



AEROSPACE STANDARD

AS5861™**REV. B**Issued 2005-12
Revised 2020-11

Superseding AS5861A

(R) Retainers, (Backup Rings), Hydraulic and Pneumatic,
Polytetrafluoroethylene Resin, Solid, Un-Cut, for Use in Static Glands to AS5857

RATIONALE

This document has been revised to:

- Add the requirement that no resizing of parts during the manufacturing process is permitted
- Clarify the use in AS5857 glands
- Add the stabilized temperature at which measurements shall be taken
- Add the dimensional stability requirement of material tubes to 4.1
- Include some editorial corrections and improvements
- Update the references

1. SCOPE

This SAE Aerospace Standard (AS) specifies solid polytetrafluoroethylene (PTFE) retainers (backup rings) for use in static glands in accordance with AS5857. They are usually for use in hydraulic and pneumatic systems as anti-extrusion devices in conjunction with O-rings and other seals.

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

1.1 Field of Application

Backup rings to the dimensions in AS5861 are for use in glands to AS5857 only. They shall not be used in glands to MIL-G-5514 or AS4716, please see the note below.

NOTE: Parts standard MS27595 (solid un-cut backup rings) for use in glands to MIL-G-5514 and parts standard AS5782 (solid un-cut backup rings) for use in AS4716 glands have been published.

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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.

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.

AMS3678	Polytetrafluoroethylene (PTFE) Moldings and Extrusions Unfilled, Pigmented, and Filled
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
AS4716	Gland Design, O-ring and Other Seals
AS5782	Retainers (Backup Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Solid, Un-Cut, For Use in AS4716 Glands
AS5857	Gland Design, O-ring and Other Elastomeric Seals, Static Applications
AS5860	Retainers, (Backup Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Single Turn, Static Gland

2.1.2 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 973-882-1170 (outside North America), www.asme.org.

ASME Y14.5-2009 Dimensioning and Tolerancing

2.1.3 U.S. Government Publications

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

MIL-G-5514	Gland Designs; Packings, Hydraulic, General Requirements for (Inactive for new design)
MIL-STD-2073-1	Standard Practice for Military Packaging
MS 27595	Retainer, Packing Backup, Continuous Ring, Polytetrafluoroethylene (Inactive for new design)

3. TECHNICAL REQUIREMENTS

3.1 Design

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 (20680 kPa) for Code 09 material and 5000 psi (34470 kPa) for Code 10 material. Material codes are based on AMS3678 material types.

Because of the construction of groove dimensions, backup rings specific to piston applications are designated "P" - Piston (Male), backup rings specific to rod applications are designated "R" - Rod (Female).

3.2 Materials and Applications

3.2.1 Primary Material

Code 09, Virgin PTFE with pigment: For operating pressures up to 3000 psi (20680 kPa) parts shall be made from material Code 09 of this standard and shall conform to AMS3678/9.

- Parts made from material Code 09 of this standard for “P” (Piston) applications shall be brown per AMS3678/9.
- Parts made from material Code 09 of this standard for “R” (Rod) applications shall be green per AMS3678/9.

NOTE:

- Yellow pigmented material to AMS3678/9 is for use for “P” (Piston) backup rings to AS5781 and AS5782.
- Blue pigmented material to AMS3678/9 is for use for “R” (Rod) backup rings to AS5781 and AS5782.

3.2.2 Alternate Material

Code 10, PTFE with 15% Carbon Fiber: For operating pressures up to 5000 psi (34470 kPa) parts shall be made from material Code 10 of this standard and shall conform to AMS3678/10.

Parts made from material code 10 of this standard shall be dark gray to black with no identifying color pigment.

3.3 Dimensional Requirements

See Figure 1.

See Tables 1A and 1B for dimensions.

Dimensions and Tolerancing per ASME Y-14.5-2009

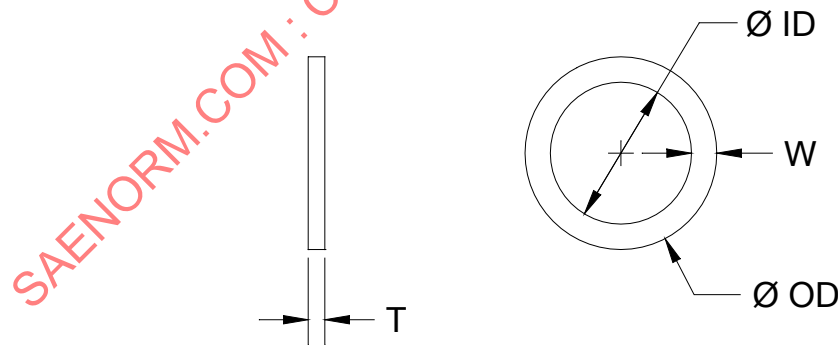


Figure 1 - Backup ring controlled features

3.4 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 1A and 1B as shown in Figure 2 below.

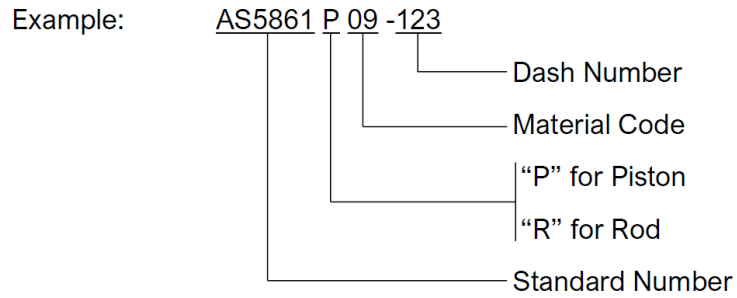


Figure 2 - Example part number

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.

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See Figures 1 and 2.

