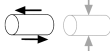


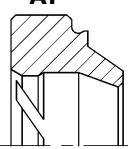



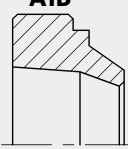



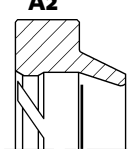



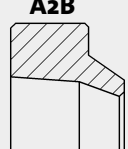



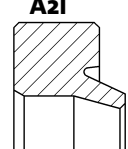



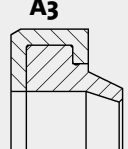
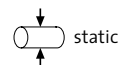
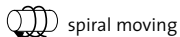
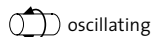
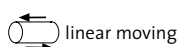


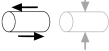


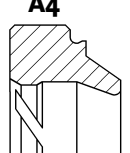



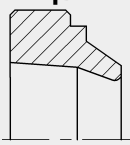



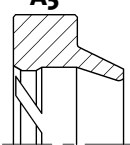



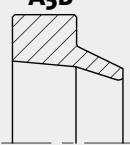



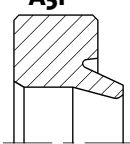



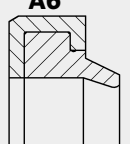
Wipers

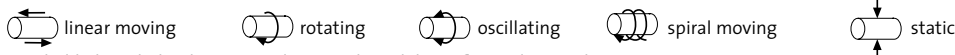
Application	Profile	Description	Temperature	max.speed	Material		
  		hydraulic, single acting wiper with interference fit on outside diameter, providing a technically accurate closure at the cylinder. wiping edge assures a reliable protection against penetration of dust and dirt whilst allowing backflow of residual oil film. Back support area prevents tilting of wiper. For housings according ISO 6195-TypeA	-30 °C ... +110 °C	4 m/s	ECOPUR		
			-20 °C ... +110 °C	4 m/s	H-ECOPUR		
			-50 °C ... +110 °C	4 m/s	T-ECOPUR		
			-20 °C ... +110 °C	5 m/s	S-ECOPUR		
			-30 °C ... +110 °C	4 m/s	G-ECOPUR		
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1		
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H		
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2		
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**					
  		hydraulic, single acting as profile A01-A, but without back support area. for housings according ISO 6195-TypeA	-30 °C ... +110 °C	4 m/s	ECOPUR		
			-20 °C ... +110 °C	4 m/s	H-ECOPUR		
			-50 °C ... +110 °C	4 m/s	T-ECOPUR		
			-20 °C ... +110 °C	5 m/s	S-ECOPUR		
			-30 °C ... +110 °C	4 m/s	G-ECOPUR		
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1		
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H		
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2		
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**					
  		hydraulic, single acting wiper with interference fit on outside diameter. wiping edge assures a reliable protection against penetration of dust and dirt whilst allowing backflow of residual oil film. back support area prevents tilting of wiper.	-30 °C ... +110 °C	4 m/s	ECOPUR		
			-20 °C ... +110 °C	4 m/s	H-ECOPUR		
			-50 °C ... +110 °C	4 m/s	T-ECOPUR		
			-20 °C ... +110 °C	5 m/s	S-ECOPUR		
			-30 °C ... +110 °C	4 m/s	G-ECOPUR		
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1		
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H		
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2		
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**					
  		hydraulic, single acting wiper with interference fit on outside diameter. wiping edge assures a reliable protection against penetration of dust and dirt whilst allowing backflow of residual oil film.	-30 °C ... +110 °C	4 m/s	ECOPUR		
			-20 °C ... +110 °C	4 m/s	H-ECOPUR		
			-50 °C ... +110 °C	4 m/s	T-ECOPUR		
			-20 °C ... +110 °C	5 m/s	S-ECOPUR		
			-30 °C ... +110 °C	4 m/s	G-ECOPUR		
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1		
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H		
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2		
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**					
  		hydraulic, single acting as profile A2, but without back support area. special housing design according ISO 6195-TypeC	-30 °C ... +110 °C	4 m/s	ECOPUR		
			-20 °C ... +110 °C	4 m/s	H-ECOPUR		
			-50 °C ... +110 °C	4 m/s	T-ECOPUR		
			-20 °C ... +110 °C	5 m/s	S-ECOPUR		
			-30 °C ... +110 °C	4 m/s	G-ECOPUR		
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1		
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H		
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2		
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**					
  		hydraulic, single acting wiper with mounting cage for press-fit installation into axially open housings. wiping edge assures a reliable protection against penetration of dust and dirt, the use of plastic mounting cages avoids corrosion in the press-fit for housings according ISO 6195-TypeB	-30 °C ... +80 °C	4 m/s	ECOPUR	Wiping part Housing	
			-20 °C ... +80 °C	4 m/s	H-ECOPUR		ECOTAL/ ECOMID*
			-40 °C ... +80 °C	4 m/s	T-ECOPUR		
			-20 °C ... +80 °C	5 m/s	S-ECOPUR		
			-30 °C ... +80 °C	4 m/s	G-ECOPUR		
			-30 °C ... +80 °C	4 m/s	ECORUBBER 1		
			-25 °C ... +80 °C	4 m/s	ECORUBBER-H		
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2		
			-50 °C ... +150 °C	4 m/s	ECORUBBER 3**		
			-50 °C ... +150 °C	4 m/s	ECORUBBER 3**		



