

## ÍNDICE GENERAL / ÍNDICE GERAL / GENERAL INDEX

El presente catálogo tiene como objetivo exhibir las series normalizadas de guarniciones y empaquetaduras, brindando una información básica para que toda persona familiarizada con el tema, cuente con los elementos necesarios para una correcta selección.

Estamos convencidos que esta información le será muy útil para conocer todo lo que **WINNER-PAK** puede aportar a la industria en general. Por eso, en caso de necesitar más detalles rogamos consultar con nuestro Departamento Técnico.

ESPAÑOL

O presente catálogo tem como objetivo exhibir as séries normalizadas de guarnições e gaxetas oferecendo uma informação básica para que qualquer pessoa familiarizada com o assunto, conte com os elementos necessários para uma correta escolha.

Estamos convencidos que esta informação lhes será muito útil para saber tudo o que a **WINNER-PAK** pode oferecer à indústria em geral. Por isso no caso de necessitar de maiores detalhes, solicitamos que consultem nosso departamento técnico.

PORTUGUES

This catalogue has as main subject to show the normalized series of seals, offering basic information for every person familiarised with this subject, who can count with the necessary elements for a correct choice. We are convinced that this information will be very useful to know what **WINNER-PAK** can contribute to industry. So, in case of needing more details please contact our Technical Department.

ENGLISH



## GUARNICION PARA PISTON

### GUARNIÇÕES PARA PISTÃO / SEALS FOR PISTON

Perfiles Perfis Profiles	Materiales Materiais Materials	Temperaturas Temperaturas Temperatures	Velocidades Velocidades Speeds	Página Página Page
	<b>W-POLI-WIN B</b> Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C	0,5m/s	5
	<b>W-POLI-WIN S</b> Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C		
	<b>W-GUP</b> Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C	0,5m/s	13
	<b>W-CT</b> Goma y tela Borracha e tela / NBR and Hard Fabric	-50°C – 130°C	0,5m/s	17
	<b>W-CP</b> Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C	0,5m/s	17
	<b>W-SP</b> Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C	0,5m/s	21
	<b>W-MV</b> Goma y tela Borracha e tela / NBR and Hard Fabric	-50°C – 130°C	0,5m/s	22
	<b>W-MVM</b> Goma y tela Borracha e tela / NBR and Hard Fabric	-50°C – 130°C	0,5m/s	26
	<b>W-EDE</b> Goma, Goma y Tela, y material a elección. Borracha, Borracha e tela, e material a escolha. NBR, NBR and Hard Fabric, and some material to be chosen.	-50°C – 130°C	0,5m/s	29
	<b>W-ESE</b> Goma, Goma y Tela Borracha, Borracha e tela NBR, NBR and Hard Fabric	-50°C – 130°C	0,5m/s	31
	<b>W-EDSM</b> Goma, Goma y Tela, y material a elección. Borracha, Borracha e tela, e material a escolha. NBR, NBR and Hard Fabric, and some material to be chosen.	-50°C – 130°C	0,5m/s	33
	<b>W-GUT</b> Goma y tela Borracha e tela / NBR and Hard Fabric	-50°C – 130°C	0,5m/s	37
	<b>W-EDBM</b> NBR, Poliester, y material a elección Borracha, poliester e material a escolha NBR, Polyester and material to be chosen	-40°C – 120°C	0,5m/s	39
	<b>W-O-RING</b> Goma Borracha / NBR	-50°C – 130°C	0,5m/s	41
	<b>W-GUG</b> Goma Borracha / NBR	-50°C – 130°C	0,5m/s	52
	<b>W-GT</b> NBR y aro de PTFE Borracha e anel de PTFE NBR and PTFE ring	-50°C a 200°C según el material depende do material depending on the ring compound	0,5m/s	56
	<b>W-DN</b> Goma y material a elección, Borracha e material a escolha NBR and material to be chosen	-50°C – 130°C	0,5m/s	57
	<b>W-JC</b> PTFE con carga reforzante y aro de goma. PTFE com carga de reforço e anel de borracha. PTFE with reinforced charge and NBR ring.	-50°C a 200°C según el material depende do material depending on the ring compound	14m/s	58
	<b>W-STEP</b> PTFE con carga reforzante y O´ring de goma. PTFE com carga de reforço e anel O´ring de borracha. PTFE with reinforced charge and NBR O´ring.	-50°C a 200°C según el material depende do material depending on the ring compound	14m/s	59
	<b>W-AG</b> Poliamida con cargas especiales Poliamida com cargas especiais Polyamid with specials charges	-50°C – 130°C	-	60

## GUARNICION PARA VASTAGO

### GUARNIÇÕES PARA HASTE / SEALS FOR ROD

Perfiles Perfis Profiles		Materiales Materiais Materials	Temperaturas Temperaturas Temperatures	Velocidades Velocidades Speeds	Página Página Page
	<b>W-POLI-WIN B</b>	Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C	0,5m/s	5
	<b>W-POLI-WIN S</b>	Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C		
	<b>W-RPI</b>	Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C	0,5m/s	11
	<b>W-GUP</b>	Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C		
	<b>W-GRP</b>	Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C	0,5m/s	16
	<b>W-RP</b>	Poliuretano / Poliuretano / Polyurethane HTP	-50°C – 90°C -50°C – 135°C		
	<b>W-MV</b>	Goma y tela Borracha e tela / NBR and Hard Fabric	-50°C – 130°C	0,5m/s	22
	<b>W-MVM</b>	Goma y tela Borracha e tela / NBR and Hard Fabric	-50°C – 130°C	0,5m/s	26
	<b>W-ESE</b>	Goma, Goma y Tela Borracha, Borracha e tela NBR, NBR and Hard Fabric	-50°C – 130°C	0,5m/s	31
	<b>W-ESM</b>	Goma, Goma y Tela, y material a elección. Borracha, Borracha e tela, e material a escolha. NBR, NBR and Hard Fabric, and some material to be chosen.	-50°C – 130°C	0,5m/s	35
	<b>W-GUT</b>	Goma y tela Borracha e tela / NBR and Hard Fabric	-50°C – 130°C	0,5m/s	37
	<b>W-O'RING</b>	Goma Borracha / NBR	-50°C – 130°C	0,5m/s	41
	<b>W-GUG</b>	Goma Borracha / NBR	-50°C – 130°C	0,5m/s	52
	<b>W-RG</b>	Goma Borracha / NBR	-50°C – 130°C	0,5m/s	55
	<b>W-GT</b>	NBR y aro de PTFE Borracha e anel de PTFE NBR and PTFE ring	-50°C a 200°C según el material depende do material depending on the ring compound	0,5m/s	56
	<b>W-JC</b>	PTFE con carga reforzante y aro de goma. PTFE com carga de reforço e anel de borracha. PTFE with reinforced charge and NBR ring.	-50°C a 200°C según el material depende do material depending on the ring compound	14m/s	58
	<b>W-STEP</b>	PTFE con carga reforzante y O'ring de goma. PTFE com carga de reforço e anel O'ring de borracha. PTFE with reinforced charge and NBR O'ring.	-50°C a 200°C según el material depende do material depending on the ring compound	14m/s	59
	<b>W-AG</b>	Poliamida con cargas especiales Poliamida com cargas especiais Polyamid with specials charges	-50°C – 130°C	-	60

**RESPALDO DE O'RING W-RO**

ANEL ANTI EXTRUSÃO W-RO / NON-EXTRUSION RING (BACKING O'RING) W-RO

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**CUERDA DE O'RING W-CO**

CORDÃO O'RING W-CO / O'RING CONTINUOUS CORD W-CO

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**GUARNICION ESTATICA W-BS**

GUARNIÇÃO ESTATICA W-BS / STATIC SEAL W-BS

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RETENTORES DBH / DBH OIL SEALS

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La guarnición **W-Poli-Win** está inyectada en poliuretano y posteriormente impregnada con disulfuro de molibdeno constituyendo un lubricante seco que brinda una excelente resistencia a la abrasión y buena compatibilidad con los fluidos utilizados en los circuitos hidráulicos, no es recomendable en aplicaciones con éteres, cetonas, aguaglicol, líquidos de frenos y compuestos aromáticos. Posee excelente estabilidad en agua a temperatura moderada y está preparada para trabajar a temperaturas que oscilan entre -50°C hasta 90°C en servicios continuos, y hasta 120°C en forma intermitente. POLI-WIN es un sello de tipo labial activado por un O'Ring que funciona como resorte, que al no tener contacto con la superficie de fricción, no sufre desgaste alguno por su función que es la de proveer resistencia al efecto de compresión compensando automáticamente el desgaste del sello, y en los casos en que no existe presión compensa la carencia de la misma. La resistencia del O'Ring hace que la adaptación del sello en cilindros ovalizados por desgaste tenga mayor desempeño respecto a sellos convencionales. La presión de trabajo es de 400 kg/cm<sup>2</sup>.

ESPAÑOL

A gaxeta **W-Poli-Win** é injetada em poliuretano e impregnada com dissulfeto de molibidênio, um lubrificante seco que oferece uma excelente resistência a abrasão e boa compatibilidade com os fluidos mais utilizados nos circuitos hidráulicos, não sendo recomendado em aplicações com éteres, cetonas, água glicol, fluidos para freios e compostos aromáticos. Possui excelente estabilidade em água a temperatura moderada e está preparada para trabalhar a temperaturas que variam de -50°C a 90°C em serviços contínuos, e até 120°C de modo intermitente. POLI-WIN é uma gaxeta do tipo labial ativado por um anel O'ring que funciona como uma mola, que ao manter contato com a superfície de fricção, não sofre desgaste algum devido a sua função de promover resistência ao efeito de compressão, compensando automaticamente o desgaste da gaxeta, e nos casos em que não existe pressão, compensa a falta da mesma. A resistência do anel O'ring permite uma adaptação da gaxeta em cilindros ovalizados por desgaste, tenha maior desempenho em relação às gaxetas convencionais. A pressão de trabalho é de 400 kg/cm<sup>2</sup>.

PORTUGUES

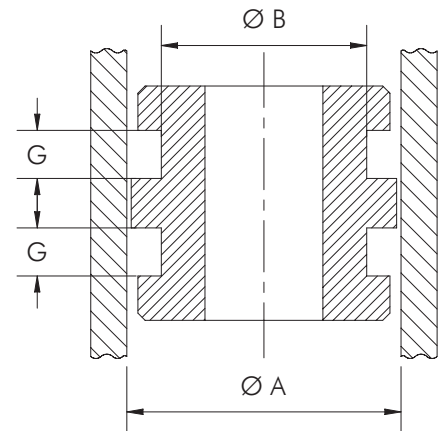
The **W-Poli Win** seal is injected with polyurethane with posterior impregnability with molybdenum disulphide. It is a dry lubricant that offers an excellent resistance to abrasion and good compatibility with used fluids in hydraulic circuits. It is not recommended in application with ethers, ketone, waterglycol, brake fluids and aromatics compounds. It contains stability in mid temperature water. It is prepared to work with temperatures that oscillates from -50°C to 90°C in continuous services and to 120°C in intermittent way. Poli Win is a lip seal type, activated with and O'ring which works as spring, that not suffer any kind of slow waste because it has not any contact with friction surface. The O'ring function is provide resistance to the compression set, compensating automatically the slow waste of the seal. When there is not pressure it avoids leaks of fluid. The O'ring resistance makes seal adaptation in oval cylinders slow wasted, acquire better performance respecting to common seals. The working pressure is 400 kg/cm<sup>2</sup>, depending on the gap between the cylinder and the piston.

ENGLISH

<b>Perfil B</b> Perfi B Profile B		<b>Perfil S</b> Perfi S Profile S		<b>S</b> <b>Sección nominal</b> Secção nominal Nominal section		<b>T</b> <b>Juego diametral</b> Jogo diametral Diametrical set		<b>J</b> <b>Distancia entre labios</b> Distância entre lábios Distance between lips	
				1/8	3,17	0,02	0,10	3,95	
				3/16	4,76	0,03	0,12	5,92	
				1/4	6,35	0,04	0,15	7,90	
				5/16	7,93	0,05	0,20	9,50	
				3/8	9,52	0,05	0,20	11,20	
				1/2	12,70	0,05	0,25	14,96	
				5/8	15,87	0,07	0,30	18,40	

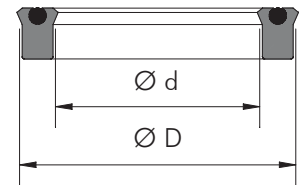
### Sellado exterior (cilindros)

1. Al diámetro del cilindro (A) se le deben restar dos secciones no-minales (S) y de esto resultará el diámetro del alojamiento de sello en el pistón (B).
2. Para obtener el diámetro exterior del pistón se contemplará el juego del pistón y el cilindro, que variará para cada sección utilizada según la condición de trabajo, estática o dinámica, este juego está indicado en la tabla correspondiente y deberá respetarse.
3. La altura del alojamiento (G y G) deberá ser por lo menos un 10% superior a la altura del sello (H).
4. Dentro de las posibilidades del diseño seleccione la sección nominal mayor disponible ya que de esta forma son más amplias, las tolerancias y juegos diametrales admisibles.
5. El POLI-WIN puede permanecer estirado hasta un 5% en condiciones de trabajo.
6. Recomendamos el uso de alojamientos partidos para las mayores secciones, ya que no requieren previo estiramiento del sello.



### Selagem externa (cilindros)

1. Ao diâmetro do cilindro (A) deve restar duas secções nominais (S) e isto resultará no diâmetro do alojamento da gaxeta no pistão (B).
2. Para obter o diâmetro externo do pistão, verificar-se-á o jogo do pistão e cilindro que variará para cada secção utilizada segundo as condições de trabalho estático ou dinâmico. Este jogo está indicado na tabela correspondente e deverá ser respeitado.
3. A altura do alojamento (G e G) deverá ser pelo menos 10% superior a altura da gaxeta (H).
4. Dentro das possibilidades do desenho seleccione a secção nominal maior disponível, uma vez que desta maneira são maiores as tolerâncias e os jogos diametrais admissíveis.
5. POLI-WIN pode permanecer destentido até 5% nas condições de trabalho.
6. Recomendamos o uso de alojamentos partidos para as secções maiores, já que não necessitam de uma distensão prévia da gaxeta.



### Outside sealing (piston sealing)

1. Two nominal sections (S) have to be rested to the cylinder diameter (A), to get the seal group diameter (B) in the piston.
2. To obtain the outside piston diameter, contemplate the set between piston and cylinder, which both will vary to each used sections according to working , static or dynamic conditions.
3. The groove height (G and G) must be at least 10% superior to seal height (H).
4. Choose the greatest nominal section disposed within the possibilities from the design to obtain widest tolerance admissible diametrical set.
5. The Poli Win can stay stretched up to 5% in working conditions.
6. We recommend the usage of groove which is open on one side for the greatest sections, because it does not require a previous stretch of the seal.

### Sellado interior (vástagos)

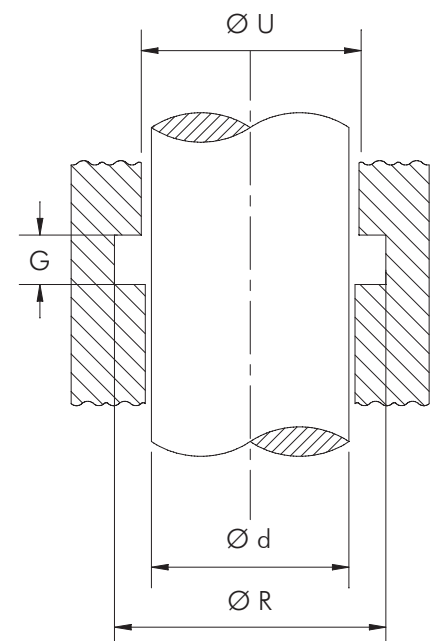
7. Al diámetro del vástago (d) se le suman dos secciones nominales (S) y resultará el diámetro mayor del alojamiento (R).
8. Deberá considerarse el juego entre el vástago y su guía para lo cual deberá sumar al diámetro del vástago el juego diametral admisible (T) que variará de acuerdo a la sección del sello, esto determinará el diámetro (U) de la guía por la cual se deslizará el vástago. El juego diametral admisible se identifica en la figura y en la tabla.

### Selagem interna (pistão)

7. Ao diâmetro da haste (d) se acrescentam duas secções nominais (S) para se obter o maior diâmetro do alojamento (R).
8. Deve-se levar em consideração o jogo entre a haste e sua guia para o qual se deve somar ao diâmetro do eixo o jogo diametral admissível (T) que variará de acordo com a secção da gaxeta, isto determinará o diâmetro (U) da guia pela qual deslizará o eixo. O jogo diametral admissível se identifica na figura e na tabela.

### Inside sealing (rods)

7. Two nominal sections (S) have to be added to the rod diameter (L), to get the greatest groove diameter (R).
8. It must be consider the set between rod and its guide, so it must be added the admissible diametrical set (T), which will vary according to the seal section, to the rod diameter. This calculation and the slipping of the rod will determinate the guide diameter (U). The admissible diametrical set is identified in the picture and the chart.



### Sección 3,17 mm / Secção 3,17 mm / Section 3,17 mm

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
1250250-250-B	6,35	12,70	6,35	1250812-125-B	20,64	26,99	3,17	1251187-250-B	30,16	36,51	6,35
1250312-250-B	7,94	14,29	6,35	1250812-250-B	20,64	26,99	6,35	1251250-125-S	31,75	38,10	3,17
1250375-250-B	9,52	15,88	6,35	1250875-250-B	22,22	28,58	6,35	1251250-250-B	31,75	38,10	6,35
1250437-250-B	11,11	17,46	6,35	1251000-125-S	25,40	31,75	3,17	1251375-125-B	34,92	41,28	3,17
1250500-250-B	12,70	19,05	6,35	1251000-125-B	25,40	31,75	3,17	1251375-250-B	34,92	41,28	6,35
1250562-250-B	14,29	20,64	6,35	1251000-250-B	25,40	31,75	6,35	1251437-250-B	36,51	42,86	6,35
1250625-250-B	15,88	22,22	6,35	1251100-180-B	27,95	34,30	4,57	1251500-250-B	38,10	44,45	6,35
1250750-125-S	19,05	25,40	3,17	1251125-157-B	28,58	34,92	4,00	1251625-250-B	41,28	47,62	6,35
1250750-250-B	19,05	25,40	6,35	1251125-250-B	28,58	34,92	6,35	1252250-390-B	57,15	63,50	9,92

### Sección 4,76 mm / Secção 4,76 mm / Section 4,76 mm

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
1870250-250-B	6,35	15,88	6,35	1871250-266-B	31,75	41,28	6,75	1872125-312-B	53,98	63,50	7,94
1870312-312-B	7,94	17,46	7,94	1871250-312-B	31,75	41,28	7,94	1872125-375-B	53,98	63,50	9,52
1870375-261-B	9,52	19,02	6,70	1871250-375-B	31,75	41,28	9,52	1872185-312-B	55,50	65,02	7,94
1870437-312-B	11,11	20,64	7,94	1871312-312-B	33,32	42,86	7,94	1872187-312-B	55,56	65,09	7,94
1870500-261-B	12,70	22,22	6,70	1871375-187-S	34,92	44,45	4,76	1872250-375-B	57,15	66,68	9,52
1870500-312-B	12,70	22,22	7,94	1871375-312-B	34,92	44,45	7,94	1872375-375-B	60,32	69,85	9,52
1870562-312-B	14,29	23,81	7,94	1871437-312-B	36,51	46,04	7,94	1872500-250-S	63,50	73,00	6,35
1870625-187-S	15,88	25,37	4,76	1871500-187-S	38,10	47,62	4,76	1872500-375-B	63,50	73,02	9,52
1870625-250-B	15,88	25,37	6,35	1871500-266-B	38,10	47,62	6,75	1872625-375-B	66,68	76,20	9,52
1870625-312-B	15,88	25,40	7,94	1871500-312-B	38,10	47,62	7,94	1872750-375-B	69,85	79,38	9,52
1870687-312-B	17,46	26,99	7,94	1871500-375-B	38,10	47,62	9,52	1872875-375-B	73,02	85,54	9,52
1870750-312-B	19,05	28,58	7,94	1871625-187-S	41,28	50,80	4,76	1873000-375-B	76,20	85,72	9,52
1870812-187-S	20,64	30,16	4,76	1871625-312-B	41,28	50,80	7,94	1873125-375-B	79,38	88,90	9,52
1870812-197-B	20,64	30,16	5,00	1871625-375-B	41,28	50,80	9,52	1873250-375-B	82,55	92,08	9,52
1870812-312-B	20,64	30,16	7,94	1871750-187-S	44,45	53,98	4,76	1873375-375-B	85,72	95,24	9,52
1870875-197-B	22,22	31,75	5,00	1871750-266-B	44,45	53,98	6,76	1873500-375-B	88,90	98,42	9,52
1870875-312-B	22,22	31,75	7,94	1871750-312-B	44,45	53,65	7,92	1873625-375-B	92,08	101,60	9,52
1870937-312-B	23,81	33,34	7,94	1871750-375-B	44,45	53,98	9,52	1873750-375-B	95,25	104,78	9,52
1870937-375-B	23,81	33,34	9,52	1871875-375-B	47,62	57,15	9,52	1873875-375-B	98,42	107,95	9,52
1871000-187-S	25,40	34,92	4,76	1871937-281-B	49,20	58,70	7,14	1874000-375-B	101,60	111,12	9,52
1871000-312-B	25,40	34,92	7,94	1872000-187-S	50,80	60,32	4,76	1874500-375-B	114,30	123,82	9,52
1871125-187-S	28,58	38,10	4,76	1872000-197-B	50,80	60,32	5,00	1875000-375-B	127,00	136,52	9,52
1871125-312-B	28,58	38,10	7,94	1872000-266-B	50,80	60,32	6,75	1875500-375-B	139,70	149,22	9,52
1871187-312-B	30,16	39,68	7,94	1872000-375-B	50,80	60,32	9,52	1875500-625-B	139,70	149,22	15,88
1871250-187-S	31,75	41,28	4,76	1872125-266-B	53,98	63,50	6,76				

## Sección 6,35 mm / Secção 6,35 mm / Section 6,35 mm

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
2500500-375-B	12,70	25,40	9,52	2502125-375-B	53,98	66,68	9,52	2504250-562-B	107,95	120,65	14,29
2500625-375-B	15,88	28,58	9,52	2502250-250-S	57,15	69,85	6,35	2504375-375-B	111,12	123,82	9,52
2500687-375-B	17,46	30,16	9,52	2502250-375-B	57,15	69,85	9,52	2504375-562-B	111,12	123,82	14,29
2500750-375-B	19,05	31,75	9,52	2502375-375-B	60,32	73,02	9,52	2504500-375-B	114,30	127,00	9,52
2500875-375-B	22,22	34,92	9,52	2502500-250-S	63,50	76,20	6,35	2504500-562-B	114,30	127,00	14,29
2501000-250-S	25,40	38,10	6,35	2502500-375-B	63,50	76,20	9,52	2504625-562-B	117,47	130,17	14,29
2501000-375-B	25,40	38,10	9,52	2502625-375-B	66,68	79,38	9,52	2504750-375-B	120,65	133,35	9,52
2501125-375-B	28,58	41,28	9,52	2502750-250-S	69,85	82,55	6,35	2504750-562-B	120,65	133,35	14,29
2501187-250-B	30,16	42,86	6,35	2502750-375-B	69,85	82,55	9,52	2505000-375-B	127,00	139,70	9,52
2501187-375-B	30,16	42,86	9,52	2502875-375-B	73,02	85,72	9,52	2505000-562-B	127,00	139,70	14,29
2501250-250-S	31,75	44,45	6,35	2503000-250-S	76,20	88,90	6,35	2505125-375-B	130,17	142,87	9,52
2501250-312-B	31,75	44,45	7,92	2503000-375-B	76,20	88,90	9,52	2505250-562-B	133,35	146,05	14,29
2501250-375-B	31,75	44,45	9,52	2503250-375-B	82,55	95,25	9,52	2505500-375-B	139,70	152,40	9,52
2501375-250-S	34,92	47,62	6,35	2503375-375-B	85,72	98,42	9,52	2505500-562-B	139,70	152,40	14,29
2501375-375-B	34,92	47,62	9,52	2503500-250-S	88,90	101,60	6,35	2506000-375-B	152,40	165,10	9,52
2501500-250-S	38,10	50,80	6,35	2503500-375-B	88,90	101,60	9,52	2506000-562-B	152,40	165,10	14,29
2501500-375-B	38,10	50,80	9,52	2503625-375-B	92,08	104,78	9,52	2506500-562-B	165,10	177,80	14,29
2501625-250-S	41,28	53,98	6,35	2503750-375-B	95,25	107,95	9,52	2507000-375-B	177,80	190,50	9,52
2501625-375-B	41,28	53,98	9,52	2503875-375-B	98,42	111,12	9,52	2507250-562-B	184,15	196,85	14,29
2501750-375-B	44,45	57,15	9,52	2504000-375-B	101,60	114,30	9,52	2507500-562-B	190,50	203,20	14,29
2501875-375-B	47,62	60,32	9,52	2504000-562-B	101,60	114,30	14,29	2508000-562-B	203,20	215,90	14,29
2502000-250-S	50,80	63,50	6,35	2504250-375-B	107,95	120,65	9,52	2508500-562-B	215,90	228,60	14,29
2502000-375-B	50,80	63,50	9,52								