Table 1A - AS5861 backup ring dimensions (in inches)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.001	T ±0.002	W ±0.001	Part No.	ID ±0.001	T ±0.002	W ±0.001
AS5861P(XX)-004	0.185	0.054	0.052	AS5861R(XX)-004	0.076	0.054	0.053
AS5861P(XX)-005	0.217	0.054	0.052	AS5861R(XX)-005	0.108	0.054	0.053
AS5861P(XX)-006	0.230	0.054	0.052	AS5861R(XX)-006	0.123	0.054	0.053
AS5861P(XX)-007	0.261	0.054	0.052	AS5861R(XX)-007	0.154	0.054	0.053
AS5861P(XX)-008	0.293	0.054	0.052	AS5861R(XX)-008	0.185	0.054	0.053
AS5861P(XX)-009	0.326	0.054	0.052	AS5861R(XX)-009	0.217	0.054	0.053
AS5861P(XX)-010	0.357	0.054	0.052	AS5861R(XX)-010	0.248	0.054	0.053
AS5861P(XX)-011	0.420	0.054	0.052	AS5861R(XX)-011	0.310	0.054	0.053
AS5861P(XX)-012	0.485	0.054	0.052	AS5861R(XX)-012	0.373	0.054	0.053
AS5861P(XX)-013	0.550	0.054	0.052	AS5861R(XX)-013	0.435	0.054	0.053
AS5861P(XX)-014	0.613	0.054	0.052	AS5861R(XX)-014	0.498	0.054	0.053
AS5861P(XX)-015	0.675	0.054	0.052	AS5861R(XX)-015	0.560	0.054	0.053
AS5861P(XX)-016	0.738	0.054	0.052	AS5861R(XX)-016	0.623	0.054	0.053
AS5861P(XX)-017	0.800	0.054	0.052	AS5861R(XX)-017	0.685	0.054	0.053
AS5861P(XX)-018	0.863	0.054	0.052	AS5861R(XX)-018	0.748	0.054	0.053
AS5861P(XX)-019	0.925	0.054	0.052	AS5861R(XX)-019	0.810	0.054	0.053
AS5861P(XX)-020	0.991	0.054	0.052	AS5861R(XX)-020	0.873	0.054	0.053
AS5861P(XX)-021	1.053	0.054	0.052	AS5861R(XX)-021	0.935	0.054	0.053
	OD ±0.002				ID ±0.002		
AS5861P(XX)-022	1.116	0.054	0.052	AS5861R(XX)-022	0.998	0.054	0.053
AS5861P(XX)-023	1.178	0.054	0.052	AS5861R(XX)-023	1.060	0.054	0.053
AS5861P(XX)-024	1.241	0.054	0.052	AS5861R(XX)-024	1.123	0.054	0.053
AS5861P(XX)-025	1.303	0.054	0.052	AS5861R(XX)-025	1.185	0.054	0.053
AS5861P(XX)-026	1.366	0.054	0.052	AS5861R(XX)-026	1.248	0.054	0.053
AS5861P(XX)-027	1.428	0.054	0.052	AS5861R(XX)-027	1.310	0.054	0.053
AS5861P(XX)-028	1.491	0.054	0.052	AS5861R(XX)-028	1.373	0.054	0.053

Table 1A - AS5861 backup ring dimensions (in inches) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.001	T ±0.002	W ±0.001	Part No.	ID ±0.001	T ±0.002	W ±0.001
AS5861P(XX)-104	0.286	0.058	0.081	AS5861R(XX)-104	0.123	0.058	0.081
AS5861P(XX)-105	0.317	0.058	0.081	AS5861R(XX)-105	0.154	0.058	0.081
AS5861P(XX)-106	0.349	0.058	0.081	AS5861R(XX)-106	0.185	0.058	0.081
AS5861P(XX)-107	0.382	0.058	0.081	AS5861R(XX)-107	0.217	0.058	0.081
AS5861P(XX)-108	0.414	0.058	0.081	AS5861R(XX)-108	0.248	0.058	0.081
AS5861P(XX)-109	0.477	0.058	0.081	AS5861R(XX)-109	0.310	0.058	0.081
AS5861P(XX)-110	0.541	0.058	0.081	AS5861R(XX)-110	0.373	0.058	0.081
AS5861P(XX)-111	0.604	0.058	0.081	AS5861R(XX)-111	0.435	0.058	0.081
AS5861P(XX)-112	0.668	0.058	0.081	AS5861R(XX)-112	0.498	0.058	0.081
AS5861P(XX)-113	0.734	0.058	0.081	AS5861R(XX)-113	0.560	0.058	0.081
AS5861P(XX)-114	0.800	0.058	0.081	AS5861R(XX)-114	0.623	0.058	0.081
AS5861P(XX)-115	0.863	0.058	0.081	AS5861R(XX)-115	0.685	0.058	0.081
AS5861P(XX)-116	0.925	0.058	0.081	AS5861R(XX)-116	0.748	0.058	0.081
AS5861P(XX)-117	0.991	0.058	0.081	AS5861R(XX)-117	0.810	0.058	0.081
AS5861P(XX)-118	1.053	0.058	0.081	AS5861R(XX)-118	0.873	0.058	0.081
AS5861P(XX)-119	1.116	0.058	0.081	AS5861R(XX)-119	0.935	0.058	0.081
	OD ±0.002				ID ±0.002		
AS5861P(XX)-120	1.178	0.058	0.081	AS5861R(XX)-120	0.998	0.058	0.081
AS5861P(XX)-121	1.241	0.058	0.081	AS5861R(XX)-121	1.060	0.058	0.081
AS5861P(XX)-122	1.303	0.058	0.081	AS5861R(XX)-122	1.123	0.058	0.081
AS5861P(XX)-123	1.366	0.058	0.081	AS5861R(XX)-123	1.185	0.058	0.081
AS5861P(XX)-124	1.428	0.058	0.081	AS5861R(XX)-124	1.248	0.058	0.081
AS5861P(XX)-125	1.491	0.058	0.081	AS5861R(XX)-125	1.310	0.058	0.081
AS5861P(XX)-126	1.553	0.058	0.081	AS5861R(XX)-126	1.373	0.058	0.081
AS5861P(XX)-127	1.616	0.058	0.081	AS5861R(XX)-127	1.435	0.058	0.081
AS5861P(XX)-128	1.678	0.058	0.081	AS5861R(XX)-128	1.498	0.058	0.081
AS5861P(XX)-129	1.741	0.058	0.081	AS5861R(XX)-129	1.560	0.058	0.081
AS5861P(XX)-130	1.805	0.058	0.081	AS5861R(XX)-130	1.623	0.058	0.081
AS5861P(XX)-131	1.867	0.058	0.081	AS5861R(XX)-131	1.685	0.058	0.081
AS5861P(XX)-132	1.930	0.058	0.081	AS5861R(XX)-132	1.748	0.058	0.081
AS5861P(XX)-133	1.992	0.058	0.081	AS5861R(XX)-133	1.810	0.058	0.081
AS5861P(XX)-134	2.055	0.058	0.081	AS5861R(XX)-134	1.873	0.058	0.081

