53	5.46-5.72
41-55	6-8	49.78-50.29	15.24-16.26	56.39-56.77	41.15-41.53	5.46-5.72
62-76	9-11	49.78-50.29	15.24-16.26	56.39-56.77	41.15-41.53	5.46-5.72
83-110	12-16	49.78-50.29	21.84-22.86	56.39-56.77	41.15-41.53	5.46-5.72
97-124	14-18	49.78-50.29	21.84-22.86	56.39-56.77	41.15-41.53	5.46-5.72
Medium						
21-34	3-5	61.72-62.23	12.70-13.72	68.33-68.71	54.10-54.48	5.46-5.72
41-55	6-8	61.72-62.23	18.29-19.30	68.33-68.71	54.10-54.48	5.46-5.72
62-76	9-11	61.72-62.23	18.29-19.30	68.33-68.71	54.10-54.48	5.46-5.72
83-110	12-16	61.72-62.23	22.61-23.11	68.33-68.71	54.10-54.48	5.46-5.72

TABLE 2B—RADIATOR FILLER NECKS (K, L, M, N, P, AND R)

Nominal Pressure Rating kPa	Nominal Pressure Rating psi	K mm	L mm	M mm	N Nom mm	P Min mm	R mm
Mini							
83-110	12-16	22.4-22.7	10.45-10.7	12.43-12.68	19.7	12.0	4.70-5.0
97-124	14-18	22.4-22.7	10.45-10.7	12.43-12.68	19.7	12.0	4.70-5.0
Small							
21-34	3-5	30.7-31.0	13.75-14.0	16.05-16.3	28.3	12.45	4.90-5.16
41-55	6-8	30.7-31.0	13.75-14.0	16.05-16.3	28.3	15.75	4.90-5.16
62-76	9-11	30.7-31.0	13.75-14.0	16.05-16.3	28.3	15.75	4.90-5.16
83-110	12-16	30.7-31.0	13.75-14.0	16.05-16.3	28.3	22.34	4.90-5.16
97-124	14-18	30.7-31.0	13.75-14.0	16.05-16.3	28.3	22.35	4.90-5.16
Medium							
21-34	3-5	—	13.05-13.3	15.35-15.6	40.70	10.67	4.90-5.16
41-55	6-8	—	13.05-13.3	15.35-15.6	40.70	17.02	4.90-5.16
62-76	9-11	—	13.05-13.3	15.35-15.6	40.70	17.02	4.90-5.16
83-110	12-16	—	13.05-13.3	15.35-15.6	40.70	22.35	4.90-5.16

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TABLE 3—PRESSURE TYPE RADIATOR CAP (A TO D)

Nominal Pressure Rating kPa	Nominal Pressure Rating psi	A mm	A in	B mm	B in	C mm	C in	D mm	D in
34-48	5-7	17.91-18.67	0.705-0.735	30.48-32.51	1.200-1.280	95.63-96.38	3.764-3.794	102.24-103.00	4.025-4.055

TABLE 4A—RADIATOR FILLER NECK (F TO I)

Nominal Pressure Rating kPa	Nominal Pressure Rating psi	F mm	F in	G mm	G in	H mm	H in	I mm	I in
34-48	5-7	93.73-95.25	3.690-3.750	18.92-19.69	0.745-0.775	101.14-101.75	3.982-4.008	83.97-84.53	3.306-3.328

TABLE 4B—RADIATOR FILLER NECK (J TO M)

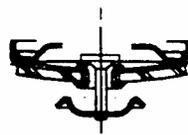
Nominal Pressure Rating kPa	Nominal Pressure Rating psi	J mm	J in	K mm	K in	L mm	L in	M mm	M in
34-48	5-7	7.49-7.75	0.295-0.305	72.90-73.16	2.870-2.880	37.97-38.23	1.496-1.505	4.45-4.70	0.175-0.185

TABLE 4C—RADIATOR FILLER NECK (L TO R)

Nominal Pressure Rating kPa	Nominal Pressure Rating psi	N mm	N in	R mm	R in
34-48	5-7 *	19.43	0.765	5.46-6.22	0.215-0.245

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FULL PRESSURE:
VACUUM VALVE TO
OPEN FROM "0" TO
"7.0 kPa" (1.0 PSI)
BELOW ATMOSPHERIC
PRESSURE

