







Sealing solutions for Pneumatics

Table I Rod seals and piston seals

Rod seal

Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
ARUP 	10	Industrial Pneumatics Standard Cylinders	single acting	3-110	closed	-40 to +80	1	1.6	PU WU9E1
ARG 	12	Pneumatic Special Cylinders	single and double acting	3-2600	closed	-30 to +80	5	5	Zurcon® Z80
						-30 to +200	5	5	Turcon® T19

Piston seal

Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
APDE 	16	Industrial Pneumatics Standard Cylinders	single acting	4-250	closed	-40 to +80	1	1.6	PU WU9E1
APDF 	19	Industrial Pneumatics ISO/VDMA-Cylinders	single acting	25-125	closed	-35 to +85	1	1.6	PU Zurcon® Z30
APDG 	21	Industrial Pneumatics ISO/VDMA-Cylinders	single acting	32-100	closed	-35 to +85	1	1.6	PU Zurcon® Z30
APDS 	23	Industrial Pneumatics Standard Cylinders	single acting	6-100	closed	-40 to +80	1	1.6	PU WU9E1

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




Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
APMP 	25	Industrial Pneumatics Standard Cylinders	single acting	8-100	open	-40 to +80	1	1.6	PU WU9E1
APG 	28	Pneumatic Special Cylinders	single and double acting	6-2700	closed	-30 to +80	5	5	Zurcon® Z80
						-30 to +200	5	5	Turcon® T19
AK 	32	Industrial Pneumatics Standard Cylinders	double acting	25-200	open	-30 to +100	1	1.2	NBR N7MM

Table II Rod seal-scraper combinations and scrapers

Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
ARS 	34	Industrial Pneumatics High Temperature*- Cylinders	double acting	12-63	open	-15 to +150	1	1.6	FKM VC4VR
AWNS 	36	Industrial Pneumatics Standard Cylinders	double acting	3-70	closed	-40 to +80	1	1.6	PU WU9E1
AWSD 	39	Industrial Pneumatics Standard Cylinders	double acting	4-100	closed	-40 to +80	1	1.6	PU WU9E1
ARAA 	42	Industrial Pneumatics ISO/VDMA-Cylinders	double acting	12-32	open	-35 to +110	1	1.6	PU Zurcon® Z20

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Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
ARAN 	44	Industrial Pneumatics Standard Cylinders	double acting	12-63	open	-40 to +80	1	1.6	PU WU9E1
AWSW 	46	Industrial Pneumatics Standard Cylinders	single acting	6-60	open	-40 to +80	1	-	PU WU9E1
AWBB 	48	Wipers For Guiding Units	single acting	6-50	open	-40 to +80	4	-	PU WU9E1
ARV 	50	Industrial Pneumatics Special Applications	double acting	10-25**	open	-70 to +80	5	1.6	Zurcon® Z80

Table III Cushioning seals

Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
AICM 	52	Industrial Pneumatics ISO/VDMA-Cylinders	cushioning	6-57	closed	-35 to +110	1	1.6	PU Zurcon® Z20
AIAS 	54	Industrial Pneumatics Standard Cylinders	cushioning	10-50	closed	-40 to +80	1	1.6	PU WU9E1

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Table IV Wear rings




Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
GP 	56	Industrial Pneumatics Standard Cylinders	piston wear ring	8-250	closed	-40 to +110	1	-	POTBW
GR 	61	Industrial Pneumatics Standard Cylinders	rod wear ring	8-50	closed	-40 to +110	1	-	POTBW

Table V Static seals

Seal		Application		Installation		Technical data*			Material
Type	Page	Field of application	Function	Ø Range mm	Groove type	Temperature* in °C	Speed m/s	Operating Pressure MPa	Standard seal material***
DRV4 	64	Fittings at valves, Cylinder and other Pneumatic Application	static seal	G1/8 - G3/4	no installation space required	-10 to +60	-	1.0	PA / TPU U8XPA

* Temperature information refers to material characteristics and may vary application use.

** Further dimensions on request.

*** Further materials possible.



■ Piston seal type APDG

Description

A seal perfectly suited for standard pneumatic applications and small installation space made from a special polyurethane type developed for piston seals.

Seal dimensions are in line with cylinder diameters according to ISO 3320.

Seal design guarantees high reliability and simple snap assembly.

This particular polyurethane offers exceptional wear resistance and extremely high operating performance. Special lip design for pneumatic application to maintain lubrication film and minimize friction.