Not bolded symbols: please consult our technical dpmt. for application limitations

* ECOTAL up to ø260 mm, ECOMID above ø260 mm
 ** attention: not suitable for mineral oils !




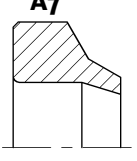



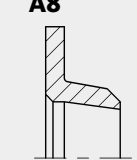



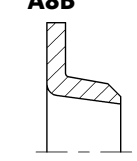



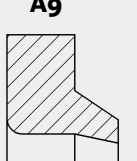



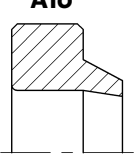



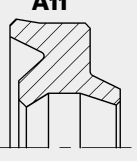



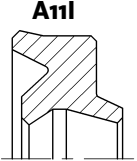



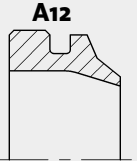
Application	Profile	Description	Temperature	max.speed	Material	
  		pneumatic, single acting wiper with interference fit on outside diameter, providing a technically accurate closure at the cylinder. special design of wiping lip allows retention of initial lubricating film. back support area prevents tilting of wiper. for housings according ISO 6195-TypeA	-30 °C ... +110 °C	4 m/s	ECOPUR	
			-20 °C ... +110 °C	4 m/s	H-ECOPUR	
			-50 °C ... +110 °C	4 m/s	T-ECOPUR	
			-20 °C ... +110 °C	5 m/s	S-ECOPUR	
			-30 °C ... +110 °C	4 m/s	G-ECOPUR	
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1	
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H	
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2	
			-50 °C ... +150 °C	4 m/s	ECORUBBER 3**	
			  		pneumatic, single acting as profile A4, but without back support area for housings according ISO 6195-TypeA	
-20 °C ... +110 °C	4 m/s	H-ECOPUR				
-50 °C ... +110 °C	4 m/s	T-ECOPUR				
-20 °C ... +110 °C	5 m/s	S-ECOPUR				
-30 °C ... +110 °C	4 m/s	G-ECOPUR				
-30 °C ... +100 °C	4 m/s	ECORUBBER 1				
-25 °C ... +150 °C	4 m/s	ECORUBBER-H				
-20 °C ... +200 °C	4 m/s	ECORUBBER 2				
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**				
  		pneumatic, single acting wiper with interference fit on outside diameter. special design of wiping lip allows retention of initial lubricating film. back support area prevents tilting of wiper.				-30 °C ... +110 °C
			-20 °C ... +110 °C	4 m/s	H-ECOPUR	
			-50 °C ... +110 °C	4 m/s	T-ECOPUR	
			-20 °C ... +110 °C	5 m/s	S-ECOPUR	
			-30 °C ... +110 °C	4 m/s	G-ECOPUR	
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1	
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H	
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2	
			-50 °C ... +150 °C	4 m/s	ECORUBBER 3**	
			  		pneumatic, single acting wiper with interference fit on outside diameter. special design of wiping lip allows retention of initial lubricating film.	-30 °C ... +110 °C
-20 °C ... +110 °C	4 m/s	H-ECOPUR				
-50 °C ... +110 °C	4 m/s	T-ECOPUR				
-20 °C ... +110 °C	5 m/s	S-ECOPUR				
-30 °C ... +110 °C	4 m/s	G-ECOPUR				
-30 °C ... +100 °C	4 m/s	ECORUBBER 1				
-25 °C ... +150 °C	4 m/s	ECORUBBER-H				
-20 °C ... +200 °C	4 m/s	ECORUBBER 2				
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**				
  		pneumatic, single acting as profile A5, but without back support area. special housing design according ISO 6195-TypeC				-30 °C ... +110 °C
			-20 °C ... +110 °C	4 m/s	H-ECOPUR	
			-50 °C ... +110 °C	4 m/s	T-ECOPUR	
			-20 °C ... +110 °C	5 m/s	S-ECOPUR	
			-30 °C ... +110 °C	4 m/s	G-ECOPUR	
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1	
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H	
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2	
			-50 °C ... +150 °C	4 m/s	ECORUBBER 3**	
