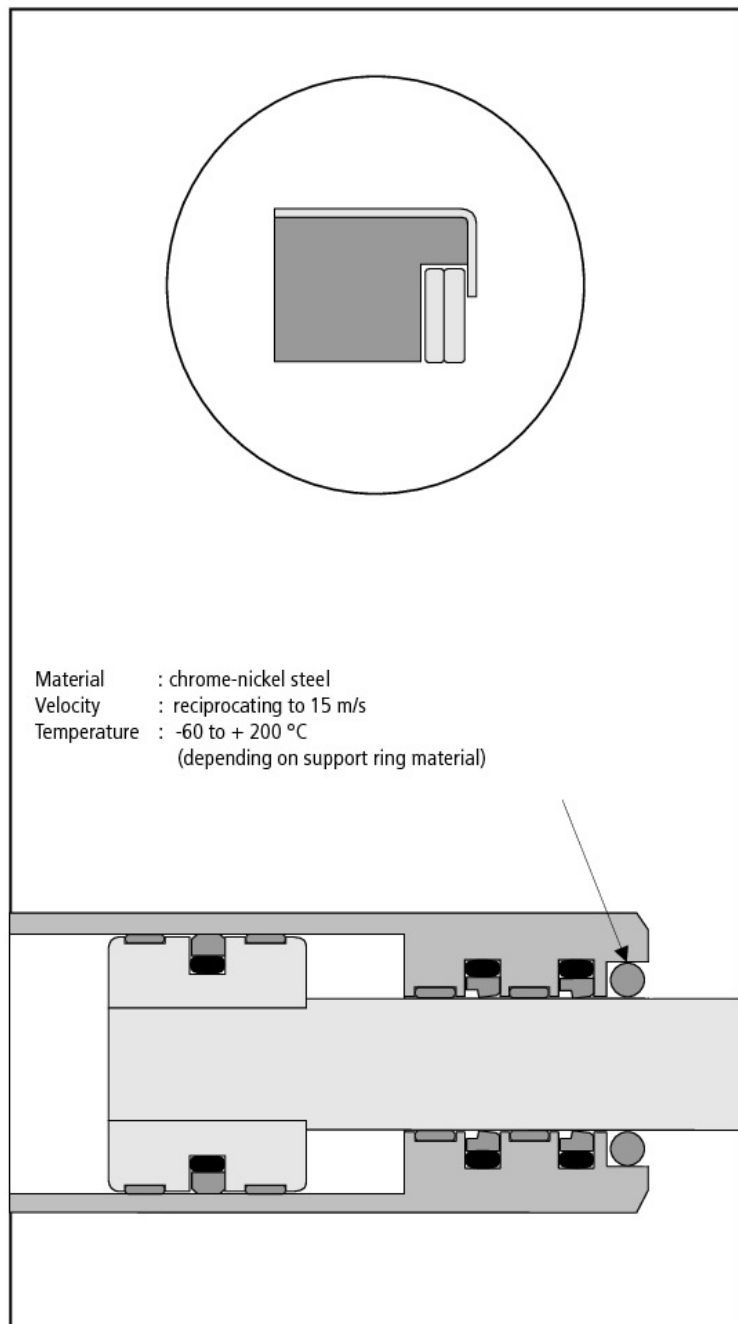
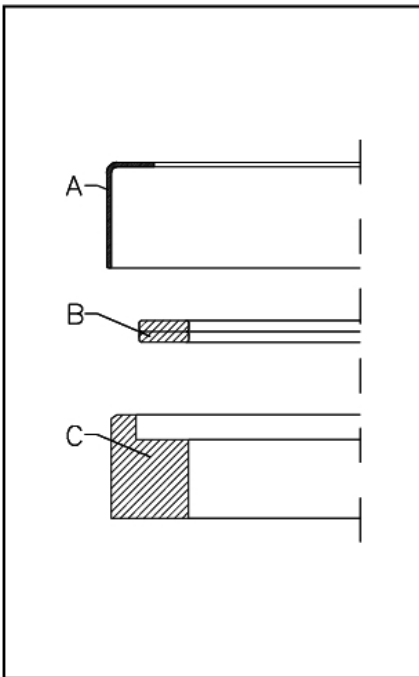


The variable lamella wiper system HA 360 has been specially developed for those applications where conventional wiper designs fail to offer adequate protection to the sealing system. Damage may occur due to influx of foreign bodies. Using different materials, this system can also be used under extreme conditions of operation..