Table 1A - AS5861 backup ring dimensions (in inches) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.002	T ±0.002	W ±0.001	Part No.	ID ±0.002	T ±0.002	W ±0.001
AS5861P(XX)-135	2.118	0.058	0.081	AS5861R(XX)-135	1.936	0.058	0.081
AS5861P(XX)-136	2.180	0.058	0.081	AS5861R(XX)-136	1.998	0.058	0.081
AS5861P(XX)-137	2.243	0.058	0.081	AS5861R(XX)-137	2.061	0.058	0.081
AS5861P(XX)-138	2.305	0.058	0.081	AS5861R(XX)-138	2.123	0.058	0.081
AS5861P(XX)-139	2.368	0.058	0.081	AS5861R(XX)-139	2.186	0.058	0.081
AS5861P(XX)-140	2.430	0.058	0.081	AS5861R(XX)-140	2.248	0.058	0.081
AS5861P(XX)-141	2.493	0.058	0.081	AS5861R(XX)-141	2.311	0.058	0.081
AS5861P(XX)-142	2.555	0.058	0.081	AS5861R(XX)-142	2.373	0.058	0.081
AS5861P(XX)-143	2.618	0.058	0.081	AS5861R(XX)-143	2.436	0.058	0.081
AS5861P(XX)-144	2.680	0.058	0.081	AS5861R(XX)-144	2.498	0.058	0.081
AS5861P(XX)-145	2.743	0.058	0.081	AS5861R(XX)-145	2.561	0.058	0.081
AS5861P(XX)-146	2.805	0.058	0.081	AS5861R(XX)-146	2.623	0.058	0.081
AS5861P(XX)-147	2.868	0.058	0.081	AS5861R(XX)-147	2.686	0.058	0.081
AS5861P(XX)-148	2.930	0.058	0.081	AS5861R(XX)-148	2.748	0.058	0.081
AS5861P(XX)-149	2.993	0.058	0.081	AS5861R(XX)-149	2.811	0.058	0.081

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Table 1A - AS5861 backup ring dimensions (in inches) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.001	T ±0.002	W ±0.001	Part No.	ID ±0.001	T ±0.002	W ±0.001
AS5861P(XX)-210	0.991	0.062	0.111	AS5861R(XX)-210	0.748	0.062	0.112
AS5861P(XX)-211	1.053	0.062	0.111	AS5861R(XX)-211	0.810	0.062	0.112
AS5861P(XX)-212	1.116	0.062	0.111	AS5861R(XX)-212	0.873	0.062	0.112
AS5861P(XX)-213	1.178	0.062	0.111	AS5861R(XX)-213	0.935	0.062	0.112
	OD ±0.002				ID ±0.002		
AS5861P(XX)-214	1.241	0.062	0.111	AS5861R(XX)-214	0.998	0.062	0.112
AS5861P(XX)-215	1.303	0.062	0.111	AS5861R(XX)-215	1.060	0.062	0.112
AS5861P(XX)-216	1.366	0.062	0.111	AS5861R(XX)-216	1.123	0.062	0.112
AS5861P(XX)-217	1.428	0.062	0.111	AS5861R(XX)-217	1.185	0.062	0.112
AS5861P(XX)-218	1.491	0.062	0.111	AS5861R(XX)-218	1.248	0.062	0.112
AS5861P(XX)-219	1.553	0.062	0.111	AS5861R(XX)-219	1.310	0.062	0.112
AS5861P(XX)-220	1.616	0.062	0.111	AS5861R(XX)-220	1.373	0.062	0.112
AS5861P(XX)-221	1.678	0.062	0.111	AS5861R(XX)-221	1.435	0.062	0.112
AS5861P(XX)-222	1.741	0.062	0.111	AS5861R(XX)-222	1.498	0.062	0.112
AS5861P(XX)-223	1.867	0.062	0.111	AS5861R(XX)-223	1.623	0.062	0.112
AS5861P(XX)-224	1.992	0.062	0.111	AS5861R(XX)-224	1.748	0.062	0.112
AS5861P(XX)-225	2.118	0.062	0.111	AS5861R(XX)-225	1.873	0.062	0.112
AS5861P(XX)-226	2.243	0.062	0.111	AS5861R(XX)-226	1.998	0.062	0.112
AS5861P(XX)-227	2.368	0.062	0.111	AS5861R(XX)-227	2.123	0.062	0.112
AS5861P(XX)-228	2.493	0.062	0.111	AS5861R(XX)-228	2.248	0.062	0.112
AS5861P(XX)-229	2.618	0.062	0.111	AS5861R(XX)-229	2.373	0.062	0.112
AS5861P(XX)-230	2.743	0.062	0.111	AS5861R(XX)-230	2.498	0.062	0.112
AS5861P(XX)-231	2.868	0.062	0.111	AS5861R(XX)-231	2.623	0.062	0.112
AS5861P(XX)-232	2.993	0.062	0.111	AS5861R(XX)-232	2.748	0.062	0.112
AS5861P(XX)-233	3.118	0.062	0.111	AS5861R(XX)-233	2.873	0.062	0.112
AS5861P(XX)-234	3.243	0.062	0.111	AS5861R(XX)-234	2.997	0.062	0.112
AS5861P(XX)-235	3.368	0.062	0.111	AS5861R(XX)-235	3.122	0.062	0.112
AS5861P(XX)-236	3.493	0.062	0.111	AS5861R(XX)-236	3.247	0.062	0.112
AS5861P(XX)-237	3.618	0.062	0.111	AS5861R(XX)-237	3.372	0.062	0.112
AS5861P(XX)-238	3.743	0.062	0.111	AS5861R(XX)-238	3.497	0.062	0.112
AS5861P(XX)-239	3.868	0.062	0.111	AS5861R(XX)-239	3.622	0.062	0.112
AS5861P(XX)-240	3.993	0.062	0.111	AS5861R(XX)-240	3.747	0.062	0.112
AS5861P(XX)-241	4.118	0.062	0.111	AS5861R(XX)-241	3.872	0.062	0.112
AS5861P(XX)-242	4.243	0.062	0.111	AS5861R(XX)-242	3.997	0.062	0.112
AS5861P(XX)-243	4.368	0.062	0.111	AS5861R(XX)-243	4.122	0.062	0.112
AS5861P(XX)-244	4.493	0.062	0.111	AS5861R(XX)-244	4.247	0.062	0.112
AS5861P(XX)-245	4.618	0.062	0.111	AS5861R(XX)-245	4.372	0.062	0.112
AS5861P(XX)-246	4.743	0.062	0.111	AS5861R(XX)-246	4.497	0.062	0.112
AS5861P(XX)-247	4.868	0.062	0.111	AS5861R(XX)-247	4.622	0.062	0.112