			  		pneumatic, single acting wiper with mounting cage for press-fit installation into axially open housings. special design of wiping lip allows retention of initial lubricating film, the use of plastic mounting cages avoids corrosion at the press-fit. for housings according ISO 6195-TypeB	-30 °C ... +80 °C
-20 °C ... +80 °C	4 m/s	H-ECOPUR				
-40 °C ... +80 °C	4 m/s	T-ECOPUR				
-20 °C ... +80 °C	5 m/s	S-ECOPUR				
-30 °C ... +80 °C	4 m/s	G-ECOPUR				
-30 °C ... +80 °C	4 m/s	ECORUBBER 1				
-25 °C ... +80 °C	4 m/s	ECORUBBER-H				
-20 °C ... +200 °C	4 m/s	ECORUBBER 2				
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**				




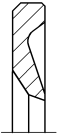



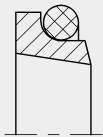



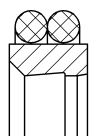



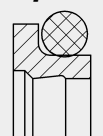


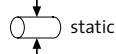
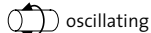
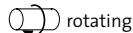
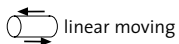
Not bolded symbols: please consult our technical dpmt. for application limitations

* ECOTAL up to ø260 mm, ECOMID above ø260 mm

** attention: not suitable for mineral oils !

Application	Profile	Description	Temperature	max.speed	Material
  		hydraulic, single acting wiper to fit in angled housings (30° angle). design mainly used in british equipment, in inch as well as metric dimensions.	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**			
  		hydraulic/pneumatic, single acting wiper usually fixed in housing with clamp flange. mainly used for replacement in old hydraulic and pneumatic cylinders or for secondary applications.	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**			
  		hydraulic/pneumatic, single acting wiper usually fixed in housing with clamp flange. mainly used for replacement in old hydraulic and pneumatic cylinders or for secondary applications.	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**			
  		hydraulic, single acting wiper with dimensioning according to common types used in USA. for housings according AN 6231, ANSI/B93.35	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**			
  		hydraulic, single acting wiper with dimensioning according to common types used in USA. fixed relation between cross-section and height of wiper. for housings according AN 6231, ANSI/B93.35	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**			
  		hydraulic/pneumatic, double acting wiper including additional sealing lip. used in combination with O-ring activated PTFE seals (tandem) to reduce residual oil film. also used as complete solution for pneumatic applications in small diameter range. max. allowed pressure load: 16 bar (230 psi)	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**			
  		hydraulic/pneumatic, double acting as profile A11, special housing design according ISO 6195-TypeC	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR
			-30 °C ... +100 °C	4 m/s	ECORUBBER 1
			-25 °C ... +150 °C	4 m/s	ECORUBBER-H
			-20 °C ... +200 °C	4 m/s	ECORUBBER 2
-50 °C ... +150 °C	4 m/s	ECORUBBER 3**			
  		hydraulic, single acting wiper with secondary lip, the technically accurate closure at the cylinder is providing reliable protection, even for heavy contamination.	-30 °C ... +110 °C	4 m/s	ECOPUR
			-20 °C ... +110 °C	4 m/s	H-ECOPUR
			-50 °C ... +110 °C	4 m/s	T-ECOPUR
			-20 °C ... +110 °C	5 m/s	S-ECOPUR
			-30 °C ... +110 °C	4 m/s	G-ECOPUR

