

ADVANCAP™

O-ring Energized Seals

IMPROVED SYSTEM PERFORMANCE

The Advancap™ rod and piston seals are designed to provide a cost-effective cap seal solution that prevents extrusion and eliminates O-ring spiral failure in dynamic applications. Each seal combines a cap made from Avalon®, our PTFE material, with an elastomeric energizer, and is available in configurations for zero, one or two back-up ring glands per AS4716. Custom configurations are also available.

The Advancap can replace low-friction, O-ring swivel seals that leak, nibble and/or exhibit excessive friction.

FEATURES & BENEFITS

- Avalon cap interfaces with the dynamic surface resulting in lower friction and elimination of spiral failure, which leads to better system performance
- Specially designed Avalon cap cradles O-ring, protecting it from extrusion when under pressure
- Designed for AS4716 gland and utilizes standard O-rings resulting in overall cost savings

APPLICATIONS

- Flight controls (e.g., ailerons, spoilers, airbrakes, etc.)
- Utility and positioning actuators in landing gear systems





ADVANCAP™ CONFIGURATIONS

Rod/Gland Diameter Change

O-RING DASH NO.	006 THROUGH 028	104 THROUGH 149	210 THROUGH 247	325 THROUGH 349	425 THROUGH 460
"E" Dia.	+0.010 in.	+0.010 in.	+0.018 in.	+0.018 in.	+0.025 in.

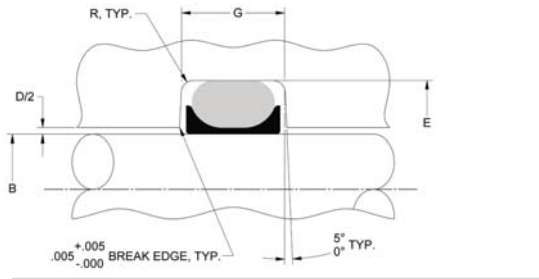
Piston/Gland Diameter Change

O-RING DASH NO.	006 THROUGH 028	104 THROUGH 149	210 THROUGH 247	325 THROUGH 349	425 THROUGH 460
"F" Dia.	-0.010 in.	-0.010 in.	-0.018 in.	-0.018 in.	-0.025 in.

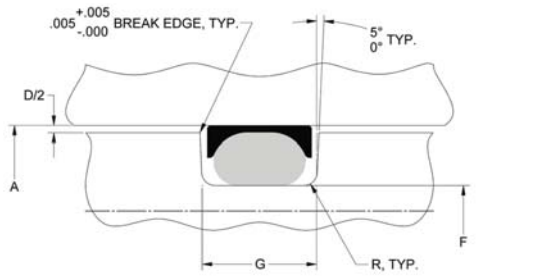
Note: Gland radii, finishes, concentricity and groove wall angle to conform to MIL-G-5514/AS4716. See Capabilities section for more information.

Gland Dimensions

Rod



Piston



Note: Refer to the dimensional tables for more information.

Squeeze Considerations

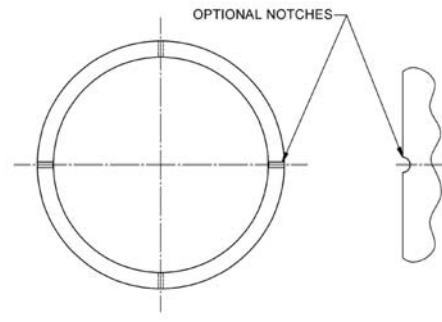
The addition of any cap to an O-ring gland will increase O-ring squeeze and gland occupancy. This may result in excessive friction, unsatisfactory service life or installation difficulty. By modifying the gland diameter, as shown in the table above, these problems can be alleviated without reducing O-ring squeeze below the minimum per AS4716.

ADVANCAP OPTIONS

Notches—Blow By Protection

Both piston and rod type Advancaps can be supplied with notches for blow by protection, in accordance with SAE AIR 1243.

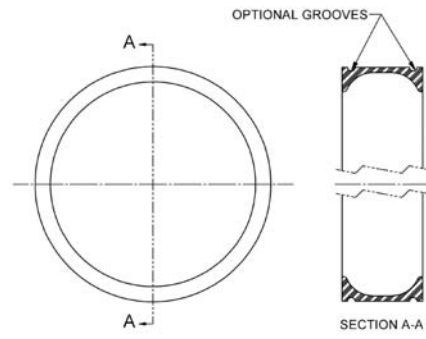
Notches



Circumferential Grooves

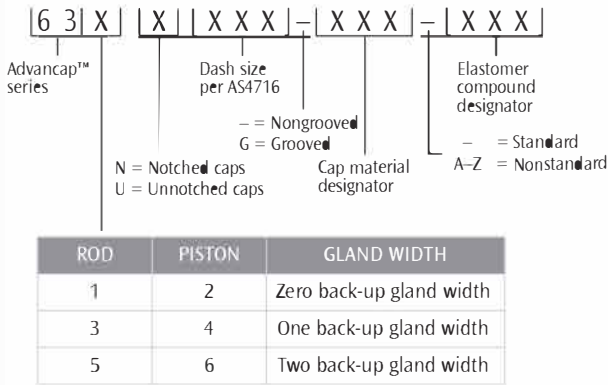
Circumferential grooves can be added to the Advancaps to provide better dynamic sealing. The grooves will retain lubricant that enhances start-up performance by releasing lubricant to the sliding surfaces as the surface moves.

Grooves

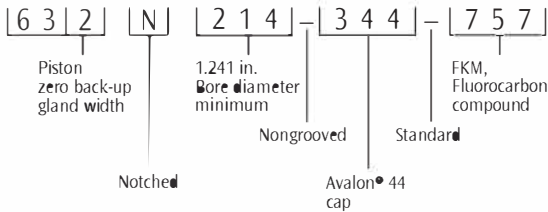


ADVANCAP™ PART NUMBERING SYSTEM

The part numbering system requires the use of the material designator tables found in the next column. For nonstandard designs contact GT engineering.



Part Numbering Example



Contact your local Greene, Tweed representative for specific recommendations to suit higher performance requirements.

Material Designator Tables

CODE	ELASTOMER COMPOUND
160	NBR, Nitrile
161	NBR, Nitrile
165	NBR, Nitrile
193	NBR, Nitrile
409	FMVQ, Fluorosilicone
410	FMVQ, Fluorosilicone
735	FKM, Fluorocarbon
757	FKM, Fluorocarbon
772	FKM, Fluorocarbon
952	EPM, Ethylene Propylene
954	EPDM, Ethylene Propylene
963	EPDM, Ethylene Propylene
964	NBR, Nitrile

CODE	CAP MATERIAL
301	Avalon 01
043	Avalon 07
019	Avalon 09
344	Avalon 44
069	Avalon 50
357	Avalon 57
379	Avalon 69
389	Avalon 89

See GT Surface Finish guidelines.



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