Table 1A - AS5861 backup ring dimensions (in inches) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.002	T ±0.002	W ±0.001	Part No.	ID ±0.002	T ±0.002	W ±0.001
AS5861P(XX)-325	1.867	0.088	0.171	AS5861R(XX)-325	1.498	0.088	0.173
AS5861P(XX)-326	1.992	0.088	0.171	AS5861R(XX)-326	1.623	0.088	0.173
AS5861P(XX)-327	2.118	0.088	0.171	AS5861R(XX)-327	1.748	0.088	0.173
AS5861P(XX)-328	2.243	0.088	0.171	AS5861R(XX)-328	1.873	0.088	0.173
AS5861P(XX)-329	2.368	0.088	0.171	AS5861R(XX)-329	1.998	0.088	0.173
AS5861P(XX)-330	2.493	0.088	0.171	AS5861R(XX)-330	2.123	0.088	0.173
AS5861P(XX)-331	2.618	0.088	0.171	AS5861R(XX)-331	2.248	0.088	0.173
AS5861P(XX)-332	2.743	0.088	0.171	AS5861R(XX)-332	2.373	0.088	0.173
AS5861P(XX)-333	2.868	0.088	0.171	AS5861R(XX)-333	2.498	0.088	0.173
AS5861P(XX)-334	2.993	0.088	0.171	AS5861R(XX)-334	2.623	0.088	0.173
AS5861P(XX)-335	3.118	0.088	0.171	AS5861R(XX)-335	2.748	0.088	0.173
AS5861P(XX)-336	3.243	0.088	0.171	AS5861R(XX)-336	2.873	0.088	0.173
AS5861P(XX)-337	3.368	0.088	0.171	AS5861R(XX)-337	2.997	0.088	0.173
AS5861P(XX)-338	3.493	0.088	0.171	AS5861R(XX)-338	3.122	0.088	0.173
AS5861P(XX)-339	3.618	0.088	0.171	AS5861R(XX)-339	3.247	0.088	0.173
AS5861P(XX)-340	3.743	0.088	0.171	AS5861R(XX)-340	3.372	0.088	0.173
AS5861P(XX)-341	3.868	0.088	0.171	AS5861R(XX)-341	3.497	0.088	0.173
AS5861P(XX)-342	3.993	0.088	0.171	AS5861R(XX)-342	3.622	0.088	0.173
AS5861P(XX)-343	4.118	0.088	0.171	AS5861R(XX)-343	3.747	0.088	0.173
AS5861P(XX)-344	4.243	0.088	0.171	AS5861R(XX)-344	3.872	0.088	0.173
AS5861P(XX)-345	4.368	0.088	0.171	AS5861R(XX)-345	3.997	0.088	0.173
AS5861P(XX)-346	4.493	0.088	0.171	AS5861R(XX)-346	4.122	0.088	0.173
AS5861P(XX)-347	4.618	0.088	0.171	AS5861R(XX)-347	4.247	0.088	0.173
AS5861P(XX)-348	4.743	0.088	0.171	AS5861R(XX)-348	4.372	0.088	0.173
AS5861P(XX)-349	4.868	0.088	0.171	AS5861R(XX)-349	4.497	0.088	0.173

