



AEROSPACE RECOMMENDED PRACTICE

ARP1233™

REV. B

Issued 1977-04
Reaffirmed 2012-11
Revised 2021-04

Superseding ARP1233A

(R) Gland Design Criteria and Dimensions for Dynamic Radial O-Ring Seal Applications
Specifically for Engine and Engine Control Systems Operating at 1500 psi Max

RATIONALE

This standard has been updated to include technical and editorial changes.

NOTE: This standard was transferred from the E-25 General Standards for Aerospace and Propulsion Systems Committee to the A-6C Seals Committee.

1. SCOPE

This document recommends standard gland design criteria and dimensions for dynamic radial O-ring seal applications specifically for engine and engine control systems operating at pressures up to a maximum of 1500 psi (10342.14 kPa) and provides recommendations for modifying these glands in special applications. There are no provisions in this document for anti-extrusion devices.

NOTE: The criteria set forth here are similar to but not identical with those in MIL-G-5514 and AS4716. This document is not intended to replace MIL-G-5514 or AS4716 for hydraulic applications.

1.1 Purpose

The purpose of this document is to provide the aerospace industry with standardized dimensional criteria for dynamic radial elastomeric O-ring seal glands specifically for engine and engine control systems. It is intended for use in conjunction with ARP1231.

2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2021 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

For more information on this standard, visit
<https://www.sae.org/standards/content/ARP1233B/>

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

ARP1231	Gland Design, Elastomeric O-Ring Seals, General Considerations
ARP1232	Gland Design Criteria and Dimensions for Static Radial O-Ring Seal Applications Without Anti-Extrusion Devices Specifically for Engine and Engine Control Systems
AS568	Aerospace Size Standard for O-Rings
AS4716	Gland Design, O-ring and Other Seals

2.2 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

MIL-G-5514	Gland Design, Packings, Hydraulic, General Requirements for
------------	---

3. GENERAL REQUIREMENTS

3.1 Gland Configuration

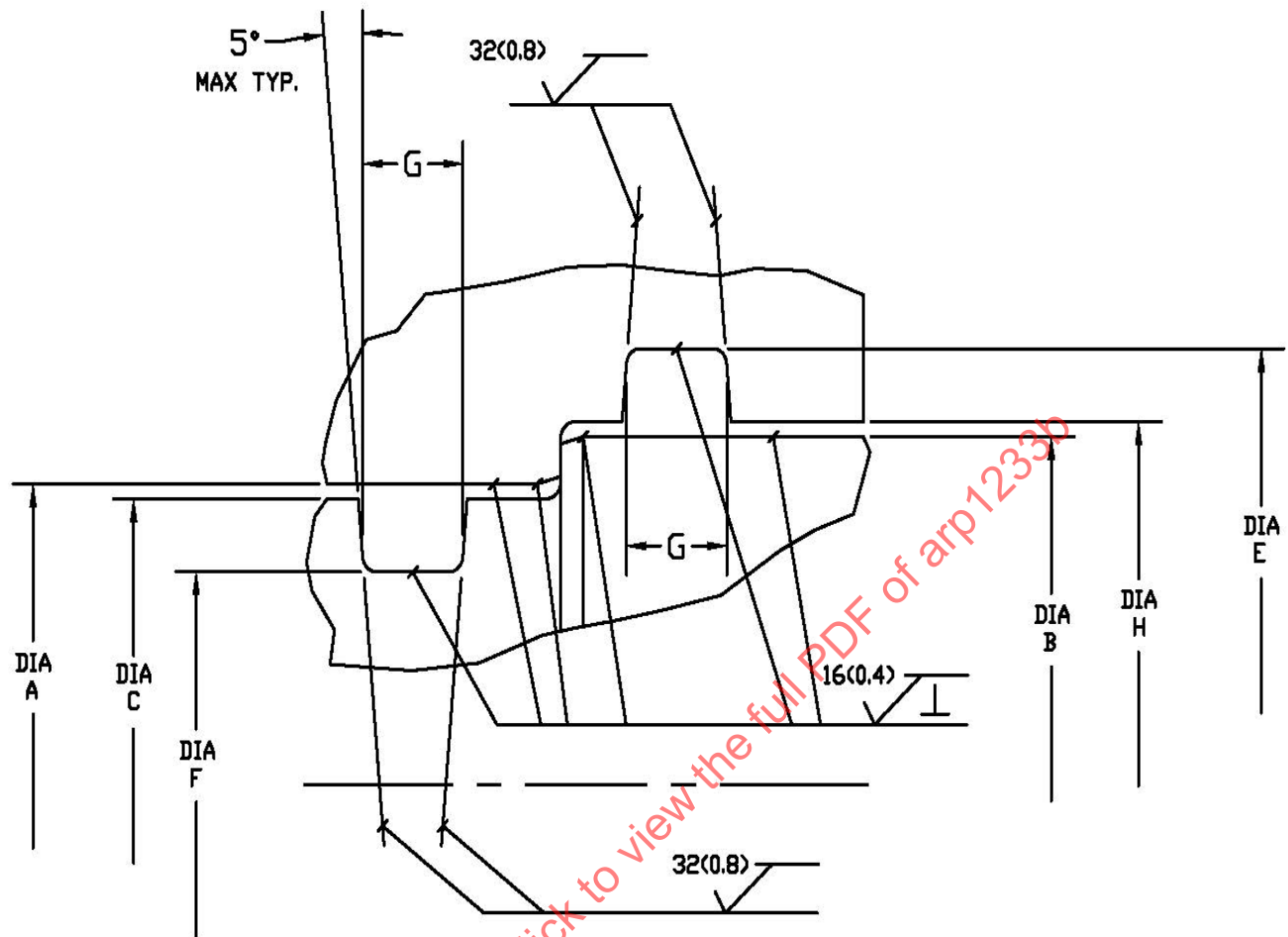
3.1.1 General

In addition to the considerations in ARP1231, gland designs for dynamic applications require consideration be given to the frictional forces imparted by O-ring seal compression and swell. Experience has shown that the O-ring seal squeezes employed in static applications result in friction forces which cannot be tolerated in most dynamic applications. In order to achieve an optimum dynamic gland, it is necessary to select gland dimensions which reduce squeeze below the levels used in ARP1232 and, at the same time, maintain a satisfactory minimum squeeze under all tolerance conditions.

