AEROSPACE STANDARD

AS5782	REV. A

Issued 2007-07
Reaffirmed 2013-11
Revised 2015-04

Superseding AS5782

Retainers (Backup Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Solid, Un-Cut, For Use in AS4716 Glands

RATIONALE

This revision updates the metric conversions and includes some minor editorial changes.

1. SCOPE

This SAE Aerospace Standard (AS) covers solid, uncut polytetrafluoroethylene (PTFE) retainers (backup rings) for use in glands in accordance with AS4716. They are for use in hydraulic and pneumatic system components as anti-extrusion devices in conjunction with O-rings, packings and other elastomeric seals for static and dynamic applications.

Because of the construction of groove dimensions, backup rings specific to rod applications are designated “R” - Rod (Female), backup rings specific to piston applications are designated “P” - Piston (Male). Piston and rod types of virgin pigmented PTFE are also identified by color code which also distinguishes parts to this standard from those made from virgin PTFE to other standards.

1.1 Field of Application

Backup rings specified herein have been designed for a temperature range of -65 to 275 °F (-54 to 135 °C) and a nominal operating pressure of 3000 psi (20 694 kPa) for code 09 material (AMS3678/9). Alternate materials to AMS3678 are offered for more arduous operating conditions.

This specification includes material tests but does not include hydraulic or pneumatic performance tests.

2. REFERENCES

2.1 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.

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http://www.sae.org/technical/standards/AS5782A

2.1.1 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.

AS4716 Gland Design, O-ring and Other Elastomeric Seals

AMS3678 Polytetrafluoroethylene (PTFE) Moldings and Extrusions Unfilled, Pigmented, and Filled Components

AMS3678/2 Type 2 - 15% Graphite Filled Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions

AMS3678/3 Type 3 - 15% Glass, 5% Molybdenum Disulfide Filled Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions

AMS3678/5 Type 5 - Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions with Pigment

AMS3678/6 Type 6 - 60% Bronze Filled Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions

AMS3678/7 Type 7 - Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions with 25% Carbon and Graphite

AMS3678/8 Type 8 - Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions with 10% Carbon Fiber

AMS3678/9 Type 9 - Virgin Polytetrafluoroethylene (PTFE) Moldings with Pigment for AS4716 and AS5857 Backup Rings

AMS3678/10 Type 10 - Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions with 15% Carbon Fiber

2.1.2 U.S. Government Publications

Copies of these documents are available online at http://quicksearch.dla.mil.

MIL-STD-2073-1 Standard Practice for Military Packaging

2.1.3 ASME Publications

Available from ASME, Two Park Avenue, New York, NY 10016-5990, Tel: 800-843-2763, www.CustomerCare@asme.org.

ASME Y 14.5-2009 Dimensioning and Tolerancing

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Aerospace Technical Report.

2.2.1 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.

AS5857 Gland Design, O-ring and Other Elastomeric Seals, Static Application

AS5860 Retainers, (Back-Up Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Single Turn, Static Gland

AS5861 Retainers, (Back-Up Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Solid, Static Gland

AMS3678/1 Type 1 - Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions

AMS3678/4 Type 4 - 25% Glass Filled Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions

2.2.2 U.S. Government Publications

Copies of these documents are available online at http://quicksearch.dla.mil.

MIL-G-5514 Gland Design; Packing, Hydraulic, General Requirements For (Inactive for New Design)

3. TECHNICAL REQUIREMENTS

3.1 Metric Equivalents

Dimensions and properties in inch/pound/Fahrenheit units are primary; dimensions and properties in SI units are shown as the approximate equivalents of the primary units and are presented only for information.

3.2 Materials and Applications

3.2.1 Primary Material

Code 09, Virgin PTFE with pigment: Parts made to material code 09 of this standard shall conform to AMS3678/9, Pigmented Virgin PTFE, Molded.

- Parts made to material code 09 of this standard for “R” (Rod) applications shall be blue per AMS3678/9.
- Parts made to material code 09 of this standard for “P” (Piston) applications shall be yellow per AMS3678/9.

NOTE: Green pigmented material to AMS3678/9 is for use for “R” (Rod) backup rings to AS5860 and AS5861. Brown pigmented material to AMS3678/9 is for use for “P” (Piston) backup rings to AS5860 and AS5861.

Details of material specification, material code, color, composition, application and pressures for code 09 material applicable to this document are listed in Table 1. Other data is for alternate materials or for reference only.

3.2.2 Alternate Materials

As indicated above, the AMS3678/9 is the primary material recommended for these backup rings because of their pigmented colors for identification. The other materials listed in Table 1, except AMS3678/1 and AMS3678/4, can also be ordered by using the part identification numbers of this standard.

NOTE: When alternate materials are selected it is recommended that adequate performance for the application be verified by operational testing.

Table 1 - Materials and applications

Table 1 - Materials and Applications Material	Material Code[6]	Color	Composition	Application	Max Pressure[5] psi	Max Pressure[5] kPa
AMS3678/1	N/A	White	Virgin PTFE [1]	Not to be used	N/A	
AMS3678/2	02	Black	15% Graphite	Static & Dynamic	3000	20 684
AMS3678/3	03	Gray	15% Glass, 5% Mo_0S_2	Static	4000	27 579
AMS3678/4	N/A	White	25% Glass [2]	Not to be used	N/A	
AMS3678/5	05	Per Supplier	Virgin, Pigmented [3]	Static & Dynamic	2000	13 790
AMS3678/6	06	Brown	60% Bronze [4]	Static	5000	34 474
AMS3678/7	07	Black	25% Carbon/Graphite	Static	5000	34 474
AMS3678/8	08	Black	10% Carbon Fiber	Static & Dynamic	4000	27 579
AMS3678/9	09	See 3.1.1	Virgin, Pigmented	Static & Dynamic	3000	20 684
AMS3678/10	10	Black	15% Carbon Fiber	Static & Dynamic	5000	34 474

NOTES:

1. Material to AMS3678/1 Grade A and Grade B is not to be used because both have lower physical properties and, therefore, lower performance than AMS3678/9.

2. Glass fibers can be abrasive, particularly in dynamic applications and against soft surfaces such as aluminum and some grades of titanium and stainless steels.

3. Usually used for manufacturer's proprietary pigment colors.

4. Not usually recommended for hydraulic systems as bronze particles can clog filters.

5. Maximum pressures indicated are for guidance purposes only and for pressures above 3000 psi (20 684 kPa) testing is recommended.