Application	Profile	Description	Temperature	max.speed	max.Pressure	Material	
  	A13 	hydraulic/pneumatic, single acting scraper ring, mainly used in combination with wiper A2 or A1. firmly clinging dirt and extremely heavy soiling (mud, tar, ice) is wiped off, following elastomeric wiper is protected from damage. recommended materials provide good dry running properties, high stiffness and breaking strenght.	-50 °C ... +80 °C	1 m/s	-	ECOTAL	
			-40 °C ... +80 °C	1 m/s	-	ECOMID*	
			-50 °C ... +260 °C	1 m/s	-	ECOPAЕК	
  	A25 	hydraulic/pneumatic, single acting PTFE-wiper with O-ring as preloading element. PTFE part takes over wiping function, O-ring maintains equal contact pressure. good dry running properties, no "stick-slip". excellent chemical and thermal resistance (depends on O-ring).	-30 °C ... +100 °C	10 m/s	-	ECOFLON 2	Glide ring Energiizer NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	-	ECOFLON 2	FPM (75Sh.A)
			-30 °C ... +100 °C	10 m/s	-	ECOFLON 3	NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	-	ECOFLON 3	FPM (75Sh.A)
			-30 °C ... +100 °C	10 m/s	-	ECOFLON 4	NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	-	ECOFLON 4	FPM (75Sh.A)
  	A26 	hydraulic/pneumatic, double acting PTFE-double wiper with two O-rings as preloading elements. wiping edge assures a reliable protection against penetration of dust and dirt. additional sealing lip for reduction of residual oil film if used in combination with O-ring activated PTFE seals type Sg (tandem). excellent chemical and thermal resistance (depends on O-ring).	-30 °C ... +100 °C	10 m/s	16 bar (230 psi)	ECOFLON 2	Glide ring Energiizer NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	16 bar (230 psi)	ECOFLON 2	FPM (75Sh.A)
			-30 °C ... +100 °C	10 m/s	16 bar (230 psi)	ECOFLON 3	NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	16 bar (230 psi)	ECOFLON 3	FPM (75Sh.A)
			-30 °C ... +100 °C	10 m/s	16 bar (230 psi)	ECOFLON 4	NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	16 bar (230 psi)	ECOFLON 4	FPM (75Sh.A)
  	A27 	hydraulic/pneumatic, double acting PTFE-double wiper with O-ring as preloading element. wiping edge assures a reliable protection against penetration of dust and dirt. additional sealing lip for reduction of residual oil film if used in combination with O-ring activated PTFE seals type Sg (tandem). excellent chemical and thermal resistance (depends on O-ring).	-30 °C ... +100 °C	10 m/s	16 bar (230 psi)	ECOFLON 2	Glide ring Energiizer NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	16 bar (230 psi)	ECOFLON 2	FPM (75Sh.A)
			-30 °C ... +100 °C	10 m/s	16 bar (230 psi)	ECOFLON 3	NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	16 bar (230 psi)	ECOFLON 3	FPM (75Sh.A)
			-30 °C ... +100 °C	10 m/s	16 bar (230 psi)	ECOFLON 4	NBR (70Sh.A)
			-20 °C ... +200 °C	10 m/s	16 bar (230 psi)	ECOFLON 4	FPM (75Sh.A)



Not bolded symbols: please consult our technical dpmt. for application limitations

* ECOTAL up to ø260 mm, ECOMID above ø260 mm

** attention: not suitable for mineral oils !