It should be noted that with the reduction of squeeze below the ARP1232 level, a small incidence of seal leakage may be experienced. The actual amount of leakage will depend upon such factors as translational speed, temperature, fluid, and elastomeric material choice.

3.1.2 Standard Glands

Figure 1 depicts piston and rod radial O-ring seal glands. Standard dimensions for these glands are tabulated in Tables 1A and 1B. These dimensions are designed for use with seals conforming to AS568 tolerances. They are computed in accordance with the criteria defined in Section 4 of this document and in ARP1231.

**NOTE**

SURFACE TEXTURE: ANSI B46.1. INDICATED SURFACES SHALL BE FREE OF ANY FLAWS EXCEEDING THE ALLOWED SURFACE ROUGHNESS VALUES.

GEOMETRIC TOLERANCES, EDGE BREAKS, CORNER RADII, AND LEAD IN RAMP DIMENSIONS: SEE ARP 1231.

DIMENSIONS IN MICROINCHES AND (MICROMETERS)

Figure 1 - Typical o-ring Seal Glands

Table 1A - Standard gland dimensions in inches

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
006	0.228	0.230	0.120	0.120	0.123	0.230	0.100
	0.229	0.231	0.121	0.121	0.124	0.231	0.110
007	0.260	0.262	0.151	0.151	0.154	0.262	0.100
	0.261	0.263	0.152	0.152	0.155	0.263	0.110
008	0.292	0.294	0.182	0.182	0.185	0.294	0.100
	0.293	0.295	0.183	0.183	0.186	0.295	0.110
009	0.324	0.326	0.214	0.214	0.217	0.326	0.100
	0.325	0.327	0.215	0.215	0.218	0.327	0.110
010	0.356	0.358	0.245	0.245	0.248	0.358	0.100
	0.357	0.359	0.246	0.246	0.249	0.359	0.110
011	0.419	0.421	0.307	0.307	0.310	0.421	0.100
	0.420	0.422	0.308	0.308	0.311	0.422	0.110
012	0.482	0.484	0.370	0.370	0.373	0.484	0.100
	0.483	0.485	0.371	0.371	0.374	0.485	0.110
013	0.544	0.546	0.432	0.432	0.435	0.546	0.100
	0.545	0.547	0.433	0.433	0.436	0.547	0.110
014	0.607	0.609	0.495	0.495	0.498	0.609	0.100
	0.608	0.610	0.496	0.496	0.499	0.610	0.110
015	0.670	0.672	0.559	0.559	0.562	0.672	0.100
	0.671	0.674	0.561	0.561	0.564	0.674	0.110
016	0.734	0.736	0.624	0.624	0.627	0.736	0.100
	0.735	0.738	0.626	0.626	0.629	0.738	0.110
017	0.796	0.798	0.686	0.686	0.689	0.798	0.100
	0.797	0.800	0.688	0.688	0.691	0.800	0.110
018	0.860	0.862	0.749	0.749	0.752	0.862	0.100
	0.861	0.864	0.751	0.751	0.754	0.864	0.110
019	0.923	0.925	0.812	0.812	0.815	0.925	0.100
	0.924	0.927	0.814	0.814	0.817	0.927	0.110
020	0.986	0.988	0.875	0.875	0.878	0.988	0.100
	0.987	0.990	0.877	0.877	0.880	0.990	0.110
106	0.348	0.351	0.180	0.180	0.184	0.351	0.135
	0.350	0.353	0.182	0.182	0.186	0.353	0.145
107	0.381	0.384	0.212	0.212	0.216	0.384	0.135
	0.383	0.386	0.214	0.214	0.218	0.386	0.145
108	0.412	0.415	0.243	0.243	0.247	0.415	0.135
	0.414	0.417	0.245	0.245	0.249	0.417	0.145