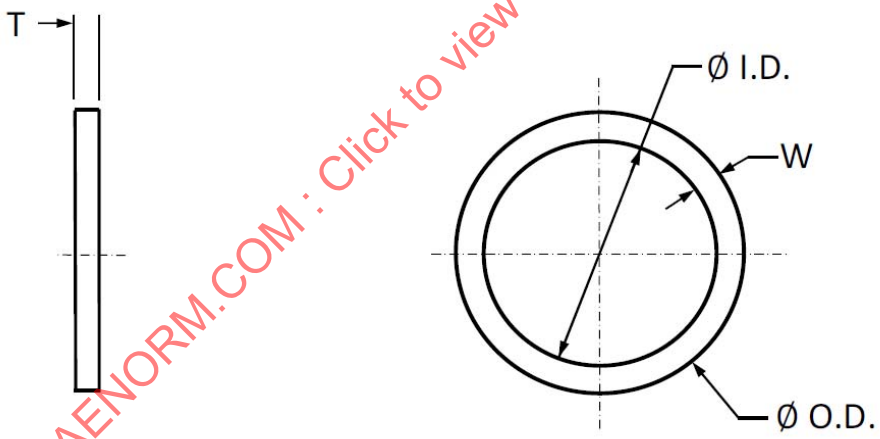
6. Material 'Designation Codes' are derived from the appropriate slash sheets of AMS3678.

3.2.3 Color Identification for Materials Other Than Code 09

Color pigmentation for material to AMS3678/5 is usually proprietary per manufacturer.

There is no color pigmentation applied to materials to AMS3678/1, AMS3678/2, AMS3678/3, AMS3678/4, AMS3678/6, AMS3678/7, AMS3678/8, and AMS3678/10.

3.3 Dimensional Requirements



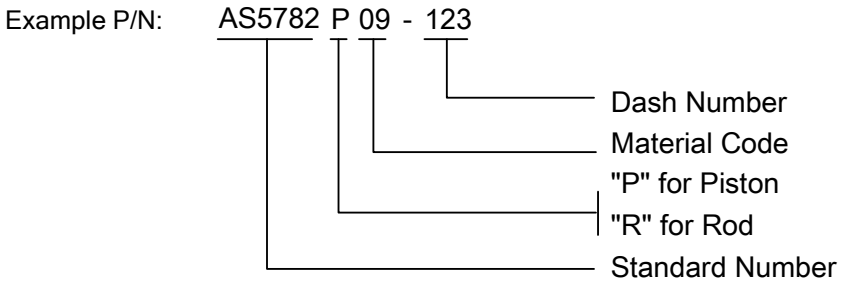
See Tables 2A, 2B, 2C, and 2D for dimensions.

Dimensions and Tolerancing per ASME Y 14.5-2009.

Figure 1 - Backup ring controlled features

3.3.1 Part Number

The part number consists of the standard number, the piston (P) or rod (R) code, the material code followed by the appropriate three digit dash number taken from Tables 2A, 2B, 2C, and 2D.



NOTES:

1. In the above example Part Number, “P” for Piston, Code 09 material, and dash 123 size are all used for example purposes only.

2. Spaces between characters in the above example Part Number are for illustration clarity only and are not used in the Part Number.

3.3.2 Conformity Requirements

Parts shall conform to Figure 1 and the dimensions listed in Tables 2A, 2B, 2C, and 2D. These measurements are to be made at a stabilized temperature of 73 °F ± 2 °F (23 °C ± 1 °C).

NOTES:

1. Refer to A and B dimensions from AS4716. Dimensions are based on nominal ring “OD” equal to minimum A for piston backup rings and nominal ring “ID” equal to maximum B for rod backup rings. Radial width “W” is based on a net fit in the gland at maximum material condition with all features concentric.

2. In order to minimize expense of gauges by allowing commonality of backups used for glands that follow similar design principles as AS4716 (bore sizes and rod sizes generally identical to MIL-G-5514F, e.g., AS5861) the method of measuring piston type backups to this specification is by the outside diameter (see Figure 1) which differs compared to previous practices. Coincidentally, this also offers better dimensional accuracy and fit through a reduction in tolerance stack-up.

3. Gage sizes identical to AS5860 are as follows:

   Piston types measured on ID-013 thru -021, -114 thru -134
   Piston types measured on OD-022 thru -028, -121 thru -149, -210 thru -247, -325 thru -349, -425 thru -460
   Rod types measured on ID-004 thru -028, -104 thru -149, -210 thru -247, -325 thru -349, -425 thru -460

   Dash sizes other than those listed above to AS5860 and this standard do not match and require unique inspection gauges.

3.3.3 Surfaces and Edges

Surfaces shall be smooth and free from irregularities. Edges shall be clean and sharp.

Table 2A - Piston (male) applications - Backup ring dimensions in inches

Part No.	O.D. ±0.001	T ±0.002	W ±0.001
AS5782P(XX)-004	0.190	0.052	0.056
AS5782P(XX)-005	0.221	0.052	0.052
AS5782P(XX)-006	0.235	0.052	0.052
AS5782P(XX)-007	0.266	0.052	0.053
AS5782P(XX)-008	0.297	0.052	0.053
AS5782P(XX)-009	0.329	0.052	0.054
AS5782P(XX)-010	0.360	0.054	0.054
AS5782P(XX)-011	0.422	0.054	0.054
AS5782P(XX)-012	0.485	0.054	0.054
AS5782P(XX)-013	0.550	0.054	0.053
AS5782P(XX)-014	0.613	0.054	0.054
AS5782P(XX)-015	0.675	0.054	0.054
AS5782P(XX)-016	0.738	0.054	0.054
AS5782P(XX)-017	0.800	0.054	0.054
AS5782P(XX)-018	0.863	0.054	0.054
AS5782P(XX)-019	0.925	0.054	0.054
AS5782P(XX)-020	0.991	0.054	0.054
AS5782P(XX)-021	1.053	0.054	0.054
	O.D. ±0.002		
AS5782P(XX)-022	1.116	0.054	0.054
AS5782P(XX)-023	1.178	0.054	0.054
AS5782P(XX)-024	1.241	0.054	0.054
AS5782P(XX)-025	1.303	0.054	0.054
AS5782P(XX)-026	1.366	0.054	0.054
AS5782P(XX)-027	1.428	0.054	0.054
AS5782P(XX)-028	1.491	0.054	0.054