## Sección 7,93 mm / Secção 7,93 mm / Section 7,93 mm

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
3120750-500-B	19,05	34,92	12,70	3122000-500-B	50,80	66,68	12,70	3123625-500-B	92,08	107,95	12,70
3121000-500-B	25,40	41,26	12,70	3122125-500-B	53,98	69,85	12,70	3123750-500-B	95,25	111,05	12,70
3121250-500-B	31,75	47,62	12,70	3122250-500-B	57,15	73,02	12,70	3123750-625-B	95,25	111,05	15,88
3121375-312-S	34,92	50,80	7,93	3122375-312-S	60,32	76,20	7,93	3124000-312-S	101,60	117,48	7,93
3121375-500-B	34,92	50,80	12,70	3122375-500-B	60,32	76,20	12,70	3124000-562-B	101,60	117,48	14,29
3121437-500-B	36,51	52,39	12,70	3122500-500-B	63,50	79,38	12,70	3124250-562-B	107,95	123,82	14,29
3121500-500-B	38,10	53,98	12,70	3122750-312-S	69,80	85,70	7,93	3124375-562-B	111,12	127,00	14,29
3121625-500-B	41,28	57,15	12,70	3122750-500-B	69,80	85,70	12,70	3124500-625-B	114,30	130,15	15,88
3121687-500-B	42,86	58,74	12,70	3122875-500-B	73,02	88,90	12,70	3124625-625-B	117,48	133,35	15,88
3121750-312-S	44,45	60,32	7,93	3123000-312-S	76,20	92,08	7,93	3124875-375-B	123,82	139,67	9,52
3121750-500-B	44,45	60,32	12,70	3123000-500-B	76,20	92,08	12,70	3125250-625-B	133,35	149,22	15,88
3121875-312-S	47,62	63,50	7,93	3123375-312-S	85,72	101,60	7,93	3125500-625-B	139,70	155,56	15,88
3121875-500-B	47,62	63,50	12,70	3123375-500-B	85,72	101,60	12,70	3126750-625-B	171,45	187,31	15,88
3122000-312-S	50,80	66,68	7,93	3123500-500-B	88,90	104,78	12,70				



### Sección 9,52 mm / Secção 9,52 mm / Section 9,52 mm

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
3751000-625-B	25,40	44,45	15,88	3753250-295-B	82,55	101,60	7,54	3755375-625-B	136,52	155,57	15,88
3751500-394-B	38,10	57,15	10,00	3753250-375-S	82,55	101,60	9,52	3755500-625-B	139,70	158,75	15,88
3751500-625-B	38,10	57,15	15,88	3753250-625-B	82,55	101,60	15,88	3755750-375-B	146,05	165,10	9,52
3751625-625-B	41,28	60,32	15,88	3753375-625-B	85,72	104,78	15,88	3755750-625-B	146,05	165,10	15,88
3751750-375-S	44,45	63,50	9,52	3753500-625-B	88,90	107,95	15,88	3756000-375-B	152,40	171,45	9,52
3751750-625-B	44,45	63,50	15,88	3753625-625-B	92,08	111,12	15,88	3756000-625-B	152,40	171,45	15,88
3752000-625-B	50,80	69,85	15,88	3753685-625-B	93,59	112,64	15,88	3756250-625-B	158,75	177,80	15,88
3752250-375-S	57,15	76,20	9,52	3753750-625-B	95,25	114,30	15,88	3756500-625-B	165,10	184,15	15,88
3752250-375-B	57,15	76,20	9,52	3754000-375-B	101,60	120,65	9,52	3756750-625-B	171,45	190,50	15,88
3752250-500-B	57,15	76,20	12,70	3754000-625-B	101,60	120,65	15,88	3757250-625-B	184,15	203,20	15,88
3752250-625-B	57,15	76,20	15,88	3754125-625-B	104,78	123,83	15,88	3757500-625-B	190,50	209,55	15,88
3752375-625-B	60,32	79,38	15,88	3754250-375-S	107,95	127,00	9,52	3757750-625-B	196,85	215,90	15,88
3752500-375-S	63,50	82,55	9,52	3754250-625-B	107,95	127,00	15,88	3758000-625-B	203,20	222,25	15,88
3752500-375-B	63,50	82,55	9,52	3754500-625-B	114,30	133,35	15,88	3758250-625-B	209,55	228,60	15,88
3752500-625-B	63,50	82,55	15,88	3754750-625-B	120,65	139,70	15,88	3758500-625-B	215,90	234,95	15,88
3752625-625-B	66,68	85,72	15,88	3754875-625-B	123,83	142,88	15,88	3758750-625-B	222,25	241,30	15,88
3752750-375-S	69,85	88,90	9,52	3755000-375-B	127,00	146,05	9,52	3759000-625-B	228,60	247,65	15,88
3752750-500-B	69,85	88,90	12,70	3755000-625-B	127,00	146,05	15,88	3759250-625-B	234,95	254,00	15,88
3752750-625-B	69,85	88,90	15,88	3755125-625-B	130,18	149,22	15,88	3759500-625-B	241,30	260,35	15,88
3753000-625-B	76,20	95,25	15,88	3755250-625-B	133,35	152,40	15,88	3759750-625-B	247,65	266,70	15,88
3753125-625-B	79,38	98,42	15,88	3755315-625-B	134,94	153,99	15,88				

### Sección 12,70 mm / Secção 12,70 mm / Section 12,70 mm

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
5002000-750-B	50,80	76,20	19,05	5005000-500-S	127,00	152,40	12,70	50010000-750-B	254,00	279,40	19,05
5002500-750-B	63,50	88,90	19,05	5005000-750-B	127,00	152,40	19,05	50010250-750-B	260,35	285,75	19,05
5003000-750-B	76,20	101,60	19,05	5005500-750-B	139,70	165,10	19,05	50010500-750-B	266,70	292,10	19,05
5003500-750-B	88,90	114,30	19,05	5006000-750-B	152,40	177,80	19,05	50011000-750-B	279,40	304,80	19,05
5004000-750-B	101,60	127,00	19,05	5006500-750-B	165,10	190,50	19,05	50011500-750-B	292,10	317,50	12,70
5004125-500-B	104,78	130,18	12,70	5007000-750-B	177,80	203,20	19,05	50011500-750-B	292,10	317,50	19,05
5004250-750-B	107,95	133,35	19,05	5007750-750-B	196,85	222,25	19,05	50011625-750-B	295,28	320,68	19,05
5004375-750-B	111,12	136,52	19,05	5008000-500-B	203,20	228,60	12,70	50012000-750-B	304,80	330,20	19,05
5004500-750-B	114,30	139,70	19,05	5008000-750-B	203,20	228,60	19,05	50012125-750-B	307,97	333,37	19,05
5004750-750-B	120,65	146,05	19,05	5009750-500-B	247,65	273,05	12,70	50013000-750-B	330,20	355,60	19,05

### Sección 15,87 mm / Secção 15,87 mm / Section 15,87 mm

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
6252875-1000-B	73,02	107,95	25,40	6256000-1000-B	152,40	184,15	25,40	62513500-875-B	342,90	374,65	22,22
6255750-1000-B	146,05	177,80	25,40								

## Medidas Especiales / Medidas Especiais / Special Measures

Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm	Poli Win N°	Ød mm	ØD mm	H mm
1180157157	4.00	10.00	4.00	1971575354	40.00	50.00	9.00	1973150394	80.00	90.00	10.00
1570472236	12.00	20.00	6.00	1971575433	40.00	50.00	11.00	2563150354	80.00	93.00	9.00
1570709295	18.00	26.00	7.50	2951575433	40.00	55.00	11.00	3943150472	80.00	100.00	12.00
1180787201	20.00	26.00	5.10	1971772287	45.00	55.00	7.30	2953346472	85.00	100.00	12.00
1570866256	22.00	30.00	6.50	2951772433	45.00	60.00	11.00	2763465413	88.00	102.00	10.50
1970984315	25.00	35.00	8.00	1971969236	50.00	60.00	6.00	1973543394	90.00	100.00	10.00
2360984264	25.00	37.00	6.70	2561969354	50.00	63.00	9.00	2953543354	90.00	105.00	9.00
1571063197	27.00	35.00	5.00	2951969433	50.00	65.00	11.00	3943543531	90.00	110.00	13.50
1221075197	27.30	33.50	5.00	4431969374	50.00	72.50	9.50	2563740375	95.00	108.00	9.52
1571181197	30.00	38.00	5.00	2202000276	50.80	62.00	7.00	3943740512	95.00	115.00	13.00
1971181354	30.00	40.00	9.00	2202000374	50.80	62.00	9.50	2763858413	98.00	112.00	10.50
2521185244	30.10	42.90	6.20	4132008433	51.00	72.00	11.00	4923933539	99.90	124.90	13.70
1571260197	32.00	40.00	5.00	2522059315	52.30	65.10	8.00	2763937472	100.00	114.00	12.00
1571260354	32.00	40.00	9.00	1972165374	55.00	65.00	9.50	2953937354	100.00	115.00	9.00
1771260197	32.00	41.00	5.00	2952165453	55.00	70.00	11.50	2934122374	104.70	119.60	9.50
2561299311	33.00	46.00	7.90	2952165276	55.00	70.00	7.00	1974134433	105.00	115.00	11.00
1771378236	35.00	44.00	6.00	1302366220	60.10	66.70	5.60	3154291417	109.00	125.00	10.60
1971378354	35.00	45.00	9.00	2362480433	63.00	75.00	11.00	2954331512	110.00	125.00	13.00
1971378433	35.00	45.00	11.00	1182559197	65.00	71.00	5.00	1574646449	118.00	126.00	11.40
2951378374	35.00	50.00	9.50	2952559488	65.00	80.00	12.40	5395508709	139.90	167.30	18.00
2951378354	35.00	50.00	9.00	1282571220	65.30	71.80	5.60	2565748374	146.00	159.00	9.50
2951378433	35.00	50.00	11.00	2952756315	70.00	85.00	8.00	2566575465	167.00	180.00	11.80
1571417197	36.00	44.00	5.00	3942756512	70.00	90.00	13.00	2566772374	172.00	185.00	9.50
1571575315	40.00	48.00	8.00	2952953571	75.00	90.00	14.50	3947087472	180.00	200.00	12.00
1971575236	40.00	50.00	6.00	2953071374	78.00	93.00	9.50	59111220827	285.00	315.00	21.00



Son fabricados en elastómeros a base de poliuretanos. Su aplicación en cilindros hidráulicos y neumáticos protege a los mismos y a las guarniciones de la entrada de partículas extrañas dando más vida útil al sistema. Particularmente cuando están expuestos en el exterior, en lugares altamente contaminados y en medios abrasivos.

São fabricados com elastômeros a base de poliuretano. Sua aplicação em cilindros hidráulicos e pneumáticos visa proteger aos mesmos e as suas gaxetas contra a entrada de partículas estranhas dando maior vida útil ao sistema, particularmente quando estão expostos no exterior, em lugares altamente contaminados ou em meios abrasivos.

They are made in elastomers in base of polyurethane. Its application in hydraulic and pneumatic cylinders protect each of them and the strange particles entrance in the seals, giving more life time to the system. Particularly polluted places with dust and abrasive environment.

ESPAÑOL

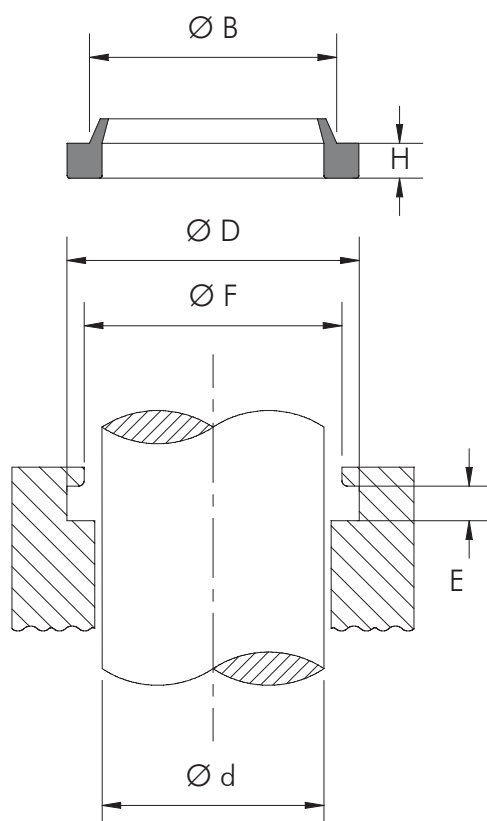
PORTUGUES

ENGLISH

**Tabla de Alojamientos y Tolerancias**

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

<b>Ø D Nominal</b>	<b>d</b>	<b>D</b>	<b>E</b>	<b>F</b>
0 - 200	Diámetro del Vástago <i>Diâmetro do haste</i> <i>Rod Diameter</i>	+ 0,20	H + 0,5%	Ø B + 0,5%



W-RPI	Diámetro d Diámetro d Diameter d	Diámetro D Diámetro D Diameter D	H Altura Height	F Diámetro Diámetro Diameter	W-RPI	Diámetro d Diámetro d Diameter d	Diámetro D Diámetro D Diameter D	H Altura Height	F Diámetro Diámetro Diameter
R-250	6,35	12,70	3,17	10,41	R-3500	88,90	101,60	6,35	97,20
R-312	7,93	14,28	3,17	12,06	R-3625	92,07	104,77	6,35	100,38
R-375	9,52	15,87	3,17	13,59	R-3750	95,25	107,95	6,35	103,55
R-437	11,11	17,46	3,17	15,24	R-3875	98,42	111,12	6,35	106,73
R-500	12,70	19,05	3,17	16,76	R-4000	101,60	114,30	6,35	109,90
R-562	14,28	20,63	3,17	18,41	R-4125	104,77	117,47	6,35	113,08
R-625	15,87	22,22	3,17	19,94	R-4250	107,95	120,65	6,35	116,26
R-687	17,46	23,81	3,17	21,59	R-4375	111,12	123,82	6,35	119,43
R-750	19,05	25,57	4,76	25,27	R-4500	114,30	133,35	9,52	126,82
R-812	20,63	30,16	4,76	26,92	R-4625	117,47	136,52	9,52	129,99
R-875	22,22	31,75	4,76	28,45	R-4750	120,65	139,70	9,52	133,17
R-937	23,81	33,33	4,76	30,10	R-4875	123,82	142,87	9,52	136,34
R-1000	25,40	34,92	4,76	31,62	R-5000	127,00	146,05	9,52	139,52
R-1062	26,98	36,51	4,76	33,27	R-5125	130,18	149,22	9,52	142,69
R-1125	28,57	38,10	4,76	34,80	R-5250	133,35	152,40	9,52	145,87
R-1187	30,16	39,68	4,76	36,45	R-5315	135,00	154,00	9,52	147,47
R-1250	31,75	41,27	4,76	37,97	R-5375	136,52	155,57	9,52	149,04
R-1312	33,33	42,86	4,76	39,62	R-5500	139,70	158,75	9,52	152,22
R-1375	34,92	44,45	4,76	41,15	R-5625	142,87	161,92	9,52	155,39
R-1437	36,51	46,03	4,76	42,80	R-5750	146,05	165,10	9,52	158,57
R-1500	38,10	47,62	4,76	44,32	R-5875	149,22	168,27	9,52	161,74
R-1562	39,68	49,21	4,76	45,97	R-6000	152,40	171,45	9,52	164,92
R-1625	41,27	50,80	4,76	47,50	R-6250	158,75	177,80	9,52	171,27
R-1687	42,86	52,38	4,76	49,15	R-6500	165,10	184,15	9,52	177,62
R-1750	44,45	53,97	4,76	50,67	R-6750	171,45	190,50	9,52	183,97
R-1812	46,03	55,56	4,76	52,32	R-7000	177,80	196,85	9,52	190,32
R-1875	47,62	57,15	4,76	53,85	R-7250	184,15	203,20	9,52	196,67
R-1937	49,21	58,73	4,76	55,50	R-7500	190,50	209,55	9,52	203,02
R-2000	50,80	63,50	6,35	59,10	R-7750	196,85	215,90	9,52	209,37
R-2062	52,38	65,08	6,35	60,70	R-8000	203,20	222,25	9,52	215,72
R-2125	53,97	66,67	6,35	62,28	R-8250	209,55	228,60	9,52	220,07
R-2187	55,56	68,26	6,35	63,88	R-8500	215,90	234,95	9,52	228,42
R-2250	57,15	69,85	6,35	65,45	R-8750	222,25	241,30	9,52	234,77
R-2312	58,73	71,43	6,35	67,05	R-9000	228,60	247,65	9,52	241,12
R-2375	60,32	73,02	6,35	68,63	R-9250	234,95	254,00	9,52	247,47
R-2437	61,91	74,61	6,35	70,23	R-9500	241,30	260,35	9,52	253,82
R-2500	63,50	76,20	6,35	71,80	R-9750	247,65	266,70	9,52	260,17
R-2562	65,08	77,78	6,35	73,41	R-10000	254,00	279,40	12,70	270,74
R-2625	66,67	79,37	6,35	74,98	R-10250	260,35	285,75	12,70	277,08
R-2687	68,26	80,96	6,35	76,58	R-10500	266,70	292,10	12,70	283,44
R-2750	69,85	82,55	6,35	78,16	R-10750	273,05	298,45	12,70	289,78
R-2812	71,43	84,13	6,35	79,76	R-11000	279,40	304,80	12,70	296,14
R-2875	73,02	85,72	6,35	81,33	R-11250	285,75	311,15	12,70	302,49
R-2937	74,61	87,31	6,35	82,93	R-11500	292,10	317,50	12,70	308,84
R-3000	76,20	88,90	6,35	84,50	R-11750	298,45	323,85	12,70	315,19
R-3125	79,37	92,07	6,35	87,68	R-12000	304,80	330,20	12,70	321,54
R-3250	82,55	95,25	6,35	90,85	R-12500	317,50	342,90	12,70	334,23
R-3375	85,72	98,42	6,35	94,03	R-13000	330,20	355,60	12,70	346,94

Estas guarniciones se diferencian por estar realizadas en elastómeros a base de poliuretanos. Por lo tanto resuelven problemas de tenuta en pistones y cilindros hidráulicos. Su buena deformabilidad elástica permite ante presencia de vibraciones un buen deslizamiento, soportando presiones de hasta 300 kg/cm<sup>2</sup> y temperaturas hasta 80°C continuos.

Estas gaxetas se diferenciam por serem desenvolvidas em elastômeros a base de poliuretano, portanto, resolvem problemas de retenção em pistões e cilindros hidráulicos. Sua boa flexibilidade elástica permite a presença de vibrações e um bom deslizamento suportando pressões de até 300 kg/cm<sup>2</sup> e temperaturas de até 80°C contínuos.

This seal differs for being made in elastomers in base of polyurethanes. So it solves retention problems in pistons and hydraulic cylinders. Besides its property of stretch deforming, allows a good slipping in presence of vibrations, supporting working pressures up to 300 kg/cm<sup>2</sup> and working temperatures up to 80°C continuous, reducing the slow waste.

ESPAÑOL

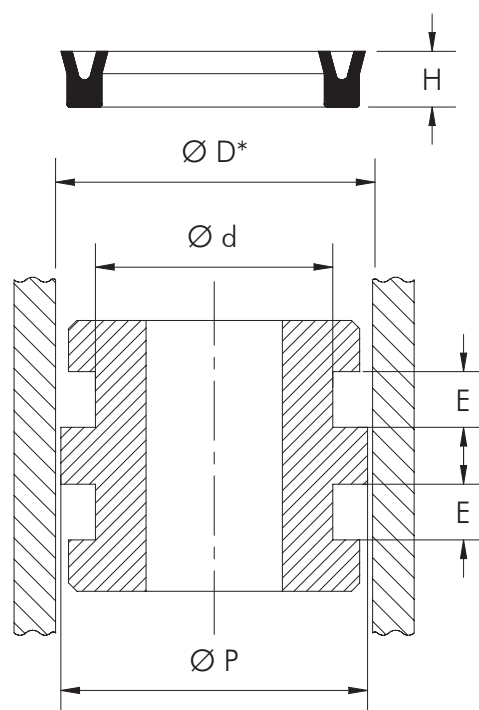
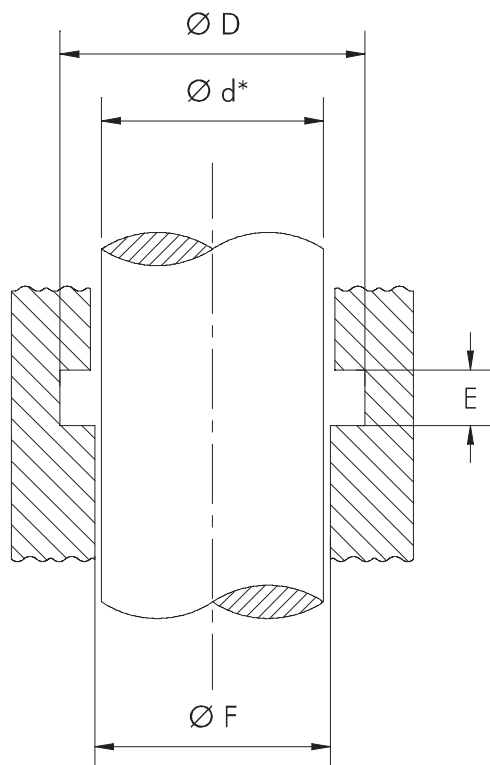
PORTUGUES

ENGLISH

### Tabla de Alojamientos y Tolerancias

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d	D*	d*	E Alojamiento Alojamento Groove	F Tolerancia máx. Tolerância máx. Greatest Tolerance	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 50	± 0,04		Diámetro del Vástago Diâmetro do haste Rod Diameter Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter		H + 10%	d* máx. + 0,2	D* mín. -0,2
51 + 100	± 0,06						
más de 100 mais de 100 more than 100	± 0,08						



Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
4,0	10,0	4,0	18,0	30,0	10,0	28,0	40,0	10,0	40,0	50,0	6,0	50,8	76,2	15,0
4,0	11,0	5,0	18,0	30,0	10,0	28,0	46,0	12,0	40,0	50,0	7,0	51,0	58,0	13,0
4,0	12,0	6,0	18,0	38,0	13,0	28,0	47,0	11,0	40,0	50,0	9,8	52,0	60,0	8,0
4,9	10,9	4,0	18,5	26,0	5,4	28,0	50,8	12,0	40,0	50,0	10,0	52,0	67,0	10,0
6,0	11,5	3,5	19,0	28,0	10,0	29,0	43,0	10,0	40,0	52,0	6,0	53,0	63,0	10,0
6,0	16,0	5,7	19,0	32,5	7,0	30,0	40,0	6,0	40,0	55,0	12,0	53,0	73,0	13,0
6,3	12,7	6,3	19,5	37,1	12,0	30,0	40,0	9,0	40,0	56,0	12,0	53,0	75,0	15,0
8,0	15,8	6,0	20,0	26,0	7,0	30,0	42,0	10,0	40,0	58,0	12,0	53,5	63,0	10,0
8,0	22,0	10,0	20,0	28,0	4,0	30,0	45,0	10,0	40,0	60,0	13,0	53,9	66,6	9,5
9,0	16,0	6,5	20,0	30,0	10,0	30,0	47,5	12,0	40,0	65,0	13,0	54,0	76,2	15,0
9,5	16,5	4,0	20,0	32,0	10,0	30,0	50,0	13,0	40,0	75,0	10,6	54,0	78,0	15,0
9,5	16,5	6,0	20,0	36,0	10,0	31,7	40,0	10,0	40,0	50,0	7,5	54,2	69,8	10,0
11,0	28,4	8,5	20,1	28,5	8,0	31,7	41,2	10,0	41,7	50,8	10,0	54,9	63,5	13,0
11,0	30,0	7,0	21,0	34,9	10,0	31,7	44,4	6,3	42,5	57,5	10,0	55,0	65,0	13,0
12,0	17,0	3,7	21,0	40,0	12,0	31,7	44,4	10,0	44,0	36,0	6,0	55,0	66,0	13,0
12,0	18,0	6,0	22,0	30,0	8,0	32,0	40,0	5,5	44,4	53,9	6,3	55,0	70,0	13,0
12,0	20,0	6,0	22,0	35,0	10,0	32,0	42,0	7,0	44,4	53,9	7,0	55,0	75,0	13,0
12,0	22,0	7,0	22,0	42,0	10,0	32,0	45,0	10,0	44,4	55,6	9,0	55,0	76,0	13,0
12,0	25,0	9,0	22,2	28,5	7,0	32,0	47,0	10,0	44,4	57,1	9,5	55,0	80,0	15,0
13,0	22,0	7,0	22,2	31,8	7,9	32,0	48,0	10,0	44,4	57,1	10,0	55,5	64,0	8,0
14,0	20,8	7,0	23,8	33,3	7,0	32,5	40,0	10,0	44,4	63,5	10,0	56,0	66,0	7,5
14,0	22,0	3,0	24,0	30,0	6,0	34,9	42,8	7,0	45,0	54,0	9,0	56,0	72,5	12,0
14,0	22,0	5,0	24,0	32,0	6,0	34,9	42,8	10,0	45,0	55,0	6,3	56,0	76,0	13,0
14,0	22,2	9,0	24,0	32,0	9,0	34,9	44,4	10,0	45,0	55,0	7,0	56,0	78,0	13,0
14,0	25,0	10,0	24,0	37,0	6,0	35,0	41,0	10,0	45,0	55,0	10,0	56,0	83,0	15,0
14,0	30,0	12,0	24,0	40,0	11,0	35,0	45,0	6,0	45,0	60,0	8,0	57,0	72,0	12,0
14,3	18,7	3,2	24,0	43,0	8,3	35,0	45,0	9,0	45,0	65,0	12,0	57,0	74,0	14,0
15,0	19,3	7,0	25,0	31,0	3,0	35,0	50,0	10,0	46,0	60,0	10,0	57,0	84,0	15,0
15,0	20,0	7,0	25,0	33,0	6,0	35,0	55,0	10,0	47,0	60,0	10,0	57,1	65,4	5,3
15,0	25,0	10,0	25,0	35,0	10,0	36,0	70,0	10,0	47,0	74,0	15,0	57,1	66,5	12,0
15,0	25,0	12,0	25,0	35,7	4,0	36,5	54,4	12,0	47,6	57,1	7,9	57,1	68,3	9,5
15,0	29,0	10,0	25,0	40,0	10,0	37,0	46,0	12,0	47,6	57,1	9,0	57,1	68,3	12,0
15,0	30,0	8,0	25,4	31,7	7,0	37,0	47,0	10,0	47,6	73,0	15,0	57,1	76,2	13,0
16,0	22,0	7,0	25,4	33,3	5,5	37,0	47,0	8,0	48,0	63,5	12,0	57,1	76,2	15,8
16,0	23,0	7,0	25,4	33,3	7,0	38,0	50,0	10,0	48,0	70,0	15,0	57,1	77,8	13,0
16,0	24,0	5,5	25,4	34,9	7,9	38,0	53,0	10,0	48,0	72,4	15,0	57,9	77,9	12,0
16,3	25,4	7,0	25,4	38,1	10,0	38,0	54,0	12,0	49,0	74,0	15,0	58,0	72,0	13,0
16,3	33,3	12,0	25,4	44,4	12,0	38,0	58,0	10,0	50,0	58,0	8,0	58,0	80,0	14,0
17,0	25,0	9,5	26,0	32,0	3,0	38,0	58,0	13,0	50,0	60,0	6,0	58,7	87,3	13,0
17,5	26,0	5,0	26,0	47,0	11,0	38,1	47,0	9,0	50,0	60,0	7,0	59,0	69,0	13,0
18,0	25,0	4,5	26,0	47,0	13,0	38,1	47,6	6,3	55,0	63,0	8,0	59,0	75,0	12,0
18,0	25,0	10,0	26,3	36,4	8,0	38,1	48,0	9,0	50,0	65,0	13,0	59,0	77,5	12,0
18,0	25,5	5,5	26,5	46,5	12,0	38,1	50,8	11,0	50,0	67,0	13,0	60,0	70,0	6,2
18,0	26,0	7,5	27,0	33,5	7,0	39,0	52,5	12,0	50,0	70,0	10,0	60,0	70,0	7,0
18,0	26,0	10,0	27,0	41,0	9,0	39,5	48,0	13,0	50,0	70,0	13,0	60,0	72,0	13,0
18,0	27,5	10,0	27,5	38,5	9,0	40,0	47,0	11,0	50,8	60,3	12,0	60,0	75,0	9,7
18,0	28,0	8,0	28,0	36,0	6,3	40,0	49,7	10,0	50,8	63,5	9,5	60,0	80,0	13,0
18,0	30,0	9,0	28,0	36,0	7,0	40,0	50,0	6,2	50,8	63,5	13,0	60,3	73,0	9,5

Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
60,3	76,2	12,0	72,5	88,0	13,0	89,0	110,0	14,0	115,0	145,0	18,0	165,0	195,0	16,0
61,0	71,0	6,1	74,0	98,0	15,0	90,0	100,0	12,5	117,0	125,0	14,0	166,0	182,0	16,0
61,0	72,0	12,0	75,0	85,0	6,5	90,0	103,0	13,0	118,0	128,0	14,0	166,0	203,0	19,0
62,0	78,0	13,0	75,0	85,0	12,0	90,7	106,7	12,0	118,0	144,0	16,0	167,0	180,0	15,0
63,0	87,0	15,0	75,0	85,0	12,0	92,4	114,3	15,0	119,0	135,0	16,0	168,0	202,0	16,0
63,0	90,0	16,0	75,0	90,0	12,0	93,0	113,0	16,0	120,0	130,0	15,0	171,5	186,0	16,0
63,5	75,0	12,0	75,0	92,0	12,0	94,0	112,7	14,0	120,0	140,0	16,0	173,5	201,5	16,0
63,5	76,2	10,0	75,0	96,0	14,0	94,0	118,0	18,0	120,0	150,0	16,0	174,5	200,0	12,0
63,5	78,0	13,0	75,0	100,0	15,0	94,0	118,0	19,0	123,5	152,0	15,0	175,0	197,0	16,0
63,5	82,0	13,0	75,0	107,0	18,0	94,3	114,3	15,0	123,8	142,8	15,0	175,5	200,0	16,0
64,0	79,0	13,0	76,0	96,0	12,0	95,0	110,0	13,0	125,0	150,0	16,0	177,0	209,0	16,0
64,0	83,0	15,0	76,2	88,9	13,0	95,0	114,3	15,0	127,0	139,7	13,0	178,0	203,0	16,0
64,0	84,0	15,0	77,0	87,0	12,0	95,0	120,0	15,0	127,0	152,4	16,0	180,0	202,0	16,0
65,0	75,0	13,0	77,0	100,0	13,0	95,0	125,0	16,0	130,0	150,0	16,0	182,0	200,0	16,0
65,0	78,0	10,0	78,0	88,0	9,7	97,0	121,0	15,0	130,0	155,0	18,0	185,0	207,4	16,0
65,0	80,0	13,0	78,0	98,0	13,0	98,0	110,0	14,0	132,0	152,4	16,0	187,3	203,2	19,0
65,0	84,0	15,0	79,0	89,0	10,0	98,5	112,0	14,0	133,0	152,4	16,0	195,0	214,0	16,0
65,0	85,0	14,0	79,0	94,0	13,0	98,5	120,6	15,0	133,5	146,0	16,0	199,5	228,5	16,0
65,0	85,0	15,0	80,0	90,0	10,0	99,0	109,0	14,0	135,0	150,0	16,0	209,0	247,0	22,0
65,0	87,5	14,0	80,0	90,5	8,5	100,0	120,0	15,0	135,0	160,0	16,0	212,0	232,0	16,0
65,0	88,9	15,0	80,0	92,0	12,0	100,0	122,0	15,0	135,0	165,0	18,0	212,0	239,0	18,0
65,3	76,9	13,0	80,0	100,0	12,0	100,0	125,0	16,0	136,5	163,5	15,0	213,0	237,0	19,0
66,0	76,2	13,0	80,0	100,0	13,0	100,0	115,1	6,0	137,0	146,0	15,2	216,0	224,0	15,2
66,0	88,0	15,0	80,0	101,6	13,0	101,6	114,3	13,0	138,0	154,0	16,0	230,0	260,0	20,0
66,7	85,7	12,0	80,0	105,0	15,0	101,6	117,5	14,0	139,0	165,3	16,0	232,0	254,0	16,0
68,0	76,4	8,0	80,0	110,0	15,0	101,6	120,7	14,0	139,8	159,0	15,0	232,0	259,0	19,0
68,0	80,0	13,0	81,0	105,0	14,0	101,6	127,0	16,0	140,0	150,0	5,0	245,0	265,0	16,0
68,0	84,0	15,0	82,5	101,6	15,0	102,0	118,0	12,0	140,0	157,0	16,0	245,0	280,0	19,5
68,0	95,0	15,0	83,0	92,0	6,6	102,0	122,0	14,0	140,0	160,0	16,0	248,0	280,0	22,0
69,0	84,0	15,0	83,0	100,0	13,0	104,6	130,2	15,0	140,0	167,0	16,0	250,0	270,0	16,0
69,0	88,9	13,0	83,0	103,0	15,0	105,0	120,0	10,0	140,0	160,0	15,0	254,0	277,0	16,0
70,0	80,0	10,0	84,3	96,3	12,0	105,0	125,0	16,0	150,0	170,0	16,0	265,0	295,0	16,0
70,0	83,0	10,0	85,0	95,0	13,0	106,0	127,0	16,0	150,0	180,0	18,0	270,0	290,0	16,0
70,0	84,0	13,0	85,0	98,0	13,0	109,0	128,5	16,0	150,0	184,0	16,0	270,0	300,0	16,0
70,0	87,0	13,0	85,0	100,0	12,0	110,0	125,0	10,5	151,0	165,0	16,0	273,0	304,8	16,0
70,0	90,0	12,0	85,0	105,0	14,0	110,0	127,0	16,0	156,0	176,0	16,0	280,0	310,0	22,0
70,0	90,0	13,0	85,0	115,0	18,0	110,0	129,0	16,0	158,0	171,5	9,5	300,0	330,0	22,0
70,0	95,0	15,0	85,7	101,6	14,0	110,0	135,0	16,0	160,0	180,0	16,0	307,7	340,0	19,0
70,0	100,0	18,0	86,0	100,0	13,0	110,0	140,0	13,5	162,0	172,0	14,0	309,0	347,0	20,0
70,5	83,2	8,0	87,5	111,5	16,0	111,0	127,0	16,0	164,0	180,0	12,0	314,0	334,0	12,0
71,0	89,2	14,0	88,0	100,0	8,5	112,0	121,0	15,2	164,5	190,5	12,2	350,0	385,0	19,0
71,4	83,6	12,0	88,9	101,6	13,0	112,0	125,0	16,0	165,0	174,0	15,2	410,0	445,0	22,0
72,0	80,2	7,9	88,9	105,0	13,0	114,0	139,7	16,0	165,0	183,0	16,0	493,0	510,0	16,0
72,0	84,0	12,0	88,9	114,3	14,0	115,0	135,0	16,0	165,0	185,0	16,0			



**W-GRP**

**GUARNICION RASCADOR DE POLIURETANO**  
RASPADOR DE POLIURETANO / DOUBLE WIPPER SEAL OF POLYURETHANE

ESPAÑOL

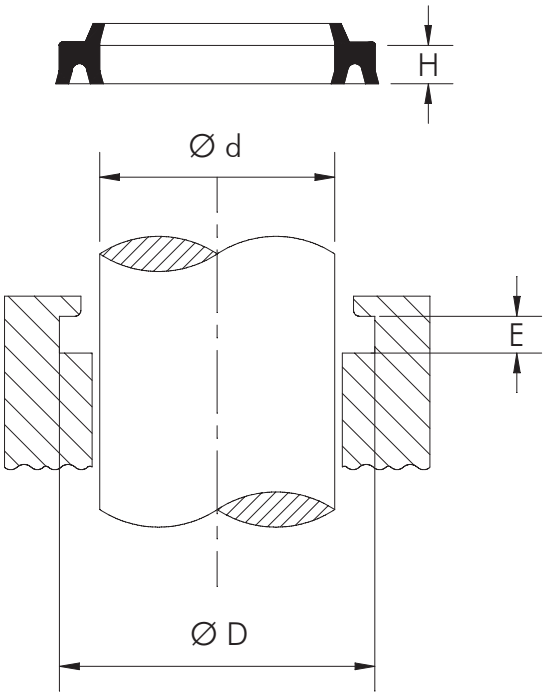
Estas guarniciones están diseñadas para dos funciones; como limpiador de vástago y como retén secundario apoyando la guarnición principal del vástago minimizando pérdidas de fluido, están fabricadas en elastómeros a base de poliuretanos soportando temperaturas de hasta 80°C También se fabrican en cauchos especiales.

PORTUGUES

Estas gaxetas são desenvolvidas para duas funções; para limpeza da haste e como vedação secundária, apoiando a gaxeta principal minimizando perdas de fluídos. São fabricadas em elastômeros a base de poliuretanos suportando temperaturas de até 80°C. Também podem ser fabricadas em borrachas especiais.

ENGLISH

This product is designed to make the following functions : as rod cleaner and second seal resting the main seal of the rod minimizing leaks of fluid. Made of elastomers of polyurethane base supporting working temperatures up to 80 °C. Besides they are made in special compounds.



Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
16,0	23,0	4,8	25,4	35,5	4,7	40,0	50,0	6,5	51,0	59,0	4,0	88,9	101,6	7,0
18,0	25,0	4,6	28,0	36,0	4,5	42,0	52,0	5,5	55,0	63,0	5,5	90,0	102,5	7,0
18,0	26,0	6,0	30,0	38,0	5,2	44,4	53,7	5,5	55,6	68,1	6,5	100,0	110,0	5,6
19,0	28,5	5,0	31,7	41,2	5,5	45,0	54,0	5,0	60,0	69,6	7,0	100,0	111,5	7,0
19,0	29,5	4,7	32,0	40,0	5,0	50,0	58,0	4,6	60,3	69,9	7,0	100,0	122,0	6,7
20,0	27,0	4,8	34,0	43,0	5,5	50,0	58,0	3,5	61,0	73,0	7,0	114,0	127,0	7,0
22,0	32,0	5,5	34,9	44,4	5,5	50,0	59,0	5,0	63,5	76,2	7,0	173,0	185,0	7,5
25,0	32,0	4,7	38,1	47,5	5,5	50,8	60,3	5,2	68,2	80,6	6,8	200,0	212,0	7,5
25,4	34,6	5,5	40,0	48,0	5,0	50,8	63,5	5,5	69,8	82,5	7,5			



Guarnición apta para cilindros hidráulicos de simple o doble efecto, que no requiere una fina terminación y ajustadas tolerancias, También se fabrican en otros compuestos con caucho sintético acrílico-nitrilo y tela, soportando presiones de hasta 200 kg/cm<sup>2</sup>.

Gaxeta apta para cilindros hidráulicos de simples ou duplo efeito, que não necessita de um fino acabamento e ajustes nas tolerâncias. Também são fabricadas em outros compostos como borrachas sintéticas, acrílico-nitrilo e tela suportando pressões de até 200 kg/cm<sup>2</sup>.

This seal is able to simple or double hydraulic cylinders that not requires any delicate ending and adjusted tolerances. Besides they are made in other compounds whit NBR and hard fabric, supporting working pressures up to 200 kg/cm<sup>2</sup>.

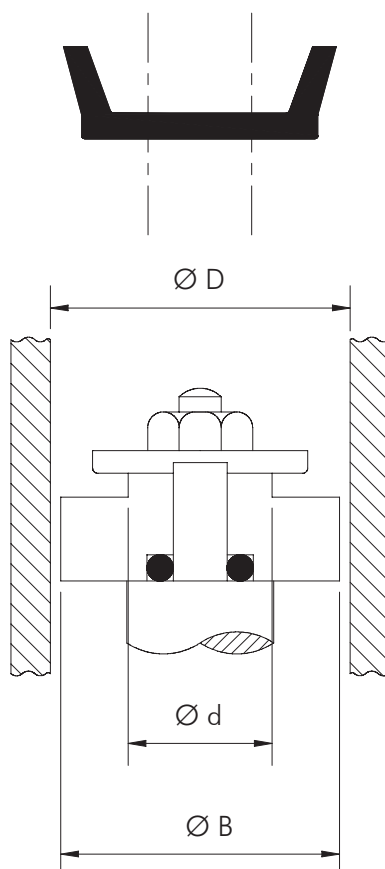
ESPAÑOL

PORTUGUES

ENGLISH

**Tabla de Alojamientos y Tolerancias**  
Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	Ø D	Ø d
0-50	-0,20	Según requerimiento del cliente <i>De acordo com as requisitos do cliente. According to the client requirement</i>
51-100	-0,30	
101-150	-0,35	
151-200	-0,40	
201-250	-0,40	
251-300	-0,40	



**W-CP Poliuretano**  
W-CP Poliuretano / W-CP Polyurethane

Ø D mm	Ø D mm	Ø D mm	Ø D mm	Ø D mm
9,5	40,0	70,0	105,0	173,0
11,0	42,0	73,0	110,0	177,0
12,7	45,0	76,2	114,3	180,0
15,0	49,0	78,0	120,0	185,0
15,8	50,8	80,0	127,0	190,0
19,0	54,0	82,0	131,0	203,0
22,0	55,0	85,0	135,0	210,0
25,0	57,0	86,0	140,0	228,0
30,0	59,0	88,9	143,0	240,0
31,7	60,0	91,0	150,0	254,0
33,0	61,0	95,0	155,0	260,0
35,0	62,7	97,0	160,0	270,0
38,1	63,5	100,0	165,0	310,0
39,0	65,0	101,6	170,0	

**W-CT Goma y Tela**  
W-CT borracha e tela / W-CT NBR and Hard fabric

Ø D mm	Ø d mm
63,5	32,0
76,2	44,0
80,0	50,0
88,9	51,5
100,0	40,0
101,6	47,0
114,0	76,2
114,3	31,7
127,0	70,0
139,7	80,0
152,4	78,0
177,8	101,6
177,8	110,0
246,0	190,0



Son fabricados en elastómeros a base de poliuretanos. Su aplicación en cilindros hidráulicos y neumáticos protege a los mismos y a las guarniciones de la entrada de partículas extrañas dando más vida útil al sistema. Particularmente cuando están expuestos en el exterior, en lugares altamente contaminados y en medios abrasivos.

São fabricados em elastômeros a base de poliuretano. Sua aplicação em cilindros hidráulicos e pneumáticos protegem os mesmos e as gaxetas contra a entrada de partículas estranhas dando mais vida útil ao sistema, particularmente quando estão expostos no exterior, em lugares altamente contaminados ou em meios abrasivos.

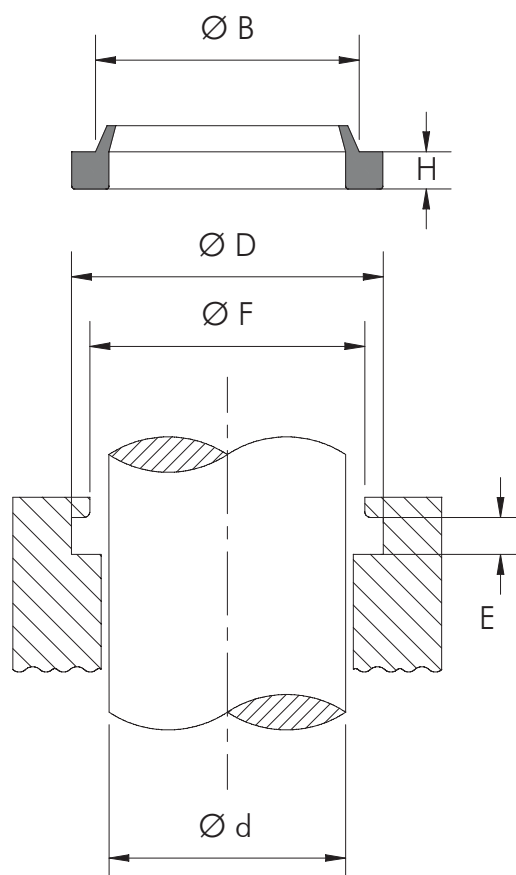
They are made in elastomers in base of polyurethane. Its application in hydraulic and pneumatic cylinders protect each of them and the strange particles entrance in the seals, giving more life time to the system. Particularly polluted places with dust and abrasive environment.

ESPAÑOL

PORTUGUES

ENGLISH

<b>Tabla de Alojamientos y Tolerancias</b> Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart				
<b>Ø D Nominal</b>	<b>d</b>	<b>D</b>	<b>E</b>	<b>F</b>
0 - 200	Diámetro del Vástago <i>Diâmetro do haste Rod Diameter</i>	+ 0,20	H + 0,5%	Ø B + 0,5%



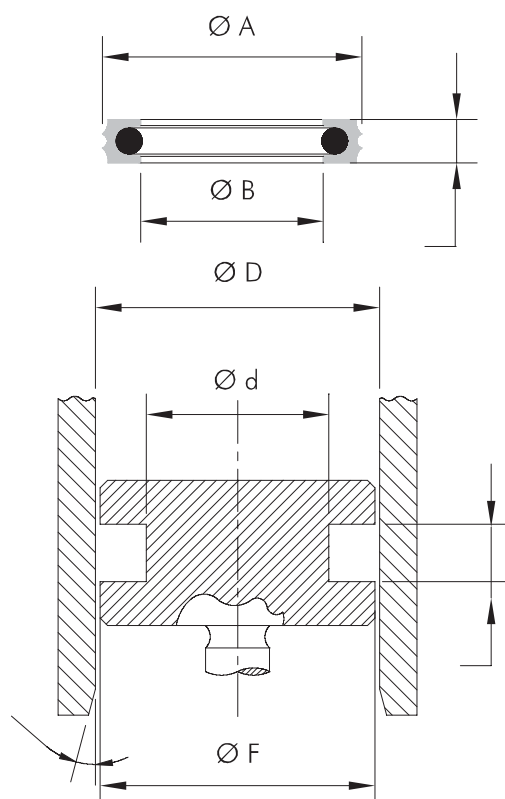
Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
6,0	11,8	2,8	25,4	34,9	4,5	38,0	46,0	4,0	63,5	71,8	2,5	138,0	154,0	6,0
17,0	28,0	2,5	26,0	31,5	4,0	38,6	46,0	5,0	67,5	76,7	6,0	146,1	155,5	6,0
19,0	24,7	1,8	28,0	36,0	4,8	40,0	48,0	5,0	80,0	93,0	7,0	152,0	171,0	9,0
19,0	25,4	4,0	28,0	40,0	4,6	40,0	50,0	6,6	88,0	99,0	6,0	165,0	179,0	6,0
19,0	25,4	4,3	28,5	34,4	4,3	41,5	52,3	5,0	100,0	110,0	6,0	171,5	180,9	6,0
19,1	28,5	5,0	28,5	35,4	2,7	44,4	57,1	5,0	101,6	111,0	6,0	175,0	195,0	9,0
19,1	29,2	7,2	28,5	36,0	2,6	50,0	60,0	5,0	102,0	111,0	7,0	180,0	192,0	5,5
20,0	30,0	3,0	30,5	38,0	4,0	50,0	63,5	6,3	111,1	124,7	6,3	190,0	199,2	6,0
20,0	32,0	3,0	30,5	38,0	4,0	50,8	59,0	5,0	112,0	122,0	6,0	200,7	210,1	8,0
22,0	29,0	2,7	32,0	39,0	2,7	51,2	64,0	5,0	122,0	137,0	7,0	205,0	225,0	9,0
22,2	28,5	2,6	32,7	39,8	4,0	55,0	63,5	5,3	124,0	138,0	6,0	217,0	226,0	5,0
22,5	28,0	3,0	34,0	41,0	4,0	57,0	64,3	6,0	125,0	137,0	6,0	237,0	257,0	9,0
24,5	31,0	5,5	35,0	47,6	4,0	57,1	65,0	2,7	130,0	140,0	6,0	271,0	290,0	9,0
25,0	32,0	2,5	35,0	47,6	6,0	60,0	72,3	6,0	134,0	142,0	6,0	330,0	354,8	11,0
25,0	33,6	4,0	36,0	48,0	4,0									

Guarnición diseñada para sellar pistones de doble efecto, inyectadas en poliuretanos que brindan una excelente resistencia a la abrasión y buena compatibilidad con los fluidos utilizados en los circuitos hidráulicos. No son recomendables en aplicaciones con éteres, cetonas, aguaglicol, líquidos de frenos y compuestos aromáticos. Soportan presiones de hasta 300 kg/cm<sup>2</sup> y temperaturas de hasta 90°C en servicios continuos. Es una guarnición de compresión que con el O'Ring de memoria elástica logran un sellado hermético y son de fácil instalación.

Esta gaxeta é desenhada para vedar pistões de duplo efeito, injetadas em poliuretano que oferecem uma excelente resistência a abrasão e uma boa compatibilidade com os fluidos utilizados nos sistemas hidráulicos. Não são recomendados em aplicações com éteres, cetonas, águaglicol, fluidos de freios e compostos aromáticos. Suportam pressões de até 300 kg/cm<sup>2</sup> e temperaturas de até 90°C em trabalhos contínuos. É uma gaxeta de compressão que com o anel de o'ring de memória elástica, obtém uma vedação hermética e é de fácil instalação.

This product is designed to seal Hydraulic pistons of double acting. It is injected in polyurethane which offers and excellent resistance to abrasion and good compatibility with hydraulic system fluids. It is not recommended in applications with ethers, ketone, waterglycol, brake fluid and aromatic compounds. It supports working pressures up to 300 kg/cm<sup>2</sup> and working temperatures up to 90 °C in continuous services. It is a compression set which in addition to an O'Ring whit stretch remembrance obtain an hermetical sealing an it is easy to install.

<b>Código</b> Código Code	<b>ØA</b> Nominal Nominal	<b>ØB</b> Nominal Nominal	<b>Sección</b> Nominal Secção Nominal Nominal Section	<b>Ø D</b> Ø Cilindro Ø Cylinder	<b>Ø F</b> Ø Pistón Ø Pistão Ø Piston	<b>Ø d</b> Ø Ranura Ø Ranhura Ø Groove	<b>E</b> Alto Ranura Altura do Ranhura Groove Height	<b>H</b>
WSP 0326	50,80	41,27	4,76	50,80	50,72	41,40	7,14	6,10
WSP 0330	63,50	53,97	4,76	63,50	63,42	54,10	7,14	6,10
WSP 0334	76,20	66,67	4,76	76,20	76,12	66,80	7,14	6,10
WSP 0338	88,90	79,37	4,76	88,90	88,82	79,50	7,14	6,10
WSP 0100	100,00	90,47	4,76	100,00	99,92	90,60	7,60	6,50
WSP 0342	101,60	92,07	4,76	101,60	101,52	92,20	7,14	6,10



Particularmente aptas para severas condiciones de trabajo. Son empaquetaduras de gran resistencia mecánica empleadas en circuitos hidráulicos de movimientos rectilíneos alternados, son anticorrosivas y de bajo coeficiente de fricción. Generalmente se emplean juegos compuestos por tres anillos en "V" (intermedios), un adaptador hembra (base) y un adaptador macho (tapa). Soportan temperaturas de hasta 130°C y son particularmente resistentes al desgarre y a la deformación permanente, soportando presiones de 50 a 600 kg/cm<sup>2</sup>.

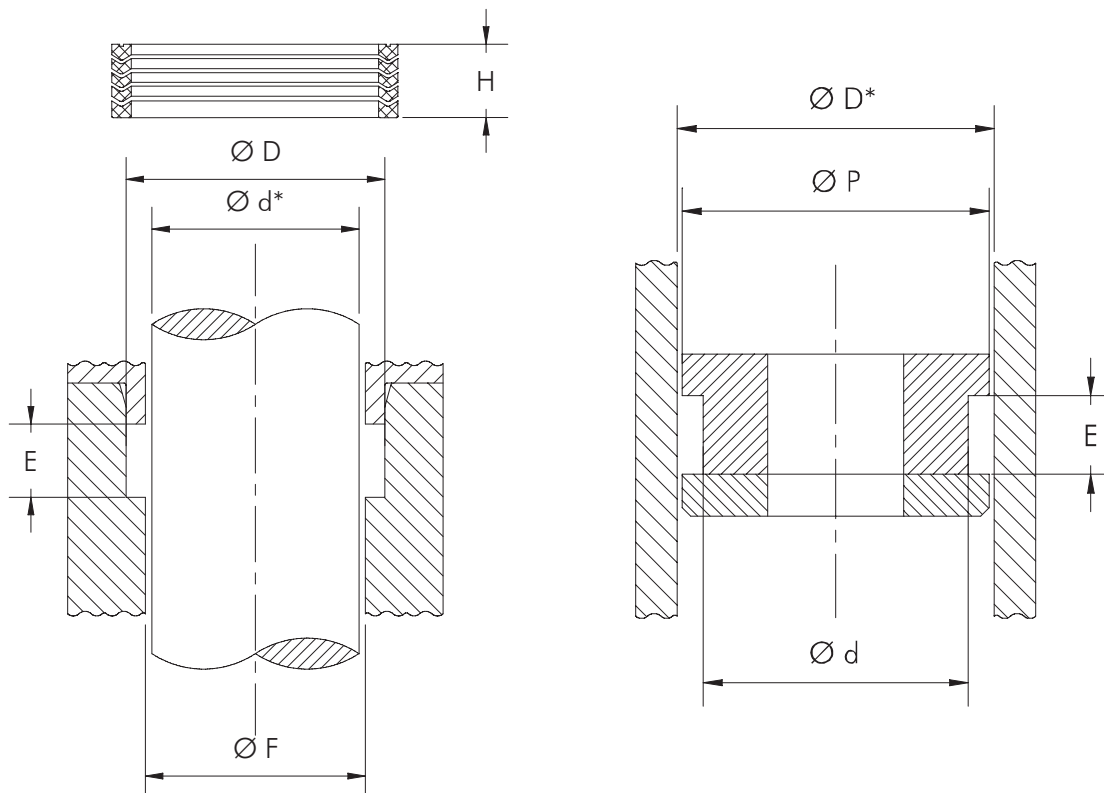
Particularmente aptas para severas condições de trabalho. São gaxetas de grande resistência mecânica usadas em sistemas hidráulicos de movimentos retilíneos alternados. São anti-corrosivas e de baixo coeficiente de fricção. Geralmente são usados jogos compostos por três anéis em "V" (intermediários), um adaptador fêmea (base) e um adaptador macho (tampa). Suportam temperaturas de até 130°C e são particularmente resistentes a fissuras e deformações permanentes, suportando pressões de 50 a 600 kg/cm<sup>2</sup>.