Table 1A - Standard gland dimensions in inches (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
109	0.476	0.479	0.305	0.305	0.309	0.479	0.135
	0.478	0.481	0.307	0.307	0.311	0.481	0.145
110	0.539	0.542	0.368	0.368	0.372	0.542	0.135
	0.541	0.544	0.370	0.370	0.374	0.544	0.145
111	0.602	0.605	0.430	0.430	0.434	0.605	0.135
	0.604	0.607	0.432	0.432	0.436	0.607	0.145
112	0.665	0.668	0.493	0.493	0.497	0.668	0.135
	0.667	0.670	0.495	0.495	0.499	0.670	0.145
113	0.729	0.732	0.557	0.557	0.561	0.732	0.135
	0.731	0.734	0.559	0.559	0.563	0.734	0.145
114	0.793	0.796	0.622	0.622	0.626	0.796	0.135
	0.795	0.798	0.624	0.624	0.628	0.798	0.145
115	0.856	0.859	0.684	0.684	0.688	0.859	0.135
	0.858	0.861	0.686	0.686	0.690	0.861	0.145
116	0.919	0.922	0.747	0.747	0.751	0.922	0.135
	0.921	0.924	0.749	0.749	0.753	0.924	0.145
117	0.983	0.986	0.811	0.811	0.815	0.986	0.135
	0.985	0.988	0.813	0.813	0.817	0.988	0.145
118	1.046	1.049	0.874	0.874	0.878	1.049	0.135
	1.048	1.051	0.876	0.876	0.880	1.051	0.145
119	1.107	1.110	0.936	0.936	0.940	1.110	0.135
	1.109	1.112	0.938	0.938	0.942	1.112	0.145
120	1.171	1.174	0.999	0.999	1.003	1.174	0.135
	1.173	1.176	1.001	1.001	1.005	1.176	0.145
121	1.233	1.236	1.061	1.061	1.065	1.236	0.135
	1.235	1.238	1.063	1.063	1.067	1.238	0.145
122	1.296	1.299	1.124	1.124	1.128	1.299	0.135
	1.298	1.301	1.126	1.126	1.130	1.301	0.145
123	1.360	1.363	1.188	1.188	1.192	1.363	0.135
	1.362	1.365	1.190	1.190	1.194	1.365	0.145
124	1.423	1.426	1.251	1.251	1.255	1.426	0.135
	1.425	1.428	1.253	1.253	1.257	1.428	0.145
125	1.486	1.489	1.314	1.314	1.318	1.489	0.135
	1.488	1.491	1.316	1.316	1.320	1.491	0.145
202	0.474	0.478	0.240	0.240	0.244	0.478	0.175
	0.476	0.480	0.242	0.242	0.246	0.480	0.185
203	0.537	0.541	0.302	0.302	0.306	0.541	0.175
	0.539	0.543	0.304	0.304	0.308	0.543	0.185
204	0.601	0.605	0.365	0.365	0.369	0.605	0.175
	0.603	0.607	0.367	0.367	0.371	0.607	0.185

Table 1A - Standard gland dimensions in inches (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
205	0.664	0.668	0.427	0.427	0.431	0.668	0.175
	0.666	0.670	0.429	0.429	0.433	0.670	0.185
206	0.728	0.732	0.490	0.490	0.494	0.732	0.175
	0.730	0.734	0.492	0.492	0.496	0.734	0.185
207	0.791	0.795	0.554	0.554	0.558	0.795	0.175
	0.793	0.797	0.556	0.556	0.560	0.797	0.185
208	0.855	0.859	0.619	0.619	0.623	0.859	0.175
	0.857	0.861	0.621	0.621	0.625	0.861	0.185
209	0.918	0.922	0.681	0.681	0.685	0.922	0.175
	0.920	0.924	0.683	0.683	0.687	0.924	0.185
210	0.982	0.986	0.745	0.745	0.749	0.986	0.175
	0.984	0.988	0.747	0.747	0.751	0.988	0.185
211	1.045	1.049	0.808	0.808	0.812	1.049	0.175
	1.047	1.051	0.810	0.810	0.814	1.051	0.185
212	1.108	1.112	0.871	0.871	0.875	1.112	0.175
	1.110	1.114	0.873	0.873	0.877	1.114	0.185
213	1.171	1.175	0.933	0.933	0.937	1.175	0.175
	1.173	1.177	0.935	0.935	0.939	1.177	0.185
214	1.234	1.238	0.996	0.996	1.000	1.238	0.175
	1.236	1.240	0.998	0.998	1.002	1.240	0.185
215	1.295	1.299	1.058	1.058	1.062	1.299	0.175
	1.297	1.301	1.060	1.060	1.064	1.301	0.185
216	1.361	1.365	1.123	1.123	1.127	1.365	0.175
	1.363	1.367	1.125	1.125	1.129	1.367	0.185
217	1.423	1.427	1.185	1.185	1.189	1.427	0.175
	1.425	1.429	1.187	1.187	1.191	1.429	0.185
218	1.485	1.489	1.248	1.248	1.252	1.489	0.175
	1.487	1.491	1.250	1.250	1.254	1.491	0.185
219	1.548	1.552	1.311	1.311	1.315	1.552	0.175
	1.550	1.554	1.313	1.313	1.317	1.554	0.185
220	1.612	1.616	1.374	1.374	1.377	1.616	0.175
	1.614	1.618	1.376	1.376	1.380	1.618	0.185
221	1.674	1.678	1.436	1.436	1.440	1.678	0.175
	1.676	1.680	1.438	1.438	1.442	1.680	0.185
222	1.740	1.744	1.502	1.502	1.506	1.744	0.175
	1.742	1.746	1.504	1.504	1.508	1.746	0.185
223	1.864	1.868	1.627	1.627	1.631	1.868	0.175
	1.866	1.870	1.629	1.629	1.633	1.870	0.185
224	1.990	1.994	1.752	1.752	1.756	1.994	0.175
	1.992	1.996	1.754	1.754	1.758	1.996	0.185
225	2.118	2.122	1.881	1.881	1.885	2.122	0.175
	2.120	2.124	1.883	1.883	1.887	2.124	0.185

