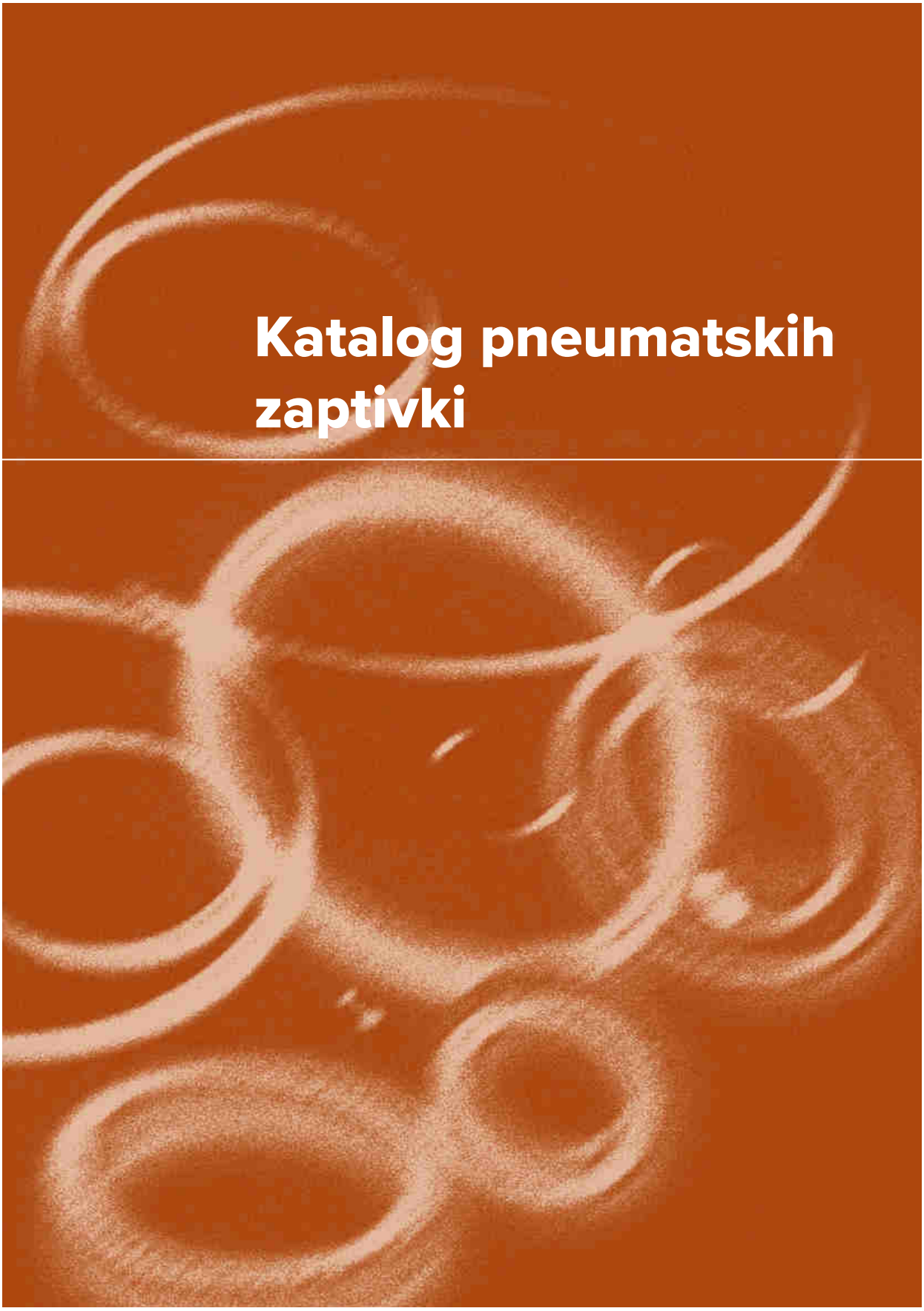
Katalog pneumatskih zaptivki

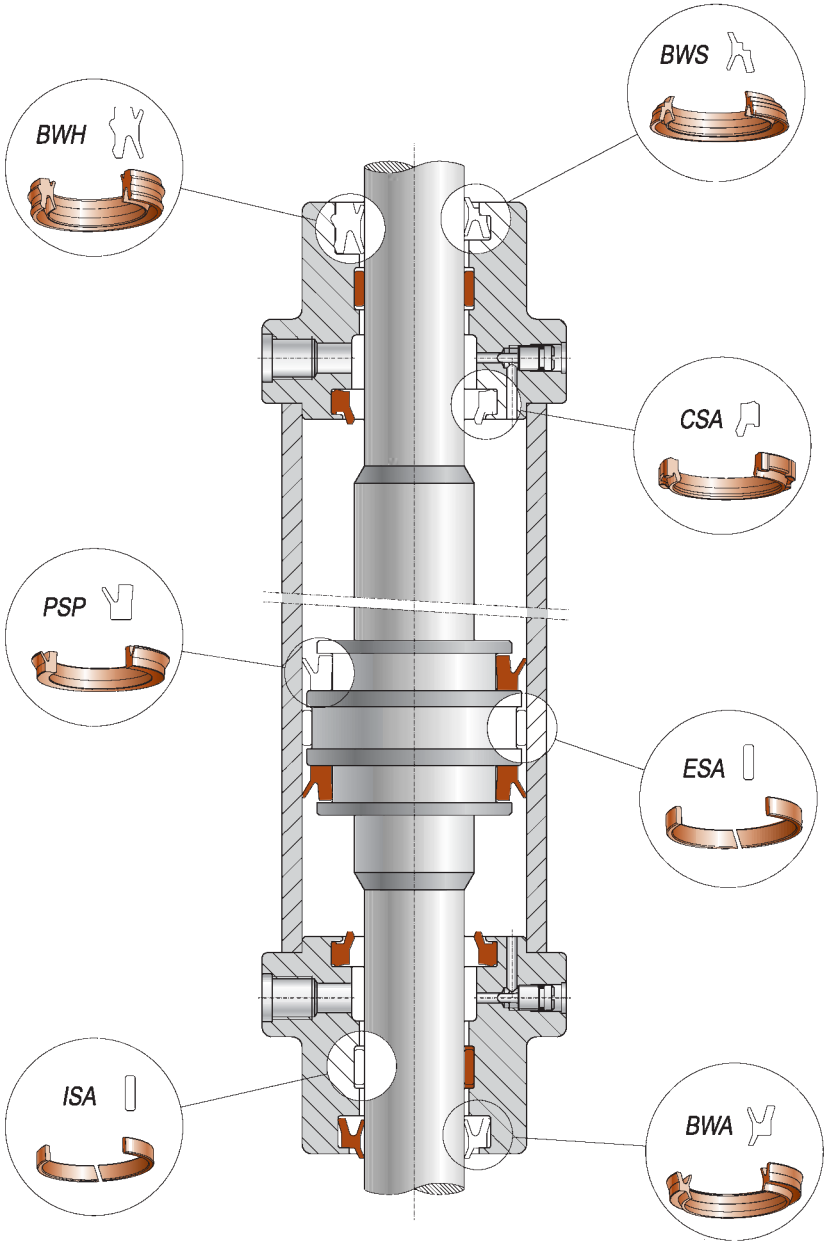


SISTEMI DI TENUTA PER PNEUMATICA

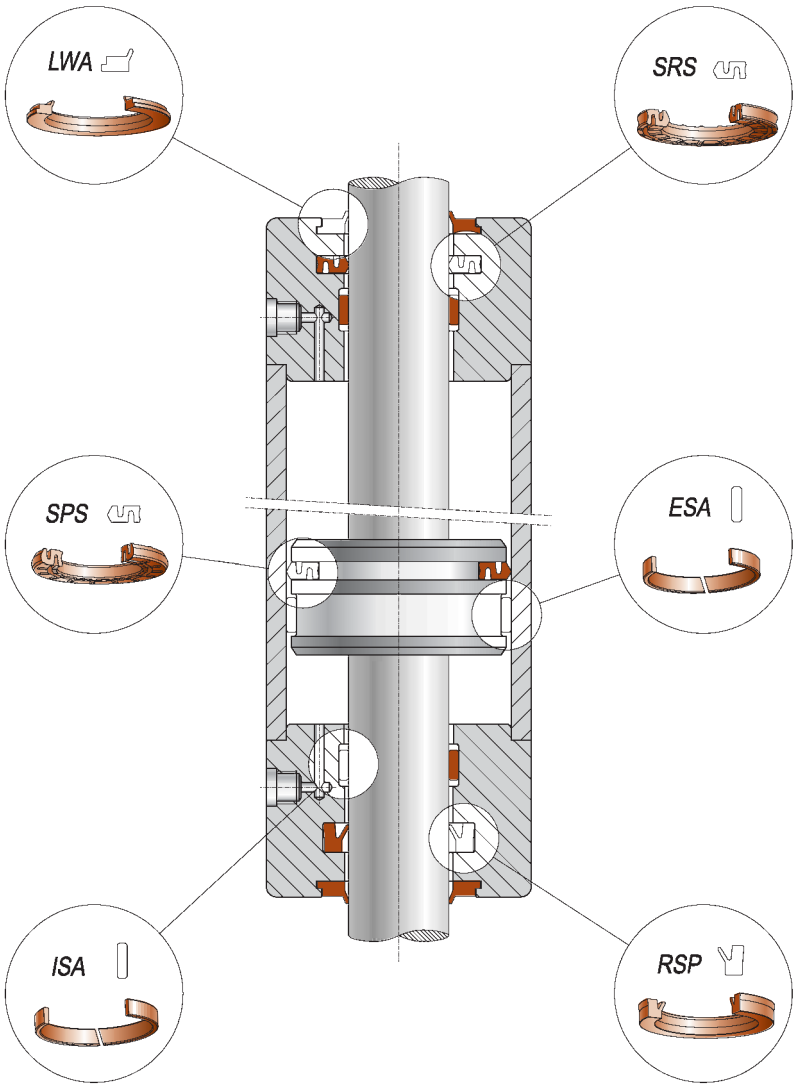
PNEUMATIC SEALING SYSTEMS

ARTIC SEALS

schema cilindro pneumatico A / *pneumatic cylinder sketch A*



schema cilindro pneumatico B / *pneumatic cylinder sketch B*



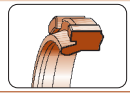
GUARNIZIONI STELO / *ROD SEALS*

Condizioni massime non simultanee / *Maximum non simultaneus conditions*

Profilo *Profile*	Ns Rif. *Our Ref.*	Temp. *Temp.* °C	Press *Press* Bar	Velocità *Speed* m/s	Materiale *Material*	pag
	**RSP**	- 30 + 90	< 20	< 1	TPU	150
	**SRS**	- 30 + 90	< 20	< 1	TPU	154

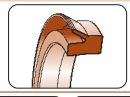
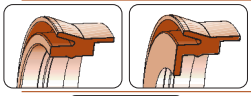
GUARNIZIONI AMMORTIZZO / *CUSHIONING SEALS*

Condizioni massime non simultanee / *Maximum non simultaneus conditions*

Profilo *Profile*	Ns Rif. *Our Ref.*	Temp. *Temp.* °C	Press *Press* Bar	Velocità *Speed* m/s	Materiale *Material*	pag
	**CSA**	- 30 + 90	< 20	< 1	TPU	156

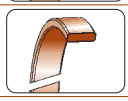
GUARNIZIONI PISTONE / *PISTON SEALS*

Condizioni massime non simultanee / *Maximum non simultaneus conditions*

Profilo *Profile*	Ns Rif. *Our Ref.*	Temp. *Temp.* °C	Press *Press* Bar	Velocità *Speed* m/s	Materiale *Material*	pag
	**PSP**	- 30 + 90	< 20	< 1	TPU	158
	**MPS**	- 30 + 90	< 20	< 1	TPU	162
	**SPS**	- 30 + 90	< 20	< 1	TPU	166

ANELLI GUIDA / *WEAR RINGS*

Condizioni massime non simultanee / *Maximum non simultaneus conditions*

Profilo *Profile*	Ns Rif. *Our Ref.*	Temp. *Temp.* °C	Press *Press* Bar	Velocità *Speed* m/s	Materiale *Material*	pag
	**ISA**	- 40 + 115	-	< 1	R3 POM modificato *modified*	168
	**ESA**	- 40 + 115	-	< 1	R3 POM modificato *modified*	170

RASCHIATORI / *WIPERS*

Condizioni massime non simultanee / *Maximum non simultaneus conditions*

Profilo *Profile*	Ns Rif. *Our Ref.*	Temp. *Temp.* °C	Press *Press* Bar	Velocità *Speed* m/s	Materiale *Material*	pag
	**LWA**	- 30 + 90	< 20	< 1	TPU	174
	**BWA**	- 30 + 90	< 20	< 1	TPU	176
	**BWS**	- 30 + 90	< 20	< 1	TPU	180
	**BWH**	- 30 + 90	< 20	< 1	TPU	184

AVVERTENZE E PRECAUZIONI DI MONTAGGIO NEI SISTEMI PNEUMATICI

Per un ottimo funzionamento delle guarnizioni occorre che durante il montaggio non vengano tagliate o deformate in modo permanente.
Si raccomanda anche di rispettare le norme internazionali ISO sia per quanto riguarda le dimensioni degli alloggiamenti che per le tolleranze.
Le finiture delle superfici sono descritte nelle figure **9** e **10** sotto indicate e riportano i valori cui attenersi. La tabella di fig. **11** indica il valore in mm. per eseguire lo smusso d'invito.

Le finiture di sola rettifica non sono mai consigliate ma si raccomanda un'ulteriore lavorazione di lucidatura prima del montaggio.