Particularly able for severe working conditions. They are seals with great mechanical resistance, used in hydraulic circuits of alternated rectilinear movements. They are non corrosive and have low friction coefficient. Generally, they are used in sets made of three "V" rings (intermediates), one female (bottom) and one male (top). They support working temperatures up to 130°C and they are resisting to rendness and permanent deformation. They resist working pressures from 50 to 600 kg/cm<sup>2</sup>.

**Tabla de Alojamientos y Tolerancias**

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d	D*	d*	E Alojamiento Alojamento Groove	F Tolerancia máx. Tolerância máx. Greatest Tolerance	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 100	± 0,03	Diámetro del Vástago Diâmetro do haste Rod Diameter Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter			H - 5%	d* máx. + 1,0	D* mín. -0,3
101 + 250	± 0,04						
250 + 500	± 0,06						



### Sección 6,35 mm / Secção 6,35 mm / Section 6,35 mm

Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm
3505	22,2	9,5	20	3530	101,6	88,9	20	3555	180,9	168,2	20
3506	25,4	12,7	20	3531	104,7	92,0	20	3556	184,1	171,4	20
3507	28,5	15,8	20	3532	107,9	95,2	20	3557	187,3	174,6	20
3508	31,7	19,0	20	3533	111,1	98,4	20	3558	190,5	177,8	20
3509	34,9	22,2	20	3534	114,3	101,6	20	3559	193,6	180,9	20
3510	38,1	25,4	20	3535	117,4	104,7	20	3560	196,8	184,1	20
3511	41,2	28,5	20	3536	120,6	107,9	20	3561	200,0	187,3	20
3512	44,4	31,7	20	3537	123,8	111,1	20	3562	203,2	190,5	20
3513	47,6	34,9	20	3538	127,0	114,3	20	3563	206,3	193,6	20
3514	50,8	38,1	20	3539	130,1	117,4	20	3564	209,5	196,8	20
3515	53,9	41,2	20	3540	133,3	120,6	20	3565	212,7	200,0	20
3516	57,1	44,4	20	3541	136,5	123,8	20	3566	215,9	203,2	20
3517	60,3	47,6	20	3542	139,7	127,0	20	3567	219,0	206,3	20
3518	63,5	50,8	20	3543	142,8	130,1	20	3568	222,2	209,5	20
3519	66,6	53,9	20	3544	146,0	133,3	20	3569	225,4	212,7	20
3520	69,8	57,1	20	3545	149,2	136,5	20	3570	228,6	215,9	20
3521	73,0	60,3	20	3546	152,4	139,7	20	3571	231,7	219,0	20
3522	76,2	63,5	20	3547	155,5	142,8	20	3572	234,9	222,2	20
3523	79,3	66,6	20	3548	158,7	146,0	20	3573	238,1	225,4	20
3524	82,5	69,8	20	3549	161,9	149,2	20	3574	241,3	228,6	20
3525	85,7	73,0	20	3550	165,1	152,4	20	3575	244,4	231,7	20
3526	88,9	76,2	20	3551	168,2	155,5	20	3576	247,6	234,9	20
3527	92,0	79,3	20	3552	171,4	158,7	20	3577	250,8	238,1	20
3528	95,2	82,5	20	3553	174,6	161,9	20	3578	254,0	241,3	20
3529	98,4	85,7	20	3554	177,8	165,1	20				

### Sección 7,93 mm / Secção 7,93 mm / Section 7,93 mm

Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm
3600	22,2	6,3	26	3612	60,3	44,4	26	3624	98,4	82,5	26
3601	25,4	9,5	26	3613	63,5	47,6	26	3625	101,6	85,7	26
3602	28,5	12,7	26	3614	66,6	50,8	26	3626	104,7	88,9	26
3603	31,7	15,8	26	3615	69,8	53,9	26	3627	107,9	92,0	26
3604	34,9	19,0	26	3616	73,0	57,1	26	3628	111,1	95,2	26
3605	38,1	22,2	26	3617	76,2	60,3	26	3629	114,3	98,4	26
3606	41,2	25,4	26	3618	79,3	63,5	26	3630	117,4	101,6	26
3607	44,4	28,5	26	3619	82,5	66,6	26	3631	120,6	104,7	26
3608	47,6	31,7	26	3620	85,7	69,8	26	3632	123,8	107,9	26
3609	50,8	34,9	26	3621	88,9	73,0	26	3633	127,0	111,1	26
3610	53,9	38,1	26	3622	92,0	76,2	26	3634	130,1	114,3	26
3611	57,1	41,2	26	3623	95,2	79,3	26	3635	133,3	117,4	26

### Sección 7,93 mm / Secção 7,93 mm / Section 7,93 mm

Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm
3636	136,5	120,6	26	3645	165,1	149,2	26	3654	193,6	177,8	26
3637	139,7	123,8	26	3646	168,2	152,4	26	3655	196,8	180,9	26
3638	142,8	127,0	26	3647	171,4	155,5	26	3656	200,0	184,1	26
3639	146,0	130,1	26	3648	174,6	158,7	26	3657	203,2	187,3	26
3640	149,2	133,3	26	3649	177,8	161,9	26	3658	206,3	190,5	26
3641	152,4	136,5	26	3650	180,9	165,1	26	3659	209,5	193,6	26
3642	155,5	139,7	26	3651	184,1	168,2	26	3660	212,7	196,8	26
3643	158,7	142,8	26	3652	187,3	171,4	26	3661	215,9	200,0	26
3644	161,9	146,0	26	3653	190,5	174,6	26				

### Sección 9,52 mm / Secção 9,52 mm / Section 9,52 mm

Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm
3710	44,4	25,4	32	3736	127,0	107,9	32	3762	209,5	190,5	32
3711	47,6	28,5	32	3737	130,1	111,1	32	3763	212,7	193,6	32
3712	50,8	31,7	32	3738	133,3	114,3	32	3764	215,9	196,8	32
3713	53,9	34,9	32	3739	136,5	117,4	32	3765	219,0	200,0	32
3714	57,1	38,1	32	3740	139,7	120,6	32	3766	222,2	203,2	32
3715	60,3	41,2	32	3741	142,8	123,8	32	3767	225,4	206,3	32
3716	63,5	44,4	32	3742	146,0	127,0	32	3768	228,6	209,5	32
3717	66,6	47,6	32	3743	149,2	130,1	32	3769	231,7	212,7	32
3718	69,8	50,8	32	3744	152,4	133,3	32	3770	234,9	215,9	32
3719	73,0	53,9	32	3745	155,5	136,5	32	3771	238,1	219,0	32
3720	76,2	57,1	32	3746	158,7	139,7	32	3772	241,3	222,2	32
3721	79,3	60,3	32	3747	161,9	142,8	32	3773	244,4	225,4	32
3722	82,5	63,5	32	3748	165,1	146,0	32	3774	247,6	228,6	32
3723	85,7	66,6	32	3749	168,2	149,2	32	3775	250,8	231,7	32
3724	88,9	69,8	32	3750	171,4	152,4	32	3776	254,0	234,9	32
3725	92,0	73,0	32	3751	174,6	155,5	32	3777	257,1	238,1	32
3726	95,2	76,2	32	3752	177,8	158,7	32	3778	260,3	241,3	32
3727	98,4	79,3	32	3753	180,9	161,9	32	3779	263,5	244,4	32
3728	101,6	82,5	32	3754	184,1	165,1	32	3780	266,7	247,6	32
3729	104,7	85,7	32	3755	187,3	168,2	32	3781	269,8	250,8	32
3730	107,9	88,9	32	3756	190,5	171,4	32	3782	273,0	254,0	32
3731	111,1	92,0	32	3757	193,6	174,6	32	3783	276,2	257,1	32
3732	114,3	95,2	32	3758	196,8	177,8	32	3784	279,4	260,3	32
3733	117,4	98,4	32	3759	200,0	180,9	32	3785	282,5	263,5	32
3734	120,6	101,6	32	3760	203,2	184,1	32	3786	285,7	266,7	32
3735	123,7	104,7	32	3761	206,3	187,3	32				



# Sección 12,70 mm / Secção 12,70 mm / Section 12,70 mm

Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm	Serie N°	ØD mm	Ød mm	H mm
3800	38,1	12,7	38	3826	120,6	95,2	38	3852	203,2	177,8	38
3801	41,2	15,8	38	3827	123,8	98,4	38	3853	206,3	180,9	38
3802	44,4	19,0	38	3828	127,0	101,6	38	3854	209,5	184,1	38
3803	47,6	22,2	38	3829	130,1	104,7	38	3855	212,7	187,3	38
3804	50,8	25,4	38	3830	133,3	107,9	38	3856	215,9	190,5	38
3805	53,9	28,5	38	3831	136,5	111,1	38	3857	219,0	193,6	38
3806	57,1	31,7	38	3832	139,7	114,3	38	3858	222,2	196,8	38
3807	60,3	34,9	38	3833	142,8	117,4	38	3859	225,4	200,0	38
3808	63,5	38,1	38	3834	146,0	120,6	38	3860	228,6	203,2	38
3809	66,6	41,2	38	3835	149,2	123,8	38	3861	231,7	206,3	38
3810	69,8	44,4	38	3836	152,4	127,0	38	3862	234,9	209,5	38
3811	73,0	47,6	38	3837	155,5	130,1	38	3863	238,1	212,7	38
3812	76,2	50,8	38	3838	158,7	133,3	38	3864	241,3	215,9	38
3813	79,3	53,9	38	3839	161,9	136,5	38	3865	244,4	219,0	38
3814	82,5	57,1	38	3840	165,1	139,7	38	3866	247,6	222,2	38
3815	85,7	60,3	38	3841	168,2	142,8	38	3867	250,8	225,4	38
3816	88,9	63,5	38	3842	171,4	146,0	38	3868	254,0	228,6	38
3817	92,0	66,6	38	3843	174,6	149,2	38	3869	257,1	231,7	38
3818	95,2	69,8	38	3844	177,8	152,4	38	3870	260,3	234,9	38
3819	98,4	73,0	38	3845	180,9	155,5	38	3871	263,5	238,1	38
3820	101,6	76,2	38	3846	184,1	158,7	38	3872	266,7	241,3	38
3821	104,7	79,3	38	3847	187,3	161,9	38	3873	269,8	244,4	38
3822	107,9	82,5	38	3848	190,5	165,1	38	3874	273,0	247,6	38
3823	111,1	85,7	38	3849	193,6	168,2	38	3875	276,2	250,8	38
3824	114,3	88,9	38	3850	196,8	171,4	38	3876	279,4	254,0	38
3825	117,4	92,0	38	3851	200,0	174,6	38	3877	282,5	257,1	38

Particularmente aptas para severas condiciones de trabajo. Son empaquetaduras de gran resistencia mecánica empleadas en circuitos hidráulicos de movimientos rectilíneos alternados, son anticorrosivas y de bajo coeficiente de fricción. Generalmente se emplean juegos compuestos por tres anillos en "V" (intermedios), un adaptador hembra (base) y un adaptador macho (tapa). Soportan temperaturas de hasta 130°C y son particularmente resistentes al desgarre y a la deformación permanente, soportando presiones de 50 a 600 kg/cm<sup>2</sup>.

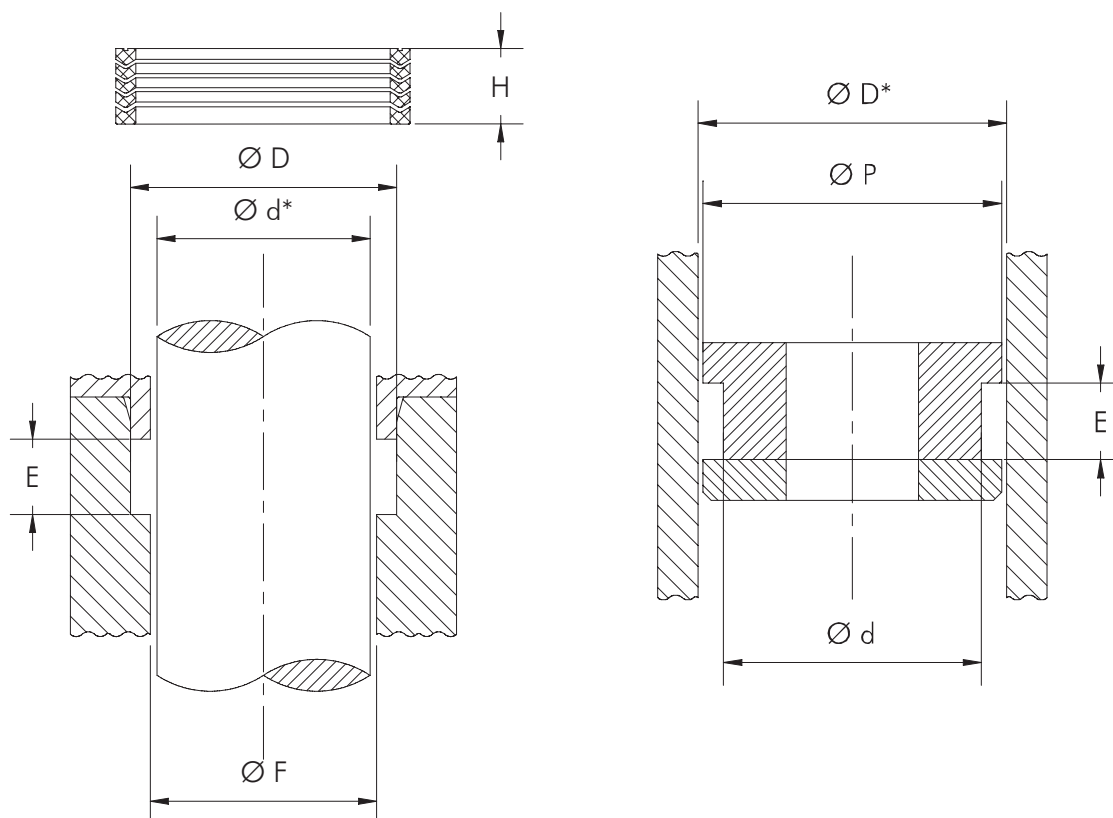
Particularmente aptas para severas condições de trabalho. São gaxetas de grande resistência mecânica usadas em sistemas hidráulicos de movimentos retilíneos alternados. São anti-corrosivas e de baixo coeficiente de fricção. Geralmente são usados jogos compostos por três anéis em "V" (intermediários), um adaptador fêmea (base) e um adaptador macho (tampa). Suportam temperaturas de até 130°C e são particularmente resistentes a fissuras e deformações permanentes, suportando pressões de 50 a 600 kg/cm<sup>2</sup>.

Particularly able for severe working conditions. They are seals with great mechanicals resistance, used in hydraulic circuits of alternated rectilinear movements. They are non corrosive and have low friction coefficient. Generally, they are used in sets made of three "V" rings (intermediates), one female (bottom) and one male (top). They support working temperatures up to 130°C and they are resisting to rendness and permanent deformation. They resist working pressures from 50 to 600 kg/cm<sup>2</sup>.

### Tabla de Alojamientos y Tolerancias

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d	D*	d*	E Alojamiento Alojamento Groove	F Tolerancia máx. Tolerância máx. Greatest Tolerance	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 100	± 0,03	Diámetro del Vástago Diâmetro do haste Rod Diameter			H - 5%	d* máx. + 1,0	D* mín. -0,3
101 + 250	± 0,04	Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter					
250 + 500	± 0,06						



Ø d mm	Ø D mm	Ø d mm	Ø D mm	Ø d mm	Ø D mm	Ø d mm	Ø D mm	Ø d mm	Ø D mm
5,0	19,0	28,6	50,8	45,0	72,0	75,5	104,5	111,0	142,0
6,3	15,8	29,0	39,5	45,1	56,4	76,0	96,0	114,0	136,0
9,0	20,0	30,0	42,0	47,8	58,0	76,0	107,6	114,5	139,0
11,0	24,0	30,0	45,0	48,0	60,0	76,5	114,6	115,0	135,0
11,0	25,0	30,0	45,9	48,0	63,0	78,0	100,0	115,0	140,0
11,8	24,7	30,0	50,0	48,4	57,1	80,0	95,0	118,0	150,0
12,0	21,0	30,0	60,0	48,4	58,6	80,0	95,5	119,5	146,5
12,0	22,0	30,1	50,8	50,0	60,0	80,0	100,0	120,0	140,0
12,7	22,2	31,7	57,1	50,0	65,0	80,0	114,6	120,0	150,0
14,0	27,0	31,7	60,3	50,0	66,0	82,0	100,0	120,0	159,0
14,1	28,5	31,7	66,6	50,0	70,0	82,0	107,5	125,0	140,0
14,3	31,8	31,8	53,9	50,0	72,0	85,0	100,0	125,0	145,0
14,9	26,5	32,0	42,0	50,0	80,0	85,0	105,0	125,0	150,0
15,0	25,0	32,2	41,0	52,0	72,0	85,0	115,0	127,0	147,0
15,8	32,0	33,5	55,0	52,0	80,0	87,0	117,0	127,0	158,6
15,8	34,9	35,0	45,0	55,0	67,0	88,0	120 0	129,0	157,6
16,0	29,0	35,0	50,0	55,0	70,0	88,9	120,6	130,0	150,0
17,0	28,0	35,0	51,0	55,0	75,0	90,0	105,0	130,0	154,4
18,0	38,0	35,0	60,0	55,0	80,0	90,0	110,0	130,0	160,0
18,5	26,0	36,0	48,0	55,0	82,5	90,0	115,0	131,0	153,0
18,5	37,5	36,0	52,0	56,0	71,0	90,0	121,5	133,3	158,7
19,0	34,0	36,5	51,0	57,1	95,2	90,5	114,3	133,3	165,1
19 0	41 2	38,0	55,0	58,0	75,0	95,0	111,6	135,0	160,0
19,5	30,5	38,0	58,0	60,0	69,4	95,0	115,0	139,7	161,9
19,6	27,8	38,0	60,0	60,0	75,0	95,0	127,5	139,7	177,8
20,0	28,0	38,0	65,0	60,0	80,0	95,5	110,5	140,0	160,0
20,0	30,0	38,1	46,7	60,0	83,0	97,1	120,0	144,4	177,7
20,0	35,0	38,1	66,0	60,2	69,8	98,0	123,0	145,0	157,0
22,0	31,0	39,0	67,0	60,2	71,3	100,0	115,0	145,0	165,1
22,0	32,0	40,0	50,0	60,3	82,5	100,0	120,0	145,0	170,0
22,0	35,0	40,0	52,0	62,0	82,0	100,0	125,0	145,0	175,0
22,2	44,4	40,0	53,0	63,0	83,0	102,0	120,0	146,0	177,8
24,0	35,0	40,0	55,0	63,5	101,6	103,1	122,3	149,5	174,5
25,0	37,0	40,0	56,0	65,0	80,0	104,0	120,0	150,0	174,5
25,0	40,0	40,0	60,0	65,0	85,0	105,0	125,0	150,0	180,0
25 0	60 0	40,0	65,0	67,5	78,5	105,0	130,0	151,5	181,6
25,4	35,0	40,0	68,0	70,0	85,0	106,0	134,5	155,0	175,0
27,0	35,0	41,8	54,0	70,0	90,0	107,9	139,7	158,7	190,5
28,0	38,0	42,0	50,0	72,0	94,0	108,0	130,0	160,0	180,0
28,0	39,8	44,4	70,5	72,0	101,6	110,0	122,0	160,0	183,0
28,0	40,0	44,5	70,0	75,0	90,0	110,0	125,0	164,6	198,0
28,0	43,0	45,0	55,0	75,0	95,0	110,0	126,0	169,0	201,0
28,0	46,0	45,0	60,0	75,0	100,0	110,0	130,0	169,9	208,0
28,0	59,0	45,0	65,0	75,0	115,0	110,0	135,0	171,5	186,5
28,6	45,7	45,0	70,0	75,5	99,5	111,0	139,0	173,0	186,8

Ø d mm	Ø D mm	Ø d mm	Ø D mm	Ø d mm	Ø D mm	Ø d mm	Ø D mm	Ø d mm	Ø D mm
176,0	190,0	208,0	250,0	241,0	274,0	300,0	330,0	400,0	432,0
177,0	210,0	210,0	235,0	241,0	280,0	300,0	338,0	400,0	440,0
177,3	209,5	210,0	240,0	241,3	279,4	318,0	342,9	406,0	436,0
180,0	210,0	211,0	242,0	245,0	275,0	324,0	349,4	440,0	478,0
180,5	212,5	213,0	235,0	245,5	277,5	324,0	366,0	440,0	480,0
183,5	203,5	214,0	230,0	250,0	280,0	336,4	352,2	441,3	479,4
184,1	215,9	214,3	227,0	254,0	298,0	347,5	388,0	457,5	489,0
194,8	224,8	220,0	250,0	266,5	287,3	347,5	390,0	465,0	505,0
197,4	234,0	220,0	251,0	268,5	287,3	351,0	373,0	476,0	446,0
198,0	228,0	225,0	250,0	270,0	300,0	351,0	388,0	549,0	582,0
200,0	215,0	228,6	260,3	280,0	310,0	351,0	390,0	580,0	620,0
200,0	220,0	232,0	267,0	280,0	315,0	353,0	397,0	598,0	642,0
200,0	230,0	234,5	250,5	285,0	315,0	354,6	380,0	617,0	664,0
200,0	240,0	238,0	272,0	285,7	311,1	355,0	386,0	694,0	744,0
201,0	233,0	239,0	279,4	295,0	325,0	365,0	395,0	698,0	744,0
202,0	225,2	240,0	260,0	295,0	326,0	370,0	401,6	750,0	790,0
202,3	217,0	240,0	270,0						



Guarnición diseñada para sellar pistones hidráulicos de doble efecto. Por lo general las guarniciones W-EDE y las guarniciones W-ESE se colocan en conjunto, dado que siguen el mismo principio de sellado. Soportan presiones de hasta 500 kg/cm<sup>2</sup> y temperaturas de 130°C. Construidas en tres zonas:

1. Elemento de retención. Realizado en caucho sintético acrílico-nitrilo resistente a la deformación permanente.
2. Base reforzada con tela y caucho sintético acrílico-nitrilo vulcanizada con el elemento de retención formando una sola pieza.
3. Anillo antiextrusión y aro guía. Asegura el centrado del pistón.

Gaxeta desenvolvida para vedar pistões hidráulicos de duplo efeito. Em geral, as gaxetas W-EDE e as gaxetas W-ESE são usadas em conjunto, visto que seguem o mesmo princípio de vedação. Suportam pressões de até 500 kg/cm<sup>2</sup> e temperaturas de 130°C. São construídas em três zonas:

1. Elemento de retenção: fabricado em borracha sintética acrílico-nitrilo resistente a deformação permanente.
2. Base: reforçada com tela de borracha sintética acrílico-nitrilo vulcanizados com o elemento de retenção formando uma só peça.
3. Anel anti-extrusão e anel guia garantem a centralização do pistão.

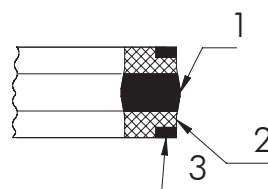
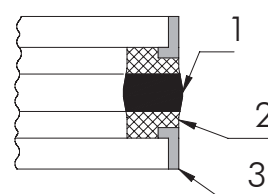
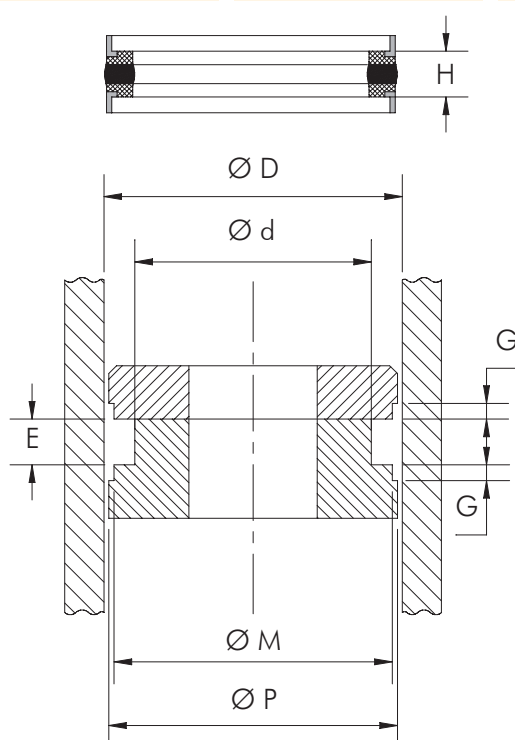
This product is designed to seal hydraulic piston with double acting. Generally, the W-EDE seals and W-ESE seals are put together, because they are ruled by the same seal principle. They support working pressures up to 500 kg/cm<sup>2</sup> and working temperatures to 130 °C. They are built in three zones:

1. Retention element made in NBR, resistant to permanent deformation.
2. Base reinforced with hard fabric and NBR, and vulcanized with the retention element forming only one piece.
3. Non-extrusion ring and guide ring. Insure piston centered.