Table 1A - Standard gland dimensions in inches (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
309	0.784	0.789	0.418	0.418	0.423	0.789	0.250
	0.786	0.791	0.420	0.420	0.425	0.791	0.260
310	0.848	0.853	0.481	0.481	0.486	0.853	0.250
	0.850	0.855	0.483	0.483	0.488	0.855	0.260
311	0.911	0.916	0.545	0.545	0.550	0.916	0.250
	0.913	0.918	0.547	0.547	0.552	0.918	0.260
312	0.976	0.981	0.610	0.610	0.615	0.981	0.250
	0.978	0.983	0.612	0.612	0.617	0.983	0.260
313	1.039	1.044	0.672	0.672	0.677	1.044	0.250
	1.041	1.046	0.674	0.674	0.679	1.046	0.260
314	1.103	1.108	0.736	0.736	0.741	1.108	0.250
	1.105	1.110	0.738	0.738	0.743	1.110	0.260
315	1.165	1.170	0.799	0.799	0.804	1.170	0.250
	1.167	1.172	0.801	0.801	0.806	1.172	0.260
316	1.229	1.234	0.862	0.862	0.867	1.234	0.250
	1.231	1.236	0.864	0.864	0.869	1.236	0.260
317	1.290	1.295	0.924	0.924	0.929	1.295	0.250
	1.292	1.297	0.926	0.926	0.931	1.297	0.260
318	1.354	1.359	0.987	0.987	0.992	1.359	0.250
	1.356	1.361	0.989	0.989	0.994	1.361	0.260
319	1.415	1.420	1.049	1.049	1.054	1.420	0.250
	1.417	1.422	1.051	1.051	1.056	1.422	0.260
320	1.480	1.485	1.114	1.114	1.119	1.485	0.250
	1.482	1.487	1.116	1.116	1.121	1.487	0.260
321	1.543	1.548	1.176	1.176	1.181	1.548	0.250
	1.545	1.550	1.178	1.178	1.183	1.550	0.260
322	1.605	1.610	1.239	1.239	1.244	1.610	0.250
	1.607	1.612	1.241	1.241	1.246	1.612	0.260
323	1.668	1.673	1.302	1.302	1.307	1.673	0.250
	1.670	1.675	1.304	1.304	1.309	1.675	0.260
324	1.732	1.737	1.365	1.365	1.370	1.737	0.250
	1.734	1.739	1.367	1.367	1.372	1.739	0.260
325	1.860	1.865	1.493	1.493	1.498	1.865	0.250
	1.862	1.867	1.495	1.495	1.500	1.867	0.260
326	1.985	1.990	1.618	1.618	1.623	1.990	0.250
	1.987	1.992	1.620	1.620	1.625	1.992	0.260
327	2.109	2.114	1.743	1.743	1.748	2.114	0.250
	2.111	2.116	1.745	1.745	1.750	2.116	0.260
328	2.235	2.240	1.869	1.869	1.874	2.240	0.250
	2.237	2.242	1.871	1.871	1.876	2.242	0.260
329	2.364	2.369	1.997	1.997	2.002	2.369	0.250
	2.366	2.371	1.999	1.999	2.004	2.371	0.260

Table 1A - Standard gland dimensions in inches (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
330	2.488	2.493	2.122	2.122	2.127	2.493	0.250
	2.490	2.495	2.124	2.124	2.129	2.495	0.260
331	2.613	2.618	2.247	2.247	2.252	2.618	0.250
	2.615	2.620	2.249	2.249	2.254	2.620	0.260
332	2.740	2.745	2.373	2.373	2.378	2.745	0.250
	2.742	2.747	2.375	2.375	2.380	2.747	0.260
333	2.866	2.871	2.500	2.500	2.505	2.871	0.250
	2.868	2.873	2.502	2.502	2.507	2.873	0.260
334	2.992	2.997	2.625	2.625	2.630	2.997	0.250
	2.994	2.999	2.627	2.627	2.632	2.999	0.260
335	3.116	3.121	2.750	2.750	2.755	3.121	0.250
	3.118	3.123	2.752	2.752	2.757	3.123	0.260
336	3.242	3.247	2.876	2.876	2.881	3.247	0.250
	3.244	3.249	2.878	2.878	2.883	3.249	0.260
337	3.371	3.376	3.005	3.005	3.010	3.376	0.250
	3.373	3.378	3.007	3.007	3.012	3.378	0.260
338	3.497	3.502	3.130	3.130	3.135	3.502	0.250
	3.499	3.504	3.132	3.132	3.137	3.504	0.260
339	3.621	3.626	3.255	3.255	3.260	3.626	0.250
	3.623	3.628	3.257	3.257	3.262	3.628	0.260
340	3.747	3.752	3.381	3.381	3.386	3.752	0.250
	3.749	3.754	3.383	3.383	3.388	3.754	0.260
341	3.872	3.877	3.506	3.506	3.511	3.877	0.250
	3.874	3.879	3.508	3.508	3.513	3.879	0.260
342	4.002	4.007	3.635	3.635	3.640	4.007	0.250
	4.004	4.009	3.637	3.637	3.642	4.009	0.260
343	4.128	4.133	3.761	3.761	3.766	4.133	0.250
	4.130	4.135	3.763	3.763	3.768	4.135	0.260
344	4.252	4.257	3.886	3.886	3.891	4.257	0.250
	4.254	4.259	3.888	3.888	3.893	4.259	0.260
345	4.377	4.382	4.011	4.011	4.016	4.382	0.250
	4.379	4.384	4.013	4.013	4.018	4.384	0.260
346	4.502	4.507	4.136	4.136	4.141	4.507	0.250
	4.504	4.509	4.138	4.138	4.143	4.509	0.260
347	4.630	4.635	4.264	4.264	4.269	4.635	0.250
	4.632	4.637	4.266	4.266	4.271	4.637	0.260
348	4.755	4.760	4.389	4.389	4.394	4.760	0.250
	4.757	4.762	4.391	4.391	4.396	4.762	0.260
349	4.880	4.885	4.514	4.514	4.519	4.805	0.250
	4.882	4.887	4.516	4.516	4.521	4.807	0.260