Table 1A - AS5861 backup ring dimensions (in inches) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.002	T ±0.002	W ±0.001	Part No.	ID ±0.002	T ±0.002	W ±0.001
AS5861P(XX)-425	4.974	0.128	0.226	AS5861R(XX)-425	4.497	0.128	0.228
AS5861P(XX)-426	5.099	0.128	0.226	AS5861R(XX)-426	4.622	0.128	0.228
AS5861P(XX)-427	5.224	0.128	0.226	AS5861R(XX)-427	4.747	0.128	0.228
AS5861P(XX)-428	5.349	0.128	0.226	AS5861R(XX)-428	4.872	0.128	0.228
AS5861P(XX)-429	5.474	0.128	0.226	AS5861R(XX)-429	4.997	0.128	0.228
AS5861P(XX)-430	5.599	0.128	0.226	AS5861R(XX)-430	5.122	0.128	0.228
AS5861P(XX)-431	5.724	0.128	0.226	AS5861R(XX)-431	5.247	0.128	0.228
AS5861P(XX)-432	5.849	0.128	0.226	AS5861R(XX)-432	5.372	0.128	0.228
AS5861P(XX)-433	5.974	0.128	0.226	AS5861R(XX)-433	5.497	0.128	0.228
AS5861P(XX)-434	6.099	0.128	0.226	AS5861R(XX)-434	5.622	0.128	0.228
AS5861P(XX)-435	6.224	0.128	0.226	AS5861R(XX)-435	5.747	0.128	0.228
AS5861P(XX)-436	6.349	0.128	0.226	AS5861R(XX)-436	5.872	0.128	0.228
AS5861P(XX)-437	6.474	0.128	0.226	AS5861R(XX)-437	5.997	0.128	0.228
AS5861P(XX)-438	6.724	0.128	0.226	AS5861R(XX)-438	6.247	0.128	0.228
AS5861P(XX)-439	6.974	0.128	0.226	AS5861R(XX)-439	6.497	0.128	0.228
AS5861P(XX)-440	7.224	0.128	0.226	AS5861R(XX)-440	6.747	0.128	0.228
AS5861P(XX)-441	7.474	0.128	0.226	AS5861R(XX)-441	6.997	0.128	0.228
AS5861P(XX)-442	7.724	0.128	0.226	AS5861R(XX)-442	7.247	0.128	0.228
AS5861P(XX)-443	7.974	0.128	0.226	AS5861R(XX)-443	7.497	0.128	0.228
AS5861P(XX)-444	8.224	0.128	0.226	AS5861R(XX)-444	7.747	0.128	0.228
AS5861P(XX)-445	8.474	0.128	0.226	AS5861R(XX)-445	7.997	0.128	0.228
OD ±0.003				ID ±0.003			
AS5861P(XX)-446	8.974	0.128	0.226	AS5861R(XX)-446	8.497	0.128	0.228
AS5861P(XX)-447	9.474	0.128	0.226	AS5861R(XX)-447	8.997	0.128	0.228
AS5861P(XX)-448	9.974	0.128	0.226	AS5861R(XX)-448	9.497	0.128	0.228
AS5861P(XX)-449	10.474	0.128	0.226	AS5861R(XX)-449	9.997	0.128	0.228
AS5861P(XX)-450	10.974	0.128	0.226	AS5861R(XX)-450	10.497	0.128	0.228
OD ±0.004				ID ±0.004			
AS5861P(XX)-451	11.474	0.128	0.226	AS5861R(XX)-451	10.997	0.128	0.228
AS5861P(XX)-452	11.974	0.128	0.226	AS5861R(XX)-452	11.497	0.128	0.228
AS5861P(XX)-453	12.474	0.128	0.226	AS5861R(XX)-453	11.997	0.128	0.228
AS5861P(XX)-454	12.974	0.128	0.226	AS5861R(XX)-454	12.497	0.128	0.228
AS5861P(XX)-455	13.474	0.128	0.226	AS5861R(XX)-455	12.997	0.128	0.228
OD ±0.005				ID ±0.005			
AS5861P(XX)-457	14.474	0.128	0.226	AS5861R(XX)-457	13.997	0.128	0.228
AS5861P(XX)-458	14.974	0.128	0.226	AS5861R(XX)-458	14.497	0.128	0.228
AS5861P(XX)-459	15.474	0.128	0.226	AS5861R(XX)-459	14.997	0.128	0.228
AS5861P(XX)-460	15.974	0.128	0.226	AS5861R(XX)-460	15.497	0.128	0.228

See Figures 1 and 2.

Table 1B - AS5861 backup ring dimensions (in millimeters)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.03	T ±0.05	W ±0.03	Part No.	ID ±0.03	T ±0.05	W ±0.03
AS5861P(XX)-004	4.70	1.37	1.32	AS5861R(XX)-004	1.93	1.37	1.35
AS5861P(XX)-005	5.51	1.37	1.32	AS5861R(XX)-005	2.74	1.37	1.35
AS5861P(XX)-006	5.84	1.37	1.32	AS5861R(XX)-006	3.12	1.37	1.35
AS5861P(XX)-007	6.63	1.37	1.32	AS5861R(XX)-007	3.91	1.37	1.35
AS5861P(XX)-008	7.44	1.37	1.32	AS5861R(XX)-008	4.70	1.37	1.35
AS5861P(XX)-009	8.28	1.37	1.32	AS5861R(XX)-009	5.51	1.37	1.35
AS5861P(XX)-010	9.07	1.37	1.32	AS5861R(XX)-010	6.3	1.37	1.35
AS5861P(XX)-011	10.67	1.37	1.32	AS5861R(XX)-011	7.87	1.37	1.35
AS5861P(XX)-012	12.32	1.37	1.32	AS5861R(XX)-012	9.47	1.37	1.35
AS5861P(XX)-013	13.97	1.37	1.32	AS5861R(XX)-013	11.05	1.37	1.35
AS5861P(XX)-014	15.57	1.37	1.32	AS5861R(XX)-014	12.65	1.37	1.35
AS5861P(XX)-015	17.15	1.37	1.32	AS5861R(XX)-015	14.22	1.37	1.35
AS5861P(XX)-016	18.75	1.37	1.32	AS5861R(XX)-016	15.82	1.37	1.35
AS5861P(XX)-017	20.32	1.37	1.32	AS5861R(XX)-017	17.40	1.37	1.35
AS5861P(XX)-018	21.92	1.37	1.32	AS5861R(XX)-018	19.00	1.37	1.35
AS5861P(XX)-019	23.50	1.37	1.32	AS5861R(XX)-019	20.57	1.37	1.35
AS5861P(XX)-020	25.17	1.37	1.32	AS5861R(XX)-020	22.17	1.37	1.35
AS5861P(XX)-021	26.75	1.37	1.32	AS5861R(XX)-021	23.75	1.37	1.35
	OD ±0.05				ID ±0.05		
AS5861P(XX)-022	28.35	1.37	1.32	AS5861R(XX)-022	25.35	1.37	1.35
AS5861P(XX)-023	29.92	1.37	1.32	AS5861R(XX)-023	26.92	1.37	1.35
AS5861P(XX)-024	31.52	1.37	1.32	AS5861R(XX)-024	28.52	1.37	1.35
AS5861P(XX)-025	33.10	1.37	1.32	AS5861R(XX)-025	30.10	1.37	1.35
AS5861P(XX)-026	34.70	1.37	1.32	AS5861R(XX)-026	31.70	1.37	1.35
AS5861P(XX)-027	36.27	1.37	1.32	AS5861R(XX)-027	33.27	1.37	1.35
AS5861P(XX)-028	37.87	1.37	1.32	AS5861R(XX)-028	34.87	1.37	1.35