Special Features:

- Maximum security in the most demanding of operational conditions through integrated "lamella ring". Environments include:
 - Low and high temperatures
 - hard and crystalline contaminants
 - ice attack
 - abrasive or aggressive media
 - high velocity
- Extended life of seals and slides through auto-polishing of rod surface area
- Additional absorption of transverse forces through supporting ring
- Easy slide fit assembly
- Choice of various materials for support ring.





Metal Cage (Part A)

The corrosion-resistant metal cage is used for the taking up of support and lamella ring. Due to the small oversize at the external diameter, easy assembly and a secure fit in the open wiper groove are possible.

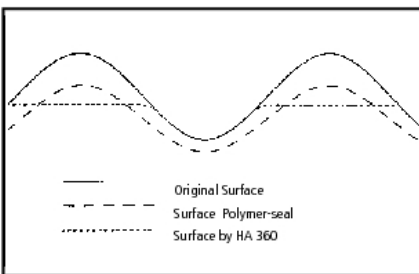
Lamella Ring (Part B)

Material: Chrome-Nickel Steel

The lamella ring is the essential wiper part. The low-stress position and the ball-shaped inner edges guarantee a reliable and secure mode of operation also on chromium-plated piston rods. Possibly appearing slipping out of the rod can be by-passed by the radial play at the outside diameter. Tests have shown that processing tips which appear during the manufacturing of the piston rod are polished by the so called polishing effect (auto-polishing). The so achieved improvement of the rod surface allows a remarkably longer life of the rod seals and the guide elements.

Support and Guide Ring (Part C)

The variable wiper system makes it possible to choose the material of the support ring in a way that the existing conditions of operation are kept under control.



Materials Overview (Support and Guide Ring):

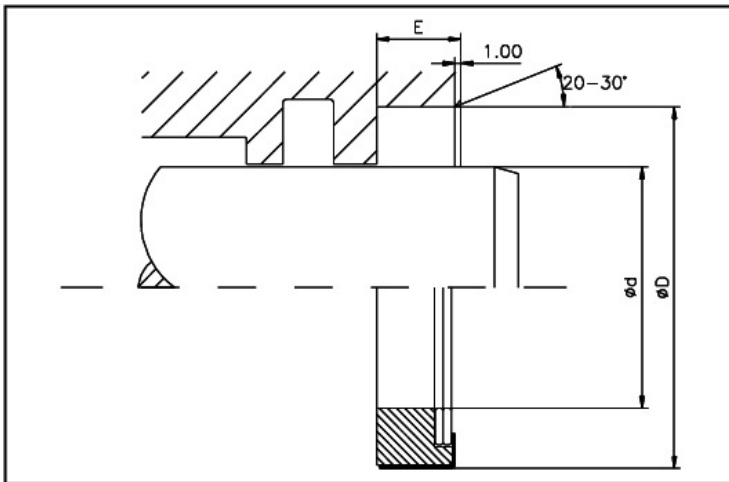
550: PTFE/bronze compound - Standard design for hydraulic applications. Specifically used at high temperatures and aggressive media as well as upon high travel speed.

520: Polyamid - Special design for intermediate applications.

400: Phenoplast fiber - Special design for hydraulic cylinders applications. The gap-free support ring additionally serves as a guide for the taking up of transverse power.

The variable wiper system HA 360 is characterized by a secure wiper effect where normal wipers are not usable any more.

A further advantage is the easy assembly and an extensive range of sizes which is identical with the conventional measurements of metal equipped NBR resp. PU wipers.