Table 1A - Standard gland dimensions in inches (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
425	5.002	5.009	4.517	4.517	4.523	5.008	0.320
	5.005	5.012	4.520	4.520	4.526	5.012	0.330
426	5.127	5.134	4.642	4.642	4.648	5.133	0.320
	5.130	5.137	4.645	4.645	4.651	5.137	0.330
427	5.253	5.260	4.768	4.768	4.774	5.259	0.320
	5.256	5.263	4.771	4.771	4.777	5.263	0.330
428	5.378	5.385	4.893	4.893	4.899	5.384	0.320
	5.381	5.388	4.896	4.896	4.902	5.388	0.330
429	5.507	5.514	5.022	5.022	5.028	5.513	0.320
	5.510	5.517	5.025	5.025	5.031	5.517	0.330
430	5.632	5.639	5.147	5.147	5.153	5.638	0.320
	5.635	5.642	5.150	5.150	5.156	5.642	0.330
431	5.758	5.765	5.273	5.273	5.279	5.764	0.320
	5.761	5.768	5.276	5.276	5.282	5.768	0.330
432	5.883	5.890	5.398	5.398	5.404	5.889	0.320
	5.886	5.893	5.401	5.401	5.407	5.893	0.330
433	6.008	6.015	5.523	5.523	5.529	6.014	0.320
	6.011	6.018	5.526	5.526	5.532	6.018	0.330
434	6.133	6.140	5.648	5.648	5.654	6.139	0.320
	6.136	6.143	5.651	5.651	5.657	6.143	0.330
435	6.259	6.266	5.774	5.774	5.780	6.265	0.320
	6.262	6.269	5.777	5.777	5.783	6.269	0.330
436	6.384	6.391	5.899	5.899	5.905	6.390	0.320
	6.387	6.394	5.902	5.902	5.908	6.394	0.330
437	6.509	6.516	6.024	6.024	6.030	6.515	0.320
	6.512	6.519	6.027	6.027	6.033	6.519	0.330
438	6.763	6.770	6.278	6.278	6.284	6.769	0.320
	6.766	6.773	6.281	6.281	6.287	6.773	0.330
439	7.013	7.020	6.528	6.528	6.534	7.019	0.320
	7.016	7.023	6.531	6.531	6.537	7.023	0.330
440	7.264	7.271	6.779	6.779	6.785	7.270	0.320
	7.267	7.274	6.782	6.782	6.788	7.274	0.330
441	7.514	7.521	7.029	7.029	7.035	7.520	0.320
	7.517	7.524	7.032	7.032	7.038	7.524	0.330
442	7.770	7.777	7.285	7.285	7.291	7.776	0.320
	7.773	7.780	7.288	7.288	7.294	7.780	0.330

Table 1A - Standard gland dimensions in inches (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
443	8.020	8.027	7.535	7.535	7.541	8.026	0.320
	8.023	8.030	7.538	7.538	7.544	8.030	0.330
444	8.271	8.278	7.786	7.786	7.792	8.277	0.320
	8.274	8.281	7.789	7.789	7.795	8.281	0.330
445	8.521	8.528	8.036	8.036	8.042	8.527	0.320
	8.524	8.531	8.039	8.039	8.045	8.531	0.330
446	9.032	9.039	8.547	8.547	8.553	9.038	0.320
	9.035	9.042	8.550	8.550	8.556	9.042	0.330
447	9.533	9.540	9.048	9.048	9.054	9.539	0.320
	9.536	9.543	9.051	9.051	9.057	9.543	0.330
448	10.034	10.041	9.549	9.549	9.555	10.040	0.320
	10.037	10.044	9.552	9.552	9.558	10.044	0.330
449	10.535	10.542	10.050	10.050	10.056	10.541	0.320
	10.538	10.545	10.053	10.053	10.059	10.545	0.330
450	11.041	11.048	10.556	10.556	10.562	11.047	0.320
	11.044	11.051	10.559	10.559	10.565	11.051	0.330
451	11.542	11.549	11.057	11.057	11.063	11.548	0.320
	11.545	11.552	11.060	11.060	11.066	11.552	0.330
452	12.043	12.050	11.558	11.558	11.564	12.049	0.320
	12.046	12.053	11.561	11.561	11.567	12.053	0.330
453	12.544	12.551	12.059	12.059	12.065	12.550	0.320
	12.547	12.554	12.062	12.062	12.068	12.554	0.330
454	13.045	13.052	12.560	12.560	12.566	13.051	0.320
	13.048	13.055	12.563	12.563	12.569	13.055	0.330
455	13.546	13.553	13.061	13.061	13.067	13.552	0.320
	13.549	13.556	13.064	13.064	13.070	13.556	0.330
456	14.057	14.064	13.572	13.572	13.578	14.063	0.320
	14.060	14.067	13.575	13.575	13.581	14.067	0.330
457	14.558	14.565	14.073	14.073	14.079	14.564	0.320
	14.561	14.568	14.076	14.076	14.082	14.568	0.330
458	15.059	15.066	14.574	14.574	14.580	15.065	0.320
	15.062	15.069	14.577	14.577	14.583	15.069	0.330
459	15.560	15.567	15.075	15.075	15.081	15.566	0.320
	15.563	15.570	15.078	15.078	15.084	15.570	0.330
460	16.061	16.068	15.576	15.576	15.582	16.067	0.320
	16.064	16.071	15.579	15.579	15.585	16.071	0.330