Table 1B - AS5861 backup ring dimensions (in millimeters) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.03	T ±0.05	W ±0.03	Part No.	ID ±0.03	T ±0.05	W ±0.02
AS5861P(XX)-104	7.26	1.47	2.06	AS5861R(XX)-104	1.00	0.05	0.05
AS5861P(XX)-105	8.05	1.47	2.06	AS5861R(XX)-105	1.06	0.05	0.05
AS5861P(XX)-106	8.87	1.47	2.06	AS5861R(XX)-106	1.12	0.05	0.05
AS5861P(XX)-107	9.70	1.47	2.06	AS5861R(XX)-107	1.19	0.05	0.05
AS5861P(XX)-108	10.52	1.47	2.06	AS5861R(XX)-108	1.25	0.05	0.05
AS5861P(XX)-109	12.12	1.47	2.06	AS5861R(XX)-109	7.87	1.47	2.06
AS5861P(XX)-110	13.74	1.47	2.06	AS5861R(XX)-110	9.47	1.47	2.06
AS5861P(XX)-111	15.34	1.47	2.06	AS5861R(XX)-111	11.05	1.47	2.06
AS5861P(XX)-112	16.97	1.47	2.06	AS5861R(XX)-112	12.65	1.47	2.06
AS5861P(XX)-113	18.64	1.47	2.06	AS5861R(XX)-113	14.22	1.47	2.06
AS5861P(XX)-114	20.32	1.47	2.06	AS5861R(XX)-114	15.82	1.47	2.06
AS5861P(XX)-115	21.92	1.47	2.06	AS5861R(XX)-115	17.40	1.47	2.06
AS5861P(XX)-116	23.50	1.47	2.06	AS5861R(XX)-116	19.00	1.47	2.06
AS5861P(XX)-117	25.17	1.47	2.06	AS5861R(XX)-117	20.57	1.47	2.06
AS5861P(XX)-118	26.75	1.47	2.06	AS5861R(XX)-118	22.17	1.47	2.06
AS5861P(XX)-119	28.35	1.47	2.06	AS5861R(XX)-119	23.75	1.47	2.06
	OD ±0.05				ID ±0.05		
AS5861P(XX)-120	29.92	1.47	2.06	AS5861R(XX)-120	25.35	1.47	2.06
AS5861P(XX)-121	31.52	1.47	2.06	AS5861R(XX)-121	26.92	1.47	2.06
AS5861P(XX)-122	33.10	1.47	2.06	AS5861R(XX)-122	28.52	1.47	2.06
AS5861P(XX)-123	34.70	1.47	2.06	AS5861R(XX)-123	30.10	1.47	2.06
AS5861P(XX)-124	36.27	1.47	2.06	AS5861R(XX)-124	31.70	1.47	2.06
AS5861P(XX)-125	37.87	1.47	2.06	AS5861R(XX)-125	33.27	1.47	2.06
AS5861P(XX)-126	39.45	1.47	2.06	AS5861R(XX)-126	34.87	1.47	2.06
AS5861P(XX)-127	41.05	1.47	2.06	AS5861R(XX)-127	36.50	1.47	2.06
AS5861P(XX)-128	42.62	1.47	2.06	AS5861R(XX)-128	38.05	1.47	2.06
AS5861P(XX)-129	44.22	1.47	2.06	AS5861R(XX)-129	39.62	1.47	2.06
AS5861P(XX)-130	45.85	1.47	2.06	AS5861R(XX)-130	41.22	1.47	2.06
AS5861P(XX)-131	47.42	1.47	2.06	AS5861R(XX)-131	42.80	1.47	2.06
AS5861P(XX)-132	49.02	1.47	2.06	AS5861R(XX)-132	44.40	1.47	2.06
AS5861P(XX)-133	50.60	1.47	2.06	AS5861R(XX)-133	45.97	1.47	2.06
AS5861P(XX)-134	52.20	1.47	2.06	AS5861R(XX)-134	47.57	1.47	2.06

Table 1B - AS5861 backup ring dimensions (in millimeters) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.05	T ±0.05	W ±0.03	Part No.	ID ±0.05	T ±0.05	W ±0.03
AS5861P(XX)-135	53.80	1.47	2.06	AS5861R(XX)-135	49.17	1.47	2.06
AS5861P(XX)-136	55.37	1.47	2.06	AS5861R(XX)-136	50.75	1.47	2.06
AS5861P(XX)-137	56.97	1.47	2.06	AS5861R(XX)-137	52.35	1.47	2.06
AS5861P(XX)-138	58.55	1.47	2.06	AS5861R(XX)-138	53.92	1.47	2.06
AS5861P(XX)-139	60.15	1.47	2.06	AS5861R(XX)-139	55.52	1.47	2.06
AS5861P(XX)-140	61.72	1.47	2.06	AS5861R(XX)-140	57.10	1.47	2.06
AS5861P(XX)-141	63.32	1.47	2.06	AS5861R(XX)-141	58.70	1.47	2.06
AS5861P(XX)-142	64.90	1.47	2.06	AS5861R(XX)-142	60.27	1.47	2.06
AS5861P(XX)-143	66.50	1.47	2.06	AS5861R(XX)-143	61.87	1.47	2.06
AS5861P(XX)-144	68.07	1.47	2.06	AS5861R(XX)-144	63.45	1.47	2.06
AS5861P(XX)-145	69.67	1.47	2.06	AS5861R(XX)-145	65.05	1.47	2.06
AS5861P(XX)-146	71.25	1.47	2.06	AS5861R(XX)-146	66.62	1.47	2.06
AS5861P(XX)-147	72.85	1.47	2.06	AS5861R(XX)-147	68.22	1.47	2.06
AS5861P(XX)-148	74.42	1.47	2.06	AS5861R(XX)-148	69.80	1.47	2.06
AS5861P(XX)-149	76.02	1.47	2.06	AS5861R(XX)-149	71.40	1.47	2.06