INSTRUCTIONS AND CARE FOR INSTALLATION IN PNEUMATIC SYSTEMS

For the most suitable seals working condition it's necessary to avoid scratches or permanent deformation of the seals during assembly.
*The respect of international ISO rules on housing dimensions as well as on tolerance is strongly recommended. Figures **9** and **10** describe the main criteria for surface finish. Table as per fig. **11** shows the value in mm to execute lead-in chamfer.*

Finish by grinding only is not suggested and an additional polishing work of the surface itself is recommended previous to mounting.

fig. 9

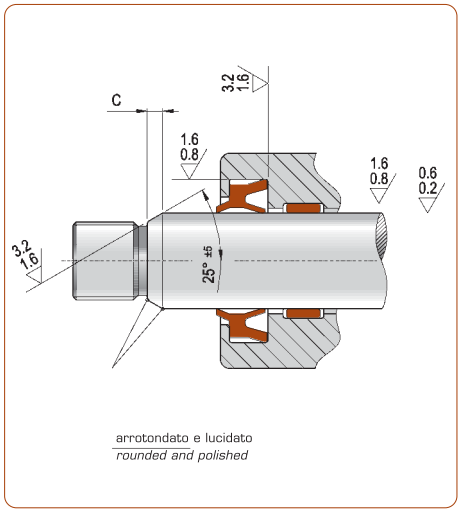


fig. 10

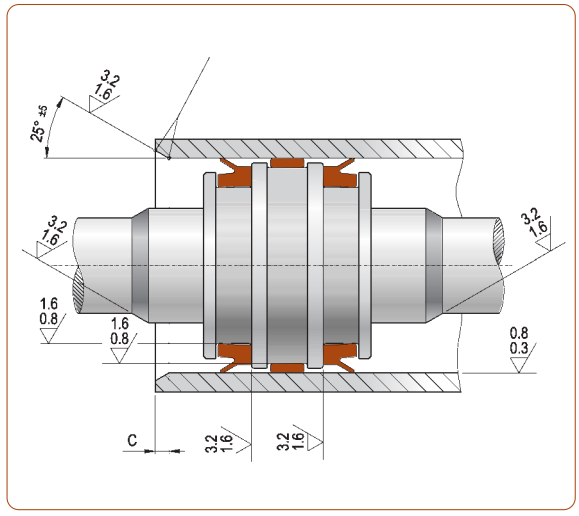


fig. 11

diametri *diameters* D-d	< 25	25 - 60	61 - 100	101 - 180	181 - 300	> 300
C mm	2,5	3,0	4,0	5,0	6,0	7,5

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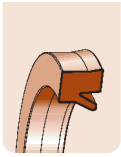


TENUTA STELO PER PNEUMATICA TIPO RSP

DESCRIZIONE
Alla tenuta stelo tipo **RSP**, rispetto a tipi similari, sono state apportate alcune modifiche sul profilo per renderla più scorrevole e più sensibile alle basse pressioni.
Il labbro dinamico è arrotondato per favorire la linearità del movimento.
La profondità della gola tra il labbro dinamico e il labbro statico è più marcata per aumentare la flessibilità e per un migliore adattamento agli eventuali disallineamenti del sistema.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale: BO

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: AO

MONTAGGIO
Eliminare tutti gli spigoli vivi e le bave nella sede per facilitare il montaggio e non danneggiare la guarnizione durante l'inserimento.
Lo stelo non deve presentare bave, e deve avere uno smusso d'invito (v. fig. 9, 10, 11 a pag. 148).

ROD SEAL FOR PNEUMATIC TYPE RSP

DESCRIPTION
*For the **RSP** rod seal slight changes have been made - if compared to the traditional rod seals profiles - in order to obtain the following advantages: better slide, lower abrasion resistance and better performance also at low pressures. A rounded dynamic lip facilitates a linear movement.*
Deeper U-profile between the dynamic and the static lip to improve flexibility and to help winning non-linear system movements.

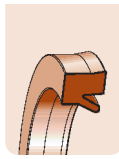
TECHNICAL DATA

Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

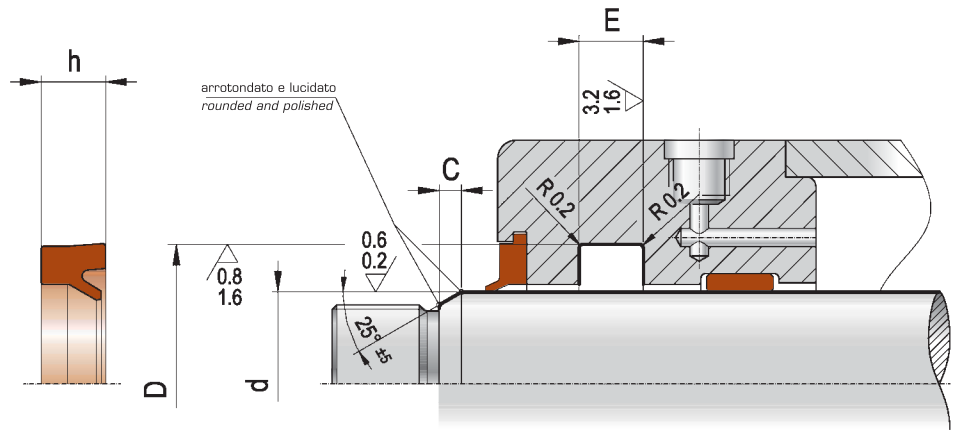
MATERIAL
Standard polyurethane 90 Sh A.
Compound reference: BO

Alternative polyurethane 85 Sh A.
Alternative compound reference: AO

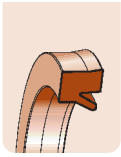
ASSEMBLY
Eliminate any cutting edges and flash in the housing to permit assembly and prevent damage to the seals during mounting.
The same applies to the rod, a lead-in chamfer should be present instead (see fig. 9, 10, 11 page 148).



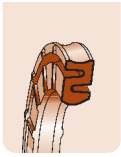
disegno / *DRAWING* RSP



d_{f9}	D_{H10}	toll H10	h	$E_{+0,2}$	ART / *ITEM*				
3,0	6,0	+0.058/0	2,5	3,0	RSP	0030	0060	025	BO
4,0	8,0	+0.058/0	3,0	3,5	RSP	0040	0080	030	BO
5,0	9,0	+0.058/0	2,5	3,0	RSP	0050	0090	025	BO
6,0	10,0	+0.070/0	3,0	3,5	RSP	0060	0100	030	BO
6,0	11,0	+0.070/0	3,0	3,5	RSP	0060	0110	030	BO
6,0	12,0	+0.070/0	4,0	4,5	RSP	0060	0120	040	BO
7,0	13,0	+0.070/0	4,0	4,5	RSP	0070	0130	040	BO
7,0	14,0	+0.070/0	3,5	4,0	RSP	0070	0140	035	BO
8,0	14,0	+0.070/0	4,0	4,5	RSP	0080	0140	040	BO
8,0	14,0	+0.070/0	4,5	5,0	RSP	0080	0160	045	BO
8,0	16,0	+0.070/0	4,5	5,0	RSP	0080	0160	045	BO
10,0	16,0	+0.070/0	4,5	5,0	RSP	0100	0160	045	BO
10,0	18,0	+0.070/0	5,5	6,0	RSP	0100	0180	055	BO
11,0	19,0	+0.070/0	4,0	4,5	RSP	0110	0190	040	BO
12,0	20,0	+0.084/0	5,5	6,0	RSP	0120	0200	055	BO
12,0	24,0	+0.084/0	6,0	6,5	RSP	0120	0240	060	BO
14,0	22,0	+0.084/0	5,5	6,0	RSP	0140	0220	055	BO
16,0	22,0	+0.084/0	3,0	3,5	RSP	0160	0220	030	BO
16,0	24,0	+0.084/0	5,5	6,0	RSP	0160	0240	055	BO
18,0	26,0	+0.084/0	5,5	6,0	RSP	0180	0260	055	BO
20,0	28,0	+0.084/0	5,5	6,0	RSP	0200	0280	055	BO
22,0	28,0	+0.100/0	4,5	5,0	RSP	0220	0280	045	BO
22,0	30,0	+0.100/0	5,5	6,0	RSP	0220	0300	055	BO
25,0	33,0	+0.100/0	5,5	6,0	RSP	0250	0330	055	BO
28,0	36,0	+0.100/0	5,5	6,0	RSP	0280	0360	055	BO
28,0	38,0	+0.100/0	7,0	7,5	RSP	0280	0380	070	BO
30,0	38,0	+0.100/0	5,5	5,5	RSP	0300	0380	055	BO
30,0	40,0	+0.100/0	7,0	7,5	RSP	0300	0400	070	BO
32,0	40,0	+0.100/0	5,5	6,0	RSP	0320	0400	055	BO
35,0	43,0	+0.100/0	8,0	8,5	RSP	0350	0430	080	BO
35,0	45,0	+0.100/0	7,0	7,5	RSP	0350	0450	070	BO
35,0	45,0	+0.100/0	10,0	10,5	RSP	0350	0450	100	BO
36,0	46,0	+0.100/0	7,0	7,5	RSP	0360	0460	070	BO
40,0	48,0	+0.100/0	5,5	6,0	RSP	0400	0480	055	BO
40,0	50,0	+0.100/0	7,0	7,5	RSP	0400	0500	070	BO
45,0	55,0	+0.120/0	7,0	7,5	RSP	0450	0550	070	BO
50,0	60,0	+0.120/0	7,0	7,5	RSP	0500	0600	070	BO
55,0	65,0	+0.120/0	7,0	7,5	RSP	0550	0650	070	BO
56,0	66,0	+0.120/0	7,0	7,5	RSP	0560	0660	070	BO



d_{f9}	D_{H10}	toll H10	h	$E_{+0,2}$	ART / *ITEM*				
60,0	72,0	+0.120/0	8,5	9,5	RSP	0600	0720	085	BO
63,0	73,0	+0.120/0	7,0	7,5	RSP	0630	0730	070	BO
63,0	75,0	+0.120/0	8,5	9,5	RSP	0630	0750	085	BO
65,0	77,0	+0.120/0	8,5	9,5	RSP	0650	0770	085	BO
70,0	82,0	+0.120/0	8,5	9,5	RSP	0700	0820	085	BO
75,0	87,0	+0.120/0	8,5	9,5	RSP	0750	0870	085	BO
80,0	92,0	+0.120/0	8,5	9,5	RSP	0800	0920	085	BO
85,0	97,0	+0.120/0	8,5	9,5	RSP	0850	0970	085	BO
90,0	102,0	+0.120/0	8,5	9,5	RSP	0900	1020	085	BO
95,0	107,0	+0.120/0	8,5	9,5	RSP	0950	1070	085	BO
100,0	115,0	+0.120/0	10,0	11,0	RSP	1000	1150	100	BO



TENUTA STELO A MOLLA TIPO SRS

DESCRIZIONE
La guarnizione tipo **SRS** è progettata per la tenuta stelo di cilindri pneumatici.
Dove gli ingombri lo permettono, può essere utilizzata anche su valvole pneumatiche.
Le ridotte dimensioni delle sedi consentono un'esecuzione di lavorazione macchina semplice.
Ha un profilo arrotondato al centro sul labbro dinamico e due sporgenze sul labbro statico.
Il profilo simmetrico ne facilita il montaggio.
La particolare forma a molla rende il sistema molto scorrevole anche a bassa pressione.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: BO

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: AO

MONTAGGIO
Eliminare tutti gli spigoli vivi e le bave sullo stelo per evitare di compromettere la guarnizione.

SPRING ROD SEAL TYPE SRS

DESCRIPTION
*The **SRS** rod seal has been designed for pneumatic cylinders applications.*
*Where the overall dimensions allow, the **SRS** can also be used for pneumatic valves.*
In addition, the reduced overall dimensions result in a short machining time of the system.
Its profile is rounded in the middle of the dynamic lip and it has two projections on the static lip.
This symmetric shape makes installation easier. The special spring shaped profile ensures high flexibility in the system even at low pressure.

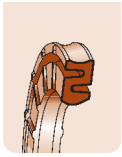
TECHNICAL DATA

Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

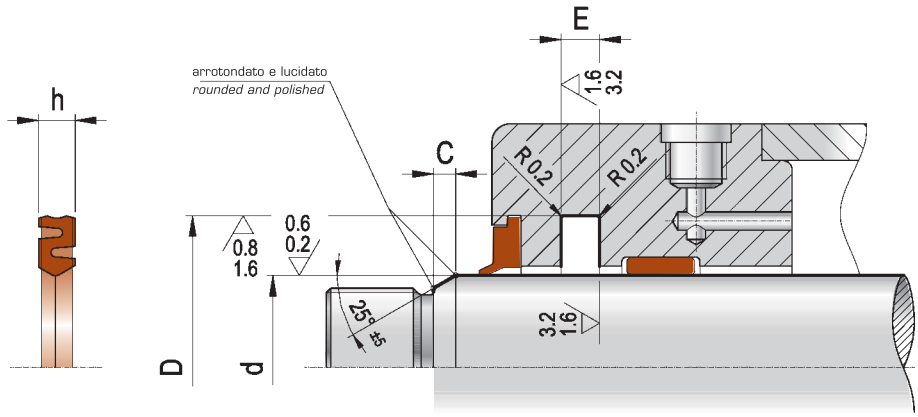
MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: BO

Alternative polyurethane 85 Sh A.
Alternative compound reference: AO

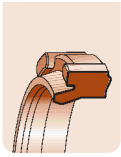
ASSEMBLY
Eliminate any cutting edges and flash in the housing to permit assembly and prevent damage to seals during mounting.



disegno / *DRAWING* SRS



d_{f9}	D_{H10}	toll H10	h	$E_{+0,2}$	ART / *ITEM*				
6,0	13,0	+0,043/0	2,3	2,5	SRS	0060	0130	023	BO
8,0	15,0	+0,043/0	2,3	2,5	SRS	0080	0150	023	BO
10,0	17,0	+0,043/0	2,3	2,5	SRS	0100	0170	023	BO
12,0	19,0	+0,052/0	2,3	2,5	SRS	0120	0190	023	BO
14,0	21,0	+0,052/0	2,3	2,5	SRS	0140	0210	023	BO
15,0	22,0	+0,052/0	2,3	2,5	SRS	0150	0220	023	BO
16,0	25,0	+0,052/0	2,8	3,0	SRS	0160	0250	028	BO
20,0	29,0	+0,052/0	2,8	3,0	SRS	0200	0290	028	BO
25,0	34,0	+0,062/0	2,8	3,0	SRS	0250	0340	028	BO
30,0	39,0	+0,062/0	2,8	3,0	SRS	0300	0390	028	BO
40,0	49,0	+0,062/0	2,8	3,0	SRS	0400	0490	028	BO
42,0	51,0	+0,074/0	2,8	3,0	SRS	0420	0510	028	BO
50,0	59,0	+0,074/0	2,8	3,0	SRS	0500	0590	028	BO



GUARNIZIONI AMMORTIZZO TIPO CSA

DESCRIZIONE
L'elemento d'ammortizzo tipo **CSA** è studiato per la frenatura di fine corsa nei pistoni dei cilindri pneumatici. Diverse sono le caratteristiche che concorrono all'efficacia del sistema frenante della guarnizione **CSA**:
- il profilo raschiante con lo smusso d'invito che facilita l'inserimento dell'ogiva;
- le scanalature all'esterno che permettono l'allineamento;
- il bordo alla base dell'ammortizzo;
- l'utilizzo del poliuretano che grazie al suo alto modulo elastico e alla sua alta resistenza all'urto garantisce una lunga durata in esercizio.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Il materiale standard è un poliuretano a basso compression-set con una buona flessibilità a freddo.

Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: BO

Materiale alternativo poliuretano a 93 Sh A.
Codice materiale alternativo: CO

MONTAGGIO
Il montaggio avviene in sede semiaperta, pertanto si consiglia di eliminare tutti gli spigoli vivi e le bave per evitare di compromettere la guarnizione.
Lubrificare con grasso per assicurare una maggiore durata della guarnizione.

CUSHIONING SEAL TYPE CSA

DESCRIPTION
*The **CSA** cushioning seal is designed for braking at the end-stroke of pneumatic cylinders.*
*Several elements contribute to the increased efficiency of the braking system of the **CSA** seal:*
- *the wiping profile with lead-in chamfer to facilitate the insertion of the ogive;*
- *the external packing groove to create auto-alignment;*
- *the edge at the bottom of the cushioning;*
- *the use of polyurethane which ensures a long service life thanks to the high modulus of elasticity and the very good resistance to leaks.*

TECHNICAL DATA

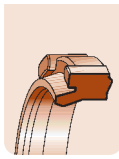
Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

MATERIAL
The standard raw material is a low compression-set polyurethane with good flexibility at low temperature.

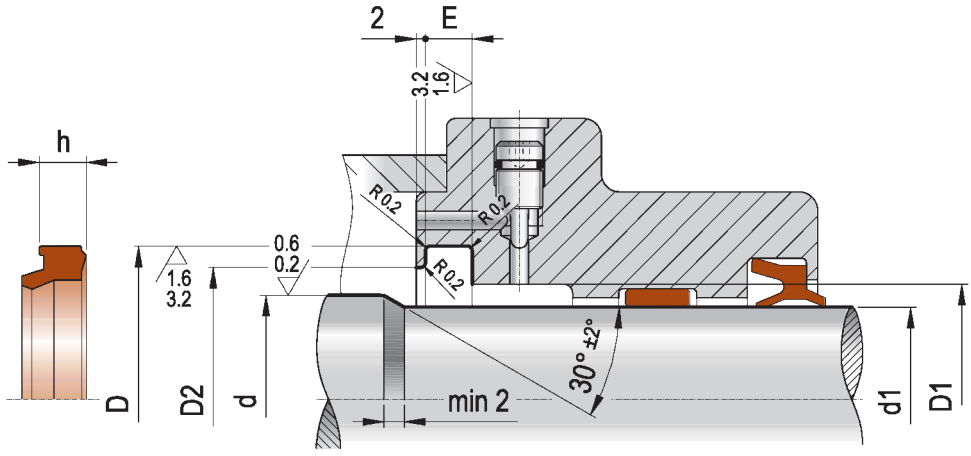
Standard polyurethane 90 Sh A.
Standard compound reference: BO

Alternative polyurethane 93 Sh A.
Alternative compound reference: CO

ASSEMBLY
The assembly is done in semi-open groove, therefore any cutting edges or flash should be eliminated not to affect seal operation. Lubricating with grease will ensure that the seal lasts longer.

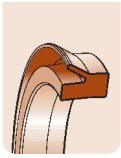


disegno / *DRAWING* CSA



d_{h10}	toll h10	D_{H11}	D_1	D_2	d_1	h	E	ART / *ITEM*				
6,0	0/-0.048	10,0	6,5	8,0	4,5	3,4	3,7	CSA	0060	0100	034	BO
8,0	0/-0.058	11,6	8,5	10,0	7,0	3,0	3,3	CSA	0080	0116	030	BO
9,5	0/-0.058	15,0	10,0	12,0	8,0	4,0	4,5	CSA	0095	0150	040	BO
10,0	0/-0.058	18,0	11,0	15,0	8,0	6,5	7,0	CSA	0100	0180	065	BO
12,0	0/-0.070	18,0	13,0	15,5	10,0	4,3	4,8	CSA	0120	0180	043	BO
12,0	0/-0.070	20,0	13,0	17,0	10,0	6,5	7,0	CSA	0120	0200	065	BO
14,0	0/-0.070	22,0	15,0	19,0	12,0	6,5	7,0	CSA	0140	0220	065	BO
16,0	0/-0.070	22,0	17,0	19,5	14,0	4,7	5,2	CSA	0160	0220	047	BO
16,0	0/-0.070	24,0	17,0	21,0	14,0	6,5	7,0	CSA	0160	0240	065	BO
18,0	0/-0.070	26,0	19,0	23,0	16,0	6,5	7,0	CSA	0180	0260	065	BO
20,0	0/-0.084	28,0	21,0	24,0	17,5	6,5	7,0	CSA	0200	0280	065	BO
22,0	0/-0.084	30,0	23,0	26,0	19,5	6,5	7,0	CSA	0220	0300	065	BO
25,0	0/-0.084	33,0	26,0	29,0	22,5	6,5	7,0	CSA	0250	0330	065	BO
28,0	0/-0.084	36,0	29,0	32,0	25,5	6,5	7,0	CSA	0280	0360	065	BO
30,0	0/-0.084	40,0	31,5	35,0	27,5	6,5	7,0	CSA	0300	0400	065	BO
32,0	0/-0.084	42,0	33,5	37,0	29,0	6,5	7,0	CSA	0320	0420	065	BO
36,0	0/-0.100	46,0	37,5	41,0	33,0	6,5	7,0	CSA	0360	0460	065	BO
40,0	0/-0.100	50,0	41,5	45,0	37,0	6,5	7,0	CSA	0400	0500	065	BO
50,0	0/-0.100	60,0	51,5	55,0	47,0	6,5	7,0	CSA	0500	0600	065	BO
57,0	0/-0.120	74,0	60,0	65,0	54,0	12,0	12,5	CSA	0570	0740	120	BO
70,0	0/-0.120	87,0	73,0	78,0	66,0	12,0	12,5	CSA	0700	0870	120	BO
78,0	0/-0.120	95,0	81,0	86,0	74,0	12,0	12,5	CSA	0780	0950	120	BO

Nota: altre dimensioni non a catalogo a richiesta. Consultare il nostro ufficio tecnico.
Remark: other dimensions not mentioned on catalogue on demand. Please contact our technical dept.



TENUTA PISTONE PER PNEUMATICA TIPO PSP

DESCRIZIONE
La tenuta tipo **PSP** è progettata per la tenuta pistone di cilindri pneumatici a semplice e doppio effetto.
La gola molto marcata tra il labbro dinamico e quello statico unitamente alla raggiatura dei due labbri di contatto aumentano la scorrevolezza della guarnizione anche in assenza di lubrificazione.
Le limitate dimensioni e l'alta flessibilità del materiale rendono semplice il montaggio anche in cava chiusa.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: B0

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: A0

MONTAGGIO
Eliminare tutti gli spigoli vivi e le bave nella sede del pistone per evitare di compromettere la guarnizione. Eseguire uno smusso sulla camicia del cilindro (v. fig. 9, 10, 11 a pag. 148) per facilitare il montaggio.
Si consiglia di lubrificare la guarnizione per rendere il sistema molto scorrevole.

PISTON SEAL FOR PNEUMATICS TYPE PSP

DESCRIPTION
*The **PSP** piston seal has been designed for single and double action pneumatic cylinders.*
The deep groove between the dynamic and the static lip, together with the radii of back-to-back lips, enhances seal sliding, even where there is a lack of environmental lubrication.
The reduced dimensions, together with the high flexibility of the material, also facilitate installation in closed grooves.

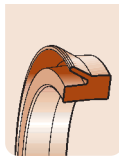
TECHNICAL DATA

Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

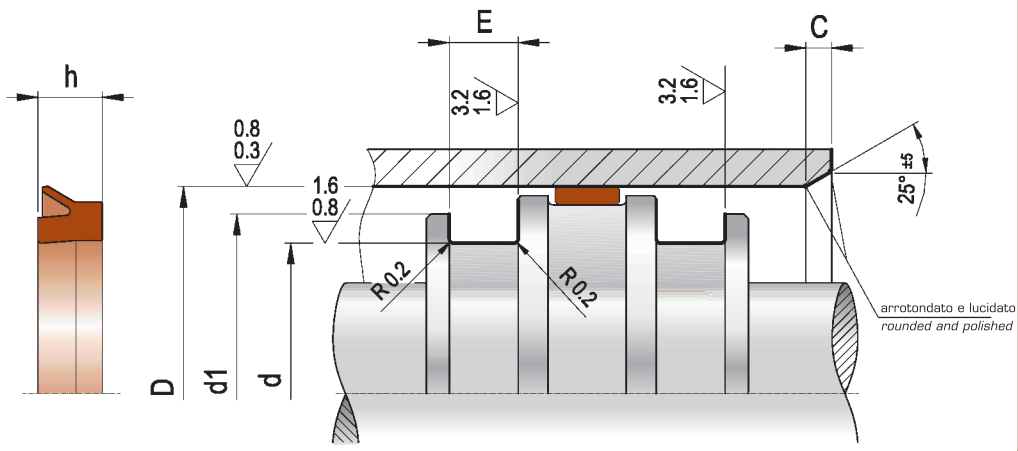
MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: B0

Alternative polyurethane 85 Sh A.
Alternative compound reference: A0

ASSEMBLY
Eliminate any cutting edges and flash in the housing to permit assembly and prevent damage to seals during mounting.
The presence of a lead-in chamfer is suggested for easy installation of the piston seal (see fig 9, 10, 11 page 148).

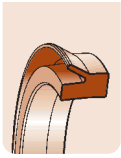


disegno / *DRAWING* PSP



D_{H11}	d_{h10}	toll h10	d_1 *	h	$E_{+0,2}$	ART / *ITEM*				
6,0	3,0	0/-0.048	5,0	2,00	2,50	PSP	0060	0030	020	BO
8,0	4,0	0/-0.048	7,0	2,55	3,00	PSP	0080	0040	025	BO
8,0	4,8	0/-0.048	7,0	2,30	2,70	PSP	0080	0048	023	BO
8,0	4,8	0/-0.048	7,0	2,55	3,00	PSP	0080	0048	025	BO
10,0	6,0	0/-0.048	9,0	2,55	3,00	PSP	0100	0060	025	BO
12,0	7,0	0/-0.058	11,0	2,55	3,00	PSP	0120	0070	025	BO
13,0	8,0	0/-0.058	12,0	2,55	3,00	PSP	0130	0080	025	BO
14,0	8,0	0/-0.058	13,0	2,55	3,00	PSP	0140	0080	025	BO
15,0	9,0	0/-0.058	14,0	2,55	3,00	PSP	0150	0090	025	BO
16,0	10,0	0/-0.058	15,0	2,55	3,00	PSP	0160	0100	025	BO
17,0	11,0	0/-0.070	16,0	2,55	3,00	PSP	0170	0110	025	BO
18,0	12,0	0/-0.070	17,0	2,55	3,00	PSP	0180	0120	025	BO
20,0	14,0	0/-0.070	19,0	2,55	3,00	PSP	0200	0140	025	BO
20,0	14,0	0/-0.070	19,0	4,00	4,50	PSP	0200	0140	040	BO
20,0	15,5	0/-0.070	19,0	4,00	4,50	PSP	0200	0155	040	BO
22,0	16,0	0/-0.070	21,0	2,55	3,00	PSP	0220	0160	025	BO
24,0	12,0	0/-0.070	23,0	6,50	7,50	PSP	0240	0120	065	BO
24,0	18,0	0/-0.070	23,0	2,55	3,00	PSP	0240	0180	025	BO
25,0	17,0	0/-0.070	24,0	5,50	6,00	PSP	0250	0170	055	BO
25,0	19,0	0/-0.084	24,0	3,25	3,50	PSP	0250	0190	032	BO
25,0	19,0	0/-0.084	24,0	4,00	4,50	PSP	0250	0190	040	BO
27,0	21,0	0/-0.084	26,0	3,25	4,00	PSP	0270	0210	032	BO
28,0	18,0	0/-0.084	27,0	7,00	7,50	PSP	0280	0180	070	BO
28,0	22,0	0/-0.084	27,0	3,25	3,50	PSP	0280	0220	032	BO
30,0	20,0	0/-0.084	29,0	5,00	6,00	PSP	0300	0200	050	BO
30,0	22,0	0/-0.084	29,0	3,25	3,50	PSP	0300	0220	032	BO
32,0	24,0	0/-0.084	31,0	3,25	3,50	PSP	0320	0240	032	BO
32,0	24,0	0/-0.084	31,0	5,50	6,00	PSP	0320	0240	055	BO
35,0	27,0	0/-0.084	34,0	3,25	3,50	PSP	0350	0270	032	BO
36,0	28,0	0/-0.084	35,0	3,25	3,50	PSP	0360	0280	032	BO
38,0	30,0	0/-0.084	37,0	3,25	3,50	PSP	0380	0300	032	BO
38,0	30,0	0/-0.084	37,0	5,50	6,00	PSP	0380	0300	055	BO
40,0	27,3	0/-0.084	39,0	6,40	7,50	PSP	0400	0273	064	BO
40,0	30,0	0/-0.084	39,0	7,00	7,50	PSP	0400	0300	070	BO
40,0	32,0	0/-0.100	39,0	3,25	3,50	PSP	0400	0320	032	BO
42,0	30,0	0/-0.100	41,0	6,00	6,50	PSP	0420	0300	060	BO
42,0	34,0	0/-0.100	41,0	3,25	3,50	PSP	0420	0340	032	BO
45,0	35,0	0/-0.100	44,0	10,00	11,00	PSP	0450	0350	100	BO
45,0	37,0	0/-0.100	44,0	3,25	3,50	PSP	0450	0370	032	BO

