

Description

Wiper rings are used in sliding or reciprocating motions, to prevent contamination of the lubricating system from dirt particles (dust, mud, water, etc.).

The lip of the wiper removes even the tiniest dirt from the piston rod.

Such dirt particles can cause damage to hydraulic or pneumatic systems during stroke movement. Even if they appear in good condition, wipers should always be replaced when other seals are changed.

Typical applications are:

- earth moving machinery;
- lift trucks;
- hydraulic presses.

Standard seal types

Current types

	DAS	With ground outer metal housing
	DP6	Without metal insert
	DP7	With rubber covered metal insert
	DP8	Without metal insert, special profile
	DRS	With rubber covered metal insert
	DWR	Without metal insert, inch sizes

Interchange table

DICHTA® types	DAS	DP6	DP7	DP8	DRS	DWR
SIMRIT	AS			ASOB		
PRÄDIFA	AM	A5		A1		
MERKEL		P6	P7	P5		
GACO					RS	
POLYPAC						WRM

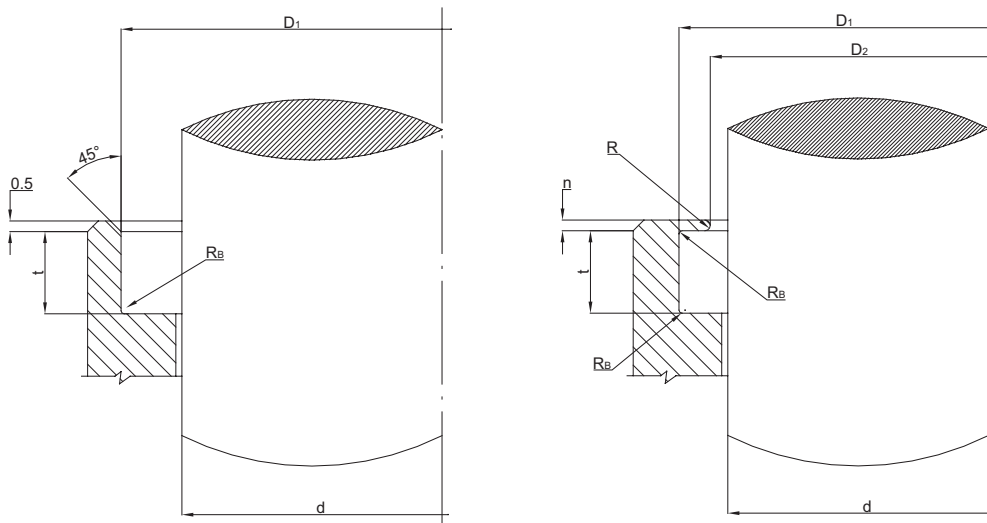
Production and Quality assurance

Our wiper seals are manufactured according to internal Standards and quality assurance standards ISO 9001.

All production phases are checked and all measurements are recorded and stored for eventual tracing.

Installation and operation

Groove design and tolerances



Tolerances

d	D ₁		D ₂ [mm]	t [mm]	n [mm]	R _B [mm]
	with metal insert DP7 DRS DAS	without metal insert DP6 DP8 DWR				
f8/h9	H8	H9	+ 0 + 0,2	+ 0 + 0,1	± 0,2	0,4

Temperature range and maximum speed

Temperature range of wiper seals is usually between -40 [°C] and + 120 [°C] and max. speed is 1 [m/s]. In most cases the material used is NBR. FPM is used for temperatures up to 200 [°C]. This elastomer is also resistant against aggressive chemicals.

Storage and handling

Some storage precautions must be taken in order to avoid deterioration of the material. Wiper seals should be stored in a dust free and dry atmosphere and they must be kept in their original wrapping which should only be opened just before installation. Samples should be repacked after inspection. Excessive humidity will deteriorate some elastomers as well as cause corrosive damage to metal casing.

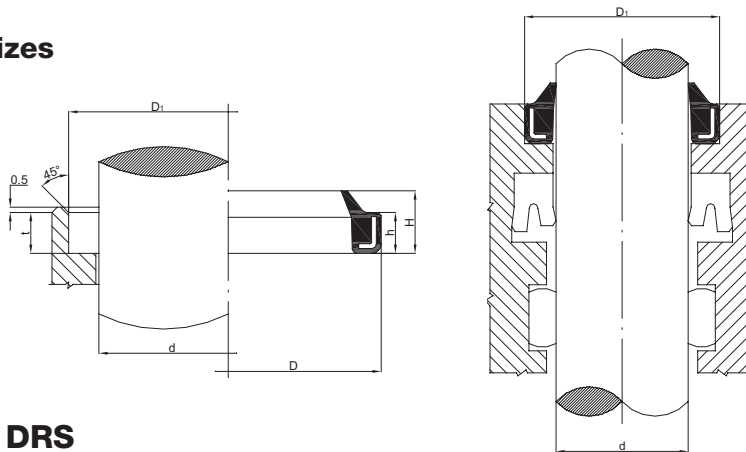
Do not drop wiper seals on shelves or boxes nor hang seals on hooks, wires or nails, since in either case the sealing lip can be damaged.

Seals should be stored on a first in-first out basis to avoid ageing on the shelf. Avoid storage near sources of heat or near electrical equipment that may generate ozone. Also keep away from direct sunlight.