Table 2A - Piston (male) applications - Backup ring dimensions in inches (continued)

Part No.	O.D. ±0.001	T ±0.002	W ±0.001
AS5782P(XX)-104	0.297	0.056	0.084
AS5782P(XX)-105	0.329	0.056	0.085
AS5782P(XX)-106	0.360	0.056	0.086
AS5782P(XX)-107	0.391	0.056	0.087
AS5782P(XX)-108	0.422	0.056	0.087
AS5782P(XX)-109	0.485	0.056	0.088
AS5782P(XX)-110	0.550	0.056	0.085
AS5782P(XX)-111	0.613	0.056	0.086
AS5782P(XX)-112	0.675	0.056	0.085
AS5782P(XX)-113	0.738	0.056	0.085
AS5782P(XX)-114	0.800	0.056	0.085
AS5782P(XX)-115	0.863	0.056	0.086
AS5782P(XX)-116	0.925	0.056	0.086
AS5782P(XX)-117	0.991	0.056	0.086
AS5782P(XX)-118	1.053	0.056	0.086
AS5782P(XX)-119	1.116	0.056	0.086
AS5782P(XX)-120	1.178	0.056	0.086
	O.D. ±0.002		
AS5782P(XX)-121	1.241	0.056	0.086
AS5782P(XX)-122	1.303	0.056	0.086
AS5782P(XX)-123	1.366	0.056	0.086
AS5782P(XX)-124	1.428	0.056	0.086
AS5782P(XX)-125	1.491	0.056	0.086
AS5782P(XX)-126	1.553	0.056	0.086
AS5782P(XX)-127	1.616	0.056	0.086
AS5782P(XX)-128	1.678	0.056	0.086
AS5782P(XX)-129	1.741	0.056	0.086
AS5782P(XX)-130	1.805	0.056	0.086
AS5782P(XX)-131	1.867	0.056	0.086
AS5782P(XX)-132	1.930	0.056	0.086
AS5782P(XX)-133	1.992	0.056	0.086
AS5782P(XX)-134	2.055	0.056	0.086

Table 2A - Piston (male) applications - Backup ring dimensions in inches (continued)

Part No.	O.D. ±0.002	T ±0.002	W ±0.001
AS5782P(XX)-135	2.118	0.056	0.086
AS5782P(XX)-136	2.180	0.056	0.086
AS5782P(XX)-137	2.243	0.056	0.086
AS5782P(XX)-138	2.305	0.056	0.086
AS5782P(XX)-139	2.368	0.056	0.086
AS5782P(XX)-140	2.430	0.056	0.086
AS5782P(XX)-141	2.493	0.056	0.086
AS5782P(XX)-142	2.555	0.056	0.086
AS5782P(XX)-143	2.618	0.056	0.086
AS5782P(XX)-144	2.680	0.056	0.086
AS5782P(XX)-145	2.743	0.056	0.086
AS5782P(XX)-146	2.805	0.056	0.086
AS5782P(XX)-147	2.868	0.056	0.086
AS5782P(XX)-148	2.930	0.056	0.086
AS5782P(XX)-149	2.993	0.056	0.086
	O.D. ±0.001		
AS5782P(XX)-210	0.991	0.062	0.120
AS5782P(XX)-211	1.053	0.062	0.120
AS5782P(XX)-212	1.116	0.062	0.120
AS5782P(XX)-213	1.178	0.062	0.120
	O.D. ±0.002		
AS5782P(XX)-214	1.241	0.062	0.120
AS5782P(XX)-215	1.303	0.062	0.120
AS5782P(XX)-216	1.366	0.062	0.120
AS5782P(XX)-217	1.428	0.062	0.120
AS5782P(XX)-218	1.491	0.062	0.120
AS5782P(XX)-219	1.553	0.062	0.120
AS5782P(XX)-220	1.616	0.062	0.120
AS5782P(XX)-221	1.678	0.062	0.120
AS5782P(XX)-222	1.741	0.062	0.120
AS5782P(XX)-223	1.867	0.062	0.120

Table 2A - Piston (male) applications - Backup ring dimensions in inches (continued)

Part No.	O.D. ±0.002	T ±0.002	W ±0.001
AS5782P(XX)-224	1.992	0.062	0.120
AS5782P(XX)-225	2.118	0.062	0.120
AS5782P(XX)-226	2.243	0.062	0.120
AS5782P(XX)-227	2.368	0.062	0.120
AS5782P(XX)-228	2.493	0.062	0.120
AS5782P(XX)-229	2.618	0.062	0.120
AS5782P(XX)-230	2.743	0.062	0.120
AS5782P(XX)-231	2.868	0.062	0.120
AS5782P(XX)-232	2.993	0.062	0.120
AS5782P(XX)-233	3.118	0.062	0.120
AS5782P(XX)-234	3.243	0.062	0.120
AS5782P(XX)-235	3.368	0.062	0.120
AS5782P(XX)-236	3.493	0.062	0.120
AS5782P(XX)-237	3.618	0.062	0.120
AS5782P(XX)-238	3.743	0.062	0.120
AS5782P(XX)-239	3.868	0.062	0.120
AS5782P(XX)-240	3.993	0.062	0.120
AS5782P(XX)-241	4.118	0.062	0.120
AS5782P(XX)-242	4.243	0.062	0.120
AS5782P(XX)-243	4.368	0.062	0.120
AS5782P(XX)-244	4.493	0.062	0.120
AS5782P(XX)-245	4.618	0.062	0.120
AS5782P(XX)-246	4.743	0.062	0.120
AS5782P(XX)-247	4.868	0.062	0.120
AS5782P(XX)-325	1.867	0.088	0.185
AS5782P(XX)-326	1.992	0.088	0.185
AS5782P(XX)-327	2.118	0.088	0.185
AS5782P(XX)-328	2.243	0.088	0.185
AS5782P(XX)-329	2.368	0.088	0.185

Table 2A - Piston (male) applications - Backup ring dimensions in inches (continued)