* diametro di aggancio consigliato ma modificabile in funzione delle esigenze di montaggio
recommended hook diameter wich could be modified accordingly to mounting demand

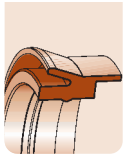


D_{H11}	d_{h10}	toll h10	d_1 *	h	$E_{+0,2}$	ART / *ITEM*				
50,0	40,0	0/-0.100	49,0	5,00	6,00	PSP	0500	0400	050	BO
50,0	40,0	0/-0.100	49,0	7,00	7,50	PSP	0500	0400	070	BO
50,0	42,0	0/-0.100	49,0	3,25	3,50	PSP	0500	0420	032	BO
52,0	42,0	0/-0.100	51,0	4,25	4,50	PSP	0520	0420	042	BO
55,0	45,0	0/-0.100	54,0	7,00	7,50	PSP	0550	0450	070	BO
58,0	48,0	0/-0.100	57,0	4,25	4,50	PSP	0580	0480	042	BO
60,0	50,0	0/-0.120	59,0	5,00	5,70	PSP	0600	0500	050	BO
60,0	50,0	0/-0.120	59,0	7,00	7,50	PSP	0600	0500	070	BO
63,0	53,0	0/-0.120	62,0	4,25	4,50	PSP	0630	0530	042	BO
63,0	53,0	0/-0.120	62,0	7,00	7,50	PSP	0630	0530	070	BO
65,0	55,0	0/-0.120	64,0	5,00	6,00	PSP	0650	0550	050	BO
65,0	55,0	0/-0.120	64,0	7,00	7,50	PSP	0650	0550	070	BO
68,0	58,0	0/-0.120	67,0	4,70	5,50	PSP	0680	0580	047	BO
70,0	58,0	0/-0.120	69,0	8,50	9,50	PSP	0700	0580	085	BO
75,0	63,0	0/-0.120	74,0	8,50	9,50	PSP	0750	0630	085	BO
80,0	67,3	0/-0.120	79,0	6,35	7,00	PSP	0800	0673	063	BO
80,0	68,0	0/-0.120	79,0	8,50	9,50	PSP	0800	0680	085	BO
80,0	70,0	0/-0.120	79,0	4,25	4,50	PSP	0800	0700	042	BO
85,0	73,0	0/-0.120	84,0	8,50	9,50	PSP	0850	0730	085	BO
90,0	78,0	0/-0.120	89,0	8,50	9,50	PSP	0900	0780	085	BO
90,0	80,0	0/-0.120	89,0	4,25	4,50	PSP	0900	0800	042	BO
100,0	88,0	0/-0.140	99,0	8,50	9,50	PSP	1000	0880	085	BO
100,0	90,0	0/-0.140	99,0	4,25	4,50	PSP	1000	0900	042	BO
110,0	95,0	0/-0.140	109,0	10,00	11,00	PSP	1100	0950	100	BO
120,0	105,0	0/-0.140	119,0	10,00	11,00	PSP	1200	1050	100	BO
125,0	105,0	0/-0.140	124,0	8,25	8,50	PSP	1250	1050	082	BO
125,0	110,0	0/-0.140	124,0	10,00	11,00	PSP	1250	1100	100	BO
140,0	120,0	0/-0.140	139,0	8,25	8,50	PSP	1400	1200	082	BO
160,0	140,0	0/-0.160	159,0	8,25	8,50	PSP	1600	1400	082	BO
160,0	145,0	0/-0.160	159,0	10,00	11,00	PSP	1600	1450	100	BO
180,0	160,0	0/-0.160	179,0	14,00	15,00	PSP	1800	1600	140	BO
200,0	180,0	0/-0.160	199,0	8,25	8,50	PSP	2000	1800	082	BO
200,0	180,0	0/-0.160	199,0	14,00	15,00	PSP	2000	1800	140	BO
250,0	230,0	0/-0.185	249,0	14,00	15,00	PSP	2500	2300	140	BO

* diametro di aggancio consigliato ma modificabile in funzione delle esigenze di montaggio
recommended hook diameter wich could be modified accordingly to mounting demand

ARTIC SEALS è da tempo impegnata in attive collaborazioni con importanti Università ed Istituti di Ricerca per la materia plastica. Queste partnership consentono uno sviluppo costante delle nostre soluzioni innovative attraverso lo svolgimento di numerosi test, condotti sia sul polimero sia sul prodotto finito. Significativa è la collaborazione costante e qualificata con il **CPI Centro Polimeri Italia** (www.centropolimeri.it) che da tempo collabora con le imprese del territorio ed offre un'ampia esperienza nel settore delle materie plastiche. Svariati sono i servizi rivolti alle imprese del settore: prove sui materiali e sui manufatti, consulenze tecnologiche, studi di fattibilità, failure-analysis, corsi di formazione ecc...

ARTIC SEALS *actively cooperates with renowned University and Research Institutes focusing on study of plastic raw materials since a long time. These partnerships allow a constant improvement in innovative sealing solutions throughout several trial tests either on polymer or on finished products. Meaningful is the costant and qualified cooperation with* ***CPI Centro Polimeri Italia*** *(www.centropolimeri.it). Since years CPI collaborates with local manufactory companies and it offers a wide experience in thermoplastic materials industry. Serveral are the services aimed on this field: trials on raw materials and finished products, technological consultancy, feasibility studies, failure-analysis, training, ecc...*



TENUTA PISTONE MAGNETICO TIPO MPS

DESCRIZIONE
La guarnizione tipo **MPS** è stata studiata sia per pistoni di cilindri pneumatici compatti a corsa breve sia per il semplice e doppio effetto.
L'elemento di guida è sulla guarnizione stessa. Appositi interstizi e notches creano spazi per trattenere grasso lubrificante mantenendo molto scorrevole il pistone nel tempo.
Tra le due garnizioni contrapposte alloggia all'interno il magnete.
Per problemi o soluzioni alternative, il nostro ufficio tecnico mette a disposizione specifiche progettuali personalizzate.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: B0

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: A0

MONTAGGIO
Eliminare tutti gli spigoli vivi e le bave nella sede del pistone per evitare di compromettere la guarnizione.

Il montaggio si effettua per accavallamento della guarnizione sul diametro del pistone.

Importante: il pistone deve essere sagomato esattamente come da disegno della tabella dimensionale MPS.

MAGNETIC PISTON SEAL TYPE MPS

DESCRIPTION
*The **MPS** seal has been specifically built for pneumatic cylinders both for compact short stroke and single and double action stroke applications.*
To ensure long cylinder service life, the MPS seal itself performs a sliding action, obtaining proper lubrication through specific notches which collect and store the grease.
The groove between two MPS seals is the right housing for the magnet.
For specific needs or problems, our technical office is at your complete disposal with tailor-made projects and solutions.

TECHNICAL DATA

Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from -30°C up to +90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

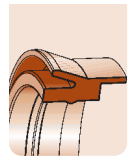
MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: B0

Alternative polyurethane 85 Sh A.
Alternative compound reference: A0

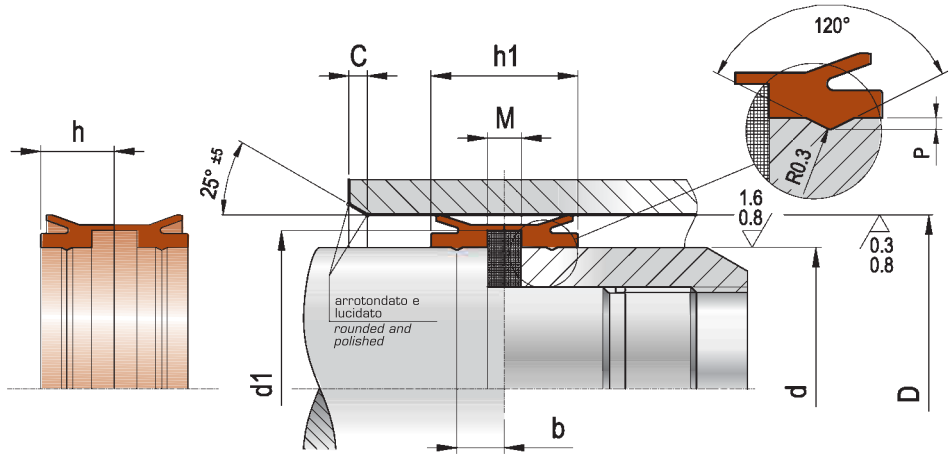
ASSEMBLY
Eliminate any cutting edges and flash in the housing to prevent damage to seals during mounting.

The installation is made by overlapping the seals and the piston diameter.

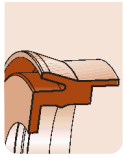
Warning: the piston must be shaped according to the drawing of the MPS dimensions table.



disegno / *DRAWING* MPS



D_{H11}	d_{h9}	toll $_{h9}$	h_1	h	d_1	M	P	b	ART / *ITEM*					
8,0	4,0	0/-0.030	12,0	6,0	6,5	4,0	0,35	4,00	MPS	0080	0040	040	120	B0
10,0	4,0	0/-0.030	12,0	6,0	8,5	3,0	0,35	3,50	MPS	0100	0040	030	120	B0
12,0	6,0	0/-0.030	12,0	6,0	10,5	3,0	0,40	3,50	MPS	0120	0060	030	120	B0
16,0	8,0	0/-0.036	12,0	6,0	14,5	3,0	0,40	3,50	MPS	0160	0080	030	120	B0
20,0	10,0	0/-0.036	12,0	6,0	18,0	3,0	0,50	3,50	MPS	0200	0100	030	120	B0
25,0	10,0	0/-0.036	12,0	6,0	23,0	3,0	0,50	3,50	MPS	0250	0100	030	120	B0



TENUTA PISTONE MAGNETICO TIPO MPS

DESCRIZIONE
La guarnizione tipo **MPS** è stata studiata sia per pistoni di cilindri pneumatici compatti a corsa breve sia per il semplice e doppio effetto.
L'elemento di guida è sulla guarnizione stessa. Appositi interstizi e notches creano spazi per trattenere grasso lubrificante mantenendo molto scorrevole il pistone nel tempo.
Tra le due garnizioni contrapposte alloggia all'interno il magnete.
Per problemi o soluzioni alternative, il nostro ufficio tecnico mette a disposizione specifiche progettuali personalizzate.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: B0

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: A0

MONTAGGIO
Eliminare tutti gli spigoli vivi e le bave nella sede del pistone per evitare di compromettere la guarnizione.

Il montaggio si effettua per accavallamento della guarnizione sul diametro del pistone.

Importante: il pistone deve essere sagomato esattamente come da disegno della tabella dimensionale MPS.

MAGNETIC PISTON SEAL TYPE MPS

DESCRIPTION
*The **MPS** seal has been specifically built for pneumatic cylinders both for compact short stroke and single and double action stroke applications.*
To ensure long cylinder service life, the MPS seal itself performs a sliding action, obtaining proper lubrication through specific notches which collect and store the grease.
The groove between two MPS seals is the right housing for the magnet.
For specific needs or problems, our technical office is at your complete disposal with tailor-made projects and solutions.

TECHNICAL DATA

Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from -30 °C up to +90 °C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

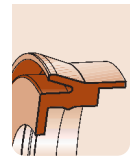
MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: B0

Alternative polyurethane 85 Sh A.
Alternative compound reference: A0

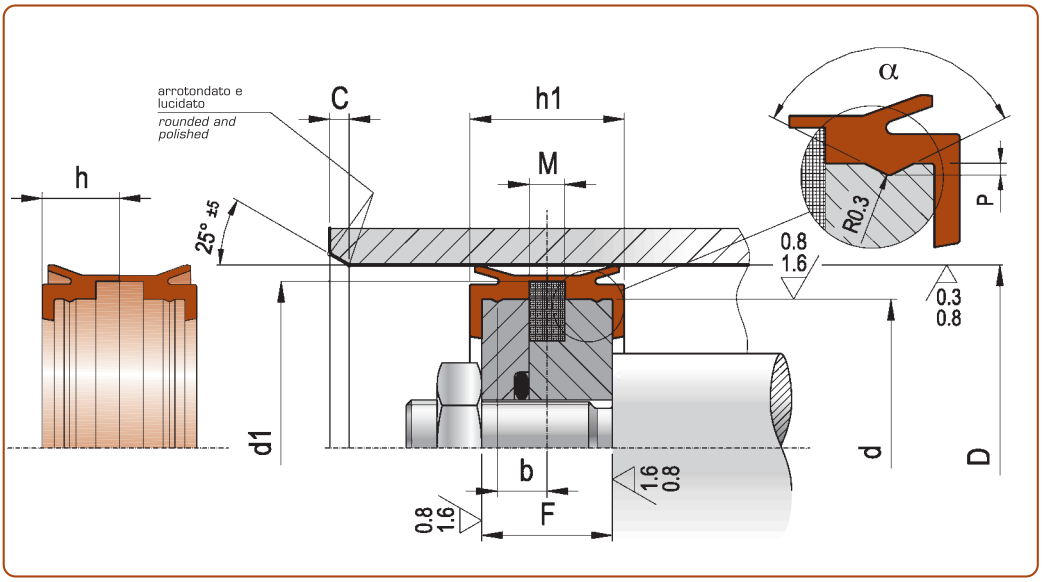
ASSEMBLY
Eliminate any cutting edges and flash in the housing to prevent damage to seals during mounting.