Wiper seals

Standard sizes



Wiper seals DRS

Reference	Road diameter [mm]	Wiper dimensions [mm]				Bore dimensions [mm]	
		d	D	h	H	D ₁	t
DRS 6/13/3/4,5	6	6	13	3	4,5	13	3
DRS 10/20/5/8	10	10	20	5	8	20	5
DRS 12/22/5/8	12	12	22	5	8	22	5
DRS 15/25/5/8	15	15	25	5	8	25	5
DRS 16/26/5/8	16	16	26	5	8	26	5
DRS 18/28/5/8	18	18	28	5	8	28	5
DRS 20/30/7/10	20	20	30	7	10	30	7
DRS 22/32/7/10	22	22	32	7	10	32	7
DRS 24/35/5/8	24	24	35	5	8	35	5
DRS 25/35/7/10	25	25	35	7	10	35	7
DRS 26/35/7/10	26	26	35	7	10	35	7
DRS 28/40/7/10	28	28	40	7	10	40	7
DRS 30/40/7/10	30	30	40	7	10	40	7
DRS 32/45/7/10	32	32	45	7	10	45	7
DRS 35/45/7/10	35	35	45	7	10	45	7
DRS 36/45/7/10	36	36	45	7	10	45	7
DRS 38/48/7/10	38	38	48	7	10	48	7
DRS 40/50/7/10	40	40	50	7	10	50	7
DRS 42/52/7/10	42	42	52	7	10	52	7
DRS 45/55/7/10	45	45	55	7	10	55	7
DRS 48/60/7/10	48	48	60	7	10	60	7
DRS 50/60/7/10	50	50	60	7	10	60	7
DRS 52/62/7/10	52	52	62	7	10	62	7
DRS 55/65/7/10	55	55	65	7	10	65	7
DRS 60/70/7/10	60	60	70	7	10	70	7
DRS 65/75/7/10	65	65	75	7	10	75	7
DRS 70/80/7/10	70	70	80	7	10	80	7
DRS 75/85/7/10	75	75	85	7	10	85	7
DRS 80/90/7/10	80	80	90	7	10	90	7
DRS 85/95/7/10	85	85	95	7	10	95	7
DRS 90/100/7/10	90	90	100	7	10	100	7
DRS 95/105/7/10	95	95	105	7	10	105	7
DRS 100/110/7/10	100	100	110	7	10	110	7
DRS 105/115/7/10	105	105	115	7	10	115	7
DRS 110/120/7/10	110	110	120	7	10	120	7
DRS 115/125/7/10	115	115	125	7	10	125	7
DRS 120/130/7/10	120	120	130	7	10	130	7
DRS 125/140/9/12	125	125	140	9	12	140	9
DRS 130/145/9/12	130	130	145	9	12	145	9
DRS 140/155/9/12	140	140	155	9	12	155	9
DRS 150/165/9/12	150	150	165	9	12	165	9
DRS 160/175/9/12	160	160	175	9	12	175	9
DRS 170/185/10/14	170	170	185	10	14	185	10
DRS 180/195/10/14	180	180	195	10	14	195	10
DRS 200/220/12/16	200	200	220	12	16	220	12
DRS 220/240/12/16	220	220	240	12	16	240	12

DRS wiper seals have a metal insert and are installed in open grooves with interference

Electromeric Sealing Materials

NITRILE RUBBER (NBR)

This elastomer is a copolymer of butadiene and acrylonitrile and is used for the majority of conventional fluid sealing applications.

- Working temperature range: about -30 [°C] to +100 [°C] (+120 [°C] maximum)
- Standard colour: black

Advantages:

- Good swelling resistance in mineral oils and greases
- Good swelling resistance in water and radiator fluid

Limitations:

- Poor resistance to high-alloyed hypoid oil
- Poor resistance to ozone, weathering and sunlight
- Not resistant to automotive brake fluid (glycol ether based)
- Poor resistance to polar fluids (ketones, ethers, esters)
- Poor resistance to chlorinated hydrocarbons (carbon tetrachloride, trichlorethylene)
- Poor resistance to aromatic hydro-carbons

FLUORO ELASTOMER (FPM)

Mostly known under the trade names VITON® from Du Pont, TECNOFLON® from Solvay and FLUOREL® from 3M. It has good chemical resistance and is recommended for high temperature applications.

- Working temperature range: -20 [°C] to + 200 [°C]
- Standard colour: brown

Advantages:

- Excellent resistance to mineral oils, greases (also with the majority of additives) and above all high-alloyed hypoid oils
- Excellent acid resistance
- Good resistance to aromatic and chlorinated hydrocarbons
- Excellent resistance to ageing, ozone and weathering

Limitations:

- Limited cold flexibility
- Poor resistance to polar fluids (ketones, ethers, esters)

SILICONE RUBBER (SIL)

Also referred to as MVQ or VMQ

- Working temperature range: -50 [°C] to + 200 [°C]
- Standard colour: red / orange

Advantages:

- Retains flexibility down to very low temperatures
- Withstands continuous heating at high temperatures without hardening
- Resistant to mineral oils and greases
- Excellent resistance to ageing, weathering and ozone

Limitations:

- Not recommended for use with aliphatic as well as aromatic hydrocarbons such as petrols and paraffin, and lighter mineral oils or steam over 0.35 [MPa]
- Not resistant to hot water (100 [°C]), acids and non-mineral automotive brake fluids
- Poor tensile and tear strength
- Poor wear resistance