Part No.	O.D. ±0.002	T ±0.002	W ±0.001
AS5782P(XX)-330	2.493	0.088	0.185
AS5782P(XX)-331	2.618	0.088	0.185
AS5782P(XX)-332	2.743	0.088	0.185
AS5782P(XX)-333	2.868	0.088	0.185
AS5782P(XX)-334	2.993	0.088	0.185
AS5782P(XX)-335	3.118	0.088	0.185
AS5782P(XX)-336	3.243	0.088	0.185
AS5782P(XX)-337	3.368	0.088	0.185
AS5782P(XX)-338	3.493	0.088	0.185
AS5782P(XX)-339	3.618	0.088	0.185
AS5782P(XX)-340	3.743	0.088	0.185
AS5782P(XX)-341	3.868	0.088	0.185
AS5782P(XX)-342	3.993	0.088	0.185
AS5782P(XX)-343	4.118	0.088	0.185
AS5782P(XX)-344	4.243	0.088	0.185
AS5782P(XX)-345	4.368	0.088	0.185
AS5782P(XX)-346	4.493	0.088	0.185
AS5782P(XX)-347	4.618	0.088	0.185
AS5782P(XX)-348	4.743	0.088	0.185
AS5782P(XX)-349	4.868	0.088	0.185
AS5782P(XX)-425	4.974	0.120	0.237
AS5782P(XX)-426	5.099	0.120	0.237
AS5782P(XX)-427	5.224	0.120	0.237
AS5782P(XX)-428	5.349	0.120	0.237
AS5782P(XX)-429	5.474	0.120	0.237
AS5782P(XX)-430	5.599	0.120	0.237
AS5782P(XX)-431	5.724	0.120	0.237
AS5782P(XX)-432	5.849	0.120	0.237
AS5782P(XX)-433	5.974	0.120	0.237
AS5782P(XX)-434	6.099	0.120	0.237

Table 2A - Piston (male) applications - Backup ring dimensions in inches (continued)

Part No.	O.D. ±0.002	T ±0.002	W ±0.001
AS5782P(XX)-435	6.224	0.120	0.237
AS5782P(XX)-436	6.349	0.120	0.237
AS5782P(XX)-437	6.474	0.120	0.237
AS5782P(XX)-438	6.724	0.120	0.237
AS5782P(XX)-439	6.974	0.120	0.237
AS5782P(XX)-440	7.224	0.120	0.237
AS5782P(XX)-441	7.474	0.120	0.237
AS5782P(XX)-442	7.724	0.120	0.237
AS5782P(XX)-443	7.974	0.120	0.237
AS5782P(XX)-444	8.224	0.120	0.237
AS5782P(XX)-445	8.474	0.120	0.237
	O.D. ±0.003		
AS5782P(XX)-446	8.974	0.120	0.237
AS5782P(XX)-447	9.474	0.120	0.237
AS5782P(XX)-448	9.974	0.120	0.237
AS5782P(XX)-449	10.474	0.120	0.237
AS5782P(XX)-450	10.974	0.120	0.237
	O.D. ±0.004		
AS5782P(XX)-451	11.474	0.120	0.237
AS5782P(XX)-452	11.974	0.120	0.237
AS5782P(XX)-453	12.474	0.120	0.237
AS5782P(XX)-454	12.974	0.120	0.237
AS5782P(XX)-455	13.474	0.120	0.237
	O.D. ±0.005		
AS5782P(XX)-456	13.974	0.120	0.237
AS5782P(XX)-457	14.474	0.120	0.237
AS5782P(XX)-458	14.974	0.120	0.237
AS5782P(XX)-459	15.474	0.120	0.237
AS5782P(XX)-460	15.974	0.120	0.237

Table 2B - Rod (female) applications - Backup ring dimensions in inches

Part No.	I.D. ±0.001	T ±0.002	W ±0.001
AS5782R(XX)-004	0.076	0.052	0.056
AS5782R(XX)-005	0.108	0.052	0.053
AS5782R(XX)-006	0.123	0.052	0.054
AS5782R(XX)-007	0.154	0.052	0.054
AS5782R(XX)-008	0.185	0.052	0.053
AS5782R(XX)-009	0.217	0.052	0.054
AS5782R(XX)-010	0.248	0.054	0.054
AS5782R(XX)-011	0.310	0.054	0.054
AS5782R(XX)-012	0.373	0.054	0.054
AS5782R(XX)-013	0.435	0.054	0.054
AS5782R(XX)-014	0.498	0.054	0.054
AS5782R(XX)-015	0.560	0.054	0.054
AS5782R(XX)-016	0.623	0.054	0.054
AS5782R(XX)-017	0.685	0.054	0.054
AS5782R(XX)-018	0.748	0.054	0.054
AS5782R(XX)-019	0.810	0.054	0.054
AS5782R(XX)-020	0.873	0.054	0.054
AS5782R(XX)-021	0.935	0.054	0.054
	I.D. ±0.002		
AS5782R(XX)-022	0.998	0.054	0.054
AS5782R(XX)-023	1.060	0.054	0.054
AS5782R(XX)-024	1.123	0.054	0.054
AS5782R(XX)-025	1.185	0.054	0.054
AS5782R(XX)-026	1.248	0.054	0.054
AS5782R(XX)-027	1.310	0.054	0.054
AS5782R(XX)-028	1.373	0.054	0.054

Table 2B - Rod (female) applications - Backup ring dimensions in inches (continued)

Part No.	I.D. ±0.001	T ±0.002	W ±0.001
AS5782R(XX)-104	0.123	0.056	0.085
AS5782R(XX)-105	0.154	0.056	0.085
AS5782R(XX)-106	0.185	0.056	0.086
AS5782R(XX)-107	0.217	0.056	0.086
AS5782R(XX)-108	0.248	0.056	0.086
AS5782R(XX)-109	0.310	0.056	0.087
AS5782R(XX)-110	0.373	0.056	0.085
AS5782R(XX)-111	0.435	0.056	0.086
AS5782R(XX)-112	0.498	0.056	0.086
AS5782R(XX)-113	0.560	0.056	0.086
AS5782R(XX)-114	0.623	0.056	0.086
AS5782R(XX)-115	0.685	0.056	0.086
AS5782R(XX)-116	0.748	0.056	0.086
AS5782R(XX)-117	0.810	0.056	0.086
AS5782R(XX)-118	0.873	0.056	0.086
AS5782R(XX)-119	0.935	0.056	0.086
	I.D. ±0.002		
AS5782R(XX)-120	0.998	0.056	0.086
AS5782R(XX)-121	1.060	0.056	0.086
AS5782R(XX)-122	1.123	0.056	0.086
AS5782R(XX)-123	1.185	0.056	0.086
AS5782R(XX)-124	1.248	0.056	0.086
AS5782R(XX)-125	1.310	0.056	0.086
AS5782R(XX)-126	1.373	0.056	0.086
AS5782R(XX)-127	1.435	0.056	0.086
AS5782R(XX)-128	1.498	0.056	0.086
AS5782R(XX)-129	1.560	0.056	0.086
AS5782R(XX)-130	1.623	0.056	0.086
AS5782R(XX)-131	1.685	0.056	0.086
AS5782R(XX)-132	1.748	0.056	0.086
AS5782R(XX)-133	1.810	0.056	0.086
AS5782R(XX)-134	1.873	0.056	0.086