The installation is made by overlapping the seals and the piston diameter.

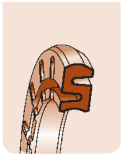
Warning: the piston must be shaped according to the drawing of the MPS dimensions table.



disegno / *DRAWING* MPS



D_{H11}	d_{h9}	toll h9	h_1	h	d_1	M	P	b	F	α	ART / *ITEM*					
32,0	26,0	0/-0.052	14,0	7,00	29,5	3,0	0,50	4,00	11,00	120°	MPS	0320	0260	030	120	B0
32,0	26,0	0/-0.052	14,0	7,00	29,5	3,0	0,80	4,00	11,00	90°	MPS	0320	0260	030	090	B0
32,0	26,0	0/-0.052	14,0	7,00	29,5	5,0	0,50	4,00	11,00	120°	MPS	0320	0260	050	120	B0
32,0	26,0	0/-0.052	14,0	7,00	29,5	5,0	0,80	4,00	11,00	90°	MPS	0320	0260	050	090	B0
40,0	34,0	0/-0.062	14,5	7,25	37,5	5,0	0,50	4,25	12,00	120°	MPS	0400	0340	050	120	B0
40,0	34,0	0/-0.062	14,5	7,25	37,5	5,0	0,80	4,25	12,00	90°	MPS	0400	0340	050	090	B0
50,0	43,0	0/-0.062	14,5	7,25	46,5	5,0	0,60	4,25	12,00	120°	MPS	0500	0430	050	120	B0
50,0	43,0	0/-0.062	14,5	7,25	46,5	5,0	0,80	4,25	12,00	90°	MPS	0500	0430	050	090	B0
63,0	55,0	0/-0.074	20,0	10,00	59,5	5,0	0,80	6,00	17,00	120°	MPS	0630	0550	050	120	B0
80,0	72,0	0/-0.074	22,0	11,00	76,5	5,0	0,80	6,50	19,00	120°	MPS	0800	0720	050	120	B0
100,0	90,0	0/-0.087	26,0	13,00	96,5	5,0	0,80	7,50	22,00	120°	MPS	1000	0900	050	120	B0



TENUTA PISTONE A MOLLA TIPO SPS

DESCRIZIONE
La guarnizione tipo **SPS** è realizzata per la tenuta pistone di cilindri pneumatici.
Dove gli ingombri lo permettono, può essere utilizzata anche su valvole pneumatiche.
Le ridotte dimensioni delle sedi consentono un'esecuzione di lavorazione macchina semplice.
Ha un profilo con la tenuta arrotondata al centro sul labbro dinamico e due sporgenze sul labbro statico.
Il profilo simmetrico ne facilita il montaggio.
La particolare forma a molla rende il sistema molto scorrevole anche a bassa pressione.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: B0

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: A0

MONTAGGIO
Eliminare tutti gli spigoli vivi e le bave sulla camicia per evitare di compromettere la guarnizione.

SPRING PISTON SEAL TYPE SPS

DESCRIPTION
*The **SPS** piston seal has been designed for pneumatic cylinders applications.*
Where the overall dimensions allow, the SPS can also be used for pneumatic valves.
The reduced overall dimensions result in the a short machining time of the system.
Its profile is rounded in the middle on the dynamic lip and has two projections on the static lip.
This symmetrical shape facilitates installation.
The special spring shaped profile ensures a high flexibility in the system even at low pressure.

TECHNICAL DATA

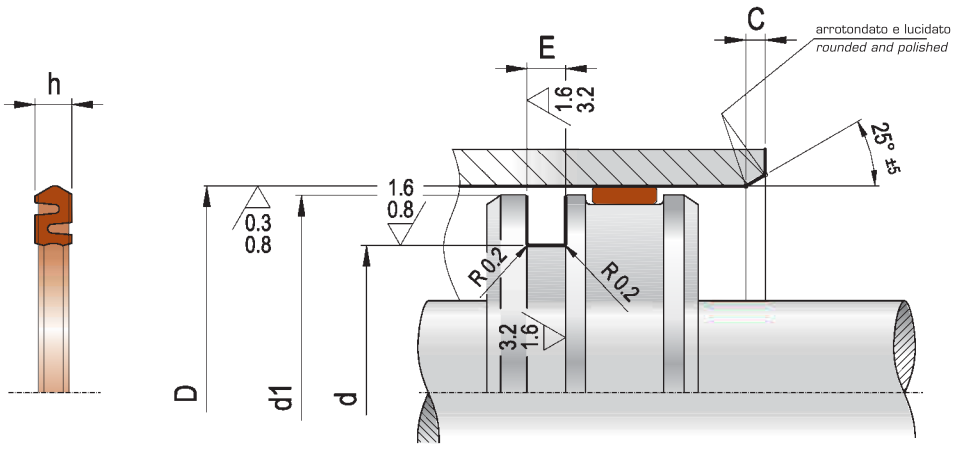
Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: B0

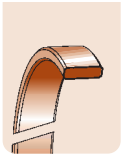
Alternative polyurethane 85 Sh A.
Alternative compound reference: A0

ASSEMBLY
Eliminate any cutting edges and flash in the bore to permit assembly and prevent damage to seals during mounting.

disegno / *DRAWING* SPS



D_{H11}	d_{h10}	toll h10	d_1	h	$E_{+0,2}$	ART / ITEM				
12,0	7,0	0/-0.058	11,5	2,2	2,5	SPS	0120	0070	022	BO
16,0	9,0	0/-0.058	15,5	2,4	2,5	SPS	0160	0090	024	BO
20,0	13,0	0/-0.070	19,5	2,4	2,5	SPS	0200	0130	024	BO
25,0	18,0	0/-0.070	24,5	2,4	2,5	SPS	0250	0180	024	BO
28,0	21,0	0/-0.084	27,5	2,4	2,5	SPS	0280	0210	024	BO
30,0	21,0	0/-0.084	29,5	2,9	3,0	SPS	0300	0210	029	BO
32,0	23,0	0/-0.084	31,5	2,9	3,0	SPS	0320	0230	029	BO
35,0	26,0	0/-0.084	34,5	2,9	3,0	SPS	0350	0260	029	BO
40,0	31,0	0/-0.100	39,5	2,9	3,0	SPS	0400	0310	029	BO
45,0	36,0	0/-0.100	44,5	2,9	3,0	SPS	0450	0360	029	BO
50,0	41,0	0/-0.100	49,5	2,9	3,0	SPS	0500	0410	029	BO
60,0	48,0	0/-0.100	59,5	3,9	4,0	SPS	0600	0480	039	BO
63,0	51,0	0/-0.120	62,5	3,9	4,0	SPS	0630	0510	039	BO
70,0	58,0	0/-0.120	69,5	3,9	4,0	SPS	0700	0580	039	BO
80,0	68,0	0/-0.120	79,5	3,9	4,0	SPS	0800	0680	039	BO



FASCE DI GUIDA PER STELO TIPO ISA

DESCRIZIONE
Per evitare il contatto diretto tra lo stelo e la testata del cilindro, e tra il pistone e la camicia, che nella maggior parte dei cilindri pneumatici è di alluminio, si inserisce una fascia di guida tipo **ISA** che serve per tenere guidato tutto il sistema.
Le fasce di guida sono stampate con un materiale auto lubrificante, non abrasivo, studiato appositamente per favorire uno scorrimento lineare.
Il profilo della guida presenta smussi sia all'interno sia all'esterno che facilitano il montaggio dello stelo e del pistone.

LIMITI D'IMPIEGO

Velocità:	< 1 m/s
Temperatura:	da - 40°C a + 115°C
Carico statico:	fino a 36 N/mm^2

MATERIALE
Poliacetalica modificata.
Grazie all'aggiunta di particolari additivi si è realizzato un materiale molto scorrevole e non abrasivo.
Codice materiale standard: R3

VANTAGGI
- Ottimo rapporto prezzo/prestazioni
- Basso effetto stick-slip
- Buona resistenza alla compressione

ROD SLYDRINGS TYPE ISA

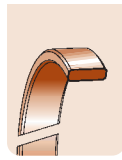
DESCRIPTION
*Given that most pneumatic cylinders are made of aluminium, a wear ring **ISA** is inserted between the piston and the bore in order to prevent the direct contact between the rod and the cylinder's head.*
The function of the friction ring is to guide all the packing.
The wear rings are moulded in non-abrasive auto-lubricating material, which has been purpose designed to support linear sliding.
The wear ring profile has chamfers both inside and outside to facilitate the installation of the rod and the piston.

TECHNICAL DATA

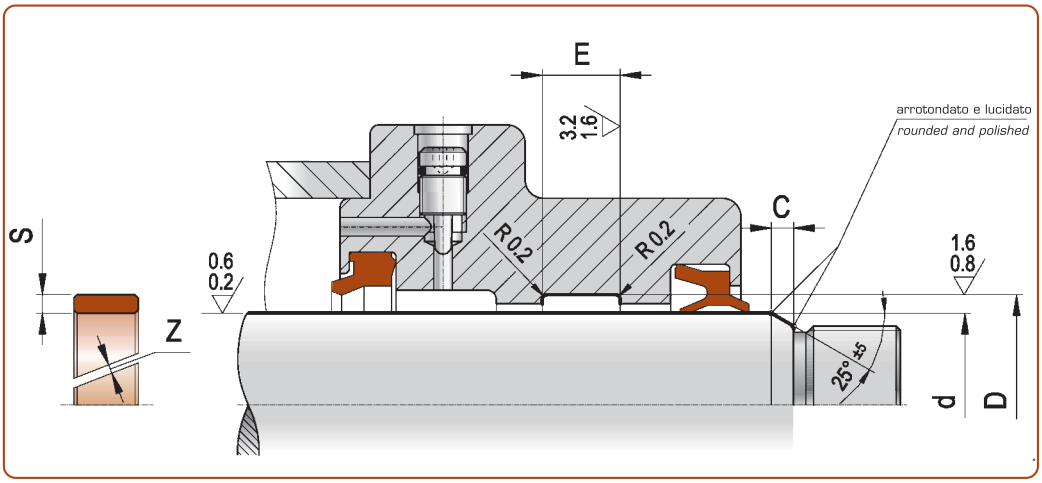
Speed:	*< 1 m/s*
Temperature:	*from - 40°C up to + 115°C*
Static Strength:	*up to 36 N/mm^2*

MATERIAL
Polyacetalic resin.
Through the use of additional compounds a very slick, anti-friction material has been developed.
Standard compound reference: R3

ADVANTAGES
- *Excellent price/performance ratio*
- *Low stick-slip effect*
- *Good compressive strength*



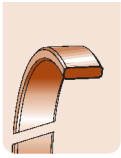
disegno / *DRAWING* ISA



diametri *diameters* d-D	0 - 50	51 - 100	101 - 150	151 - 300
z. mm ≥	2,0	2,5	3,0	3,5

d_{f9}	D_{H7}	toll H7	$E_{+0,2}$	$S_{-0,08}$	ART / *ITEM*				
8,0	11,1	+0.018/0	2,5	1,55	ISA	0080	0111	025	R3
10,0	13,1	+0.018/0	2,5	1,55	ISA	0100	0131	025	R3
10,0	13,1	+0.018/0	4,0	1,55	ISA	0100	0131	040	R3
12,0	15,1	+0.018/0	4,0	1,55	ISA	0120	0151	040	R3
12,0	16,0	+0.018/0	9,7	2,00	ISA	0120	0160	097	R3
14,0	17,1	+0.018/0	4,0	1,55	ISA	0140	0171	040	R3
14,0	18,0	+0.018/0	9,7	2,00	ISA	0140	0180	097	R3
15,0	18,1	+0.021/0	4,0	1,55	ISA	0150	0181	040	R3
16,0	19,1	+0.021/0	4,0	1,55	ISA	0160	0191	040	R3
16,0	20,0	+0.021/0	9,7	2,00	ISA	0160	0200	097	R3
18,0	22,0	+0.021/0	9,7	2,00	ISA	0180	0220	097	R3
20,0	23,1	+0.021/0	4,0	1,55	ISA	0200	0231	040	R3
22,0	25,1	+0.021/0	4,0	1,55	ISA	0220	0251	040	R3
25,0	28,1	+0.021/0	4,0	1,55	ISA	0250	0281	040	R3
28,0	31,1	+0.025/0	4,0	1,55	ISA	0280	0311	040	R3
30,0	33,1	+0.025/0	4,0	1,55	ISA	0300	0331	040	R3
32,0	35,1	+0.025/0	4,0	1,55	ISA	0320	0351	040	R3
35,0	38,1	+0.025/0	4,0	1,55	ISA	0350	0381	040	R3
36,0	39,1	+0.025/0	4,0	1,55	ISA	0360	0391	040	R3
40,0	43,1	+0.025/0	4,0	1,55	ISA	0400	0431	040	R3
50,0	53,1	+0.030/0	4,0	1,55	ISA	0500	0531	040	R3

Nota: altre dimensioni non a catalogo a richiesta. Consultare il nostro ufficio tecnico.
Remark: other dimensions not mentioned on catalogue on demand. Please contact our technical dept.