### Tabla de Alojamientos y Tolerancias

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d Tolerancia Tolerância Tolerance	E	G	M	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 50	Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter	+ 0,10 -0.00	H + 2%	G: 6,35	± 0,05	Ø del Cilindro -1 Ø do Cilindro -1 Ø Cylinder -1
51 + 80		+ 0,12 -0.00		+ 0,10		
81 + 115		+ 0,14 -0.00		-0,00		
116 + 250		+ 0,16 -0.00				



Ø D mm	Ø d mm	E mm	M mm	Ø D mm	Ø d mm	E mm	M mm	Ø D mm	Ø d mm	E mm	M mm
31,7	19,0	15,8	28.21	85,0	65,0	22,4	79.20	127,0	101,6	31,0	120.09
38,1	25,4	15,8	34.54	88,9	69,8	23,0	83.08	130,0	105,0	25,0	123.10
40,0	24,0	18,4	35.40	90,0	76,0	15,5	85.80	135,0	110,0	24,0	128.10
50,0	34,0	17,5	45.40	95,0	75,0	21,0	89.15	139,7	114,3	31,0	132.77
50,8	34,9	18,2	46.22	100,0	75,0	21,0	93.15	140,0	115,0	24,0	133.00
50,8	34,9	19,5	46.22	101,6	82,5	23,0	95.76	140,0	120,0	15,5	134.10
52,0	40,0	8,0	48.40	110,0	85,0	23,0	103.10	145,0	120,0	25,0	138.30
57,1	41,2	19,2	52.55	110,0	90,0	12,0	104.15	150,0	125,0	25,0	143.00
59,0	45,0	19,5	54.80	113,0	96,2	27,4	108.10	152,4	127,0	31,0	145.44
63,5	47,6	18,5	58.90	114,3	88,9	31,7	107.42	158,7	133,5	32,1	151.77
65,0	50,0	18,0	60.40	115,0	90,0	21,0	108.10	160,0	135,0	24,5	153.10
75,0	56,0	24,0	69.20	115,0	100,0	10,0	110.60	165,0	140,0	32,0	158.12
76,2	57,1	24,0	70.40	120,0	95,0	23,0	113.10	177,8	152,4	31,0	170.79
80,0	60,0	22,0	74.20	125,0	100,0	25,0	118.10	181,0	158,0	35,7	174.80
80,0	65,0	22,4	75.60	125,0	105,0	25,0	119.15	203,2	178,0	31,0	196.16
82,5	63,5	23,8	76.73	125,0	110,0	11,0	120.60	254,0	222,2	35,0	146.70
82,5	63,5	31,0	76.73	125,0	110,0	25,0	120.60				



Guarnición diseñada para sellar vástagos y camisas de sistemas hidráulicos.  
Están contruidos por dos zonas:

1. Elemento de retención. Supera el efecto de sellado de los arosellos convencionales, porque la deformación de sus labios producida por la presión genera un sello estanco sobre las paredes del vástago.
2. Base reforzada con tela y caucho sintético acrílo-nitrilo vulcanizada con el elemento de retención formando una sola pieza. Soportan temperaturas de 130°C y presiones de 250 kg/cm².

ESPAÑOL

Gaxeta desenvolvida para vedar hastes e camisas de sistemas hidráulicos.  
São construídas por duas zonas:

1. Elemento de retenção: supera o efeito de vedação dos anéis convencionais porque a deformação de seus labios produzida pela pressão cria uma vedação estanque nas paredes da haste.
2. Base: reforçada com tela e borracha sintética acrílo-nitrilo vulcanizada com elemento de retenção formando uma só peça. Soportam temperaturas de até 130°C e pressões de até 250 kg/cm².

PORTUGUES

Designed to seal rods and pistons fram hydraulic system. They are built in two zones:

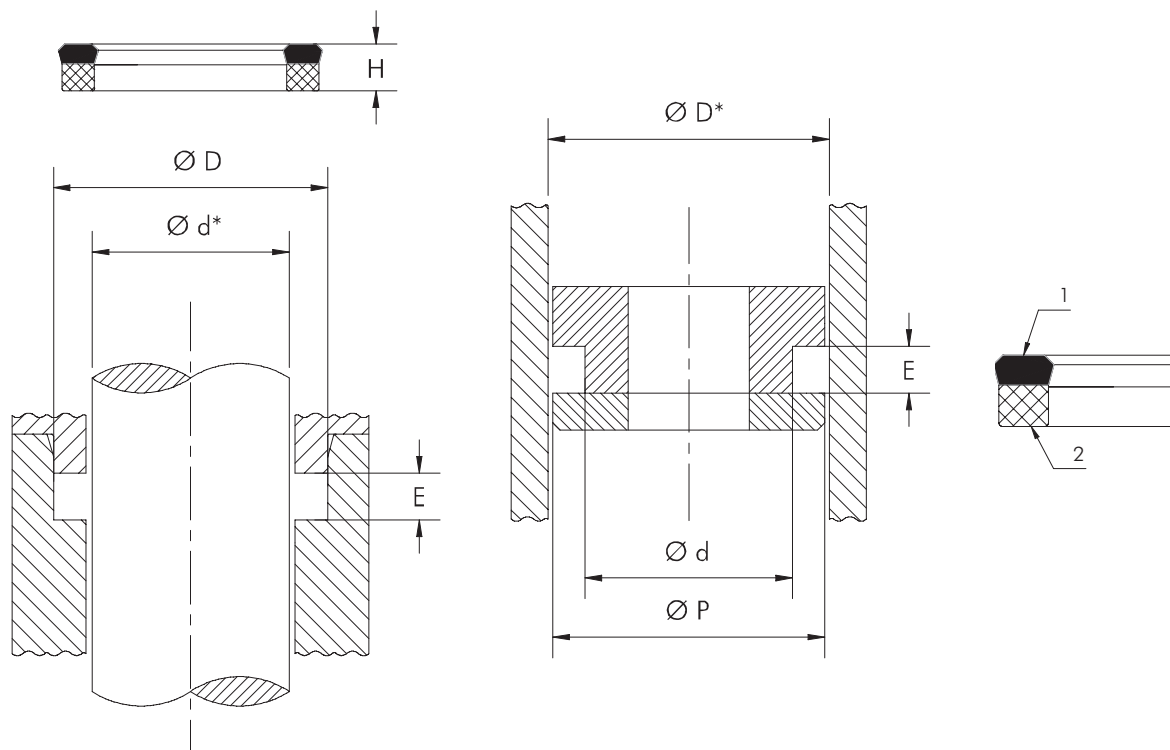
1. Retention element. It surpasses the sealing acting of the common O'rings, because the change shape of the lips produced by the pressure generates a static sealing on the rod walls.
2. Base reinforced with hard fabric and NBR, vulcanized with the retention element forming only one piece. It supports working temperatures up to 130 °C and working pressures up to 250 kg/cm².

ENGLISH

### Tabla de Alojamientos y Tolerancias

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d	D*	d*	E	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 100	± 0,08		Diámetro del Vástago Diâmetro do haste Rod Diameter Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter		H + 10%	Ø del Cilindro -1 Ø do Cilindro -1 Ø Cylinder -1
101 + 250	± 0,11					
más de 250 mais do 250 more than 250	± 0,15					



Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
12,0	19,0	6,0	33,0	39,6	8,4	45,0	65,0	14,0	65,0	75,0	13,0	90,0	105,0	8,5
15,0	23,0	5,8	34,9	44,0	6,0	48,0	58,0	9,0	65,0	85,0	14,0	90,0	110,0	11,5
18,0	28,0	5,8	35,0	43,0	6,3	50,0	60,0	7,7	66,6	85,7	14,0	100,0	120,0	11,5
19,0	31,0	8,5	35,0	43,0	8,0	50,0	62,0	9,5	69,0	83,0	11,5	100,2	112,7	13,0
20,0	28,5	5,7	35,0	45,0	8,0	50,0	65,0	12,0	69,8	82,5	9,5	100,2	119,7	13,0
22,0	30,0	7,0	35,0	50,0	11,0	50,0	65,0	14,0	70,0	82,5	10,0	101,6	120,6	12,0
23,0	38,0	10,0	35,2	42,0	6,1	50,0	70,0	15,5	70,0	90,0	14,0	107,5	127,0	12,7
24,0	40,0	9,2	36,0	46,0	7,8	50,0	75,0	15,0	70,0	92,0	13,5	110,0	125,0	11,0
25,0	33,0	6,0	36,0	48,0	9,0	53,9	76,2	12,7	70,2	78,2	13,0	110,0	130,0	13,0
25,0	40,0	11,0	40,0	48,0	6,0	55,0	65,0	17,5	75,0	95,0	14,0	114,3	127,0	9,5
25,2	32,7	7,0	40,0	50,0	10,5	55,0	70,0	11,5	76,2	95,0	10,0	115,0	135,0	13,5
28,0	38,0	7,5	40,0	55,0	11,0	55,0	75,0	13,5	80,0	92,0	9,0	125,0	140,0	11,3
30,0	38,0	6,0	40,0	60,0	11,0	57,1	76,2	15,0	80,0	100,0	12,0	130,2	138,2	13,0
30,0	41,5	9,0	40,0	60,0	13,0	57,3	73,0	11,1	80,0	100,0	14,0	166,0	180,0	7,0
30,0	45,0	8,0	44,0	61,0	11,0	60,0	70,0	7,2	85,0	100,0	12,0	171,1	179,5	13,0
32,0	40,0	8,5	45,0	55,0	7,5	60,0	75,0	10,0	85,0	105,0	13,0	177,8	203,2	19,0
32,0	42,0	6,8	45,0	60,0	9,8	60,0	80,0	14,5	90,0	100,0	10,0	210,0	230,0	12,0
32,0	46,0	10,0	45,0	60,0	10,0	63,0	83,0	15,0	90,0	102,0	9,0	270,0	300,0	38,0
32,4	39,6	7,0	45,0	62,5	14,0	63,5	82,5	15,9						





Empaquetaduras con particular resistencia a servicios pesados. Están diseñadas para ser montadas en pistones de cilindros hidráulicos sometidos a vibraciones y de gran carrera. Presión de trabajo 700 kg/cm<sup>2</sup> y temperaturas de hasta 130°C.

Están compuestas por tres elementos:

1. Elemento de retención. Realizado en caucho sintético acrílico-nitrilo. La particularidad más saliente de este elemento está constituida por la presencia de una serie de labios de retención, esta característica exclusiva asegura la capacidad de soportar vibraciones y fuertes desalineamientos.
2. Dos guarniciones de tela y caucho sintético acrílico-nitrilo separadas del elemento de retención. Estas guarniciones refuerzan y mantienen la acción de retención del elemento elástico.
3. Anillo antiextrusión y aro guía. Asegura el centrado del pistón.

ESPAÑOL

Gaxetas com resistência particular a serviços pesados. São desenvolvidas para serem montadas em pistões de cilindros hidráulicos submetidos a vibrações e grandes velocidades. Pressão de trabalho 700 kg/cm<sup>2</sup> e temperaturas de até 130°C.

São compostos por três elementos:

1. Elemento de retenção: feito em borracha sintética acrílico-nitrilo. A particularidade mais importante deste elemento é ser constituída pela presença de uma série de lábios de retenção. Esta característica exclusiva, assegura a capacidade de suportar vibrações e fortes desalinhamentos.
2. Duas gaxetas de tela de borracha sintética acrílico-nitrilo separadas do elemento de retenção; essas gaxetas reforçam e mantêm a ação de retenção do elemento elástico.
3. Anel anti-extrusão e anel guia. Assegura a centralização do pistão.

PORTUGUÊS

This product is a particular seal with resistance to heavy services which design allows assemble them in hydraulic cylinder piston that are surrender to vibrations and great distance movement. Working pressure 700 kg/cm<sup>2</sup> and working temperatures up to 130 °C.

It is built by three elements:

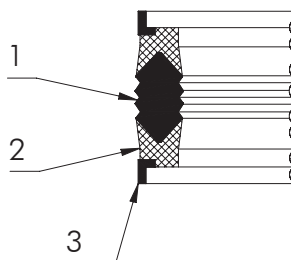
1. Retention element made of NBR. Its main characteristic is the presence of a series of retention lips. This distinction insure the support vibrations and hard putting out of alignments.
2. Two seals of hard fabric and NBR separated from the retention element. They reinforced and keep the action of retaining the stretch element.
3. Non-extrusion ring and guide ring. Insure piston centered.

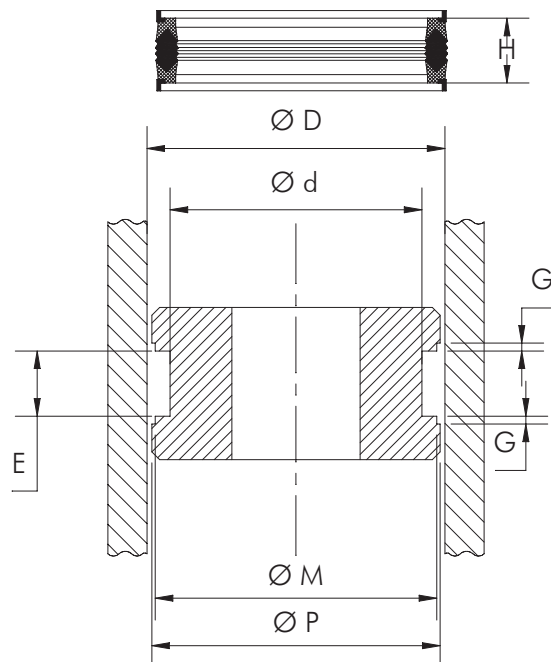
ENGLISH

### Tabla de Alojamientos y Tolerancias

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d Tolerancia Tolerance	E	G	M	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 50	Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter	± 0,03	igual a H igual a H same as H	G: 6,35	± 0,05	Ø del Cilindro -1,50 Ø do Cilindro -1,50 Ø Cylinder -1,50
51 + 80		± 0,04		+ 0,10		
81 + 115		± 0,06		-0,00		
116 + 250		± 0,10				





Ø D mm	Ø d mm	H mm	M mm
80,0	60,0	35,0	72.62
92,0	73,0	32,0	84.66
100,0	75,0	22,0	92.45
100,0	80,0	35,0	92.60
101,6	82,5	34,0	94.20
110,0	85,0	45,0	101.82

Ø D mm	Ø d mm	H mm	M mm
110,0	90,0	35,0	102.70
115,0	90,0	45,0	106.82
120,0	95,0	45,0	111.82
120,0	100,0	35,0	112.80
125,0	100,0	45,0	116.82
135,0	110,0	45,0	126.82

Ø D mm	Ø d mm	H mm	M mm
140,0	115,0	45,0	131.72
140,0	120,0	35,0	132.70
150,0	125,0	45,0	141.72
160,0	135,0	45,0	151.72
180,0	155,0	45,0	171.72



Empaquetadura empleada para el sellado de vástago posee las mismas características técnicas y de trabajo que la W-EDSM. También está compuesta por tres elementos:

1. Elemento de retención, realizado en caucho sintético acrílico-nitrilo.
2. Una guarnición de tela y caucho sintético acrílico-nitrilo separado del elemento de retención.
3. Anillo antiextrusión.

Presión de trabajo 700 kg/cm<sup>2</sup> y temperaturas de hasta 130°C.

Gaxeta usada para vedar as hastes; possuem as mesmas características técnicas de trabalho que a W-EDSM.

Também são compostas por três elementos:

1. Elemento de retenção: feito com borracha sintética acrílico-nitrilo.
2. Uma gaxeta: de tela e borracha sintética acrílico-nitrilo separado do elemento de retenção.
3. Anel anti-extrusão.

Pressão de trabalho 700 kg/cm<sup>2</sup> e temperatura de até 130°C.

This product is used to seal the rod and it contains the same technical and working characteristics as the W-EDSM.

1. Retention element made of NBR.
2. One hard fabric and NBR seal separated from the retention element.
3. Non-extrusion ring.

Presión de trabajo 700 kg/cm<sup>2</sup> y temperaturas de hasta 130°C.

ESPAÑOL

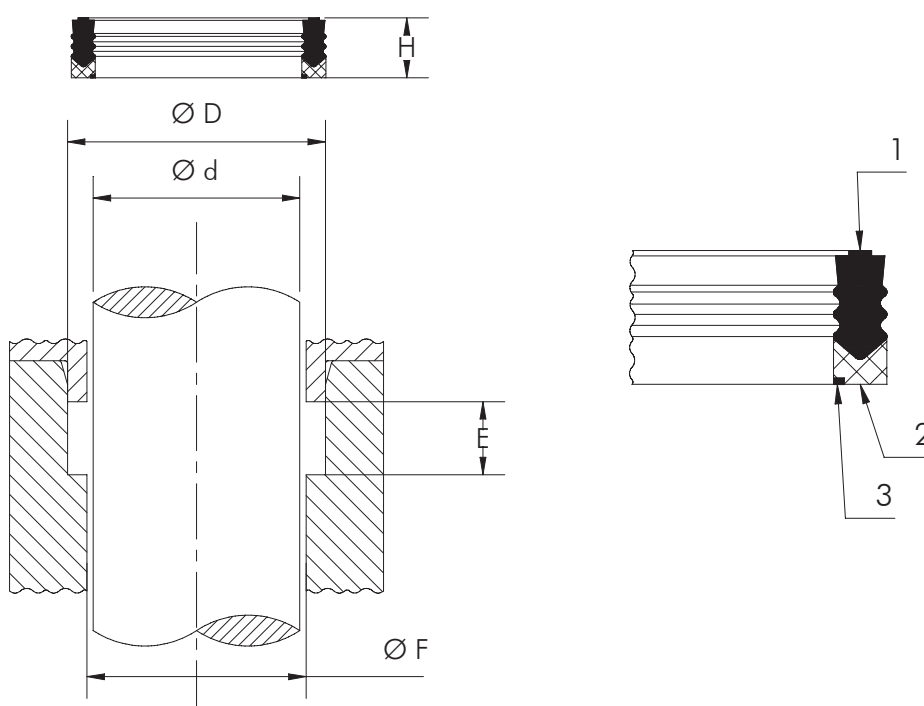
PORTUGUES

ENGLISH

### Tabla de Alojamientos y Tolerancias

Tabela de alojamentos e tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	d	D	E	F
0 + 80	Diámetro del Vástago Rod Diameter	± 0,03	H + 0,25 - 0,00	± 0,20
81 + 120		± 0,04		± 0,20
más de 250 mais do 250 more than 250		± 0,05		± 0,30



Ø D mm	Ø d mm	H mm
50,0	70,0	30,0
50,8	66,6	25,0
55,0	70,0	25,0
60,0	75,0	25,0
60,0	80,0	35,0

Ø D mm	Ø d mm	H mm
65,0	85,0	28,0
70,0	90,0	29,0
76,2	97,0	29,0
80,0	100,0	29,0
85,0	105,0	30,0

Ø D mm	Ø d mm	H mm
90,0	110,0	30,0
100,0	120,0	30,0
120,0	140,0	28,0
150,0	170,0	28,0



Guarnición diseñada donde es necesario reducir al mínimo los espacios destinados al sellado y lograr un máximo de carrera útil. Además de requerir espacios de alojamientos sumamente reducidos es ideal para aquellos casos donde se exige un bajo coeficiente de fricción. Elaboradas con telas y cauchos sintéticos acrílico-nitrilo, soportan temperaturas de hasta 130°C y presiones de trabajo de hasta 400 kg/cm².

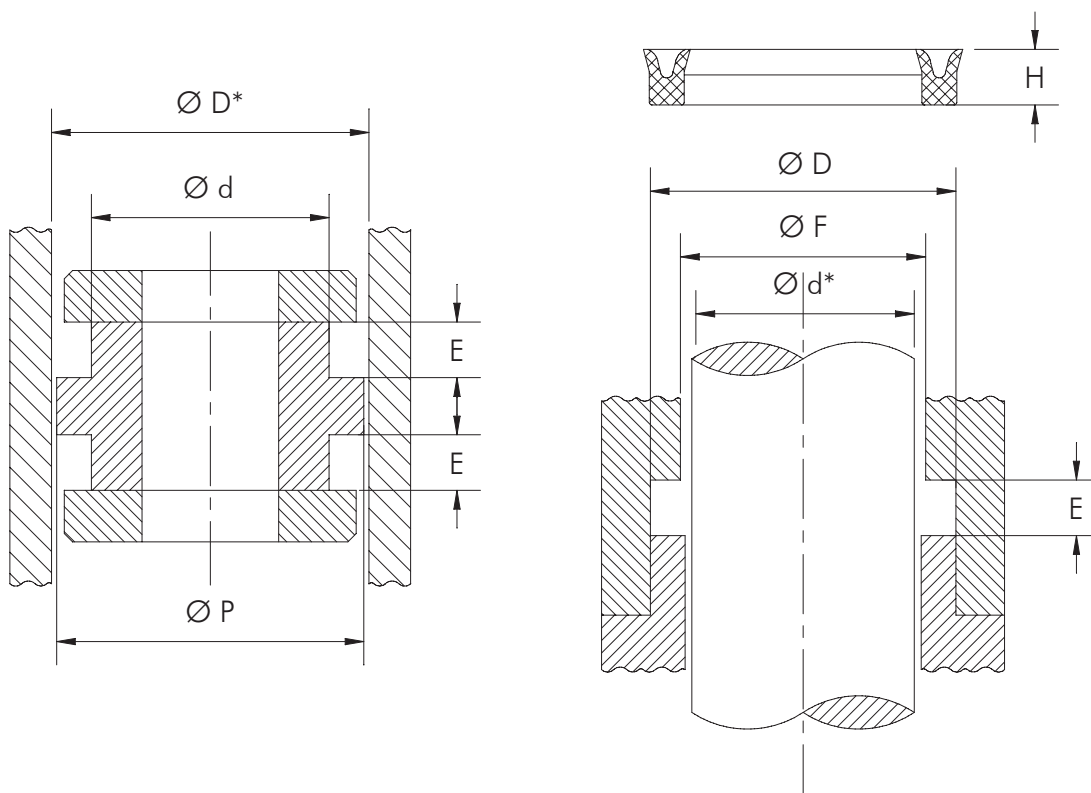
Gaxeta desenvolvida quando é necessário reduzir ao mínimo os espaços destinados a vedação e obter um máximo de velocidade útil. Além de requerer espaços de alojamento extremamente reduzidos, é ideal para aqueles casos onde se exige um baixo coeficiente de fricção. Fabricadas com telas e borrachas sintéticas acrílico-nitrilo, suportam temperaturas de até 130°C e pressões de trabalho de até 400 kg/cm².

It is a seal designed for the case when it is needed a reduction to the minimum of the places destined to seal and obtain the maximum distance movement. Besides it is ideal when a low friction coefficient is needed. They are made with NBR and hard fabric. So that they can support working temperatures up to 130°C and working pressures to 400 kg/cm².

### Tabla de Alojamientos y Tolerancias

Tabela de Alojamientos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d	D*	d*	E Alojamiento Groove	F Tolerancia máx. Tolerância máx. Greatest Tolerance	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 100	± 0,03		Diámetro del Vástago Diâmetro do haste Rod Diameter Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter		H + 15%	d* máx. + 0,3	D* mín. -0,3
101 + 250	± 0,04						
251 + 500	± 0,06						
más de 500 mais de 500 more than 500	± 0,10						



Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
15,0	27,0	10,0	54,0	74,0	12,0	76,2	101,6	11,5	100,0	120,0	10,0	140,0	156,0	12,0
18,0	25,0	4,0	55,0	75,0	10,0	76,2	101,6	12,7	100,0	125,0	12,5	140,0	160,0	13,0
18,0	26,0	5,5	55,0	85,0	15,0	80,0	90,0	8,0	100,0	125,0	15,8	152,4	184,1	15,8
20,0	28,0	4,6	55,0	88,0	17,0	80,0	100,0	10,0	100,0	130,0	15,0	171,0	203,0	15,0
22,0	30,0	5,5	57,1	76,2	10,0	80,0	100,0	14,0	100,0	130,0	16,0	178,0	203,0	19,0
26,0	35,3	9,6	58,0	82,0	15,0	80,0	104,0	12,0	101,0	121,0	10,0	185,0	205,5	17,5
28,0	39,0	6,0	59,0	76,0	11,5	81,0	101,6	10,0	101,6	114,3	15,7	200,0	230,0	15,0
30,0	60,0	16,0	60,0	78,0	11,0	82,5	101,6	14,5	101,6	127,0	12,7	200,0	230,0	25,0
35,0	50,0	7,6	60,0	80,0	10,0	83,0	103,0	11,0	110,0	125,0	12,0	200,6	228,8	25,0
35,0	55,0	16,0	60,0	80,0	12,5	85,0	105,0	10,0	110,0	135,0	12,0	210,0	240,0	28,0
36,5	51,0	12,0	60,0	88,0	26,0	86,0	112,0	15,0	115,0	143,0	20,0	218,0	248,0	14,0
38,0	50,0	6,0	68,0	80,0	12,0	88,9	114,3	12,7	119,0	130,0	6,0	227,5	250,0	18,0
40,0	50,0	10,0	68,0	92,0	15,0	90,0	105,0	10,5	120,0	137,0	8,5	235,6	263,8	25,0
40,0	60,0	10,0	69,0	88,9	12,0	90,0	110,0	10,0	120,0	150,0	17,0	241,0	270,0	30,0
45,0	65,0	10,0	70,0	90,0	10,0	90,0	110,0	12,5	124,5	150,0	12,5	241,3	298,4	38,1
48,0	63,0	7,5	70,0	90,0	11,0	90,0	115,0	14,0	124,6	144,0	12,7	245,0	275,0	23,0
50,0	63,0	7,3	70,0	90,0	12,0	94,0	120,0	12,7	127,0	152,0	13,0	245,6	273,8	25,0
50,0	70,0	11,0	73,0	88,6	9,0	95,2	114,3	12,7	128,0	154,0	16,0	270,6	298,8	25,0
50,8	63,5	7,0	75,0	95,0	12,0	96,0	114,0	13,0	139,7	165,1	12,7	295,0	328,0	23,0
50,8	76,2	12,7	76,0	85,0	5,5	96,0	115,0	14,0	140,0	151,0	9,5	301,6	361,9	39,0

Se trata de un sistema compacto bidireccional de sellado compuesto por tres elementos:

1. Aro o banda sellante, fabricado en caucho, colocado en el centro del sistema.
2. Dos aros antiextrusión (respaldo) fabricados en poliéster con aditivos lubricantes.
3. Dos aros guía para mantener centrado el pistón.