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Table 1B - AS5861 backup ring dimensions (in millimeters) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.03	T ±0.05	W ±0.03	Part No.	ID ±0.03	T ±0.05	W ±0.03
AS5861P(XX)-210	25.17	1.58	2.82	AS5861R(XX)-210	19.00	1.58	2.85
AS5861P(XX)-211	26.75	1.58	2.82	AS5861R(XX)-211	20.57	1.58	2.85
AS5861P(XX)-212	28.35	1.58	2.82	AS5861R(XX)-212	22.17	1.58	2.85
AS5861P(XX)-213	29.92	1.58	2.82	AS5861R(XX)-213	23.75	1.58	2.85
	OD ±0.05				ID ±0.05		
AS5861P(XX)-214	31.52	1.58	2.82	AS5861R(XX)-214	25.35	1.58	2.85
AS5861P(XX)-215	33.10	1.58	2.82	AS5861R(XX)-215	26.92	1.58	2.85
AS5861P(XX)-216	34.70	1.58	2.82	AS5861R(XX)-216	28.52	1.58	2.85
AS5861P(XX)-217	36.27	1.58	2.82	AS5861R(XX)-217	30.10	1.58	2.85
AS5861P(XX)-218	37.87	1.58	2.82	AS5861R(XX)-218	31.70	1.58	2.85
AS5861P(XX)-219	39.45	1.58	2.82	AS5861R(XX)-219	33.27	1.58	2.85
AS5861P(XX)-220	41.05	1.58	2.82	AS5861R(XX)-220	34.87	1.58	2.85
AS5861P(XX)-221	42.62	1.58	2.82	AS5861R(XX)-221	36.45	1.58	2.85
AS5861P(XX)-222	44.22	1.58	2.82	AS5861R(XX)-222	38.05	1.58	2.85
AS5861P(XX)-223	47.42	1.58	2.82	AS5861R(XX)-223	41.22	1.58	2.85
AS5861P(XX)-224	50.60	1.58	2.82	AS5861R(XX)-224	44.40	1.58	2.85
AS5861P(XX)-225	53.80	1.58	2.82	AS5861R(XX)-225	47.57	1.58	2.85
AS5861P(XX)-226	56.97	1.58	2.82	AS5861R(XX)-226	50.75	1.58	2.85
AS5861P(XX)-227	60.15	1.58	2.82	AS5861R(XX)-227	53.92	1.58	2.85
AS5861P(XX)-228	63.32	1.58	2.82	AS5861R(XX)-228	57.10	1.58	2.85
AS5861P(XX)-229	66.50	1.58	2.82	AS5861R(XX)-229	60.27	1.58	2.85
AS5861P(XX)-230	69.67	1.58	2.82	AS5861R(XX)-230	63.45	1.58	2.85
AS5861P(XX)-231	72.85	1.58	2.82	AS5861R(XX)-231	66.62	1.58	2.85
AS5861P(XX)-232	76.02	1.58	2.82	AS5861R(XX)-232	69.80	1.58	2.85
AS5861P(XX)-233	79.20	1.58	2.82	AS5861R(XX)-233	72.97	1.58	2.85
AS5861P(XX)-234	82.37	1.58	2.82	AS5861R(XX)-234	76.12	1.58	2.85
AS5861P(XX)-235	85.55	1.58	2.82	AS5861R(XX)-235	79.30	1.58	2.85
AS5861P(XX)-236	88.72	1.58	2.82	AS5861R(XX)-236	82.47	1.58	2.85
AS5861P(XX)-237	91.90	1.58	2.82	AS5861R(XX)-237	85.65	1.58	2.85
AS5861P(XX)-238	95.07	1.58	2.82	AS5861R(XX)-238	88.82	1.58	2.85
AS5861P(XX)-239	98.25	1.58	2.82	AS5861R(XX)-239	92.00	1.58	2.85
AS5861P(XX)-240	101.42	1.58	2.82	AS5861R(XX)-240	95.17	1.58	2.85
AS5861P(XX)-241	104.60	1.58	2.82	AS5861R(XX)-241	98.35	1.58	2.85
AS5861P(XX)-242	107.77	1.58	2.82	AS5861R(XX)-242	101.52	1.58	2.85
AS5861P(XX)-243	110.95	1.58	2.82	AS5861R(XX)-243	104.70	1.58	2.85
AS5861P(XX)-244	114.12	1.58	2.82	AS5861R(XX)-244	107.87	1.58	2.85
AS5861P(XX)-245	117.30	1.58	2.82	AS5861R(XX)-245	111.05	1.58	2.85
AS5861P(XX)-246	120.47	1.58	2.82	AS5861R(XX)-246	114.22	1.58	2.85
AS5861P(XX)-247	123.65	1.58	2.82	AS5861R(XX)-247	117.40	1.58	2.85

Table 1B - AS5861 backup ring dimensions (in millimeters) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.05	T ±0.05	W ±0.03	Part No.	ID ±0.05	T ±0.05	W ±0.03
AS5861P(XX)-325	47.42	2.24	4.34	AS5861R(XX)-325	38.05	2.24	4.39
AS5861P(XX)-326	50.60	2.24	4.34	AS5861R(XX)-326	41.22	2.24	4.39
AS5861P(XX)-327	53.80	2.24	4.34	AS5861R(XX)-327	44.40	2.24	4.39
AS5861P(XX)-328	56.97	2.24	4.34	AS5861R(XX)-328	47.57	2.24	4.39
AS5861P(XX)-329	60.15	2.24	4.34	AS5861R(XX)-329	50.75	2.24	4.39
AS5861P(XX)-330	63.32	2.24	4.34	AS5861R(XX)-330	53.92	2.24	4.39
AS5861P(XX)-331	66.50	2.24	4.34	AS5861R(XX)-331	57.10	2.24	4.39
AS5861P(XX)-332	69.67	2.24	4.34	AS5861R(XX)-332	60.27	2.24	4.39
AS5861P(XX)-333	72.85	2.24	4.34	AS5861R(XX)-333	63.45	2.24	4.39
AS5861P(XX)-334	76.02	2.24	4.34	AS5861R(XX)-334	66.62	2.24	4.39
AS5861P(XX)-335	79.20	2.24	4.34	AS5861R(XX)-335	69.80	2.24	4.39
AS5861P(XX)-336	82.37	2.24	4.34	AS5861R(XX)-336	72.97	2.24	4.39
AS5861P(XX)-337	85.55	2.24	4.34	AS5861R(XX)-337	76.12	2.24	4.39
AS5861P(XX)-338	88.72	2.24	4.34	AS5861R(XX)-338	79.30	2.24	4.39
AS5861P(XX)-339	91.90	2.24	4.34	AS5861R(XX)-339	82.47	2.24	4.39
AS5861P(XX)-340	95.07	2.24	4.34	AS5861R(XX)-340	85.65	2.24	4.39
AS5861P(XX)-341	98.25	2.24	4.34	AS5861R(XX)-341	88.82	2.24	4.39
AS5861P(XX)-342	101.42	2.24	4.34	AS5861R(XX)-342	92.00	2.24	4.39
AS5861P(XX)-343	104.60	2.24	4.34	AS5861R(XX)-343	95.17	2.24	4.39
AS5861P(XX)-344	107.77	2.24	4.34	AS5861R(XX)-344	98.35	2.24	4.39
AS5861P(XX)-345	110.95	2.24	4.34	AS5861R(XX)-345	101.52	2.24	4.39
AS5861P(XX)-346	114.12	2.24	4.34	AS5861R(XX)-346	104.70	2.24	4.39
AS5861P(XX)-347	117.30	2.24	4.34	AS5861R(XX)-347	107.87	2.24	4.39
AS5861P(XX)-348	120.47	2.24	4.34	AS5861R(XX)-348	111.05	2.24	4.39
AS5861P(XX)-349	123.65	2.24	4.34	AS5861R(XX)-349	114.22	2.24	4.39