FASCE DI GUIDA PER PISTONE TIPO ESA

DESCRIZIONE

Per evitare il contatto diretto tra lo stelo e la testata del cilindro, e tra il pistone e la camicia, che nella maggior parte dei cilindri pneumatici è di alluminio, si inserisce una fascia di guida tipo **ESA** che serve per tenere guidato tutto il sistema.
Le fasce di guida sono stampate con un materiale auto lubrificante, non abrasivo, studiato appositamente per favorire uno scorrimento lineare.
Il profilo della guida presenta smussi sia all'interno sia all'esterno che facilitano il montaggio dello stelo e del pistone.

LIMITI D'IMPIEGO

Velocità:	< 1 m/s
Temperatura:	da - 40°C a + 115°C
Carico statico:	fino a 36 N/mm^2

MATERIALE

Poliacetalica modificata.
Grazie all'aggiunta di particolari additivi si è realizzato un materiale molto scorrevole e non abrasivo.
Codice materiale standard: R3

VANTAGGI

- Ottimo rapporto prezzo/prestazioni
- Basso effetto stick-slip
- Buona resistenza alla compressione

PISTON SLYDRINGS TYPE ESA

DESCRIPTION

*Given that most pneumatic cylinders are made of aluminium, a wear ring **ESA** is inserted between the piston and the bore in order to prevent the direct contact between the rod and the cylinder's head.*
The function of the friction ring is to guide all the packing.
The wear rings are moulded in non-abrasive auto-lubricating material, which has been purpose designed to support linear sliding.
The wear ring profile has chamfers both inside and outside to facilitate the installation of the rod and the piston.

TECHNICAL DATA

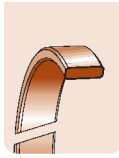
Speed:	*< 1 m/s*
Temperature:	*from - 40°C up to + 115°C*
Static Strength:	*up to 36 N/mm^2*

MATERIAL

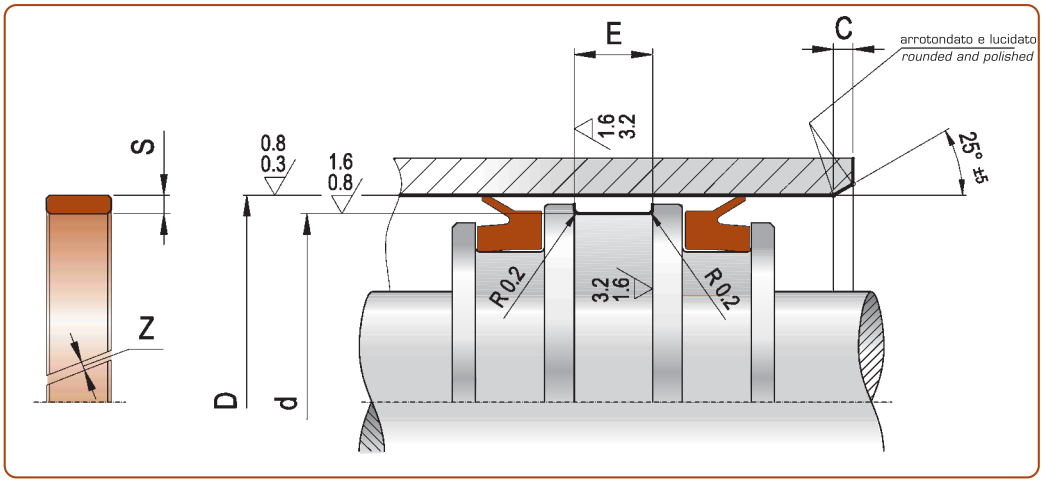
Polyacetalic resin.
Through the use of additional compounds a very slick, anti-friction material has been developed.
Standard compound reference: R3

ADVANTAGES

- *Excellent price/performance ratio*
- *Low stick-slip effect*
- *Good compressive strength*

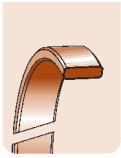


disegno / *DRAWING* ESA



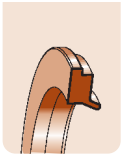
diametri *diameters* D-d	0 - 50	51 - 100	101 - 150	151 - 300
z. mm ≥	2,0	2,5	3,0	3,5

D_{H11}	d_{h7}	toll h7	$E_{+0,2}$	$S_{-0,08}$	ART / *ITEM*				
8,0	4,9	0/-0.012	2,5	1,55	ESA	0080	0049	025	R3
10,0	6,9	0/-0.015	2,5	1,55	ESA	0100	0069	025	R3
10,0	6,9	0/-0.015	4,0	1,55	ESA	0100	0069	040	R3
12,0	8,9	0/-0.015	4,0	1,55	ESA	0120	0089	040	R3
14,0	10,9	0/-0.018	4,0	1,55	ESA	0140	0109	040	R3
15,0	11,9	0/-0.018	4,0	1,55	ESA	0150	0119	040	R3
16,0	12,9	0/-0.018	4,0	1,55	ESA	0160	0129	040	R3
16,0	12,0	0/-0.018	9,7	2,00	ESA	0160	0120	097	R3
18,0	14,9	0/-0.018	4,0	1,55	ESA	0180	0149	040	R3
20,0	16,9	0/-0.018	4,0	1,55	ESA	0200	0169	040	R3
20,0	16,0	0/-0.018	8,2	2,00	ESA	0200	0160	082	R3
20,0	16,0	0/-0.018	9,7	2,00	ESA	0200	0160	097	R3
21,0	17,0	0/-0.018	8,2	2,00	ESA	0210	0170	082	R3
22,0	18,0	0/-0.018	9,7	2,00	ESA	0220	0180	097	R3
25,0	21,0	0/-0.021	8,2	2,00	ESA	0250	0210	082	R3
25,0	21,9	0/-0.021	4,0	1,55	ESA	0250	0219	040	R3
26,0	22,0	0/-0.021	8,2	2,00	ESA	0260	0220	082	R3
30,0	25,8	0/-0.021	5,0	2,10	ESA	0300	0258	050	R3
30,0	26,0	0/-0.021	5,0	2,00	ESA	0300	0260	050	R3
30,0	26,0	0/-0.021	8,2	2,00	ESA	0300	0260	082	R3
32,0	26,1	0/-0.021	5,0	2,95	ESA	0320	0261	050	R3
32,0	28,0	0/-0.021	5,0	2,00	ESA	0320	0280	050	R3
32,0	28,0	0/-0.021	8,2	2,00	ESA	0320	0280	082	R3
32,0	28,9	0/-0.021	4,0	1,55	ESA	0320	0289	040	R3
35,0	31,0	0/-0.025	8,2	2,00	ESA	0350	0310	082	R3
40,0	36,0	0/-0.025	5,0	2,00	ESA	0400	0360	050	R3
40,0	36,0	0/-0.025	8,2	2,00	ESA	0400	0360	082	R3
40,0	37,0	0/-0.025	12,0	1,50	ESA	0400	0370	120	R3
45,0	41,0	0/-0.025	10,2	2,00	ESA	0450	0410	102	R3
50,0	46,0	0/-0.025	5,2	2,00	ESA	0500	0460	052	R3
50,0	46,0	0/-0.025	10,2	2,00	ESA	0500	0460	102	R3
50,0	47,0	0/-0.025	12,0	1,50	ESA	0500	0470	120	R3
55,0	51,0	0/-0.030	10,2	2,00	ESA	0550	0510	102	R3



D_{H11}	d_{h7}	toll h7	$E_{+0,2}$	S	ART / *ITEM*				
58,0	54,0	0/-0.030	10,2	2,00	ESA	0580	0540	102	R3
60,0	56,0	0/-0.030	10,2	2,00	ESA	0600	0560	102	R3
63,0	59,0	0/-0.030	10,2	2,00	ESA	0630	0590	102	R3
63,0	60,0	0/-0.030	12,0	1,50	ESA	0630	0600	120	R3
65,0	61,0	0/-0.030	10,2	2,00	ESA	0650	0610	102	R3
70,0	66,0	0/-0.030	10,2	2,00	ESA	0700	0660	102	R3
75,0	71,0	0/-0.030	15,2	2,00	ESA	0750	0710	152	R3
80,0	76,0	0/-0.030	10,2	2,00	ESA	0800	0760	102	R3
80,0	76,0	0/-0.030	15,2	2,00	ESA	0800	0760	152	R3
80,0	77,0	0/-0.030	12,0	1,50	ESA	0800	0770	120	R3
85,0	81,0	0/-0.035	15,2	2,00	ESA	0850	0810	152	R3
90,0	86,0	0/-0.035	15,2	2,00	ESA	0900	0860	152	R3
95,0	91,0	0/-0.035	15,2	2,00	ESA	0950	0910	152	R3
100,0	96,0	0/-0.035	10,2	2,00	ESA	1000	0960	102	R3
100,0	96,0	0/-0.035	15,2	2,00	ESA	1000	0960	152	R3
105,0	101,0	0/-0.035	20,3	2,00	ESA	1050	1010	203	R3
110,0	106,0	0/-0.035	20,3	2,00	ESA	1100	1060	203	R3
115,0	111,0	0/-0.035	20,3	2,00	ESA	1150	1110	203	R3
120,0	116,0	0/-0.035	20,3	2,00	ESA	1200	1160	203	R3
125,0	121,0	0/-0.040	15,2	2,00	ESA	1250	1210	152	R3
125,0	121,0	0/-0.040	20,3	2,00	ESA	1250	1210	203	R3
130,0	126,0	0/-0.040	20,3	2,00	ESA	1300	1260	203	R3
135,0	131,0	0/-0.040	20,3	2,00	ESA	1350	1310	203	R3
140,0	136,0	0/-0.040	20,3	2,00	ESA	1400	1360	203	R3
150,0	146,0	0/-0.040	25,4	2,00	ESA	1500	1460	254	R3
160,0	155,0	0/-0.040	15,0	2,50	ESA	1600	1550	150	R3
160,0	156,0	0/-0.040	15,2	2,00	ESA	1600	1560	152	R3
180,0	176,0	0/-0.040	25,4	2,00	ESA	1800	1760	254	R3
200,0	195,0	0/-0.046	15,0	2,50	ESA	2000	1950	150	R3
200,0	196,0	0/-0.046	20,3	2,00	ESA	2000	1960	203	R3
200,0	196,0	0/-0.046	25,4	2,00	ESA	2000	1960	254	R3
220,0	216,0	0/-0.046	30,5	2,00	ESA	2200	2160	305	R3
250,0	245,0	0/-0.046	20,0	2,50	ESA	2500	2450	200	R3
250,0	246,0	0/-0.046	20,3	2,00	ESA	2500	2460	203	R3
250,0	246,0	0/-0.046	30,5	2,00	ESA	2500	2460	305	R3

Nota: altre dimensioni non a catalogo a richiesta. Consultare il nostro ufficio tecnico.
Remark: other dimensions not mentioned on catalogue on demand. Please contact our technical dept.



RASCHIATORE LEGGERO TIPO LWA

DESCRIZIONE
Il raschiatore leggero tipo **LWA** è studiato per tenere pulite le bussole a sfera nelle unità di guida.
Questo raschiatore è a contatto con alberi cementati o rettificati nella parte interna.
Alloggia nella parte esterna sul diametro della bussola e l'aggancio viene garantito da una gola (tipo quella di un seeger per esterno) dove viene inserito il gradino del raschiatore.
La lavorazione meccanica di facile esecuzione ed il minimo ingombro del raschiatore ha ampliato il campo di applicazioni anche in quello dei cilindri pneumatici.
Il labbro molto flessibile del raschiatore non pregiudica la scorrevolezza dell'unità di guida.

LIMITI D'IMPIEGO

Velocità:	< 4 m/s
Temperatura:	da - 30°C a + 90°C

MATERIALE
Il materiale utilizzato è un poliuretano che resiste molto bene all'usura e benissimo alle basse temperature mantenendosi sempre flessibile.
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: BO

MONTAGGIO
Eliminare tutti gli spigoli vivi e le bave nell'alloggiamento del raschiatore.
Si consiglia di ingrassare il sistema.

LIGHT WIPER TYPE LWA

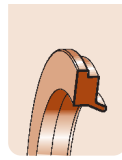
DESCRIPTION
*The light wiper type **LWA** is designed for the fast wearing of ball-bushings in the guide systems.*
This wiper runs inside carburized or ground shafts.
It is installed outside the diameter of the bushing and the chamfer is ensured by a groove (similar to the Seeger's for external use) where the wiper step is inserted.
A very simple mechanical execution and reduced overall dimensions widen the range of applications for pneumatic cylinders.
The highly flexible wiper lip does not interfere with the sliding of the guide system.

TECHNICAL DATA

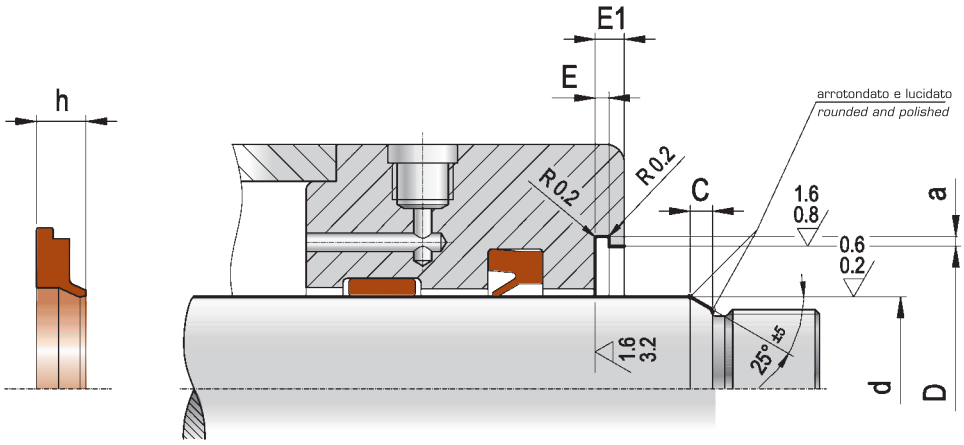
Speed:	*< 4 m/s*
Temperature:	*from - 30°C up to + 90°C*

MATERIAL
Our polyurethane is very resistant to wear and is excellent at low temperature due to its high flexibility.
Standard polyurethane 90 Sh A.
Standard compound reference: BO

ASSEMBLY
Eliminate any cutting edges and flash in the scraper housing.
We suggest greasing the system.