The seal has an optimized, stick-slip reducing design for use in endpositioned damped cylinders with exhaust throttles.

Technical data

Operating pressure:	1.6 MPa
Speed:	≤ 1 m/s
Temperature:	-35 °C to +85 °C
Media:	oil free air (initial grease lubrication required), lubricated air, nonaggressive gases

Material

Standard Material: Zurcon® PU, 83 Shore A, colour grey-blue
Material No.: Z30

Installation

Snap-in installation into closed grooves. It is important to remove all sharp edges and burrs from the groove and tube before installation.

Ordering example

Piston Seal,
type APDG
Piston diameter: D = 50 mm
Groove width: L = 3.5 mm
TSS Part No.: APDG00500 (Table XIX)
Material No.: Z30

TSS Article No.	APDG0	0500	-	Z30
TSS Series No.				
Piston diameter x 10				
Material Code				



Piston Seal - Type APDG

■ Installation recommendation, type APDG

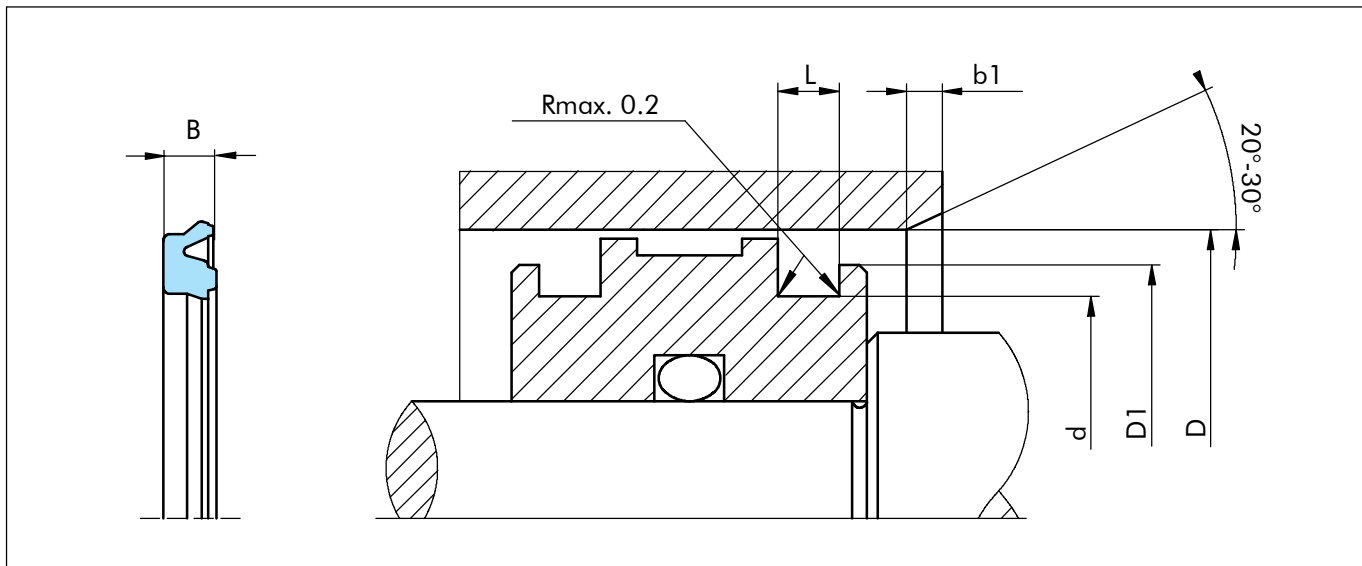


Figure 6 Installation drawing

Table XIX Installation dimensions / TSS Part No.

Bore diameter	Flange diameter	Groove diameter	Groove width	Ring width	Inlet chamfer	TSS Part No.
D H10	D ₁ h10	d h10	L +0.2	B	b ₁	
32.0	31.0	24.0	3.5	3.3	2.0	APDG00320
40.0	39.0	32.0	3.5	3.3	2.5	APDG00400
42.0	41.0	34.0	3.5	3.3	2.5	APDG00420
50.0	49.0	42.0	3.5	3.3	2.5	APDG00500
63.0	62.0	53.0	4.5	4.3	2.5	APDG00630
80.0	79.0	70.0	4.5	4.3	2.5	APDG00800
100.0	99.0	90.0	4.5	4.3	2.5	APDG01000