Table 1B - AS5861 backup ring dimensions (in millimeters) (continued)

Male (Piston) Applications				Female (Rod) Applications			
Part No.	OD ±0.05	T ±0.05	W ±0.03	Part No.	ID ±0.05	T ±0.05	W ±0.03
AS5861P(XX)-425	126.34	3.25	5.74	AS5861R(XX)-425	114.22	3.25	5.79
AS5861P(XX)-426	129.52	3.25	5.74	AS5861R(XX)-426	117.40	3.25	5.79
AS5861P(XX)-427	132.69	3.25	5.74	AS5861R(XX)-427	120.57	3.25	5.79
AS5861P(XX)-428	135.87	3.25	5.74	AS5861R(XX)-428	123.75	3.25	5.79
AS5861P(XX)-429	139.04	3.25	5.74	AS5861R(XX)-429	126.92	3.25	5.79
AS5861P(XX)-430	142.22	3.25	5.74	AS5861R(XX)-430	130.10	3.25	5.79
AS5861P(XX)-431	145.39	3.25	5.74	AS5861R(XX)-431	133.27	3.25	5.79
AS5861P(XX)-432	148.57	3.25	5.74	AS5861R(XX)-432	136.45	3.25	5.79
AS5861P(XX)-433	151.74	3.25	5.74	AS5861R(XX)-433	139.62	3.25	5.79
AS5861P(XX)-434	154.92	3.25	5.74	AS5861R(XX)-434	142.80	3.25	5.79
AS5861P(XX)-435	158.09	3.25	5.74	AS5861R(XX)-435	145.97	3.25	5.79
AS5861P(XX)-436	161.27	3.25	5.74	AS5861R(XX)-436	149.15	3.25	5.79
AS5861P(XX)-437	164.44	3.25	5.74	AS5861R(XX)-437	152.32	3.25	5.79
AS5861P(XX)-438	170.79	3.25	5.74	AS5861R(XX)-438	158.67	3.25	5.79
AS5861P(XX)-439	177.14	3.25	5.74	AS5861R(XX)-439	165.02	3.25	5.79
AS5861P(XX)-440	183.49	3.25	5.74	AS5861R(XX)-440	171.37	3.25	5.79
AS5861P(XX)-441	189.84	3.25	5.74	AS5861R(XX)-441	177.72	3.25	5.79
AS5861P(XX)-442	196.19	3.25	5.74	AS5861R(XX)-442	184.07	3.25	5.79
AS5861P(XX)-443	202.54	3.25	5.74	AS5861R(XX)-443	190.42	3.25	5.79
AS5861P(XX)-444	208.89	3.25	5.74	AS5861R(XX)-444	196.77	3.25	5.79
AS5861P(XX)-445	215.24	3.25	5.74	AS5861R(XX)-445	203.12	3.25	5.79
OD ±0.08				ID ±0.08			
AS5861P(XX)-446	227.94	3.25	5.74	AS5861R(XX)-446	215.82	3.25	5.79
AS5861P(XX)-447	240.64	3.25	5.74	AS5861R(XX)-447	228.52	3.25	5.79
AS5861P(XX)-448	253.34	3.25	5.74	AS5861R(XX)-448	241.22	3.25	5.79
AS5861P(XX)-449	266.04	3.25	5.74	AS5861R(XX)-449	253.92	3.25	5.79
AS5861P(XX)-450	278.74	3.25	5.74	AS5861R(XX)-450	266.62	3.25	5.79
OD ±0.10				ID ±0.10			
AS5861P(XX)-451	291.44	3.25	5.74	AS5861R(XX)-451	279.32	3.25	5.79
AS5861P(XX)-452	304.14	3.25	5.74	AS5861R(XX)-452	292.02	3.25	5.79
AS5861P(XX)-453	316.84	3.25	5.74	AS5861R(XX)-453	304.72	3.25	5.79
AS5861P(XX)-454	329.54	3.25	5.74	AS5861R(XX)-454	317.42	3.25	5.79
AS5861P(XX)-455	342.24	3.25	5.74	AS5861R(XX)-455	330.12	3.25	5.79
OD ±0.13				ID ±0.13			
AS5861P(XX)-456	354.94	3.25	5.74	AS5861R(XX)-456	342.82	3.25	5.79
AS5861P(XX)-457	367.64	3.25	5.74	AS5861R(XX)-457	355.52	3.25	5.79
AS5861P(XX)-458	380.34	3.25	5.74	AS5861R(XX)-458	368.22	3.25	5.79
AS5861P(XX)-459	393.04	3.25	5.74	AS5861R(XX)-459	380.92	3.25	5.79
AS5861P(XX)-460	405.74	3.25	5.74	AS5861R(XX)-460	393.62	3.25	5.79