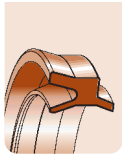


disegno / *DRAWING* LWA



d_{f9}	D_{H11}	toll H11	h	E_1	a	E	ART / *ITEM*				
6,0	12,0	+0.110/-0	4,5	3,0	1,3	1,6	LWA	0060	0120	045	B0
8,0	15,0	+0.110/-0	4,5	3,0	1,3	1,6	LWA	0080	0150	045	B0
10,0	17,0	+0.110/-0	4,5	3,0	1,3	1,6	LWA	0100	0170	045	B0
12,0	19,0	+0.130/-0	4,5	3,0	1,3	1,6	LWA	0120	0190	045	B0
14,0	21,0	+0.130/-0	4,5	3,0	1,3	1,6	LWA	0140	0210	045	B0
16,0	24,0	+0.130/-0	4,5	3,0	1,3	1,6	LWA	0160	0240	045	B0
20,0	28,0	+0.130/-0	4,5	3,0	1,3	1,6	LWA	0200	0280	045	B0
25,0	35,0	+0.160/-0	4,5	3,0	1,5	1,6	LWA	0250	0350	045	B0
30,0	40,0	+0.160/-0	4,5	3,0	2,0	1,6	LWA	0300	0400	045	B0
40,0	52,0	+0.190/-0	4,5	3,0	2,0	1,6	LWA	0400	0520	045	B0
50,0	62,0	+0.190/-0	4,5	3,0	2,0	1,6	LWA	0500	0620	045	B0

Nota: altre dimensioni non a catalogo a richiesta. Consultare il nostro ufficio tecnico.
Remark: other dimensions not mentioned on catalogue on demand. Please contact our technical dept.



RASCHIATORE BIDIREZIONALE TIPO BWA

DESCRIZIONE
L'elemento di tenuta tipo **BWA** ha il profilo di una guarnizione a labbri asimmetrici combinato con un raschiatore.
Alloggiato in un'unica sede, presenta numerosi vantaggi:
- ingombri ridotti;
- minor tempo di esecuzione della sede.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: B0

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: A0

MONTAGGIO
La sede dove va alloggiato il raschiatore non deve presentare spigoli vivi o bave che compromettano in esercizio la durata dello stesso.

BI-DIRECTIONAL WIPER TYPE BWA

DESCRIPTION
*The **BWA** sealing part combines an asymmetric lip seal profile with a wiper.*
Since it is installed in a single groove, the BWA seal has several advantages:
- reduced overall dimensions;
- faster construction of the groove.

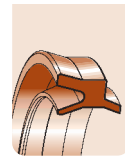
TECHNICAL DATA

Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

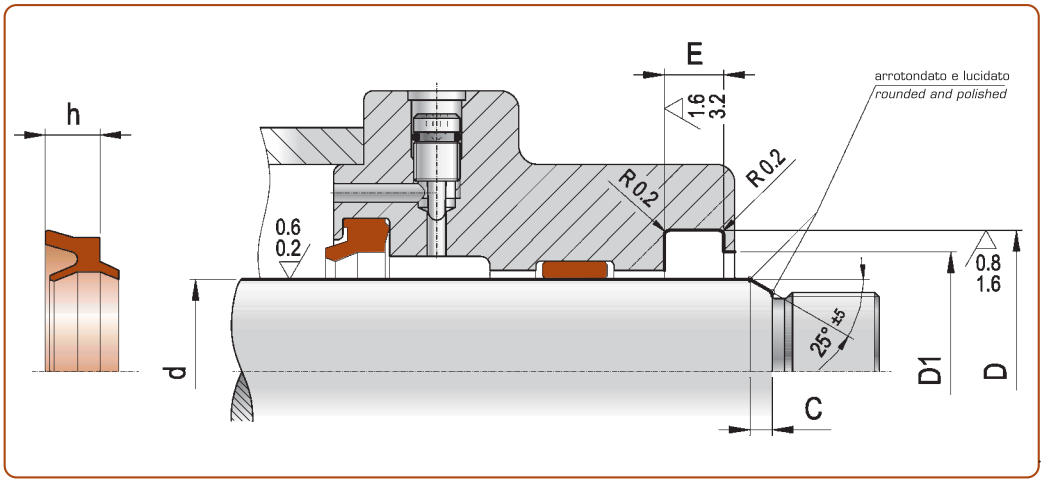
MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: B0

Alternative polyurethane 85 Sh A.
Alternative compound reference: A0

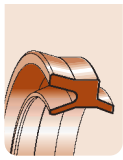
ASSEMBLY
The housing where the wiper is to be installed should not have any cutting edges or flash in order to minimise seal wear during operation.



disegno / *DRAWING* BWA

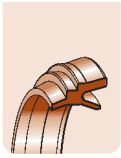


d_{f9}	D_{H10}	toll H10	D_1	h	$E_{+0,2}$	ART / *ITEM*				
3,0	8,8	+0.058/0	5,0	4,0	4,5	BWA	0030	0088	040	B0
4,0	7,0	+0.058/0	6,0	2,2	2,7	BWA	0040	0070	022	B0
4,0	8,8	+0.058/0	5,4	4,0	4,5	BWA	0040	0088	040	B0
5,0	8,0	+0.058/0	6,2	2,2	2,7	BWA	0050	0080	022	B0
6,0	9,0	+0.070/0	7,2	2,2	2,7	BWA	0060	0090	022	B0
6,0	10,8	+0.070/0	8,0	4,0	4,5	BWA	0060	0108	040	B0
8,0	11,5	+0.070/0	9,2	2,5	3,0	BWA	0080	0115	025	B0
8,0	12,8	+0.070/0	10,0	4,0	4,5	BWA	0080	0128	040	B0
8,0	14,0	+0.070/0	11,0	4,0	4,5	BWA	0080	0140	040	B0
10,0	14,0	+0.070/0	11,4	2,8	3,2	BWA	0100	0140	028	B0
10,0	16,0	+0.070/0	12,5	3,6	4,0	BWA	0100	0160	036	B0
10,0	16,8	+0.070/0	13,0	4,0	4,5	BWA	0100	0168	040	B0
10,0	18,0	+0.070/0	14,0	4,5	5,0	BWA	0100	0180	045	B0
12,0	16,5	+0.070/0	13,7	3,2	3,7	BWA	0120	0165	032	B0
12,0	18,0	+0.070/0	14,5	3,6	4,0	BWA	0120	0180	036	B0
12,0	20,0	+0.084/0	16,0	3,2	3,7	BWA	0120	0200	032	B0
12,0	20,0	+0.084/0	16,0	4,5	5,0	BWA	0120	0200	045	B0
12,0	20,0	+0.084/0	16,0	5,0	5,5	BWA	0120	0200	050	B0
12,0	22,0	+0.084/0	16,0	5,0	6,0	BWA	0120	0220	050	B0
14,0	18,5	+0.084/0	15,7	3,2	3,7	BWA	0140	0185	032	B0
14,0	20,0	+0.084/0	16,5	3,6	4,0	BWA	0140	0200	036	B0
14,0	22,0	+0.084/0	18,0	4,5	5,0	BWA	0140	0220	045	B0
14,0	24,0	+0.084/0	18,0	5,0	6,0	BWA	0140	0240	050	B0
16,0	20,5	+0.084/0	17,7	3,2	3,7	BWA	0160	0205	032	B0
16,0	22,0	+0.084/0	18,5	3,6	4,0	BWA	0160	0220	036	B0
16,0	24,0	+0.084/0	18,5	4,5	5,0	BWA	0160	0240	045	B0
16,0	26,0	+0.084/0	20,0	5,0	6,0	BWA	0160	0260	050	B0
18,0	22,5	+0.084/0	19,7	3,2	3,7	BWA	0180	0225	032	B0
18,0	24,0	+0.084/0	20,5	3,6	4,0	BWA	0180	0240	036	B0
18,0	26,0	+0.084/0	21,0	4,5	5,0	BWA	0180	0260	045	B0
18,0	28,0	+0.084/0	22,0	5,0	6,0	BWA	0180	0280	050	B0
20,0	25,0	+0.084/0	21,9	3,6	4,0	BWA	0200	0250	036	B0
20,0	26,0	+0.084/0	22,5	3,6	4,0	BWA	0200	0260	036	B0
20,0	30,0	+0.084/0	24,0	6,0	7,0	BWA	0200	0300	060	B0
22,0	27,0	+0.084/0	23,9	3,6	4,0	BWA	0220	0270	036	B0
22,0	28,0	+0.084/0	24,5	3,6	4,0	BWA	0220	0280	036	B0
22,0	32,0	+0.084/0	26,0	6,0	7,0	BWA	0220	0320	060	B0
25,0	30,0	+0.084/0	26,9	3,6	4,0	BWA	0250	0300	036	B0
25,0	31,0	+0.100/0	27,5	3,6	4,0	BWA	0250	0310	036	B0



d_{f9}	D_{H10}	toll H10	D_1	h	$E_{+0,2}$	ART / *ITEM*				
25,0	35,0	+0.100/0	29,0	6,0	7,0	BWA	0250	0350	060	BO
28,0	38,0	+0.100/0	32,0	6,0	7,0	BWA	0280	0380	060	BO
30,0	35,5	+0.100/0	32,1	3,9	4,5	BWA	0300	0355	039	BO
30,0	38,0	+0.100/0	33,0	4,5	5,0	BWA	0300	0380	045	BO
30,0	40,0	+0.100/0	34,0	6,0	7,0	BWA	0300	0400	060	BO
32,0	37,5	+0.100/0	34,1	3,9	4,5	BWA	0320	0375	039	BO
32,0	40,0	+0.100/0	35,0	4,5	5,0	BWA	0320	0400	045	BO
32,0	42,0	+0.100/0	36,0	6,0	7,0	BWA	0320	0420	060	BO
35,0	45,0	+0.100/0	39,0	6,0	7,0	BWA	0350	0450	060	BO
36,0	44,0	+0.100/0	39,0	4,5	5,0	BWA	0360	0440	045	BO
36,0	46,0	+0.100/0	40,0	6,0	7,0	BWA	0360	0460	060	BO
40,0	46,0	+0.100/0	43,0	4,3	4,8	BWA	0400	0460	043	BO
40,0	50,0	+0.100/0	44,0	6,0	7,0	BWA	0400	0500	060	BO
45,0	53,0	+0.120/0	48,0	4,5	5,0	BWA	0450	0530	045	BO
45,0	55,0	+0.120/0	49,0	6,0	7,0	BWA	0450	0550	060	BO
50,0	62,0	+0.120/0	55,0	7,5	8,5	BWA	0500	0620	075	BO

Nota: altre dimensioni non a catalogo a richiesta. Consultare il nostro ufficio tecnico.
Remark: other dimensions not mentioned on catalogue on demand. Please contact our technical dept.



RASCHIATORE BIDIREZIONALE CON GRADINO TIPO BWS

DESCRIZIONE
Il raschiatore tipo **BWS** è ottenuto dalla combinazione di una guarnizione a labbri asimmetrici ed un raschiatore. Presenta sul labbro di tenuta una raggiatura che lo rende molto scorrevole ed ha sul lato statico un gradino ridotto che ne facilita il montaggio soprattutto per diametri piccoli.
La parte raschiante ha un labbro molto sottile per non influenzare il primo distacco nel movimento del cilindro.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: BO

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: AO

MONTAGGIO
La sede dove va alloggiato il raschiatore non deve presentare spigoli vivi o bave che compromettano in esercizio la durata dello stesso.

Attenzione: per impieghi gravosi dove sono presenti disallineamenti o fuori centro, con diametri di stelo superiori a ø 16 mm è consigliato un montaggio in sede non più agganciato con il solo gradino ma con tutta la base del raschiatore (v.dis.dell'applicazione qui di seguito)

BI-DIRECTIONAL WIPER WITH STEP TYPE BWS

DESCRIPTION
*The **BWS** wiper combines an asymmetric lip seal profile with a wiper.*
On the sealing lip the BWS has a radius allowing greater smoothness and on the static side the reduced size step facilitates installation, especially for small diameters.
The scraping part has a very thin lip so as not to affect the stick-slip effect in the cylinder movement.

TECHNICAL DATA

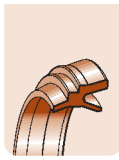
Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: BO

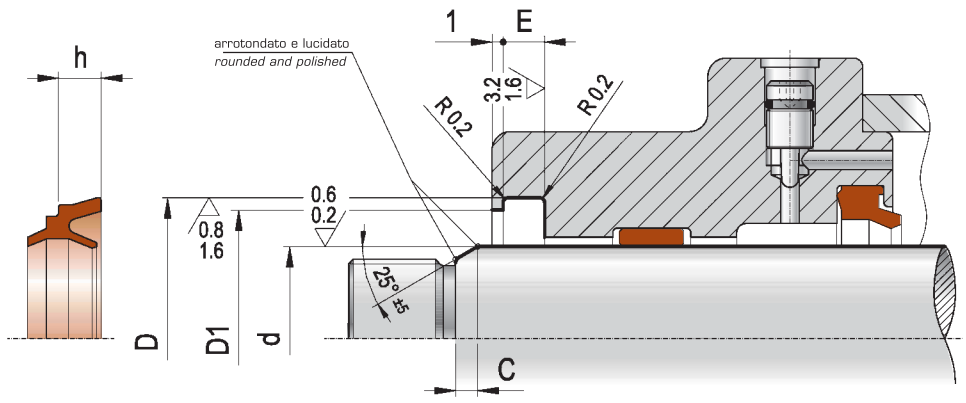
Alternative polyurethane 85 Sh A.
Alternative compound reference: AO

ASSEMBLY
The housing where the wiper is to be installed should not have any cutting edges or flash so as to minimise the seal wear during operation.