Table 1B - Standard gland dimensions in millimeters

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
006	5.79	5.84	3.04	3.04	3.12	5.84	2.54
	5.82	5.87	3.07	3.07	3.15	5.87	2.79
007	6.60	6.65	3.83	3.83	3.91	6.65	2.54
	6.63	6.68	3.86	3.86	3.94	6.68	2.79
008	7.41	7.46	4.62	4.62	4.69	7.46	2.54
	7.44	7.49	4.65	4.65	4.72	7.49	2.79
009	8.23	8.28	5.43	5.43	5.51	8.28	2.54
	8.26	8.31	5.46	5.46	5.54	8.31	2.79
010	9.04	9.09	6.22	6.22	6.30	9.09	2.54
	9.07	9.12	6.25	6.25	6.33	9.12	2.79
011	10.64	10.69	7.79	7.79	7.87	10.69	2.54
	10.67	10.72	7.82	7.82	7.90	10.72	2.79
012	12.24	12.29	9.39	9.39	9.47	12.29	2.54
	12.27	12.32	9.42	9.42	9.50	12.32	2.79
013	13.81	13.86	10.97	10.97	11.04	13.86	2.54
	13.84	13.89	11.00	11.00	11.07	13.89	2.79
014	15.41	15.46	12.57	12.57	12.64	15.46	2.54
	15.44	15.49	12.60	12.60	12.67	15.49	2.79
015	17.01	17.07	14.20	14.20	14.27	17.07	2.54
	17.04	17.12	14.25	14.25	14.32	17.12	2.79
016	18.64	18.69	15.85	15.85	15.92	18.70	2.54
	18.67	18.74	15.90	15.90	15.97	18.75	2.79
017	20.21	20.27	17.42	17.42	17.50	20.27	2.54
	20.24	20.32	17.47	17.47	17.55	20.32	2.79
018	21.84	21.90	19.03	19.03	19.10	21.89	2.54
	21.87	21.95	19.08	19.08	19.15	21.94	2.79
019	23.44	23.50	20.62	20.63	20.70	23.49	2.54
	23.47	23.55	20.67	20.68	20.75	23.54	2.79
020	25.04	25.10	22.22	22.22	22.30	25.10	2.54
	25.07	25.15	22.27	22.27	22.35	25.15	2.79
106	8.84	8.92	4.57	4.57	4.67	8.92	3.43
	8.89	8.97	4.62	4.62	4.72	8.97	3.68
107	9.67	9.75	5.39	5.39	5.49	9.75	3.43
	9.72	9.80	5.44	5.44	5.54	9.80	3.68
108	10.46	10.54	6.17	6.17	6.27	10.54	3.43
	10.51	10.59	6.22	6.22	6.32	10.59	3.68

Table 1B - Standard gland dimensions in millimeters (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
109	12.09	12.17	7.75	7.75	7.85	12.17	3.43
	12.14	12.22	7.80	7.80	7.90	12.22	3.68
110	13.69	13.77	9.35	9.35	9.45	13.77	3.43
	13.74	13.82	9.40	9.40	9.50	13.82	3.68
111	15.29	15.36	10.92	10.92	11.02	15.37	3.43
	15.34	15.41	10.97	10.97	11.07	15.42	3.68
112	16.89	16.96	12.52	12.52	12.62	16.97	3.43
	16.94	17.01	12.57	12.57	12.67	17.02	3.68
113	18.51	18.59	14.15	14.15	14.25	18.59	3.43
	18.56	18.64	14.20	14.20	14.30	18.64	3.68
114	20.14	20.22	15.80	15.80	15.90	20.22	3.43
	20.19	20.27	15.85	15.85	15.95	20.27	3.68
115	21.87	21.82	17.37	17.37	17.48	21.82	3.43
	21.92	21.87	17.42	17.42	17.53	21.87	3.68
116	23.34	23.42	18.97	18.97	19.08	23.42	3.43
	23.39	23.47	19.02	19.02	19.13	23.47	3.68
117	24.97	25.04	20.60	20.60	20.70	25.04	3.43
	25.02	25.09	20.65	20.65	20.75	25.09	3.68
118	26.57	26.64	22.20	22.20	22.30	26.65	3.43
	26.62	26.69	22.25	22.25	22.35	26.70	3.68
119	28.12	28.19	23.77	23.77	23.88	28.19	3.43
	28.17	28.24	23.82	23.82	23.93	28.24	3.68
120	29.74	29.82	25.38	25.38	25.48	29.82	3.43
	29.79	29.87	25.43	25.43	25.53	29.87	3.68
121	31.32	31.39	26.95	26.95	27.05	31.40	3.43
	31.37	31.44	27.00	27.00	27.10	31.45	3.68
122	32.92	33.00	28.55	28.55	28.65	33.00	3.43
	32.97	33.05	28.60	28.60	28.70	33.05	3.68
123	34.54	34.62	30.18	30.18	30.28	34.62	3.43
	34.59	34.67	30.23	30.23	30.33	34.67	3.68
124	36.14	36.22	31.78	31.78	31.88	36.22	3.43
	36.19	36.27	31.83	31.83	31.93	36.27	3.68
125	37.75	37.82	33.38	33.38	33.48	37.82	3.43
	37.80	37.87	33.43	33.43	33.53	37.87	3.68
202	12.04	12.14	6.10	6.10	6.20	12.14	4.44
	12.09	12.19	6.15	6.15	6.25	12.19	4.70
203	13.64	13.74	7.67	7.67	7.77	13.74	4.44
	13.69	13.79	7.72	7.72	7.82	13.79	4.70
204	15.27	15.37	9.27	9.27	9.37	15.37	4.44
	15.32	15.42	9.32	9.32	9.42	15.42	4.70