Esto permite su instalación en un solo alojamiento, lo que le favorece el uso de pistones más cortos.

La presión de uso llega hasta 250 Bar, mientras que la temperatura oscila entre  $-40^{\circ}\text{C}$  a  $110^{\circ}\text{C}$ .

Trata-se de um sistema compacto bidirecional de vedação composto por três elementos:

1. Anel ou banda vedante: fabricado em borracha, colocado no centro do sistema.
2. Dois anéis anti-extrusão (encosto): fabricado em poliéster com aditivos lubrificantes.
3. Dois anéis guia para manter o pistão centralizado.

Isto permite sua instalação em um só alojamento, o que favorece o uso de pistões mais curtos.

A pressão de uso chega até 250 bar, enquanto que a temperatura oscila entre  $-40^{\circ}$  a  $110^{\circ}\text{C}$ .

It is a bi-directional compact system sealing, compounded by three elements:

1. Sealing ring made of NBR, located in the center of the system.
2. Two non extrusion rings (backing) made of polyester with lubricant additives.
3. Two guide rings to keep centered the piston.

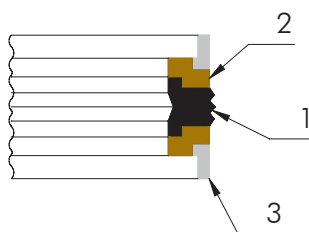
All this allow install the W-EDBM in only one groove. Therefore it favours the usage of shorter pistons.

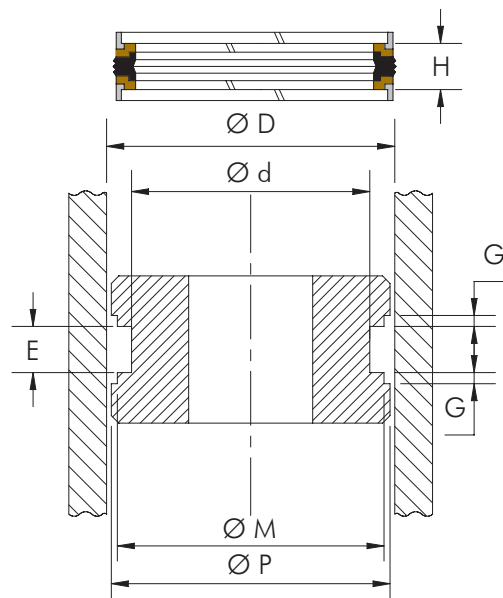
The working pressure is about 250 bar, and the working temperature oscillates between  $-40^{\circ}\text{C}$  to  $110^{\circ}\text{C}$ .

### Tabla de Alojamientos y Tolerancias

Tabela de alojamentos e tolerâncias / Tolerances and Grooves Chart

$\varnothing D$ Nominal	D	d Tolerancia Tolerância Tolerance	E	G	M	P Diámetro del Pistón Diâmetro do Pistão Piston Diameter
0 + 50	Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter	+ 0,10 -0.00	H + 2%	G: 6,35 + 0,10 -0,00	$\pm 0,05$	$\varnothing$ del Cilindro -1 $\varnothing$ do Cilindro -1 $\varnothing$ Cylinder -1
51 + 80		+ 0,12 -0.00				
81 + 115		+ 0,14 -0.00				
116 + 250		+ 0,16 -0.00				





Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
15,0	25,0	12,0	40,0	50,0	12,0	65,0	80,0	19,6	85,0	110,0	22,4	145,0	170,0	25,4
24,0	40,0	18,2	47,0	63,0	18,4	70,0	90,0	22,0	100,0	125,0	25,4	150,0	175,0	24,0
30,0	40,0	16,4	50,0	65,0	18,4	75,0	95,0	22,0	115,0	140,0	24,3	165,0	190,0	24,0
34,0	50,0	17,2	60,0	80,0	21,0	75,0	100,0	21,5						



### Especificaciones

**a.** El sellado por intermedio de O'RING previene pérdidas y escape de gases o fluidos presentando las siguientes ventajas

- Sellan en diversos rangos de presiones y temperaturas
- No necesitan ajustes
- Son económicos
- Requieren espacios reducidos

**b.** La medida de los O'RING se establece por su diámetro interior y el diámetro de su sección W.

**c.** Los O'RING son juntas elásticas de compresión o sea que para que funcionen hay que someterlos a un aplastamiento.

Para el caso de uso estático: (superficies a ser selladas que no se mueven entre si) el aplastamiento varía entre el 12% al 25% de la sección (W).

Para el caso de uso dinámico: (superficies a sellar con movimiento entre si) el aplastamiento varía entre el 8% al 20% de la sección (W).

**d.** Para determinar que compuesto se debe utilizar se debe tener en cuenta tipo de fluido, presión y temperatura de trabajo.

### Especificações

**a.** A vedação por meio de O'ring previene perdas e escape de gases ou fluidos apresentando as seguintes vantagens:

- vedam as diversas classes de pressões e temperaturas
- não necessitam de ajustes
- são econômicos
- requerem espaços reduzidos

**b.** A medida dos O'ring se estabelece por seu diâmetro interno e o diâmetro da seção W.

**c.** Os O'ring são juntas elásticas de compressão, ou seja, para que funcionem, temos de submetê-los a um estiramento.

Para o caso de uso estático: (superficies a vedar que não se movem entre si) o estiramento varia entre 12% a 25% da seção (W).

Para caso de uso dinâmico: (superficie a vedar com movimentos entre si) o estiramento varia entre 8% a 20% da seção (W).

**d.** Para determinar o composto que se deve utilizar, se deve considerar o tipo de fluido, pressão e temperatura de trabalho.

### Specifications

**a.** The sealing by means of O'ring avoids leaks and fluid or gas escapes and presents the following advantages:

- Sealing in different pressure and temperature ranges.
- No need of adjustments.
- Economical.
- Requires reduced places.

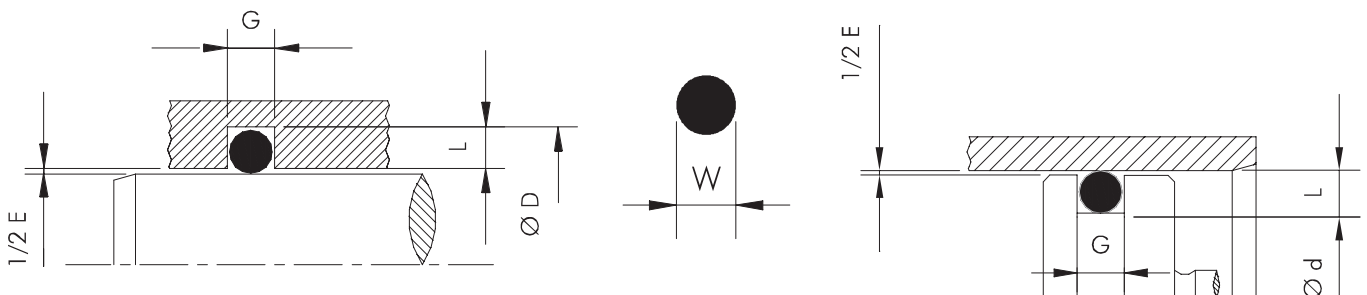
**b.** The inside diameter and its section diameter W establishes the O'ring measurement.

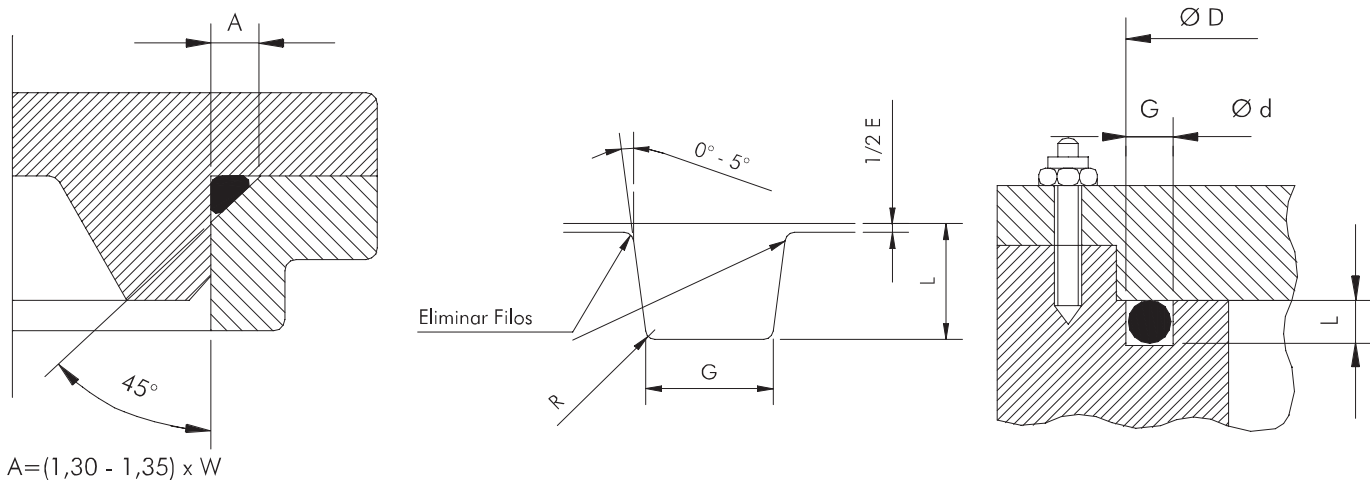
**c.** The O'rings are stretched seals of compression. That means that have to be flattened to work.

For Static usage: (Surfaces to be sealed that do not move between them) the flattening varies between 12 % to 25 % from the section (W).

For dynamic usage: (Surfaces to be sealed that move between each other) the flattening varies between 8 % to 20 % from the section (W).

**d.** To determinate which compounds must be used, it is advised to consider the types of fluid, working pressure and temperature, and lineal speed.





**Tabla para diseño de Alojamientos (Medidas en mm)**

Tabela para desenho de alojamentos (Medidas en mm) / Groove Dimension and Tolerance Chart (Measures in mm)

W N°		Ø Cuello de Pistón Ø Colo do Pistão Ø Piston Gland	Diámetro Eje o Vástago Diâmetro haste Rod Diameter	Ø Real W	L Profundidad Alojamiento Profundidade alojamento Groove Depth	Compresión Compressão Compression		E Juego Diametral Jogo Diametral Diametral Set	G Ancho Alojamiento Ancho Alojamento Groove Widtht	R Radio Alojamiento Radio Alojamento Groove Radius	Excentricidad Max. Excentricidade Excentricity
						Real	%				
Estático Estático / Static	W-004 to W-050	6 to 150	3 to 125	1,78 to 1,35 ±0,08	1,25 to 1,35	0,35 to 0,61	20 to 33	0,05 to 0,13	2,4 to 2,6	0,1 to 0,4	0,05
	W-110 to W-178	15 to 250	10 to 250	2,62 to 2,15 ±0,08	2,05 to 2,15	0,39 to 0,65	15 to 25	0,05 to 0,13	3,6 to 3,8	0,1 to 0,4	0,05
	W-210 to W-284	25 to 480	20 to 460	3,53 to 2,95 ±0,10	2,80 to 2,95	0,48 to 0,83	13 to 23	0,08 to 0,16	4,8 to 5,0	0,2 to 0,6	0,08
	W-325 to W-395	50 to 680	40 to 680	5,33 to 4,50 ±0,13	4,30 to 4,50	0,70 to 1,16	13 to 22	0,08 to 0,18	7,2 to 7,4	0,5 to 1,0	0,10
	W-425 to W-475	125 to 700	120 to 700	6,99 to 5,95 ±0,15	5,75 to 5,95	0,89 to 1,39	13 to 20	0,10 to 0,20	9,6 to 9,8	0,5 to 1,0	0,12
	Dinámico Dinámico / Dynamic	W-006 to W-012	6 to 15	3 to 10	1,78 to 1,45 ±0,08	1,40 to 1,45	0,25 to 0,46	14 to 25	0,05 to 0,13	2,4 to 2,6	0,1 to 0,4
W-110 to W-116		15 to 25	10 to 20	2,62 to 2,30 ±0,08	2,25 to 2,30	0,24 to 0,45	9 to 19	0,05 to 0,13	3,6 to 3,8	0,1 to 0,4	0,05
W-210 to W-222		25 to 50	20 to 40	3,53 to 3,10 ±0,10	3,05 to 3,10	0,33 to 0,58	9 to 16	0,08 to 0,16	4,8 to 5,0	0,2 to 0,6	0,08
W-325 to W-349		50 to 125	40 to 120	5,33 to 4,75 ±0,13	4,65 to 4,75	0,45 to 0,81	8 to 15	0,08 to 0,18	7,2 to 7,4	0,5 to 1,0	0,10
W-425 to W-460		125 to 400	120 to 400	6,99 to 6,10 ±0,15	6,00 to 6,10	0,74 to 1,14	10 to 16	0,10 to 0,20	9,6 to 9,8	0,5 to 1,0	0,12

<b>Materiales básicos</b> Materiais básicos Basic materials	<b>Resistencia a la temperatura en servicio continuo</b> Resistência a temperatura em trabalho contínuo Resistance to temperature in continuous services	<b>Dureza Shore "A"</b> Dureza Shore "A" Hardness Shore "A"	<b>Aplicación. Uso recomendado</b> Aplicação. Uso recomendado Application. Recommended usage
Nitrilo (buna "N") Nitrilo (buna "N") Nitrile Rubber	-30°F a +250°F -34°C a +121°C	70±5	Uso estático y dinámico de vaivén: Hidráulico o Neumático. Aceites minerales, aceites hidráulicos derivados del petróleo, agua, aire comprimido. Freón 12.  Uso estático e dinâmico de vai-vem hidráulico ou pneumático. Óleos minerais, óleos hidráulicos, derivados de petróleo, água, ar comprimido, Freón 12  Static and dynamic swing usage: Hydraulic or pneumatic mineral oils, hydraulic oils derived from petrol, water, compressed air. Freon 12.
Nitrilo (buna "N") Nitrilo (buna "N") Nitrile Rubber	-40°F a +250°F -40°C a +121°C	90±5	Uso estático para muy alta presión. Aceites minerales, aceites hidráulicos derivados del petróleo, agua, aire comprimido.  Uso estático para pressões muito altas. Óleos minerais, óleos hidráulicos, derivados de petróleo, água, ar comprimido.  Static usage for highest pressure: mineral oils, hydraulic oils derived from petrol, water, compressed air.
Cloropreno Cloropreno Chloroprene Rubber	-45°F a +300°F -43°C a +149°C	70±5	Uso Estático a la intemperie. Amoníaco. Freón 12. Freón 22. Oxígeno.  Uso estático em áreas abertas, amoníaco, Freón 12, Freón 22, oxigênio.  Static usage in outdoors. Freon 12. Freon 22 oxygen.
Silicona Silicone Silicone	-65°F a +450°F -54°C a +232°C	70±5	Uso estático para altas temperaturas.  Uso estático para altas temperaturas.  Static usage for high temperature.
Fluoro Elastómero (Vitón) Flúor-Elastômero (Viton) Fluoro-Carbon Rubber	-15°F a +400°F -26°C a +204°C	75±5	Uso estático y dinámico de vaivén: Hidráulico o Neumático. Ácidos inorgánicos. Compuestos aromáticos (derivados del Benceno, Tolueno, etc.). Compuestos clorados (Tetracloruro de Carbono, Triclor Etileno, etc.). Oxígeno.  Uso estático e dinâmico de vai-vem hidráulico e pneumático. Ácidos inorgânicos, compostos aromáticos, (derivados de benzeno, tolueno, etc). Compostos clorados (tetracloro de carbono, tricloroetileno, etc), oxigênio.  Static and dynamic swing usage. Hydraulic or pneumatic. Inorganic acids. Aromatic compounds (derived from benzene, toluene, and others) chloryd compounds (chlorinated hydrocarbons, trichloro ethylene, and others) oxygen
Etileno-Propileno (EPT) Etileno-Propileno (EPT)) Ethylene Propylene Rubber	-70°F a +300°F -57°C a +149°C	80±5	Uso estático y dinámico de vaivén: Hidráulico o Neumático. Fluidos para frenos de automotores. Fluidos con base de ésteres fosfatados. Vapor de Agua. Acetona. Gran resistencia al ozono.  Uso estático e dinâmico de vai-vem hidráulico ou pneumático, fluidos para freios de automóveis, fluidos com base de ésteres fosfatados, vapor de água, acetona. Grande resistência ao ozônio.  Static and dynamic swing usage: hydraulic or pneumatic. Brake fluids. Hydraulic fluids with phosphoric ester base. Water steam. Acetone. Great resistance to ozone.

## Sección 1,78 mm / Secção 1,78 mm / Section 1,78 mm

Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm
*W-001	0,74	2,78	W-015	14,00	17,56	W-029	37,82	41,38	W-043	88,62	92,18
*W-002	1,07	3,61	W-016	15,60	19,16	W-030	41,00	44,56	W-044	94,97	98,53
*W-003	1,42	4,46	W-017	17,17	20,73	W-031	44,17	47,73	W-045	101,32	104,88
W-004	1,78	5,34	W-018	18,77	22,33	W-032	47,35	50,91	W-046	107,67	111,23
W-005	2,57	6,13	W-019	20,35	23,91	W-033	50,52	54,08	W-047	114,02	117,58
W-006	2,90	6,46	W-020	21,95	25,51	W-034	53,70	57,26	W-048	120,37	123,93
W-007	3,68	7,24	W-021	23,52	27,08	W-035	56,87	60,43	W-049	126,72	130,28
W-008	4,47	8,03	W-022	25,12	28,68	W-036	60,05	63,61	W-050	133,07	136,63
W-009	5,28	8,84	W-023	26,70	30,26	W-037	63,22	66,78	<div>N°S</div> <div>*W-001-1,02 mm</div> <div>*W-002-1.27 mm</div> <div>*W-003-1.52 mm</div>		
W-010	6,07	9,63	W-024	28,30	31,86	W-038	66,40	69,96			
W-011	7,65	11,21	W-025	29,87	33,43	W-039	69,57	73,13			
W-012	9,25	12,81	W-026	31,47	35,03	W-040	72,75	76,31			
W-013	10,82	14,38	W-027	33,05	36,61	W-041	75,92	79,48			
W-014	12,42	15,98	W-028	34,65	38,21	W-042	82,27	85,83			

## Sección 2,62 mm / Secção 2,62 mm / Section 2,62 mm

Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm
W-102	1,24	6,48	W-122	28,24	33,48	W-141	58,42	63,66	W-160	133,02	138,26
W-103	2,06	7,30	W-123	29,82	35,06	W-142	59,99	65,23	W-161	139,37	144,61
W-104	2,84	8,08	W-124	31,42	36,66	W-143	61,60	66,84	W-162	145,72	150,96
W-105	3,63	8,87	W-125	32,99	38,23	W-144	63,17	68,41	W-163	152,07	157,31
W-106	4,42	9,66	W-126	34,59	39,83	W-145	64,77	70,01	W-164	158,42	163,66
W-107	5,23	10,47	W-127	36,17	41,41	W-146	66,34	71,58	W-165	164,77	170,01
W-108	6,02	11,26	W-128	37,77	43,01	W-147	67,95	73,19	W-166	171,12	176,36
W-109	7,59	12,83	W-129	39,34	44,58	W-148	69,52	74,76	W-167	177,47	182,71
W-110	9,19	14,43	W-130	40,94	46,18	W-149	71,12	76,36	W-168	183,82	189,06
W-111	10,77	16,01	W-131	42,52	47,76	W-150	72,69	77,93	W-169	190,17	195,41
W-112	12,37	17,61	W-132	44,12	49,36	W-151	75,87	81,11	W-170	196,52	201,76
W-113	13,94	19,18	W-133	45,69	50,93	W-152	82,22	87,46	W-171	202,87	208,11
W-114	15,54	20,78	W-134	47,29	52,53	W-153	68,57	73,81	W-172	209,22	214,46
W-115	17,12	22,36	W-135	48,90	54,14	W-154	94,92	100,16	W-173	215,57	220,81
W-116	18,72	23,96	W-136	50,47	55,71	W-155	101,27	106,51	W-174	221,92	227,16
W-117	20,30	25,54	W-137	52,07	57,31	W-156	107,62	112,86	W-175	228,27	233,51
W-118	21,89	27,13	W-138	53,64	58,88	W-157	113,97	119,21	W-176	234,62	239,86
W-119	23,47	28,71	W-139	55,25	60,49	W-158	120,32	125,56	W-177	240,97	246,21
W-120	25,07	30,31	W-140	56,82	62,06	W-159	126,67	131,91	W-178	247,32	252,56
W-121	26,64	31,88									

### Sección 3,53 mm / Secção 3,53 mm / Section 3,53 mm

Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm
W-201	4,34	11,40	W-222	37,69	44,75	W-243	104,37	111,43	W-264	190,09	197,15
W-202	5,94	13,00	W-223	40,87	47,93	W-244	107,54	114,60	W-265	196,44	203,50
W-203	7,52	14,58	W-224	44,04	51,10	W-245	110,72	117,78	W-266	202,79	209,85
W-204	9,12	16,18	W-225	47,22	54,28	W-246	113,89	120,95	W-267	209,14	216,20
W-205	10,69	17,75	W-226	50,39	57,45	W-247	117,07	124,13	W-268	215,49	222,55
W-206	12,29	19,35	W-227	53,57	60,63	W-248	120,24	127,30	W-269	221,84	228,90
W-207	13,87	20,93	W-228	56,74	63,80	W-249	123,42	130,48	W-270	228,19	235,25
W-208	15,47	22,53	W-229	59,92	66,98	W-250	126,59	133,65	W-271	234,54	241,60
W-209	17,04	24,10	W-230	63,09	70,15	W-251	129,77	136,83	W-272	240,89	247,95
W-210	18,64	25,70	W-231	66,27	73,33	W-252	132,94	140,00	W-273	247,24	254,30
W-211	20,22	27,28	W-232	69,44	76,50	W-253	136,12	143,18	W-274	253,59	260,65
W-212	21,82	28,88	W-233	72,62	79,68	W-254	139,29	146,35	W-275	266,29	273,35
W-213	23,39	30,45	W-234	75,79	82,85	W-255	142,47	149,53	W-276	278,99	286,05
W-214	24,99	32,05	W-235	78,97	86,03	W-256	145,64	152,70	W-277	291,69	298,75
W-215	26,57	33,63	W-236	82,14	89,20	W-257	148,82	155,88	W-278	304,39	311,45
W-216	28,17	35,23	W-237	85,32	92,38	W-258	151,99	159,05	W-279	329,79	336,85
W-217	29,74	36,80	W-238	88,49	95,55	W-259	158,34	165,40	W-280	355,19	362,25
W-218	31,34	38,40	W-239	91,67	98,73	W-260	164,69	171,75	W-281	380,59	387,65
W-219	32,92	39,98	W-240	94,84	101,90	W-261	171,04	178,10	W-282	405,26	412,32
W-220	34,52	41,58	W-241	98,02	105,08	W-262	177,39	184,45	W-283	430,66	437,72
W-221	36,09	43,15	W-242	101,19	108,25	W-263	183,74	190,80	W-284	456,06	463,12

### Sección 5,33 mm / Secção 5,33 mm / Section 5,33 mm

Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm
W-309	10,46	21,12	W-326	40,64	51,30	W-343	94,62	105,28	W-360	148,59	159,25
W-310	12,07	22,73	W-327	43,82	54,48	W-344	97,79	108,45	W-361	151,77	162,43
W-311	13,64	24,30	W-328	46,99	57,65	W-345	100,97	111,63	W-362	158,12	168,78
W-312	15,24	25,90	W-329	50,17	60,83	W-346	104,14	114,80	W-363	164,47	175,13
W-313	16,81	27,47	W-330	53,34	64,00	W-347	107,32	117,98	W-364	170,82	181,48
W-314	18,42	29,08	W-331	56,52	67,18	W-348	110,49	121,15	W-365	177,17	187,83
W-315	19,99	30,65	W-332	59,69	70,35	W-349	113,67	124,33	W-366	183,52	194,18
W-316	21,59	32,25	W-333	62,87	73,53	W-350	116,84	127,50	W-367	189,87	200,53
W-317	23,16	33,82	W-334	66,04	76,70	W-351	120,02	130,68	W-368	196,22	206,88
W-318	24,77	35,43	W-335	69,22	79,88	W-352	123,19	133,85	W-369	202,57	213,23
W-319	26,34	37,00	W-336	72,39	83,05	W-353	126,37	137,03	W-370	208,92	219,58
W-320	27,94	38,60	W-337	75,57	86,23	W-354	129,54	140,20	W-371	215,27	225,93
W-321	29,51	40,17	W-338	78,74	89,40	W-355	132,72	143,38	W-372	221,62	232,28
W-322	31,12	41,78	W-339	81,92	92,58	W-356	135,89	146,55	W-373	227,97	238,63
W-323	32,69	43,35	W-340	85,09	95,75	W-357	139,07	149,73	W-374	234,32	244,98
W-324	34,29	44,95	W-341	88,27	98,93	W-358	142,24	152,90	W-375	240,67	251,33
W-325	37,47	48,13	W-342	91,44	102,10	W-359	145,42	156,08	W-376	247,02	257,68

### Sección 5,33 mm / Secção 5,33 mm / Section 5,33 mm

Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm
W-377	253,37	264,03	W-382	329,57	340,23	W-387	456,06	466,72	W-392	582,68	593,34
W-378	266,07	276,73	W-383	354,97	365,63	W-388	481,41	492,07	W-393	608,08	618,74
W-379	278,77	289,43	W-384	380,37	391,03	W-389	506,81	517,47	W-394	633,48	644,14
W-380	291,47	302,13	W-385	405,26	415,92	W-390	532,21	542,87	W-395	658,88	669,54
W-381	304,17	314,83	W-386	430,66	441,32	W-391	557,61	568,27			

### Sección 6,99 mm / Secção 6,99 mm / Section 6,99 mm

Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm	Serie N°	Ø d mm	Ø D mm
W-425	113,67	127,65	W-438	158,12	172,10	W-451	278,77	292,75	W-464	443,36	457,34
W-426	116,84	130,82	W-439	164,47	178,45	W-452	291,47	305,45	W-465	456,06	470,04
W-427	120,02	134,00	W-440	170,82	184,80	W-453	304,17	318,15	W-466	468,76	482,74
W-428	123,19	137,17	W-441	177,17	191,15	W-454	316,87	330,85	W-467	481,46	495,44
W-429	126,37	140,35	W-442	183,52	197,50	W-455	329,57	343,55	W-468	494,16	508,14
W-430	129,54	143,52	W-443	189,87	203,85	W-456	342,27	356,25	W-469	506,86	520,84
W-431	132,72	146,70	W-444	196,22	210,20	W-457	354,97	368,95	W-470	532,26	546,24
W-432	135,89	149,87	W-445	202,57	216,55	W-458	367,67	381,65	W-471	557,66	571,64
W-433	139,07	153,05	W-446	215,27	229,25	W-459	380,37	394,35	W-472	582,68	596,66
W-434	142,24	156,22	W-447	227,97	241,95	W-460	393,07	407,05	W-473	608,08	622,06
W-435	145,42	159,40	W-448	240,67	254,65	W-461	405,26	419,24	W-474	633,48	647,46
W-436	148,59	162,57	W-449	253,37	267,35	W-462	417,96	431,94	W-475	658,88	672,86
W-437	151,77	165,75	W-450	266,07	280,05	W-463	430,66	444,64			

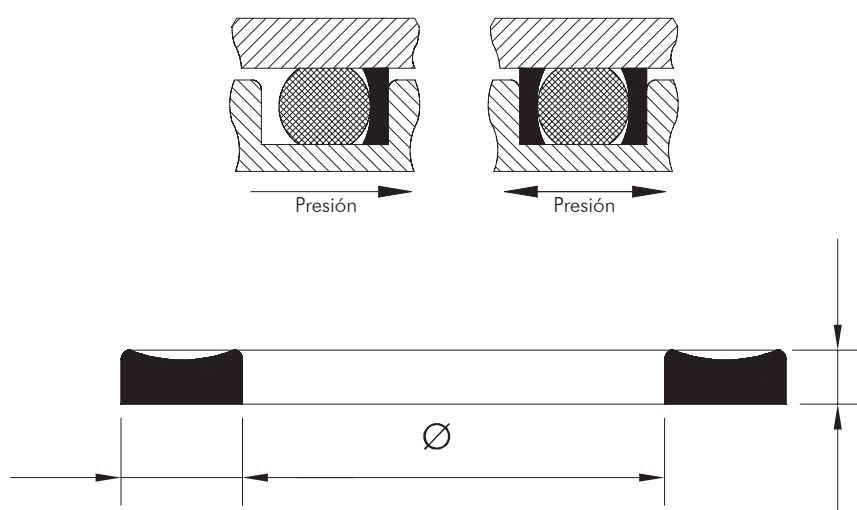
### Tabla de Tolerancias / Tabela de tolerâncias / Tolerances Chart

Ø d Tolerancias			±mm	Ø d Tolerancias			±mm	Ø d Tolerancias			±mm	Ø d Tolerancias			±mm
W-001	3	0,08		W-160	167	0,58		W-315	324	0,15		W-442	460	0,76	
W-004	19	0,13		W-168	178	0,76		W-325	334	0,25		W-461	471	1,14	
W-020	28	0,15		W-201	209	0,13		W-335	353	0,38		W-472	475	1,52	
W-029	38	0,25		W-210	222	0,15		W-354	365	0,58					
W-039	48	0,38		W-223	231	0,25		W-366	384	0,76					
W-049	50	0,58		W-232	250	0,38		W-385	387	1,14					
W-102	116	0,13		W-251	262	0,58		W-388	391	1,19					
W-117	128	0,15		W-263	281	0,76		W-392	395	1,52					
W-129	146	0,25		W-282	284	1,14		W-425	429	0,38					
W-147	159	0,38		W-309	314	0,13		W-430	441	0,58					
			</												

La utilización del RO amplía las limitaciones de holguras permitiendo ajustes menos precisos entre partes móviles. El uso del mismo (Dureza nominal 90° Shore "A") en combinación con un O'Ring, pueden soportar varias veces la presión de un arosello aislado, extendiendo además su vida útil.