Limitations on Use	
Supporting ring material	Temperature range (°C)
PTFE compound (550)	-60 +200
Polyamid (520)	-60 +100
Phenoplast fiber (400)	-60 +120

Media for Use
Mineral oil based pressure fluids, flame resistant fluids (HFA, HFB, HFC), non-polluting pressure fluids (Bio Oils), water, air and other media.

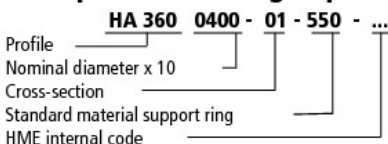
Surface Finish		
	Ra max.	Rt max.
Faces	0,6 μm	6 μm
Groove root	2,5 μm	16 μm
Groove flanks	4,0 μm	20 μm

d f8/h9	D H8	E +0,2	Part N°.
18,00	28,00	7,00	HA360 0180-01-550
20,00	30,00	7,00	HA360 0200-01-550
22,00	32,00	7,00	HA360 0220-01-550
25,00	35,00	7,00	HA360 0250-01-550
28,00	38,00	7,00	HA360 0280-01-550
28,00	40,00	7,00	HA360 0280-02-550
30,00	40,00	7,00	HA360 0300-01-550
32,00	42,00	7,00	HA360 0320-01-550
32,00	45,00	7,00	HA360 0320-02-550
33,00	43,00	7,00	HA360 0330-01-550
35,00	45,00	7,00	HA360 0350-01-550
36,00	45,00	7,00	HA360 0360-01-550
38,00	48,00	7,00	HA360 0380-01-550
40,00	50,00	7,00	HA360 0400-01-550
42,00	52,00	7,00	HA360 0420-01-550
45,00	55,00	7,00	HA360 0450-01-550
45,00	60,00	7,00	HA360 0450-02-550
50,00	60,00	7,00	HA360 0500-01-550
55,00	65,00	7,00	HA360 0550-01-550
56,00	66,00	7,00	HA360 0560-01-550
60,00	70,00	7,00	HA360 0600-01-550

d f8/h9	D H8	E +0,2	Part N°.
60,00	80,00	7,00	HA360 0600-02-550
63,00	75,00	7,00	HA360 0630-01-550
65,00	75,00	7,00	HA360 0650-01-550
70,00	80,00	7,00	HA360 0700-01-550
73,00	85,60	8,50	HA360 0730-01-550
75,00	85,00	7,00	HA360 0750-01-550
80,00	90,00	7,00	HA360 0800-01-550
85,00	95,00	7,00	HA360 0850-01-550
90,00	100,00	7,00	HA360 0900-01-550
90,00	104,00	8,00	HA360 0900-02-550
95,00	105,00	7,00	HA360 0950-01-550
100,00	110,00	7,00	HA360 1000-01-550
100,00	114,00	8,00	HA360 1000-02-550
105,00	115,00	7,00	HA360 1050-01-550
110,00	120,00	7,00	HA360 1100-01-550
110,00	124,00	8,00	HA360 1100-02-550
115,00	125,00	7,00	HA360 1150-01-550
120,00	130,00	7,00	HA360 1200-01-550
125,00	139,00	8,00	HA360 1250-01-550
125,00	140,00	9,00	HA360 1250-01-550
160,00	177,00	11,00	HA360 1600-01-550

Further sizes and as well as an extensive range of inch measurement diagrams available on request.
Dimensions in bold correspond to mounting spaces as per DIN ISO 6195 type B.

Example for ordering Wipers:



Material Key:

Support Ring
550 - PTFE bronze
520 - POM
400 - Phenoplast hard fiber

Issue

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WARNING: Limits of application stated herein are standard values. They could be individually transgressed with due consideration to respective service conditions. In the event of a large duty cycle, pulsating operation and other complex operational conditions, simultaneous transgression of these values is not recommended. Due to a large variety of service conditions that may arise in course of actual use, the company does not take responsibility of or guarantee the functional accuracy of the individual components. Rights for changes are reserved.