FREE BREATHING:
VACUUM VALVE TO SEAL
AT AN AIR FLOW OF
1.0 TO 2.0 LPM

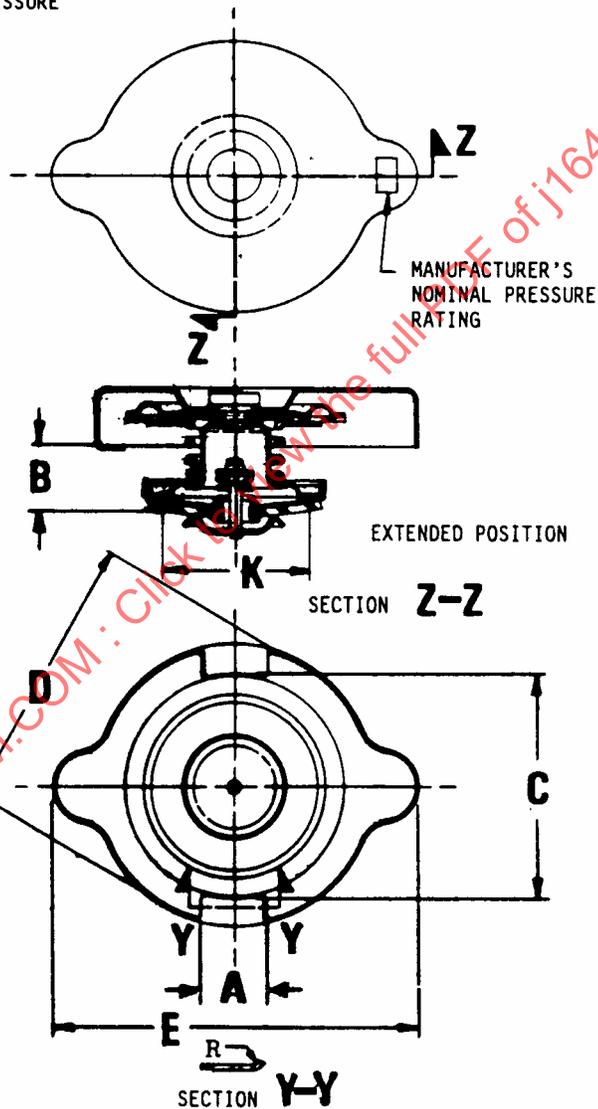


FIGURE 1—PRESSURE TYPE RADIATOR CAP

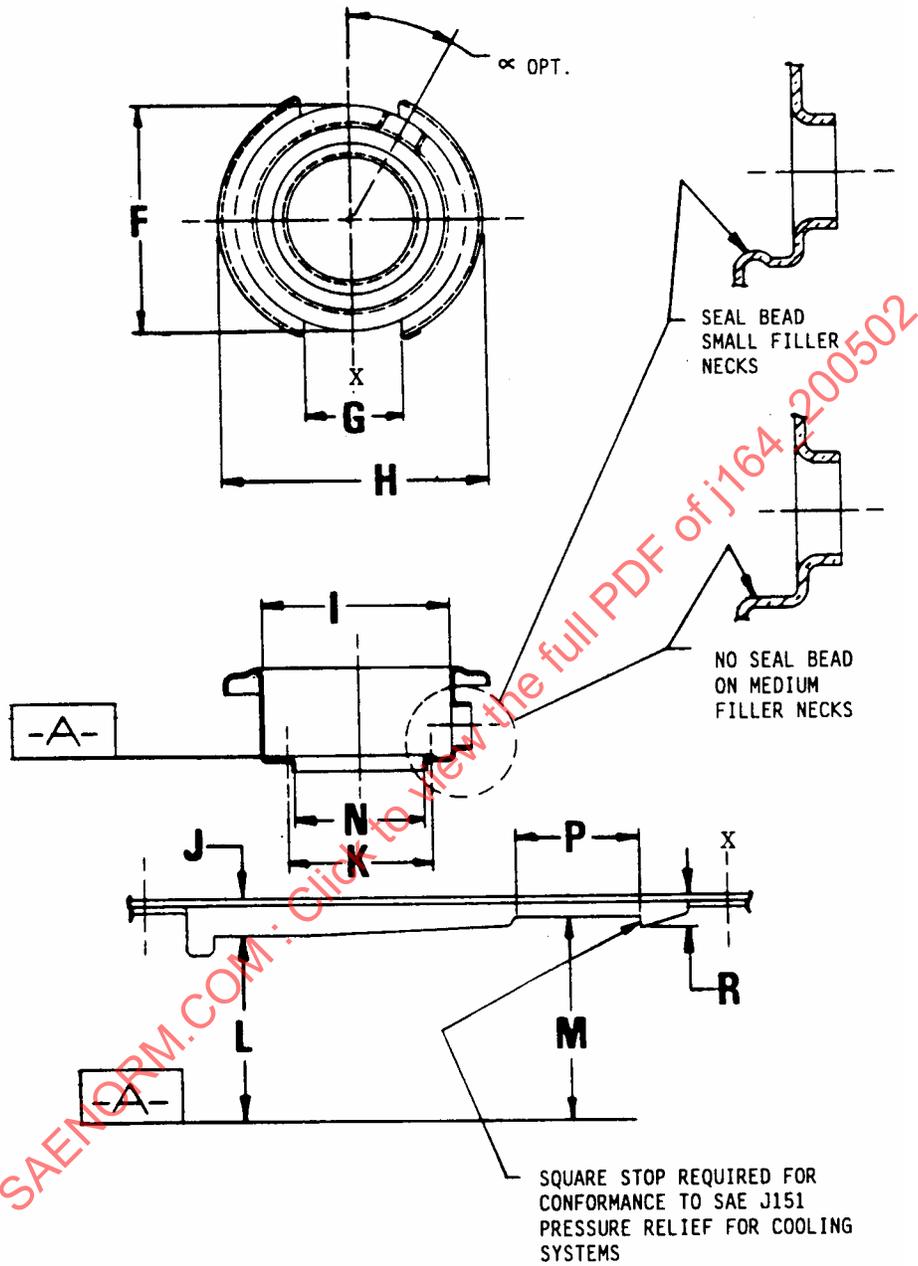


FIGURE 2—RADIATOR FILLER NECKS

(UPPER ILLUSTRATION APPLIES TO MINI AND SMALL FILLER NECKS)