A utilização do RO amplia as limitações de folgas permitindo ajustes menos precisos entre as partes móveis o uso do mesmo (dureza nominal 90° shore "A") em combinação com um O'ring podem suportar várias vezes uma pressão de trabalho do anel usado isoladamente, estendendo mais sua vida útil.

This seal is used to extend width limitations allowing minimum adjustments between mobile parts. The usage of it (nominal hardness 90 shore "A") in combination with an O'ring can support several times the isolated O'ring working pressure, giving more endurance to it.



**Sección 1,35 mm / Secção 1,35 mm / Section 1,35 mm**

Código N° Code N°	Ød mm	H mm	Código N° Code N°	Ød mm	ØH mm	Código N° Code N°	Ød mm	ØH mm
8-004	2,44	1,24	8-020*	22,68	1,24	8-036	60,78	1,24
8-005	3,23	1,24	8-021*	24,26	1,24	8-037	63,96	1,24
8-006*	3,56	1,24	8-022*	25,86	1,24	8-038*	67,13	1,24
8-007*	4,34	1,24	8-023	27,43	1,24	8-039	70,31	1,24
8-008*	5,13	1,24	8-024*	29,03	1,24	8-040	73,48	1,24
8-009	5,94	1,24	8-025*	30,61	1,24	8-041	76,66	1,24
8-010*	6,73	1,24	8-026*	32,21	1,24	8-042	83,01	1,24
8-011*	8,31	1,24	8-027	33,78	1,24	8-043	89,36	1,24
8-012*	9,91	1,24	8-028*	35,38	1,24	8-044	95,71	1,24
8-013*	11,56	1,24	8-029*	38,56	1,24	8-045	102,06	1,24
8-014*	13,16	1,24	8-030	41,73	1,24	8-046	108,41	1,24
8-015*	14,73	1,24	8-031	44,91	1,24	8-047	114,76	1,24
8-016*	16,33	1,24	8-032*	48,08	1,24	8-048	121,11	1,24
8-017*	17,91	1,24	8-033	51,26	1,24	8-049	127,46	1,24
8-018*	19,51	1,24	8-034	54,43	1,24	8-050	133,81	1,24
8-019*	21,08	1,24	8-035	57,61	1,24			

## Sección 2,18 mm / Secção 2,18 mm / Section 2,18 mm

Código N° Code N°	Ød mm	H mm	Código N° Code N°	Ød mm	ØH mm	Código N° Code N°	Ød mm	ØH mm
8-102	1,96	1,35	8-128*	38,56	1,35	8-154*	95,71	1,35
8-103	2,77	1,35	8-129*	40,16	1,35	8-155	102,06	1,35
8-104	3,56	1,35	8-130	41,73	1,35	8-156	108,41	1,35
8-105	4,34	1,35	8-131*	43,33	1,35	8-157	114,76	1,35
8-106	5,13	1,35	8-132*	44,91	1,35	8-158	121,11	1,35
8-107	5,94	1,35	8-133*	46,51	1,35	8-159	127,46	1,35
8-108*	6,73	1,35	8-134*	48,08	1,35	8-160	133,81	1,35
8-109*	8,31	1,35	8-135	49,68	1,35	8-161	140,16	1,35
8-110*	9,91	1,35	8-136*	51,26	1,35	8-162	146,51	1,35
8-111*	11,48	1,35	8-137	52,86	1,35	8-163	152,86	1,35
8-112*	13,08	1,35	8-138	54,43	1,35	8-164	159,21	1,35
8-113*	14,66	1,35	8-139	56,03	1,35	8-165	165,56	1,35
8-114*	16,26	1,35	8-140	57,61	1,35	8-166	171,91	1,35
8-115*	17,83	1,35	8-141*	59,21	1,35	8-167	178,26	1,35
8-116*	19,43	1,35	8-142	60,78	1,35	8-168	184,61	1,35
8-117*	21,11	1,35	8-143*	62,38	1,35	8-169	190,96	1,35
8-118*	22,68	1,35	8-144*	63,96	1,35	8-170	197,31	1,35
8-119*	24,28	1,35	8-145	65,56	1,35	8-171	203,66	1,35
8-120*	25,86	1,35	8-146	67,13	1,35	8-172	210,01	1,35
8-121*	27,46	1,35	8-147	68,73	1,35	8-173	216,36	1,35
8-122*	29,03	1,35	8-148	70,31	1,35	8-174	222,71	1,35
8-123*	30,63	1,35	8-149*	71,91	1,35	8-175	229,06	1,35
8-124*	32,21	1,35	8-150	73,48	1,35	8-176	235,41	1,35
8-125*	33,81	1,35	8-151*	76,66	1,35	8-177	241,76	1,35
8-126*	35,38	1,35	8-152	83,01	1,35	8-178	248,11	1,35
8-127*	36,98	1,35	8-153*	89,36	1,35			

## Sección 3,00 mm / Secção 3,00 mm / Section 3,00 mm

Código N° Code N°	Ød mm	H mm	Código N° Code N°	Ød mm	ØH mm	Código N° Code N°	Ød mm	ØH mm
8-201	5,13	1,27	8-213*	24,21	1,27	8-225*	48,18	1,27
8-202	6,73	1,27	8-214*	25,81	1,27	8-226*	51,36	1,27
8-203	8,30	1,27	8-215*	27,38	1,27	8-227*	54,53	1,27
8-204	9,90	1,27	8-216*	28,98	1,27	8-228*	57,71	1,27
8-205	11,56	1,27	8-217*	30,56	1,27	8-229*	60,88	1,27
8-206*	13,16	1,27	8-218*	32,16	1,27	8-230*	64,06	1,27
8-207	14,73	1,27	8-219*	33,88	1,27	8-231*	66,83	1,27
8-208*	16,33	1,27	8-220*	35,48	1,27	8-232*	70,00	1,27
8-209	17,90	1,27	8-221	37,06	1,27	8-233*	73,18	1,27
8-210*	19,46	1,27	8-222*	38,66	1,27	8-234*	76,35	1,27
8-211*	21,03	1,27	8-223*	41,83	1,27	8-235*	79,53	1,27
8-212*	22,63	1,27	8-224*	45,01	1,27	8-236*	82,70	1,27



### Sección 3,00 mm / Secção 3,00 mm / Section 3,00 mm

Código N° Code N°	Ød mm	H mm	Código N° Code N°	Ød mm	ØH mm	Código N° Code N°	Ød mm	ØH mm
8-237*	85,88	1,27	8-253	136,98	1,27	8-269	222,71	1,27
8-238*	89,05	1,27	8-254	140,16	1,27	8-270	229,06	1,27
8-239*	92,23	1,27	8-255*	143,33	1,27	8-271	235,41	1,27
8-240*	95,40	1,27	8-256*	146,51	1,27	8-272	241,76	1,27
8-241*	98,58	1,27	8-257	149,68	1,27	8-273	248,11	1,27
8-242*	101,75	1,27	8-258*	152,86	1,27	8-274	254,46	1,27
8-243	104,93	1,27	8-259	159,21	1,27	8-275	267,16	1,27
8-244*	108,10	1,27	8-260	165,56	1,27	8-276	279,86	1,27
8-245*	111,28	1,27	8-261	171,91	1,27	8-277	292,56	1,27
8-246*	114,45	1,27	8-262*	178,26	1,27	8-278	305,26	1,27
8-247*	117,63	1,27	8-263	184,61	1,27	8-279	330,66	1,27
8-248*	121,11	1,27	8-264	190,96	1,27	8-280	356,05	1,27
8-249*	124,28	1,27	8-265	197,31	1,27	8-281	381,46	1,27
8-250*	127,46	1,27	8-266*	203,66	1,27	8-282	406,12	1,27
8-251	130,63	1,27	8-267	210,01	1,27	8-283	431,52	1,27
8-252*	133,81	1,27	8-268	216,36	1,27	8-284	456,92	1,27

### Sección 4,65 mm / Secção 4,65 mm / Section 4,65 mm

Código N° Code N°	Ød mm	H mm	Código N° Code N°	Ød mm	ØH mm	Código N° Code N°	Ød mm	ØH mm
8-309	11,43	1,93	8-329*	51,13	1,93	8-349*	115,01	1,93
8-310	13,03	1,93	8-330*	54,31	1,93	8-350*	118,19	1,93
8-311	14,60	1,93	8-331*	57,61	1,93	8-351*	121,36	1,93
8-312	16,20	1,93	8-332*	60,78	1,93	8-352	124,54	1,93
8-313	17,78	1,93	8-333*	63,96	1,93	8-353*	127,71	1,93
8-314	19,38	1,93	8-334*	67,13	1,93	8-354*	130,89	1,93
8-315	20,96	1,93	8-335*	70,31	1,93	8-355	134,09	1,93
8-316	22,56	1,93	8-336*	73,48	1,93	8-356	137,24	1,93
8-317	24,13	1,93	8-337*	76,66	1,93	8-357	140,41	1,93
8-318	25,73	1,93	8-338*	79,83	1,93	8-358	143,59	1,93
8-319	27,31	1,93	8-339*	83,13	1,93	8-359	146,76	1,93
8-320	28,91	1,93	8-340*	86,31	1,93	8-360	149,94	1,93
8-321*	30,42	1,93	8-341*	89,48	1,93	8-361	153,11	1,93
8-322*	32,08	1,93	8-342*	92,66	1,93	8-362	159,46	1,93
8-323*	33,43	1,93	8-343*	95,83	1,93	8-363	165,81	1,93
8-324*	35,26	1,93	8-344*	99,01	1,93	8-364	172,16	1,93
8-325*	38,43	1,93	8-345*	102,31	1,93	8-365	178,51	1,93
8-326*	41,61	1,93	8-346*	105,49	1,93	8-366	184,86	1,93
8-327*	44,78	1,93	8-347*	108,66	1,93	8-367	191,21	1,93
8-328*	47,96	1,93	8-348*	111,84	1,93	8-368	197,56	1,93

### Sección 4,65 mm / Secção 4,65 mm / Section 4,65 mm

Código N° Code N°	Ød mm	H mm	Código N° Code N°	Ød mm	ØH mm	Código N° Code N°	Ød mm	ØH mm
8-369	203,91	1,93	8-378	267,41	1,93	8-387	457,40	1,93
8-370	210,26	1,93	8-379	280,11	1,93	8-388	482,75	1,93
8-371	216,61	1,93	8-380	292,81	1,93	8-389	508,15	1,93
8-372	222,96	1,93	8-381	305,51	1,93	8-390	533,55	1,93
8-373	229,31	1,93	8-382	330,91	1,93	8-391	558,95	1,93
8-374	235,66	1,93	8-383	356,31	1,93	8-392	584,02	1,93
8-375	242,01	1,93	8-384	381,71	1,93	8-393	609,42	1,93
8-376	248,36	1,93	8-385	406,60	1,93	8-394	634,82	1,93
8-377	254,71	1,93	8-386	432,00	1,93	8-395	660,22	1,93

### Sección 5,99 mm / Secção 5,99 mm / Section 5,99 mm

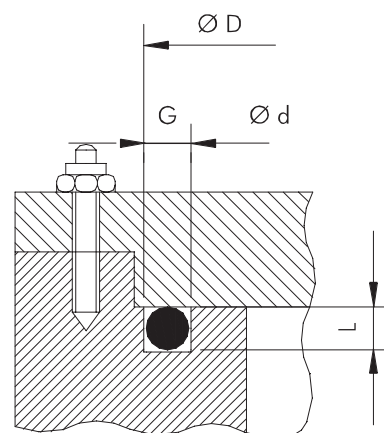
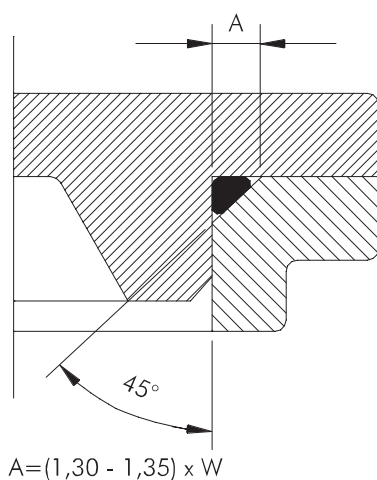
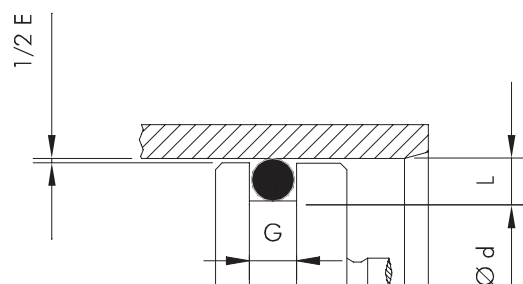
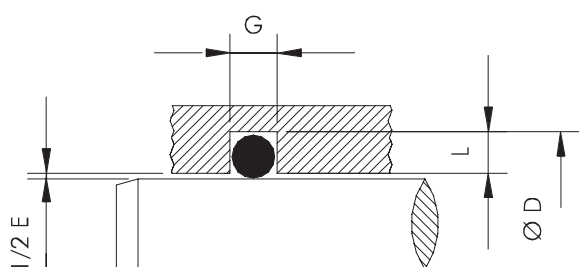
Código N° Code N°	Ød mm	H mm	Código N° Code N°	Ød mm	ØH mm	Código N° Code N°	Ød mm	ØH mm
8-425*	115,60	2,97	8-442	184,76	2,97	8-459	381,61	2,97
8-426	118,77	2,97	8-443	191,11	2,97	8-460	394,31	2,97
8-427	121,95	2,97	8-444	197,46	2,97	8-461	406,50	2,97
8-428	125,20	2,97	8-445	203,81	2,97	8-462	419,20	2,97
8-429*	128,30	2,97	8-446	216,51	2,97	8-463	431,90	2,97
8-430	131,47	2,97	8-447*	229,21	2,97	8-464	444,60	2,97
8-431	134,65	2,97	8-448	241,91	2,97	8-465	457,30	2,97
8-432	137,82	2,97	8-449	254,61	2,97	8-466	470,00	2,97
8-433	141,00	2,97	8-450	267,31	2,97	8-467	482,70	2,97
8-434	144,17	2,97	8-451	280,01	2,97	8-468	495,40	2,97
8-435	147,35	2,97	8-452	292,71	2,97	8-469	508,10	2,97
8-436	150,52	2,97	8-453	305,41	2,97	8-470	533,50	2,97
8-437	153,70	2,97	8-454	318,11	2,97	8-471	558,90	2,97
8-438	159,36	2,97	8-455	330,81	2,97	8-472	584,30	2,97
8-439	165,71	2,97	8-456	343,51	2,97	8-473	609,70	2,97
8-440	172,06	2,97	8-457	356,21	2,97	8-474	635,10	2,97
8-441	178,41	2,97	8-458	368,91	2,97	8-475	660,50	2,97

\*Medidas disponibles

Se utiliza para fabricar juntas estáticas de emergencia y su temperatura de empleo depende exclusivamente del compuesto.

É utilizado para fabricar juntas estáticas de emergência e sua temperatura de uso depende exclusivamente de seu composto.

This seal is used to make emergency static seals and its working temperature for its use depends on the compound.



**Lista de Medidas (en mm) / Secção 4,65 mm / Measure List (in mm)**

1,00	2,62	4,00	6,30	8,50	13,00	19,00	25,00
1,50	2,75	4,50	6,50	9,00	14,00	20,00	26,00
1,78	3,00	5,00	6,99	9,50	15,00	21,00	27,00
2,00	3,25	5,33	7,00	10,00	16,00	22,00	28,00
2,25	3,50	5,50	7,50	11,00	17,00	23,00	29,00
2,50	3,53	6,00	8,00	12,00	18,00	24,00	30,00

Guarnición diseñada para el sellado de vástagos y pistones en cilindros neumáticos e hidráulicos de baja presión. La guarnición W-GUG está moldeada en caucho sintético acrílico-nitrilo de excelentes propiedades físicas y químicas, son resistentes a grasas, aceites, fluidos hidráulicos y agentes atmosféricos y permiten presiones de hasta 70 kg/cm<sup>2</sup> y temperaturas de hasta 130°C.

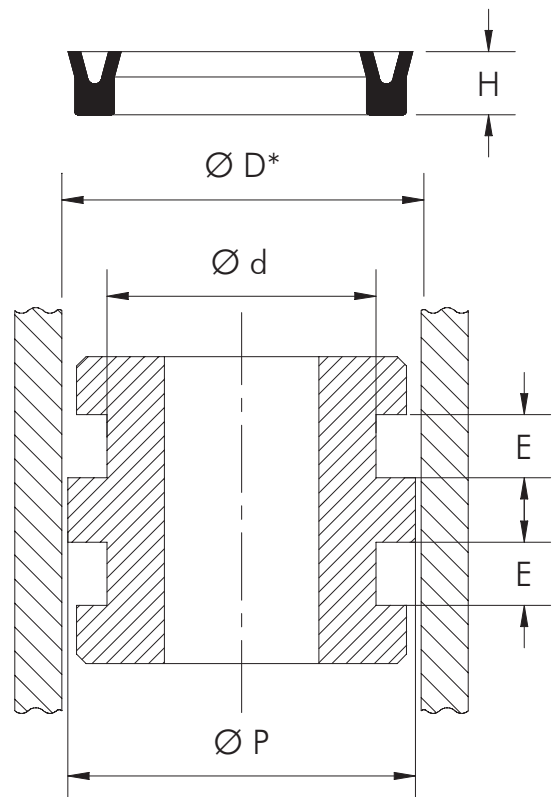
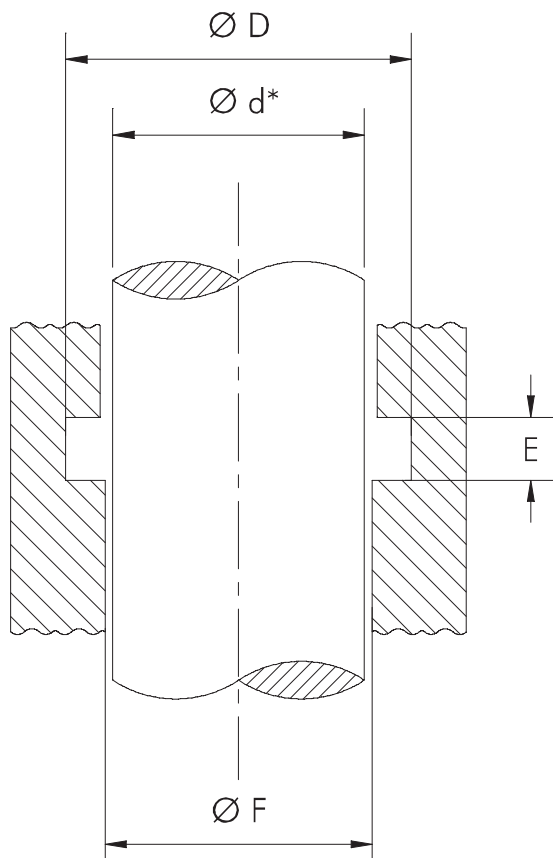
Gaxeta desenvolvida para a vedação de hastes e pistões em cilindros pneumáticos e hidráulico de baixa pressão. A gaxeta W-GUG é fabricada em borracha sintética acrílico-nitrilo de excelentes propriedades físicas e químicas. São resistentes a graxas, óleos, fluidos hidráulicos e agentes atmosféricos. Permitem pressões de até 70 kg/cm<sup>2</sup> e temperaturas de até 130°C.

It is a seal designed for the sealing of rods and pistons in pneumatic and hydraulic cylinders of low pressure. The W-GUG is molded in nitrile with excellent chemical and physical properties. It is resistant to greases, oils, hydraulic fluids and atmospheric agents. Besides it allows working pressures up to 70 kg/cm<sup>2</sup> and working temperatures up to 130°C.