Table 2B - Rod (female) applications - Backup ring dimensions in inches (continued)

Part No.	I.D. ±0.002	T ±0.002	W ±0.001
AS5782R(XX)-135	1.936	0.056	0.086
AS5782R(XX)-136	1.998	0.056	0.086
AS5782R(XX)-137	2.061	0.056	0.086
AS5782R(XX)-138	2.123	0.056	0.086
AS5782R(XX)-139	2.186	0.056	0.086
AS5782R(XX)-140	2.248	0.056	0.086
AS5782R(XX)-141	2.311	0.056	0.086
AS5782R(XX)-142	2.373	0.056	0.086
AS5782R(XX)-143	2.436	0.056	0.086
AS5782R(XX)-144	2.498	0.056	0.086
AS5782R(XX)-145	2.561	0.056	0.086
AS5782R(XX)-146	2.623	0.056	0.086
AS5782R(XX)-147	2.686	0.056	0.086
AS5782R(XX)-148	2.748	0.056	0.086
AS5782R(XX)-149	2.811	0.056	0.086
	I.D. ±0.001		
AS5782R(XX)-210	0.748	0.062	0.120
AS5782R(XX)-211	0.810	0.062	0.120
AS5782R(XX)-212	0.873	0.062	0.120
AS5782R(XX)-213	0.935	0.062	0.120
	I.D. ±0.002		
AS5782R(XX)-214	0.998	0.062	0.120
AS5782R(XX)-215	1.060	0.062	0.120
AS5782R(XX)-216	1.123	0.062	0.120
AS5782R(XX)-217	1.185	0.062	0.120
AS5782R(XX)-218	1.248	0.062	0.120
AS5782R(XX)-219	1.310	0.062	0.120
AS5782R(XX)-220	1.373	0.062	0.120
AS5782R(XX)-221	1.435	0.062	0.120
AS5782R(XX)-222	1.498	0.062	0.120
AS5782R(XX)-223	1.623	0.062	0.120

Table 2B - Rod (female) applications - Backup ring dimensions in inches (continued)

Part No.	I.D. ±0.002	T ±0.002	W ±0.001
AS5782R(XX)-224	1.748	0.062	0.120
AS5782R(XX)-225	1.873	0.062	0.120
AS5782R(XX)-226	1.998	0.062	0.120
AS5782R(XX)-227	2.123	0.062	0.120
AS5782R(XX)-228	2.248	0.062	0.120
AS5782R(XX)-229	2.373	0.062	0.120
AS5782R(XX)-230	2.498	0.062	0.120
AS5782R(XX)-231	2.623	0.062	0.120
AS5782R(XX)-232	2.748	0.062	0.120
AS5782R(XX)-233	2.873	0.062	0.120
AS5782R(XX)-234	2.997	0.062	0.120
AS5782R(XX)-235	3.122	0.062	0.120
AS5782R(XX)-236	3.247	0.062	0.120
AS5782R(XX)-237	3.372	0.062	0.120
AS5782R(XX)-238	3.497	0.062	0.120
AS5782R(XX)-239	3.622	0.062	0.120
AS5782R(XX)-240	3.747	0.062	0.120
AS5782R(XX)-241	3.872	0.062	0.120
AS5782R(XX)-242	3.997	0.062	0.120
AS5782R(XX)-243	4.122	0.062	0.120
AS5782R(XX)-244	4.247	0.062	0.120
AS5782R(XX)-245	4.372	0.062	0.120
AS5782R(XX)-246	4.497	0.062	0.120
AS5782R(XX)-247	4.622	0.062	0.120
AS5782R(XX)-325	1.498	0.088	0.185
AS5782R(XX)-326	1.623	0.088	0.185
AS5782R(XX)-327	1.748	0.088	0.185
AS5782R(XX)-328	1.873	0.088	0.185
AS5782R(XX)-329	1.998	0.088	0.185

Table 2B - Rod (female) applications - Backup ring dimensions in inches (continued)

Part No.	ID ±0.002	T ±0.002	W ±0.001
AS5782R(XX)-330	2.123	0.088	0.185
AS5782R(XX)-331	2.248	0.088	0.185
AS5782R(XX)-332	2.373	0.088	0.185
AS5782R(XX)-333	2.498	0.088	0.185
AS5782R(XX)-334	2.623	0.088	0.185
AS5782R(XX)-335	2.748	0.088	0.185
AS5782R(XX)-336	2.873	0.088	0.185
AS5782R(XX)-337	2.997	0.088	0.185
AS5782R(XX)-338	3.122	0.088	0.185
AS5782R(XX)-339	3.247	0.088	0.185
AS5782R(XX)-340	3.372	0.088	0.185
AS5782R(XX)-341	3.497	0.088	0.185
AS5782R(XX)-342	3.622	0.088	0.185
AS5782R(XX)-343	3.747	0.088	0.185
AS5782R(XX)-344	3.872	0.088	0.185
AS5782R(XX)-345	3.997	0.088	0.185
AS5782R(XX)-346	4.122	0.088	0.185
AS5782R(XX)-347	4.247	0.088	0.185
AS5782R(XX)-348	4.372	0.088	0.185
AS5782R(XX)-349	4.497	0.088	0.185
AS5782R(XX)-425	4.497	0.120	0.237
AS5782R(XX)-426	4.622	0.120	0.237
AS5782R(XX)-427	4.747	0.120	0.237
AS5782R(XX)-428	4.872	0.120	0.237
AS5782R(XX)-429	4.997	0.120	0.237
AS5782R(XX)-430	5.122	0.120	0.237
AS5782R(XX)-431	5.247	0.120	0.237
AS5782R(XX)-432	5.372	0.120	0.237
AS5782R(XX)-433	5.497	0.120	0.237
AS5782R(XX)-434	5.622	0.120	0.237