Table 1B - Standard gland dimensions in millimeters (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
205	16.87	16.97	10.85	10.85	10.95	16.97	4.44
	16.92	17.02	10.90	10.90	11.00	17.02	4.70
206	18.49	18.59	12.45	12.45	12.55	18.59	4.44
	18.54	18.64	12.50	12.50	12.60	18.64	4.70
207	20.09	20.19	14.07	14.07	14.17	20.19	4.44
	20.14	20.24	14.12	14.12	14.22	20.24	4.70
208	21.72	21.82	15.72	15.72	15.82	21.82	4.44
	21.77	21.87	15.77	15.77	15.87	21.87	4.70
209	23.32	23.42	17.30	17.30	17.40	23.42	4.44
	23.37	23.47	17.35	17.35	17.45	23.47	4.70
210	24.94	25.04	18.92	18.92	19.03	25.04	4.44
	24.99	25.09	18.97	18.97	19.08	25.09	4.70
211	26.54	26.65	20.52	20.52	20.63	26.65	4.44
	26.59	26.70	20.57	20.57	20.68	26.70	4.70
212	28.14	28.25	22.12	22.12	22.23	28.25	4.44
	28.19	28.30	22.17	22.17	22.28	28.30	4.70
213	29.74	29.85	23.70	23.70	23.80	29.85	4.44
	29.79	29.90	23.75	23.75	23.85	29.90	4.70
214	31.34	31.45	25.30	25.30	25.40	31.45	4.44
	31.39	31.50	25.35	25.35	25.45	31.50	4.70
215	32.89	33.00	26.87	26.87	26.98	33.00	4.44
	32.94	33.05	26.92	26.92	27.03	33.05	4.70
216	34.57	34.67	28.53	28.53	28.63	34.67	4.44
	34.62	34.72	28.58	28.58	28.68	34.72	4.70
217	36.14	36.25	30.10	30.10	30.20	36.25	4.44
	36.19	36.30	30.15	30.15	30.25	36.30	4.70
218	37.72	37.82	31.70	31.70	31.80	37.82	4.44
	37.77	37.87	31.75	31.75	31.85	37.87	4.70
219	39.32	39.42	33.00	33.00	33.40	39.42	4.44
	39.37	39.47	33.05	33.05	33.45	39.47	4.70
220	40.95	41.05	34.90	34.90	35.00	41.05	4.44
	41.00	41.10	34.95	34.95	35.05	41.10	4.70
221	42.52	42.62	36.47	36.47	36.58	42.62	4.44
	42.57	42.67	36.52	36.52	36.63	42.67	4.70
222	44.20	44.30	38.15	38.15	38.25	44.30	4.44
	44.25	44.35	38.20	38.20	38.30	44.35	4.70
223	47.35	47.45	41.33	41.33	41.43	47.45	4.44
	47.40	47.50	41.38	41.38	41.48	47.50	4.70
224	50.55	50.65	44.50	44.50	44.60	50.65	4.44
	50.60	50.70	44.55	44.55	44.65	50.70	4.70
225	53.80	53.90	47.78	47.78	47.88	53.90	4.44
	53.85	53.95	47.83	47.83	47.93	53.95	4.70

Table 1B - Standard gland dimensions in millimeters (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
309	19.91	20.04	10.62	10.62	10.74	20.04	6.35
	19.96	20.09	10.67	10.67	10.79	20.09	6.60
310	21.54	21.67	12.22	12.22	12.34	21.67	6.35
	21.59	21.72	12.27	12.27	12.39	21.72	6.60
311	23.14	23.27	13.84	13.84	13.97	23.27	6.35
	23.19	23.32	13.89	13.89	14.02	23.32	6.60
312	24.79	24.92	15.50	15.50	15.62	24.92	6.35
	24.84	24.97	15.55	15.55	15.67	24.97	6.60
313	26.39	26.52	17.07	17.07	17.20	26.52	6.35
	26.44	26.57	17.12	17.12	17.25	26.57	6.60
314	28.02	28.14	18.69	18.69	18.82	28.14	6.35
	28.07	28.19	18.74	18.74	18.87	28.19	6.60
315	29.59	29.72	20.30	20.30	20.42	29.72	6.35
	29.64	29.77	20.35	20.35	20.47	29.77	6.60
316	31.22	31.34	21.90	21.90	22.02	31.34	6.35
	31.27	31.39	21.95	21.95	22.07	31.39	6.60
317	32.77	32.89	23.47	23.47	23.60	32.89	6.35
	32.82	32.94	23.52	23.52	23.65	32.94	6.60
318	34.39	34.52	25.07	25.07	25.2	34.52	6.35
	34.44	34.57	25.12	25.12	25.25	34.57	6.60
319	35.94	36.07	26.65	26.65	26.77	36.07	6.35
	35.99	36.12	26.70	26.70	26.82	36.12	6.60
320	37.59	37.72	28.30	28.30	28.42	37.72	6.35
	37.64	37.77	28.35	28.35	28.47	37.77	6.60
321	39.19	39.32	29.87	29.87	30.00	39.32	6.35
	39.24	39.37	29.92	29.92	30.05	39.37	6.60
322	40.77	40.90	31.47	31.47	31.60	40.90	6.35
	40.82	40.95	31.52	31.52	31.65	40.95	6.60
323	42.37	42.49	33.07	33.07	33.20	42.49	6.35
	42.42	42.54	33.12	33.12	33.25	42.54	6.60
324	43.99	44.12	34.67	34.67	34.80	44.12	6.35
	44.04	44.17	34.72	34.72	34.85	44.17	6.60
325	47.24	47.37	37.92	37.92	38.05	47.37	6.35
	47.29	47.42	37.97	37.97	38.10	47.42	6.60
326	50.42	50.55	41.10	41.10	41.22	50.55	6.35
	50.47	50.60	41.15	41.15	41.27	50.60	6.60
327	53.57	53.70	44.27	44.27	44.40	53.70	6.35
	53.62	53.75	44.32	44.32	44.45	53.75	6.60
328	56.77	56.90	47.47	47.47	47.60	56.90	6.35
	56.82	56.95	47.52	47.52	47.65	56.95	6.60
329	60.05	60.17	50.72	50.72	50.85	60.17	6.35
	60.10	60.22	50.77	50.77	50.90	60.22	6.60