Warning: for heavy duty applications showing misaligmments or imbalance and with all diameters above ø 16 mm, during installation all the back of the wiper base should be hooked to the housing and not just to the step. (see following application drawings)

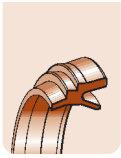


disegno / *DRAWING* BWS



d_{f9}	D_{H10}	toll H10	D_1	h	E	ART / *ITEM*				
4,0	8,1	+0.058/0	6,70	2,8	3,0	BWS	0040	0081	028	B0
6,0	11,1	+0.070/0	9,10	3,3	3,6	BWS	0060	0111	033	B0
8,0	14,1	+0.070/0	12,10	3,3	3,6	BWS	0080	0141	033	B0
10,0	16,1	+0.070/0	14,10	3,8	4,2	BWS	0100	0161	038	B0
12,0	18,1	+0.084/0	15,10	3,8	4,2	BWS	0120	0181	038	B0
12,0	20,0	+0.084/0	18,00	3,6	4,0	BWS	0120	0200	036	B0
14,0	22,0	+0.084/0	20,00	3,6	4,0	BWS	0140	0220	036	B0
16,0	24,0	+0.084/0	22,00	3,6	4,0	BWS	0160	0240	036	B0

Nota: altre dimensioni non a catalogo a richiesta. Consultare il nostro ufficio tecnico.
Remark: other dimensions not mentioned on catalogue on demand. Please contact our technical dept.



RASCHIATORE BIDIREZIONALE CON GRADINO TIPO BWS

DESCRIZIONE
Il raschiatore tipo **BWS** è ottenuto dalla combinazione di una guarnizione a labbri asimmetrici ed un raschiatore. Presenta sul labbro di tenuta una raggiatura che lo rende molto scorrevole ed ha sul lato statico un gradino ridotto che ne facilita il montaggio soprattutto per diametri piccoli.
La parte raschiante ha un labbro molto sottile per non influenzare il primo distacco nel movimento del cilindro.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE
Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: B0

Materiale alternativo poliuretano a 85 Sh A.
Codice materiale alternativo: A0

MONTAGGIO
La sede dove va alloggiato il raschiatore non deve presentare spigoli vivi o bave che compromettano in esercizio la durata dello stesso.

Attenzione: per impieghi gravosi dove sono presenti disallineamenti o fuori centro, con diametri di stelo superiori a ø 16 mm è consigliato un montaggio in sede non più agganciato con il solo gradino ma con tutta la base del raschiatore (v.dis.dell'applicazione qui di seguito)

BI-DIRECTIONAL WIPER WITH STEP TYPE BWS

DESCRIPTION
*The **BWS** wiper combines an asymmetric lip seal profile with a wiper.*
On the sealing lip the BWS has a radius allowing greater smoothness and on the static side the reduced size step facilitates installation, especially for small diameters.
The scraping part has a very thin lip so as not to affect the stick-slip effect in the cylinder movement.

TECHNICAL DATA

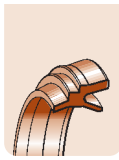
Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

MATERIAL
Standard polyurethane 90 Sh A.
Standard compound reference: B0

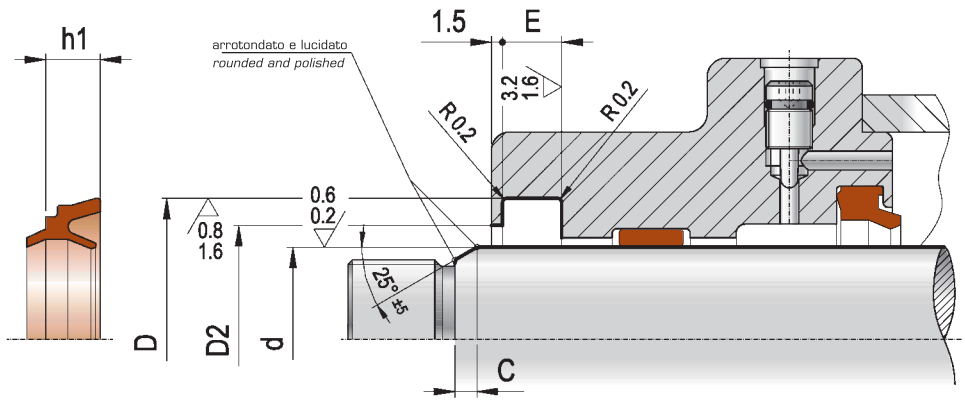
Alternative polyurethane 85 Sh A.
Alternative compound reference: A0

ASSEMBLY
The housing where the wiper is to be installed should not have any cutting edges or flash so as to minimise the seal wear during operation.

Warning: for heavy duty applications showing misaligmments or imbalance and with all diameters above ø 16 mm, during installation all the back of the wiper base should be hooked to the housing and not just to the step. (see following application drawings)

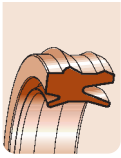


disegno / *DRAWING* BWS



d_{f9}	D_{H10}	toll H10	D_2	h_1	E	ART / *ITEM*				
18	26	+0,084/0	21,5	5,6	6,0	BWS	0180	0260	056	B0
20	28	+0,084/0	23,5	5,6	6,0	BWS	0200	0280	056	B0
22	30	+0,084/0	25,5	5,6	6,0	BWS	0220	0300	056	B0
25	33	+0,100/0	28,5	5,6	6,0	BWS	0250	0330	056	B0
28	36	+0,100/0	31,5	5,6	6,0	BWS	0280	0360	056	B0
30	38	+0,100/0	33,5	5,6	6,0	BWS	0300	0380	056	B0
32	40	+0,100/0	35,5	5,6	6,0	BWS	0320	0400	056	B0
35	43	+0,100/0	38,5	5,6	6,0	BWS	0350	0430	056	B0
36	44	+0,100/0	39,5	5,6	6,0	BWS	0360	0440	056	B0
40	46	+0,100/0	43,0	4,3	4,8	BWS	0400	0460	043	B0
40	48	+0,100/0	43,5	5,6	6,0	BWS	0400	0480	056	B0
42	50	+0,100/0	45,5	5,6	6,0	BWS	0420	0500	056	B0
45	53	+0,120/0	48,5	5,6	6,0	BWS	0450	0530	056	B0
50	58	+0,120/0	53,5	5,6	6,0	BWS	0500	0580	056	B0
55	63	+0.120/0	58,5	5,6	6,0	BWS	0550	0630	056	B0
56	64	+0.120/0	59,5	5,6	6,0	BWS	0560	0640	056	B0
60	68	+0.120/0	63,5	5,6	6,0	BWS	0600	0680	056	B0
100	108	+0.120/0	103,5	5,6	6,0	BWS	1000	1080	056	B0

Nota: altre dimensioni non a catalogo a richiesta. Consultare il nostro ufficio tecnico.
Remark: other dimensions not mentioned on catalogue on demand. Please contact our technical dept.



RASCHIATORE BIDIREZIONALE CON GANCIO TIPO BWH

DESCRIZIONE

La particolare forma e profilo del raschiatore con aggancio tipo **BWH** e la sede completamente aperta, ne consentono un rapido montaggio sia in automatico che in manuale.
La sede completamente aperta con una fresatura sulla parte laterale consente di sostituire il raschiatore molto facilmente.
Lo speciale profilo, che combina la tenuta e il raschiatore è molto robusto e consente allo stelo anche significativi disallineamenti senza il pericolo di espulsione dalla sede. Inoltre, la forma dei labbri statici impedisce alle impurità di penetrare nel cilindro.

LIMITI D'IMPIEGO

Pressione:	< 20 bar
Velocità:	< 1 m/s
Temperatura:	da - 30°C a + 90°C
Fluidi:	aria con o senza lubrificazione, oli e grassi minerali (vedi TABELLA I, pagg. 12-13)

MATERIALE

Materiale standard poliuretano a 90 Sh A.
Codice materiale standard: BO

Materiale alternativo poliuretano a 93 Sh A.
Codice materiale alternativo: CO

MONTAGGIO

E' consigliato durante il montaggio lubrificare la parte interna del raschiatore, mentre occorre evitare di lubrificare la parte esterna e la cava per il pericolo di espulsione dalla sede.
Eliminare tutti gli spigoli vivi e le bave nella sede per facilitare il montaggio e non danneggiare la guarnizione durante l'inserimento.

BI-DIRECTIONAL WIPER WITH HOOK TYPE BWH

DESCRIPTION

*The main characteristic of the hooked profile of the **BWH** wiper is to enable easy and fast installation into a complete open housing both automatically and manually. The groove is completely open with a lateral milling, which allows the wiper to be replaced easily.*
The special profile combining a seal and a wiper has fast wear resistance and also allows significant deviations without the risk of extrusion from the open groove. Moreover, the static lips profile keeps dirt out of the cylinder.

TECHNICAL DATA

Pressure:	*< 20 bar*
Speed:	*< 1 m/s*
Temperature:	*from - 30°C up to + 90°C*
Fluids:	*air with or without lubrication, mineral oils or grease (see TABLE I, pages 12-13)*

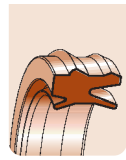
MATERIAL

Standard polyurethane 90 Sh A.
Standard compound reference: BO

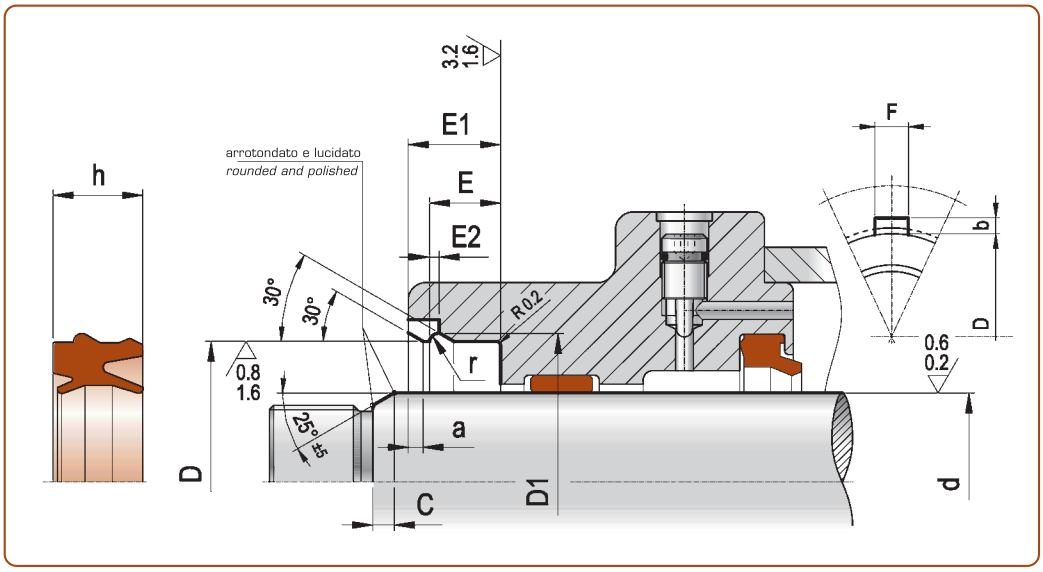
Alternative polyurethane 93 Sh A.
Alternative compound reference: CO

ASSEMBLY

The wiper should be lubricated internally during installation. However an external lubrication of the wiper and housing is not recommended due to the risk of extrusion of the wiper itself. It is important to eliminate any cutting edges and flash in the housing to prevent damage to seals during mounting.



disegno / *DRAWING* BWH



d_{f9}	D_{H10}	toll H10	D_1	h	E_1	E	E_2	r	a	b	F	ART / *ITEM*				
12,0	20,0	+0,084/0	22,0	10,7	13,0	8,8	2,5	1,1	1,5	1,8	4,0	BWH	0120	0200	107	B0
12,0	22,0	+0,084/0	24,0	10,7	13,0	8,8	2,5	1,1	1,5	1,8	4,0	BWH	0120	0220	107	B0
16,0	26,0	+0,084/0	28,0	10,7	13,0	8,8	2,5	1,1	1,5	1,8	5,0	BWH	0160	0260	107	B0
18,0	26,0	+0,084/0	28,0	10,7	13,0	8,8	2,5	1,1	1,5	1,8	5,0	BWH	0180	0260	107	B0
18,0	28,0	+0,084/0	30,0	10,7	13,0	8,8	2,5	1,1	1,5	1,8	5,0	BWH	0180	0280	107	B0
20,0	30,0	+0,084/0	32,0	10,7	13,0	8,8	2,5	1,1	1,5	1,8	5,0	BWH	0200	0300	107	B0
22,0	32,0	+0,100/0	34,5	11,2	14,0	9,4	3,0	1,4	2,0	2,0	7,5	BWH	0220	0320	112	B0
25,0	35,0	+0,100/0	37,5	11,2	14,0	9,4	3,0	1,4	2,0	2,0	7,5	BWH	0250	0350	112	B0
30,0	40,0	+0,100/0	42,5	11,2	14,0	9,4	3,0	1,4	2,0	2,0	7,5	BWH	0300	0400	112	B0
32,0	42,0	+0,100/0	44,5	11,2	14,0	9,4	3,0	1,4	2,0	2,0	7,5	BWH	0320	0420	112	B0
40,0	50,0	+0,100/0	52,5	11,2	14,0	9,4	3,0	1,4	2,0	2,0	7,5	BWH	0400	0500	112	B0
45,0	55,0	+0,120/0	58,2	12,2	15,0	10,4	4,0	1,8	2,0	2,5	10,0	BWH	0450	0550	122	B0
50,0	60,0	+0,120/0	63,2	12,2	15,0	10,4	4,0	1,8	2,0	2,5	10,0	BWH	0500	0600	122	B0
63,0	75,0	+0,120/0	78,2	13,0	16,0	11,4	4,0	1,8	2,0	2,5	10,0	BWH	0630	0750	130	B0

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