Table 2B - Rod (female) applications - Backup ring dimensions in inches (continued)

Part No.	I.D. ±0.002	T ±0.002	W ±0.001
AS5782R(XX)-435	5.747	0.120	0.237
AS5782R(XX)-436	5.872	0.120	0.237
AS5782R(XX)-437	5.997	0.120	0.237
AS5782R(XX)-438	6.247	0.120	0.237
AS5782R(XX)-439	6.497	0.120	0.237
AS5782R(XX)-440	6.747	0.120	0.237
AS5782R(XX)-441	6.997	0.120	0.237
AS5782R(XX)-442	7.247	0.120	0.237
AS5782R(XX)-443	7.497	0.120	0.237
AS5782R(XX)-444	7.747	0.120	0.237
AS5782R(XX)-445	7.997	0.120	0.237
	I.D. ±0.003		
AS5782R(XX)-446	8.497	0.120	0.237
AS5782R(XX)-447	8.997	0.120	0.237
AS5782R(XX)-448	9.497	0.120	0.237
AS5782R(XX)-449	9.997	0.120	0.237
AS5782R(XX)-450	10.497	0.120	0.237
	I.D. ±0.004		
AS5782R(XX)-451	10.997	0.120	0.237
AS5782R(XX)-452	11.497	0.120	0.237
AS5782R(XX)-453	11.997	0.120	0.237
AS5782R(XX)-454	12.497	0.120	0.237
AS5782R(XX)-455	12.997	0.120	0.237
	I.D. ±0.005		
AS5782R(XX)-456	13.497	0.120	0.237
AS5782R(XX)-457	13.997	0.120	0.237
AS5782R(XX)-458	14.497	0.120	0.237
AS5782R(XX)-459	14.997	0.120	0.237
AS5782R(XX)-460	15.497	0.120	0.237

Table 2C - Piston (male) applications - Backup ring dimensions in millimeters

Part No.	OD ±0.025	T ±0.051	W ±0.025
AS5782P(XX)-004	4.826	1.321	1.422
AS5782P(XX)-005	5.613	1.321	1.321
AS5782P(XX)-006	5.969	1.321	1.321
AS5782P(XX)-007	6.756	1.321	1.346
AS5782P(XX)-008	7.544	1.321	1.346
AS5782P(XX)-009	8.357	1.321	1.372
AS5782P(XX)-010	9.144	1.372	1.372
AS5782P(XX)-011	10.719	1.372	1.372
AS5782P(XX)-012	12.319	1.372	1.372
AS5782P(XX)-013	13.970	1.372	1.346
AS5782P(XX)-014	15.570	1.372	1.372
AS5782P(XX)-015	17.145	1.372	1.372
AS5782P(XX)-016	18.745	1.372	1.372
AS5782P(XX)-017	20.320	1.372	1.372
AS5782P(XX)-018	21.920	1.372	1.372
AS5782P(XX)-019	23.495	1.372	1.372
AS5782P(XX)-020	25.171	1.372	1.372
AS5782P(XX)-021	26.746	1.372	1.372
	OD ±0.051		
AS5782P(XX)-022	28.346	1.372	1.372
AS5782P(XX)-023	29.921	1.372	1.372
AS5782P(XX)-024	31.521	1.372	1.372
AS5782P(XX)-025	33.096	1.372	1.372
AS5782P(XX)-026	34.696	1.372	1.372
AS5782P(XX)-027	36.271	1.372	1.372
AS5782P(XX)-028	37.871	1.372	1.372

Table 2C - Piston (male) applications - Backup ring dimensions in millimeters (continued)

Part No.	O.D. ±0.025	T ±0.051	W ±0.025
AS5782P(XX)-104	7.544	1.422	2.134
AS5782P(XX)-105	8.357	1.422	2.159
AS5782P(XX)-106	9.144	1.422	2.184
AS5782P(XX)-107	9.931	1.422	2.210
AS5782P(XX)-108	10.719	1.422	2.210
AS5782P(XX)-109	12.319	1.422	2.235
AS5782P(XX)-110	13.970	1.422	2.159
AS5782P(XX)-111	15.570	1.422	2.184
AS5782P(XX)-112	17.145	1.422	2.159
AS5782P(XX)-113	18.745	1.422	2.159
AS5782P(XX)-114	20.320	1.422	2.159
AS5782P(XX)-115	21.920	1.422	2.184
AS5782P(XX)-116	23.495	1.422	2.184
AS5782P(XX)-117	25.171	1.422	2.184
AS5782P(XX)-118	26.746	1.422	2.184
AS5782P(XX)-119	28.346	1.422	2.184
AS5782P(XX)-120	29.921	1.422	2.184
	O.D. ±0.051		
AS5782P(XX)-121	31.521	1.422	2.184
AS5782P(XX)-122	33.096	1.422	2.184
AS5782P(XX)-123	34.696	1.422	2.184
AS5782P(XX)-124	36.271	1.422	2.184
AS5782P(XX)-125	37.871	1.422	2.184
AS5782P(XX)-126	39.446	1.422	2.184
AS5782P(XX)-127	41.046	1.422	2.184
AS5782P(XX)-128	42.621	1.422	2.184
AS5782P(XX)-129	44.221	1.422	2.184
AS5782P(XX)-130	45.847	1.422	2.184
AS5782P(XX)-131	47.422	1.422	2.184
AS5782P(XX)-132	49.022	1.422	2.184
AS5782P(XX)-133	50.597	1.422	2.184
AS5782P(XX)-134	52.197	1.422	2.184

Table 2C - Piston (male) applications - Backup ring dimensions in millimeters (continued)