Table 1B - Standard gland dimensions in millimeters (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
330	63.20	63.32	53.90	53.90	54.03	63.32	6.35
	63.25	63.37	53.95	53.95	54.08	63.37	6.60
331	66.37	66.50	57.07	57.07	57.20	66.50	6.35
	66.42	66.55	57.12	57.12	57.25	66.55	6.60
332	69.60	69.72	60.27	60.27	60.40	69.72	6.35
	69.65	69.77	60.32	60.32	60.45	69.77	6.60
333	72.80	72.92	63.50	63.50	63.63	72.92	6.35
	72.85	72.97	63.55	63.55	63.68	72.97	6.60
334	76.00	76.12	66.68	66.68	66.80	76.12	6.35
	76.05	76.17	66.73	66.73	66.85	76.17	6.60
335	79.15	79.27	69.85	69.85	69.98	79.27	6.35
	79.20	79.32	69.90	69.90	70.03	79.32	6.60
336	82.35	82.47	73.05	73.05	73.18	82.47	6.35
	82.40	82.52	73.10	73.10	73.23	82.52	6.60
337	85.62	85.75	76.33	76.33	76.45	85.75	6.35
	85.67	85.80	76.38	76.38	76.50	85.80	6.60
338	88.82	88.95	79.50	79.50	79.63	88.95	6.35
	88.87	89.00	79.55	79.55	79.68	89.00	6.60
339	91.97	92.10	82.68	82.68	82.80	92.10	6.35
	92.02	92.15	82.73	82.73	82.85	92.15	6.60
340	95.17	95.30	85.88	85.88	86.00	95.30	6.35
	95.22	95.35	85.93	85.93	86.05	95.35	6.60
341	98.35	98.48	89.05	89.05	89.18	98.48	6.35
	98.40	98.53	89.10	89.10	89.23	98.53	6.60
342	101.65	101.78	92.33	92.33	92.46	101.78	6.35
	101.70	101.83	92.38	92.38	92.51	101.83	6.60
343	104.85	104.98	95.53	95.53	95.66	104.98	6.35
	104.90	105.03	95.58	95.58	95.71	105.03	6.60
344	108.00	108.13	98.70	98.70	98.83	108.13	6.35
	108.05	108.18	98.75	98.75	98.88	108.18	6.60
345	111.18	111.30	101.88	101.88	102.01	111.30	6.35
	111.23	111.35	101.93	101.93	102.06	111.35	6.60
346	114.35	114.48	105.05	105.05	105.18	114.48	6.35
	114.40	114.53	105.10	105.10	105.23	114.53	6.60
347	117.60	117.73	108.31	108.31	108.43	117.73	6.35
	117.65	117.78	108.36	108.36	108.48	117.78	6.60
348	120.78	120.90	111.48	111.48	111.61	120.90	6.35
	120.83	120.95	111.53	111.53	111.66	120.95	6.60
349	123.95	124.08	114.66	114.66	114.78	124.08	6.35
	124.00	124.13	114.71	114.71	114.83	124.13	6.60

Table 1B - Standard gland dimensions in millimeters (continued)

Gland and AS568 Dash No.	ØC	ØA	ØF	ØB	ØH	ØE	G
	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX
425	127.05	127.23	114.73	114.73	114.88	127.20	8.13
	127.13	127.31	114.81	114.81	114.96	127.30	8.38
426	130.22	130.40	117.90	117.90	118.06	130.38	8.13
	130.30	130.48	117.98	117.98	118.14	130.48	8.38
427	133.42	133.60	121.10	121.10	121.26	133.58	8.13
	133.50	133.68	121.18	121.18	121.34	133.68	8.38
428	136.60	136.78	124.28	124.28	124.43	136.76	8.13
	136.68	136.86	124.36	124.36	124.51	136.86	8.38
429	139.88	140.05	127.56	127.56	127.71	140.03	8.13
	139.96	140.13	127.64	127.64	127.79	140.13	8.38
430	143.05	143.23	130.73	130.73	130.88	143.21	8.13
	143.13	143.31	130.81	130.81	130.96	143.31	8.38
431	146.25	146.43	133.93	133.93	134.08	146.41	8.13
	146.33	146.51	134.01	134.01	134.16	146.51	8.38
432	149.42	149.60	137.11	137.11	137.26	149.58	8.13
	149.50	149.68	137.19	137.19	137.34	149.68	8.38
433	152.60	152.78	140.28	140.28	140.43	152.76	8.13
	152.68	152.86	140.36	140.36	140.51	152.86	8.38
434	155.77	155.95	143.46	143.46	143.61	155.93	8.13
	155.85	156.03	143.54	143.54	143.69	156.03	8.38
435	158.98	159.15	146.66	146.66	146.81	159.13	8.13
	159.06	159.23	146.74	146.74	146.89	159.23	8.38
436	162.15	162.33	149.83	149.83	149.98	162.31	8.13
	162.23	162.41	149.91	149.91	150.06	162.41	8.38
437	165.33	165.50	153.01	153.01	153.16	165.48	8.13
	165.41	165.58	153.09	153.09	153.24	165.58	8.38
438	171.78	171.95	159.46	159.46	159.61	171.93	8.13
	171.86	172.03	159.54	159.54	159.69	172.03	8.38
439	178.13	178.30	165.81	165.81	165.96	178.28	8.13
	178.21	178.38	165.89	165.89	166.04	178.38	8.38
440	184.50	184.68	172.18	172.18	172.34	184.66	8.13
	184.58	184.76	172.26	172.26	172.42	184.76	8.38
441	190.85	191.03	178.53	178.53	178.69	191.01	8.13
	190.93	191.11	178.61	178.61	178.77	191.11	8.38
442	197.35	197.53	185.04	185.04	185.19	197.51	8.13
	197.43	197.61	185.12	185.12	185.27	197.61	8.38