Part No.	O.D. ±0.051	T ±0.051	W ±0.025
AS5782P(XX)-135	53.797	1.422	2.184
AS5782P(XX)-136	55.372	1.422	2.184
AS5782P(XX)-137	56.972	1.422	2.184
AS5782P(XX)-138	58.547	1.422	2.184
AS5782P(XX)-139	60.147	1.422	2.184
AS5782P(XX)-140	61.722	1.422	2.184
AS5782P(XX)-141	63.322	1.422	2.184
AS5782P(XX)-142	64.897	1.422	2.184
AS5782P(XX)-143	66.497	1.422	2.184
AS5782P(XX)-144	68.072	1.422	2.184
AS5782P(XX)-145	69.672	1.422	2.184
AS5782P(XX)-146	71.247	1.422	2.184
AS5782P(XX)-147	72.847	1.422	2.184
AS5782P(XX)-148	74.422	1.422	2.184
AS5782P(XX)-149	76.022	1.422	2.184
	O.D. ±0.025		
AS5782P(XX)-210	25.171	1.575	3.048
AS5782P(XX)-211	26.746	1.575	3.048
AS5782P(XX)-212	28.346	1.575	3.048
AS5782P(XX)-213	29.921	1.575	3.048
	O.D. ±0.051		
AS5782P(XX)-214	31.521	1.575	3.048
AS5782P(XX)-215	33.096	1.575	3.048
AS5782P(XX)-216	34.696	1.575	3.048
AS5782P(XX)-217	36.271	1.575	3.048
AS5782P(XX)-218	37.871	1.575	3.048
AS5782P(XX)-219	39.446	1.575	3.048
AS5782P(XX)-220	41.046	1.575	3.048
AS5782P(XX)-221	42.621	1.575	3.048
AS5782P(XX)-222	44.221	1.575	3.048
AS5782P(XX)-223	47.422	1.575	3.048

Table 2C - Piston (male) applications - Backup ring dimensions in millimeters (continued)

Part No.	O.D. ±0.051	T ±0.051	W ±0.025
AS5782P(XX)-224	50.597	1.575	3.048
AS5782P(XX)-225	53.797	1.575	3.048
AS5782P(XX)-226	56.972	1.575	3.048
AS5782P(XX)-227	60.147	1.575	3.048
AS5782P(XX)-228	63.322	1.575	3.048
AS5782P(XX)-229	66.497	1.575	3.048
AS5782P(XX)-230	69.672	1.575	3.048
AS5782P(XX)-231	72.847	1.575	3.048
AS5782P(XX)-232	76.022	1.575	3.048
AS5782P(XX)-233	79.197	1.575	3.048
AS5782P(XX)-234	82.372	1.575	3.048
AS5782P(XX)-235	85.547	1.575	3.048
AS5782P(XX)-236	88.722	1.575	3.048
AS5782P(XX)-237	91.897	1.575	3.048
AS5782P(XX)-238	95.072	1.575	3.048
AS5782P(XX)-239	98.247	1.575	3.048
AS5782P(XX)-240	101.422	1.575	3.048
AS5782P(XX)-241	104.597	1.575	3.048
AS5782P(XX)-242	107.772	1.575	3.048
AS5782P(XX)-243	110.947	1.575	3.048
AS5782P (XX)-244	114.122	1.575	3.048
AS5782P(XX)-245	117.297	1.575	3.048
AS5782P(XX)-246	120.472	1.575	3.048
AS5782P(XX)-247	123.647	1.575	3.048
AS5782P(XX)-325	47.422	2.235	4.699
AS5782P(XX)-326	50.597	2.235	4.699
AS5782P(XX)-327	53.797	2.235	4.699
AS5782P(XX)-328	56.972	2.235	4.699
AS5782P(XX)-329	60.147	2.235	4.699

Table 2C - Piston (male) applications - Backup ring dimensions in millimeters (continued)

Part No.	O.D. ±0.051	T ±0.051	W ±0.025
AS5782P(XX)-330	63.322	2.235	4.699
AS5782P(XX)-331	66.497	2.235	4.699
AS5782P(XX)-332	69.672	2.235	4.699
AS5782P(XX)-333	72.847	2.235	4.699
AS5782P(XX)-334	76.022	2.235	4.699
AS5782P(XX)-335	79.197	2.235	4.699
AS5782P(XX)-336	82.372	2.235	4.699
AS5782P(XX)-337	85.547	2.235	4.699
AS5782P(XX)-338	88.722	2.235	4.699
AS5782P(XX)-339	91.897	2.235	4.699
AS5782P(XX)-340	95.072	2.235	4.699
AS5782P(XX)-341	98.247	2.235	4.699
AS5782P(XX)-342	101.422	2.235	4.699
AS5782P(XX)-343	104.597	2.235	4.699
AS5782P(XX)-344	107.772	2.235	4.699
AS5782P(XX)-345	110.947	2.235	4.699
AS5782P(XX)-346	114.122	2.235	4.699
AS5782P(XX)-347	117.297	2.235	4.699
AS5782P(XX)-348	120.472	2.235	4.699
AS5782P(XX)-349	123.647	2.235	4.699
AS5782P(XX)-425	126.340	3.048	6.020
AS5782P(XX)-426	129.515	3.048	6.020
AS5782P(XX)-427	132.690	3.048	6.020
AS5782P(XX)-428	135.865	3.048	6.020
AS5782P(XX)-429	139.040	3.048	6.020
AS5782P(XX)-430	142.215	3.048	6.020
AS5782P(XX)-431	145.390	3.048	6.020
AS5782P(XX)-432	148.565	3.048	6.020
AS5782P(XX)-433	151.740	3.048	6.020
AS5782P(XX)-434	154.915	3.048	6.020

Table 2C - Piston (male) applications - Backup ring dimensions in millimeters (continued)

Part No.	O.D. ±0.051	T ±0.051	W ±0.025
AS5782P(XX)-435	158.090	3.048	6.020
AS5782P(XX)-436	161.265	3.048	6.020
AS5782P(XX)-437	164.440	3.048	6.020
AS5782P(XX)-438	170.790	3.048	6.020
AS5782P(XX)-439	177.140	3.048	6.020
AS5782P(XX)-440	183.490	3.048	6.020
AS5782P(XX)-441	189.840	3.048	6.020
AS5782P(XX)-442	196.190	3.048	6.020
AS5782P(XX)-443	202.540	3.048	6.020
AS5782P(XX)-444	208.890	3.048	6.020
AS5782P(XX)-445	215.240	3.048	6.020
	O.D. ±0.076		
AS5782P(XX)-446	227.940	3.048	6.020
AS5782P(XX)-447	240.640	3.048	6.020
AS5782P(XX)-448	253.340	3.048	6.020
AS5782P(XX)-449	266.040	3.048	6.020
AS5782P(XX)-450	278.740	3.048	6.020
	O.D. ±0.102		
AS5782P(XX)-451	291.440	3.048	6.020
AS5782P(XX)-452	304.140	3.048	6.020
AS5782P(XX)-453	316.840	3.048	6.020
AS5782P(XX)-454	329.540	3.048	6.020
AS5782P(XX)-455	342.240	3.048	6.020
	O.D. ±0.127		
AS5782P(XX)-456	354.940	3.048	6.020
AS5782P(XX)-457	367.640	3.048	6.020
AS5782P(XX)-458	380.340	3.048	6.020
AS5782P(XX)-459	393.040	3.048	6.020
AS5782P(XX)-460	405.740	3.048	6.020

Table 2D - Rod (female) applications - Backup ring dimensions in millimeters

Part No.	I.D. ±0.025	T ±0.051	W ±0.025
AS5782R(XX)-004	1.930	1.321	1.422
AS5782R(XX)-005	2.743	1.321	1.346
AS5782R(XX)-006	3.124	1.321	1.372
AS5782R(XX)-007	3.912	1.321	1.372
AS5782R(XX)-008	4.699	1.321	1.346
AS5782R(XX)-009	5.512	1.321	1.372
AS5782R(XX)-010	6.299	1.372	1.372
AS5782R(XX)-011	7.874	1.372	1.372
AS5782R(XX)-012	9.474	1.372	1.372
AS5782R(XX)-013	11.049	1.372	1.372
AS5782R(XX)-014	12.649	1.372	1.372
AS5782R(XX)-015	14.224	1.372	1.372
AS5782R(XX)-016	15.824	1.372	1.372
AS5782R(XX)-017	17.399	1.372	1.372
AS5782R(XX)-018	18.999	1.372	1.372
AS5782R(XX)-019	20.574	1.372	1.372
AS5782R(XX)-020	22.174	1.372	1.372
AS5782R(XX)-021	23.749	1.372	1.372
	I.D. ±0.051		
AS5782R(XX)-022	25.349	1.372	1.372
AS5782R(XX)-023	26.924	1.372	1.372
AS5782R(XX)-024	28.524	1.372	1.372
AS5782R(XX)-025	30.099	1.372	1.372
AS5782R(XX)-026	31.699	1.372	1.372
AS5782R(XX)-027	33.274	1.372	1.372
AS5782R(XX)-028	34.874	1.372	1.372

Table 2D - Rod (female) applications - Backup ring dimensions in millimeters (continued)

Part No.	I.D. ±0.025	T ±0.051	W ±0.025
AS5782R(XX)-104	3.124	1.422	2.159
AS5782R(XX)-105	3.912	1.422	2.159
AS5782R(XX)-106	4.699	1.422	2.184
AS5782R(XX)-107	5.512	1.422	2.184
AS5782R(XX)-108	6.299	1.422	2.184
AS5782R(XX)-109	7.874	1.422	2.210
AS5782R(XX)-110	9.474	1.422	2.159
AS5782R(XX)-111	11.049	1.422	2.184
AS5782R(XX)-112	12.649	1.422	2.184
AS5782R(XX)-113	14.224	1.422	2.184
AS5782R(XX)-114	15.824	1.422	2.184
AS5782R(XX)-115	17.399	1.422	2.184
AS5782R(XX)-116	18.999	1.422	2.184
AS5782R(XX)-117	20.574	1.422	2.184
AS5782R(XX)-118	22.174	1.422	2.184
AS5782R(XX)-119	23.749	1.422	2.184
	I.D. ±0.051		
AS5782R(XX)-120	25.349	1.422	2.184
AS5782R(XX)-121	26.924	1.422	2.184
AS5782R(XX)-122	28.524	1.422	2.184
AS5782R(XX)-123	30.099	1.422	2.184
AS5782R(XX)-124	31.699	1.422	2.184
AS5782R(XX)-125	33.274	1.422	2.184
AS5782R(XX)-126	34.874	1.422	2.184
AS5782R(XX)-127	36.449	1.422	2.184
AS5782R(XX)-128	38.049	1.422	2.184
AS5782R(XX)-129	39.624	1.422	2.184
AS5782R(XX)-130	41.224	1.422	2.184
AS5782R(XX)-131	42.799	1.422	2.184
AS5782R(XX)-132	44.399	1.422	2.184
AS5782R(XX)-133	45.974	1.422	2.184
AS5782R(XX)-134	47.574	1.422	2.184

Table 2D - Rod (female) applications - Backup ring dimensions in millimeters (continued)

Part No.	I.D. ±0.051	T ±0.051	W ±0.025
AS5782R(XX)-135	49.174	1.422	2.184
AS5782R(XX)-136	50.749	1.422	2.184
AS5782R(XX)-137	52.349	1.422	2.184
AS5782R(XX)-138	53.924	1.422	2.184
AS5782R(XX)-139	55.524	1.422	2.184
AS5782R(XX)-140	57.099	1.422	2.184
AS5782R(XX)-141	58.699	1.422	2.184
AS5782R(XX)-142	60.274	1.422	2.184
AS5782R(XX)-143	61.874	1.422	2.184
AS5782R(XX)-144	63.449	1.422	2.184
AS5782R(XX)-145	65.049	1.422	2.184
AS5782R(XX)-146	66.624	1.422	2.184
AS5782R(XX)-147	68.224	1.422	2.184
AS5782R(XX)-148	69.799	1.422	2.184
AS5782R(XX)-149	71.399	1.422	2.184
	I.D. ±0.025		
AS5782R(XX)-210	18.999	1.575	3.048
AS5782R(XX)-211	20.574	1.575	3.048
AS5782R(XX)-212	22.174	1.575	3.048
AS5782R(XX)-213	23.749	1.575	3.048
	I.D. ±0.051		
AS5782R(XX)-214	25.349	1.575	3.048
AS5782R(XX)-215	26.924	1.575	3.048
AS5782R(XX)-216	28.524	1.575	3.048
AS5782R(XX)-217	30.099	1.575	3.048
AS5782R(XX)-218	31.699	1.575	3.048
AS5782R(XX)-219	33.274	1.575	3.048
AS5782R(XX)-220	34.874	1.575	3.048
AS5782R(XX)-221	36.449	1.575	3.048
AS5782R(XX)-222	38.049	1.575	3.048
AS5782R(XX)-223	41.224	1.575	3.048