### Tabla de Alojamientos y Tolerancias

Tabela de Alojamentos e Tolerâncias / Tolerances and Grooves Chart

Ø D Nominal	D	d	D*	d*	E Alojamiento Alojamento Groove	F Tolerancia máx. Tolerância máx. Greatest Tolerance	P Diámetro del Pistón Diâmetro do Pistão Greatest Tolerance
0 + 50	± 0,04		Diámetro del Vástago Diâmetro do haste Rod Diameter Diámetro del Cilindro Diâmetro do Cilindro Cylinder Diameter		H + 10%	d* máx. + 0,2	D* mín. -0,2
51 + 100	± 0,06						
más de 100 mais de 100 more than 100	± 0,08						



Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
4,0	7,4	3,1	15,9	22,0	6,4	26,0	42,0	8,0	42,0	50,0	4,7	69,3	88,9	9,2
4,0	9,0	3,0	16,0	23,8	8,2	26,5	38,0	6,5	42,0	51,0	4,2	70,0	80,0	6,0
4,8	8,0	4,2	16,0	26,0	9,0	27,0	37,8	7,0	43,0	54,1	9,7 *	70,0	90,0	10,7
5,0	9,0	2,6	17,0	31,8	6,0	28,0	37,0	4,0	44,0	64,0	7,5	71,5	82,5	7,0 •
5,0	9,0	2,8	17,5	26,0	5,0 *	28,0	40,0	6,0 •	44,4	57,1	7,9 *	72,0	83,5	8,5 •
5,0	9,5	2,6	17,5	26,8	5,4	28,0	47,0	10,5	44,4	57,1	9,2	72,0	84,0	9,5 •
5,0	9,7	3,4	18,0	24,0	5,0	28,5	37,5	7,0	44,6	62,5	13,5	75,0	95,0	10,4
6,0	12,3	3,0 •	19,1	32,3	8,0	28,5	38,0	7,0	45,0	55,0	6,5	75,0	100,0	11,0
6,3	11,0	4,3	19,2	24,0	2,4	29,5	44,5	9,0	47,2	61,4	7,5 •	76,0	94,0	11,5
6,3	11,3	4,0 •	20,0	26,5	4,0	30,0	38,0	5,4	47,6	62,7	8,0	76,2	88,9	7,9
6,5	10,5	3,2	20,0	27,0	5,3 *	30,0	40,0	9,0	48,0	68,0	8,0	77,0	89,0	9,5
6,6	12,0	3,3	20,0	28,0	5,7 •	30,0	42,0	15,0	50,0	60,0	7,0	80,0	90,5	8,5 *
6,8	12,5	6,0 •	20,0	30,0	6,3 •	30,0	50,0	6,3	50,0	60,0	7,4 *	80,0	100,0	15,0
7,0	11,7	2,8	20,0	30,0	6,5 *	31,7	38,1	4,7	50,0	62,0	8,7	82,0	98,4	13,0
7,0	14,0	5,3	20,0	34,2	8,0	31,7	44,4	6,3 *	50,0	63,0	6,0	83,0	100,0	13,5
7,0	15,0	4,0	22,0	28,0	4,2	31,8	38,0	6,2	50,0	63,0	9,0	83,0	101,0	13,0
8,0	13,5	3,2	22,0	30,0	4,0	31,9	39,2	7,8	50,0	64,0	10,4	85,0	101,0	13,0
8,5	13,2	3,3	22,0	30,0	7,0	34,0	44,0	9,2	50,0	70,0	8,0	85,7	98,2	9,8
9,0	12,0	2,5	22,0	32,0	6,3	34,0	50,0	6,3	50,0	70,0	10,0	87,0	101,6	8,0
9,0	13,0	3,3	22,0	42,0	10,0	34,1	40,0	5,0	50,0	73,0	12,0*	88,0	100,0	8,5 •
9,0	15,0	8,9	22,2	28,5	2,5	34,4	43,2	6,8 •	52,0	61,0	7,0	88,9	101,6	8,2
9,5	16,5	4,0 *	22,2	28,5	3,3	34,9	44,4	6,6 •	52,0	62,0	7,0 •	88,9	114,3	9,5
10,0	13,5	2,3	22,2	31,7	4,7 *	34,9	44,4	6,6 *	52,0	64,0	8,5	89,2	116,5	16,5
10,0	15,5	2,3	22,5	28,7	5,6	34,9	44,4	7,9 *	54,0	70,0	8,2 •	90,0	100,0	6,5
10,0	18,0	4,0	22,5	37,5	9,0	34,9	50,8	7,9 *	54,0	74,0	10,0	90,0	105,0	11,5
11,1	17,4	3,2	23,0	31,2	6,0	35,0	43,0	7,4 *	54,8	73,5	10,2	90,0	110,0	15,0*
12,0	18,0	10,6	23,0	31,5	9,0	35,0	51,0	8,0 *	55,0	75,0	10,0	92,5	124,0	14,0
12,0	25,0	6,5	23,0	33,0	5,4	35,0	52,0	9,0	56,0	62,0	6,5	94,0	114,0	12,5
12,2	18,0	11,0	23,4	28,6	4,2	36,0	51,0	9,0	56,0	75,0	9,4	94,5	110,0	10,0
12,7	19,0	3,5	23,5	31,7	5,8 *	36,0	54,9	9,0	56,0	76,2	8,9	95,0	108,0	9,0
12,7	22,2	5,0	23,8	35,0	6,9	37,0	50,0	9,5	57,1	76,2	11,5	95,0	114,0	14,0
13,0	18,0	5,0	23,8	42,9	8,5	37,7	46,0	8,0	60,0	80,0	10,0	95,0	115,0	10,0
13,5	20,0	3,5 •	25,0	33,0	5,7	38,0	50,0	6,0	60,0	85,0	15,0	98,0	123,4	12,7
14,0	25,5	6,0	25,0	36,0	7,0	38,0	50,0	6,3	60,7	48,5	6,0	98,5	117,5	12,0
14,0	26,0	5,0	25,0	37,0	5,0	39,5	50,0	7,0 •	62,0	69,0	5,0	100,0	115,0	9,0
14,3	24,2	4,0	25,0	38,0	6,5	40,0	50,0	6,5 *	62,3	80,0	8,0	100,0	119,0	12,0
15,0	22,0	4,1	25,0	40,0	8,0	40,0	52,0	6,0	63,5	76,2	6,3	100,0	125,0	14,5
15,0	22,3	5,3 *	25,0	42,0	8,0	40,0	55,0	12,0	65,0	85,0	10,0	100,0	127,0	16,0
15,0	29,0	9,5	25,0	50,0	12,0	40,0	56,0	9,5 *	66,0	85,0	9,5	102,0	122,0	19,0
15,0	30,0	10,0	25,8	41,5	8,0	40,0	60,0	10,0	67,0	78,0	7,5 •	105,0	122,0	15,0
15,0	35,0	10,0	25,9	32,8	4,0	41,0	52,0	14,3	68,0	76,2	6,5	105,0	127,0	16,5
15,4	20,6	2,2	25,9	37,8	6,5	41,3	50,8	4,8	68,0	80,0	9,0	105,3	123,5	9,0
15,5	20,7	2,5	26,0	36,0	12,0•	41,3	50,8	5,5 *	69,0	80,5	5,7	106,0	133,3	13,0
15,8	21,5	6,0	26,0	39,0	6,4	41,5	51,0	7,1 •	69,0	84,0	11,8	106,5	119,0	9,5

Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
107,0	122,0	11,0•	123,0	135,4	9,5•	148,0	160,0	11,0	183,0	200,0	22,0	268,0	292,0	12,0
107,0	122,0	11,2	123,9	139,7	9,0	149,5	165,5	12,0	187,3	203,0	9,5	270,0	300,0	15,0
109,0	125,0	12,0	127,0	150,0	12,0	152,0	171,0	12,2	194,5	215,0	8,2•	273,0	304,8	19,0
110,0	124,0	7,0	127,0	152,4	12,7	154,0	185,0	13,0	200,0	229,0	14,5	274,8	303,5	20,0
110,0	125,0	10,5•	128,8	138,5	7,0	160,0	175,5	6,0	209,5	228,6	12,7	285,0	305,0	10,0
110,0	127,0	16,0	130,0	142,5	7,6	160,0	190,0	15,0	215,0	241,0	15,0	287,0	317,0	25,0
113,0	146,2	13,5	130,0	146,0	9,0•	162,0	191,0	16,0	217,0	253,0	19,0	292,1	317,5	12,7
114,0	126,0	6,5	131,0	150,0	9,0	166,0	176,0	7,0	218,0	254,0	18,0	302,0	317,0	6,5
114,3	127,0	6,3	132,0	152,0	11,0	167,0	190,0	12,0	218,0	254,0	18,5	324,0	348,0	12,0
115,0	125,0	12,5	134,5	150,0	8,0	167,0	194,0	17,0	222,0	256,0	15,0	331,0	353,0	14,0
115,0	130,4	8,0	136,0	161,0	16,0	169,0	205,0	19,0	222,2	254,0	19,0	366,4	406,4	19,0
115,0	139,7	9,8•	139,2	152,0	7,8	170,0	203,0	19,0	227,0	253,0	12,7	460,0	510,0	24,0
117,0	130,5	9,5	140,0	155,0	9,5	173,0	203,0	18,0	228,6	254,0	12,7	519,9	558,8	19,5
120,0	140,0	15,0	142,0	165,0	16,0	175,0	200,0	21,0	236,0	261,0	19,0	763,0	800,0	27,5•
120,5	133,2	10,0	145,6	175,0	17,8	180,0	200,0	12,0	265,0	284,0	8,0	800,0	837,0	27,5

\* vástago / haste / rod  
• pistón / pistão / piston

### W-PACKING / W-PACKING / W-PACKING

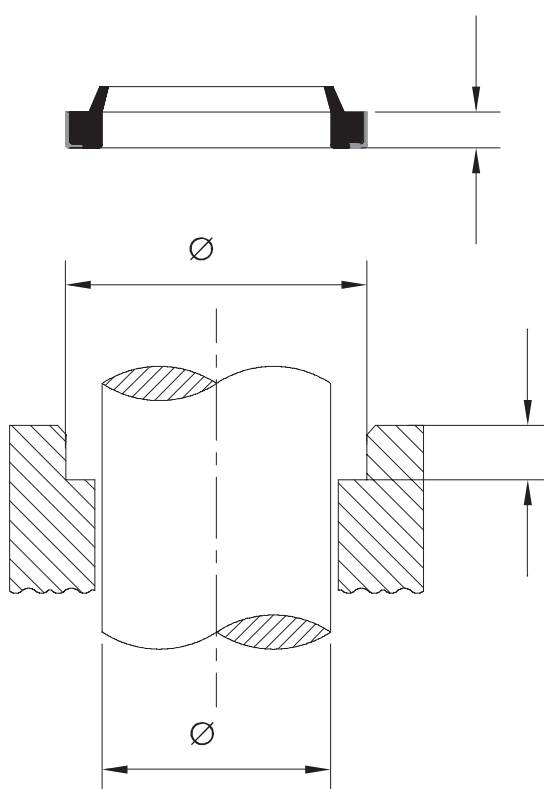
Código N° Code N°	Ød mm	ØD mm	H mm	Código N° Code N°	Ød mm	ØD mm	H mm	Código N° Code N°	Ød mm	ØD mm	H mm
85040037	9,52	15,87	3,17	85050137	34,92	42,85	3,96	85070300	76,20	87,31	5,55
85040050	12,70	19,05	3,17	85060150	38,10	47,62	4,76	85070306	77,78	88,90	5,55
85040062	15,87	22,22	3,17	85060162	41,27	50,80	4,76	85080350	88,90	101,60	6,35
85040075	19,05	25,40	3,17	85060175	44,45	53,97	4,76	85080400	101,60	114,30	6,35
85040100	25,40	31,75	3,17	85060200	50,80	60,32	4,76	85090443	112,71	127,00	7,14
85050093	23,81	31,75	3,96	85060212	53,97	63,50	4,76	85090500	127,00	141,28	7,14
85050100	25,40	33,33	3,96	85060250	63,50	73,02	4,76	85100537	136,52	152,40	7,93
85050118	30,16	38,10	3,96	85070256	65,08	76,20	5,55	85100737	187,32	203,20	7,93
85050125	31,75	39,68	3,96	85070281	71,43	82,55	5,55	85110931	236,53	254,00	8,73



Se utilizan para expulsar las partículas extrañas en los vástagos de cilindros hidráulicos y neumáticos, particularmente cuando éstos están expuestos en el exterior, en lugares altamente contaminados y en medios abrasivos. Diseñados para clavar en su alojamiento, están fabricados en caucho sintético acrílico-nitrilo y soportan temperaturas de 130°C.

Se utilizam para expelir as partículas estranhas das hastes de cilindros hidráulicos e pneumáticos, particularmente quando estas estão expostas ao ar livre, em lugares altamente contaminados e em meios abrasivos. Desenvolvidas para se fixar em seu alojamento, são fabricadas em borracha sintética acrílico-nitrilo e suportam temperaturas de 130°C.

This product is Used to eject strange particles in the hydraulic and pneumatic cylinder of the rods when they are exposed in outdoors, places highly polluted or abrasive environments. Designed to nail in their groove. They are made of NBR and support working temperatures up to 130 °C.



Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
6,3	14,2	4,0	35,0	45,0	6,0	55,0	63,0	7,0	80,0	90,0	10,0
10,0	17,4	4,0	35,0	45,0	7,0	55,5	63,5	4,8	85,0	95,0	7,0
12,0	20,0	4,0	40,0	50,0	6,0	60,0	70,0	7,0	85,0	95,3	7,0
14,0	25,0	5,0	40,0	50,0	7,0	63,0	75,0	7,0	85,0	100,0	10,0
15,0	25,0	5,0	45,0	55,0	7,0	65,0	75,3	7,0	90,0	100,0	7,0
18,0	28,0	7,0	48,0	60,0	7,0	70,0	80,3	7,0	100,0	110,0	10,0
22,0	28,0	5,0	50,0	60,0	7,0	75,0	83,0	6,5	105,0	115,0	7,0
23,0	33,4	3,5	50,0	63,0	5,0	75,0	85,0	7,0	110,0	120,0	7,0
25,0	35,0	7,0	52,0	62,3	7,0	75,0	89,0	8,0	130,0	145,0	9,0
32,0	45,0	7,0									

Basada en el principio de funcionamiento del O'Ring con dos RO, lo que asegura la no extrusión a elevadas presiones de trabajo. Puede ser utilizado en ranuras para un O'Ring con dos RO. Su temperatura de uso va hasta los 200 °C según el tipo de compuesto empleado en las piezas.

Montaje sobre pistón: admite un estiramiento de hasta un 5 % en  $\varnothing d$  manteniendo la sección.

Montaje sobre vástago: admite un estiramiento de 1 hasta 1,5 % en  $\varnothing d$  manteniendo la sección.

Baseada no princípio do funcionamento do O'ring com dos RO, o que assegura a não extrusão a elevadas pressões de trabalho. Pode ser utilizado em ranhuras para um O'ring com dois RO. Sua temperatura de uso vai até 200°C, dependendo do tipo de composto utilizado em suas peças.

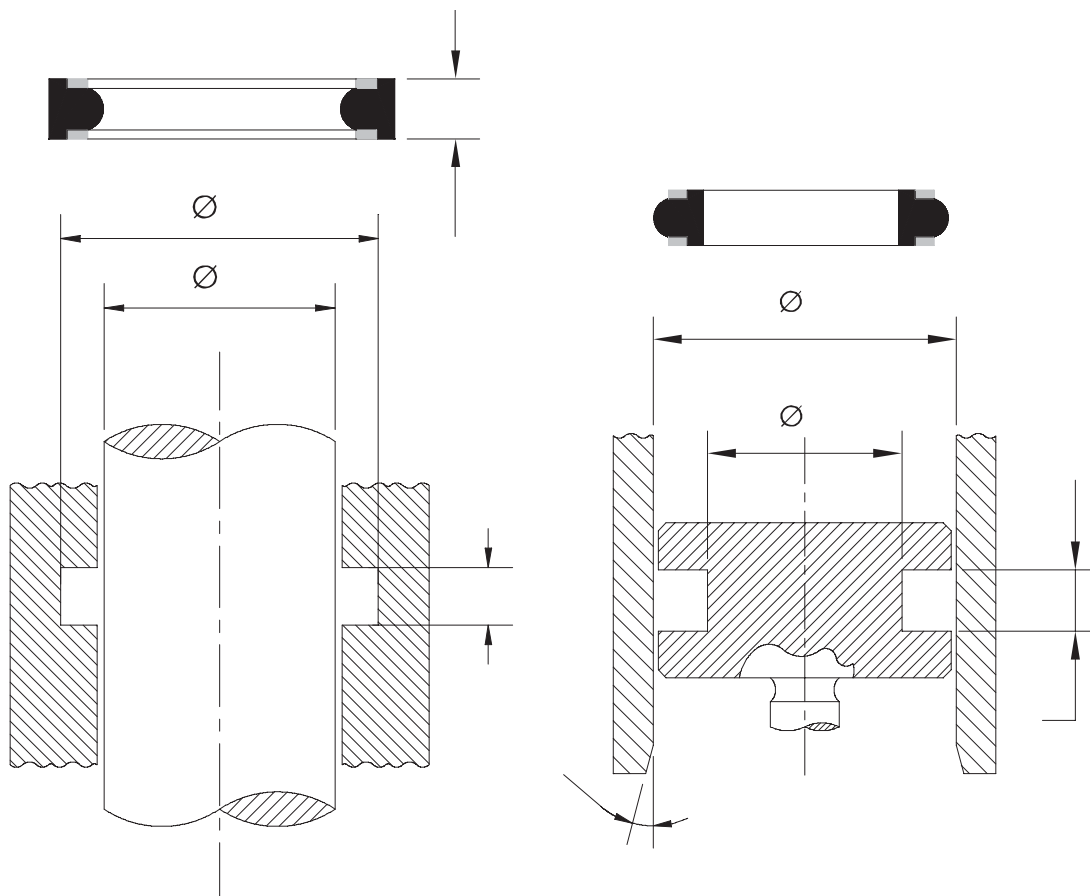
Montagem sobre pistão: admite estiramento de até 5% no diâmetro (d) mantendo a secção.

Montagem sobre haste: admite estiramento de 1 até 1,5% no diâmetro (d) mantendo a secção.

Based on the O'ring function principle with two non extrusion rings (RO), what insures the non extrusion in high working pressures. It can be used in grooves for an O'ring with two non extrusion rings (RO). Its working temperature is about 200 °C according to the type of compounds used in the products.

Piston assembly: it admits stretching up to 5 % in diameter (d) keeping the section.

Rod assembly: it admits stretching up to 1,5 % in diameter (d) keeping the section.



Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm	Ø d mm	Ø D mm	H mm
16,1	25,0	6,90	28,8	38,1	7,10	73,2	82,5	7,10	127,7	139,7	9,30
26,0	31,8	4,63	41,5	50,8	7,10	74,7	84,0	7,10	140,4	152,4	9,30
25,4	32,0	5,00	54,2	63,5	7,10	92,3	101,6	7,10	191,2	203,2	9,30
22,0	32,8	7,10	57,3	66,5	7,10	105,0	114,3	7,10	197,5	209,5	12,20
31,7	37,9	7,10	66,9	76,2	7,10	117,7	127,0	7,10			



## GUARNICION DOBLE EFECTO NEUMATICO

GAXETA DE DUPLO EFEITO PNEUMÁTICO / DOUBLE PNEUMATIC ACTING SEAL

W-DN

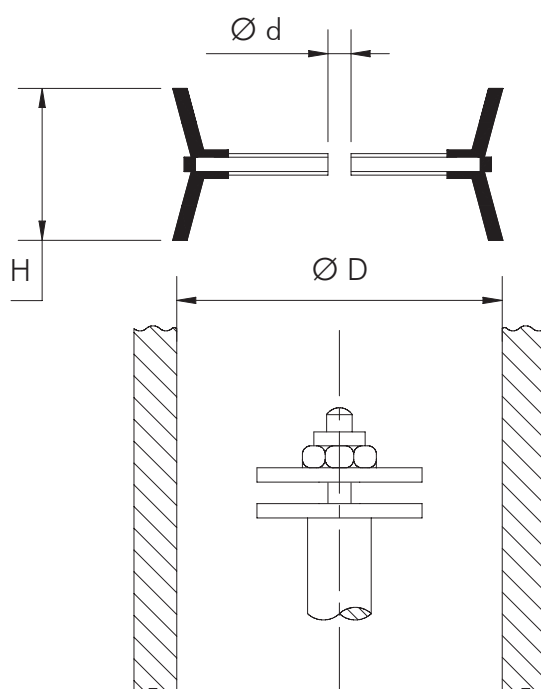


Guarniciones para cilindros de doble efecto neumáticos con un inserto metálico que hace a la vez de pistón, estando la parte de caucho sintético acrílico-nitrilo vulcanizada sobre él, formando una sola pieza.

Gaxetas para cilindros de duplo efeito pneumático com um inserto metálico que faz a vez do pistão, estando a parte de borracha sintética acrílico-nitrilo vulcanizada sobre ele, formando uma só peça.

This product is a seal for double pneumatic acting cylinders with inside plate that performs at the same time as a piston, being the NBR vulcanized part on it like a whole.

ENGLISH PORTUGUES ESPAÑOL



Ø D mm	Ø d mm	H mm
30,0	8,0	13,0
35,4	11,3	14,0
36,0	8,0	12,0
38,1	9,5	14,0
40,0	8,0	20,5

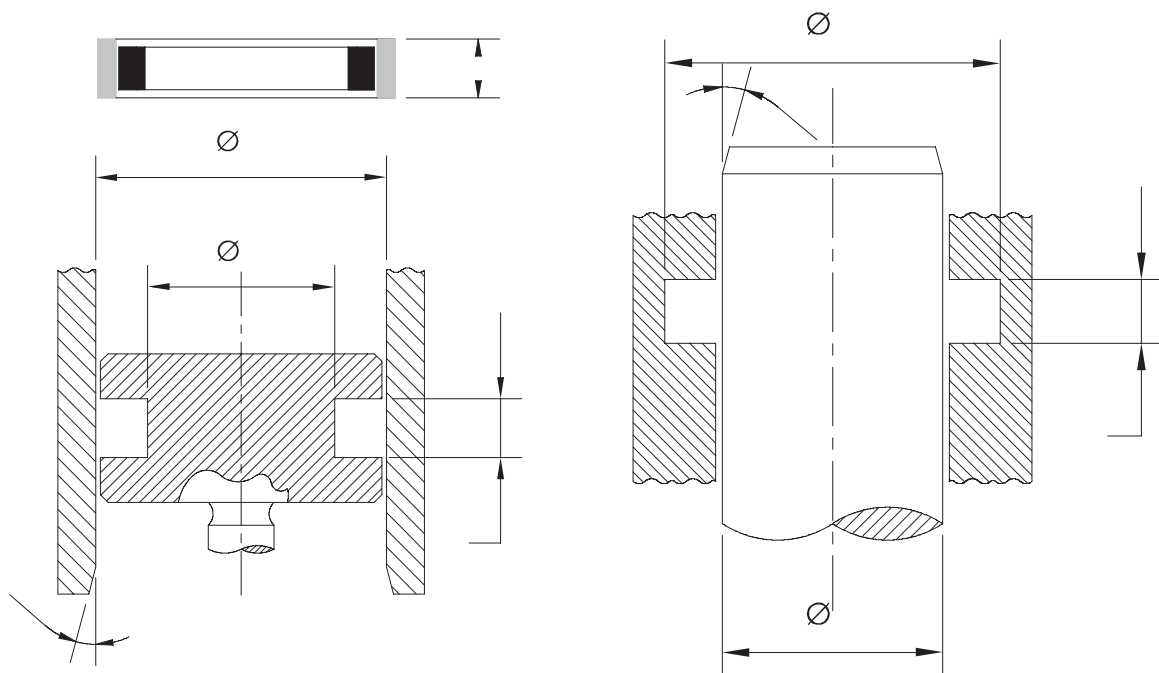
Ø D mm	Ø d mm	H mm
50,8	9,0	14,5
60,0	25,0	12,0
63,5	12,0	13,5
70,0	12,0	32,0
74,0	30,0	12,0

Ø D mm	Ø d mm	H mm
75,0	12,7	13,5
82,5	12,7	14,5
100,0	16,0	30,0
101,6	12,7	18,5
125,0	19,0	22,0

Sello de doble efecto, compuesto de una banda o aro de PTFE con carga reforzante que le otorga un mínimo coeficiente de fricción y garantiza un movimiento uniforme, incluso a bajas velocidades. Se completa con un aro de caucho que funciona como expansor para asegurar estabilidad en todo momento. Su temperatura de uso oscila entre  $-50^{\circ}\text{C}$  a  $200^{\circ}\text{C}$ , dependiendo del compuesto del aro expansor. En cuanto a la resistencia a los fluidos, este sello se ve limitado solamente por el material que compone al aro expansor. Se debe utilizar como mínimo un aro expansor o dos para completar el conjunto Pistón-Sello lo que asegura un diseño de calidad. La presión max. de trabajo es de 350 Bar y la velocidad máxima de desplazamiento es de 4 m/s.

Vedação de duplo efeito, composto por um anel de PTFE, com carga reforçada que permite um mínimo coeficiente de fricção e garante um movimento uniforme, inclusive a baixas velocidades. Se completa com um anel de borracha que funciona como expansor para assegurar a estabilidade em movimento. Sua temperatura de uso oscila entre  $-50^{\circ}\text{C}$  a  $200^{\circ}\text{C}$ , dependendo do composto do anel expansor. Quanto a resistência aos fluídos, esta vedação se limita somente pelo material que compõe o anel expansor. Se deve utilizar como mínimo um anel expansor ou dois para completar o conjunto pistão-vedação, o que assegura um desenho de qualidade. A pressão máxima de trabalho é de 350 bar, e a velocidade máxima de deslocamento de 4 m/s.

Double acting seal compounded by a PTFE ring with reinforced charge, which gives a minimum friction coefficient to it, and guarantees an uniform movement, including when there is low speed. It is completed with a NBR ring that works as an expandable to insure stability in every moment. Its temperature oscillates between  $-50^{\circ}\text{C}$  to  $200^{\circ}\text{C}$ , depending on the expandable ring compound. Concerning the resistance to fluids, this seal is only limited by the expandable ring compound. The maximum working pressure is 350 bar. The maximum slipping speed is 4 m/s.



Ø D mm	Ø d mm	H mm	Ø D mm	Ø d mm	H mm	Ø D mm	Ø d mm	H mm	Ø D mm	Ø d mm	H mm
25,0	17,5	4,0	78,0	66,0	11,0	120,0	103,0	6,6	152,4	132,2	7,0
28,0	17,0	4,0	80,0	58,0	9,6	124,0	101,0	6,5	160,0	143,6	10,1
50,8	36,7	6,0	82,5	77,5	8,0	125,0	106,0	6,0	167,0	143,0	10,0
63,5	47,4	8,0	88,9	68,3	8,0	127,0	106,4	8,0	190,5	170,0	7,0
76,2	58,6	8,0	101,6	82,5	8,0	127,0	112,5	7,3	210,0	196,0	5,8
76,2	60,0	8,3	107,9	90,0	6,5	127,5	114,3	7,0	254,0	240,0	7,0
77,0	62,0	8,0	114,3	99,9	8,0	139,7	119,1	9,3	255,0	235,0	8,0

Sello unidireccional compuesto de dos elementos:

- un aro de perfil especial, en compuesto PTFE con carga reforzante y lubricante, que actúa como sello dinámico.
- Un O'Ring que cumple la función de sello expansor secundario estático.

**Sus ventajas son:**

- Alta velocidad de desplazamiento alternativo.
- Presión de trabajo hasta 700 Bar.
- Bajo coeficiente de fricción.
- Simplicidad de alojamiento (similar al O'Ring). Fluidos: Aceites minerales, Bio Aceites, Agua y otros.

**DEBEN USARSE SOLO EN APLICACIONES HIDRÁULICAS.**

Estas piezas son realizadas con las dimensiones requeridas por el cliente.

El diámetro máximo exterior a poder realizar es de 1350 mm.

Vedação unidireccional composta de dois elementos;

- um anel de perfil especial, em composto em PTFE, com carga reforçada e lubrificante que atua como vedação dinâmica.
- Um O'ring que cumpre a função de vedação expansora secundária estática.

**Suas vantagens são:**

- Alta velocidade de deslizamento alternativo.
- Pressão de trabalho de até 700 bar.
- Baixo coeficiente de fricção.
- Simplicidade de alojamento (similar ao O'ring). Fluidos, óleos minerais, óleos orgânicos, água e outros.

**DEVEM SER USADOS SOMENTE EM APLICAÇÕES HIDRÁULICAS**

Estas peças são fabricadas de acordo com as dimensões solicitadas pelo clientes.

O diâmetro máximo externo que se pode desenvolver é de 1350 mm.

Unidirectional seal compound by two elements:

- one special profile ring in PTFE compounds with lubricant and reinforcing charge, which works as dynamic seal.
- An O'ring that works as second static expandable seal.

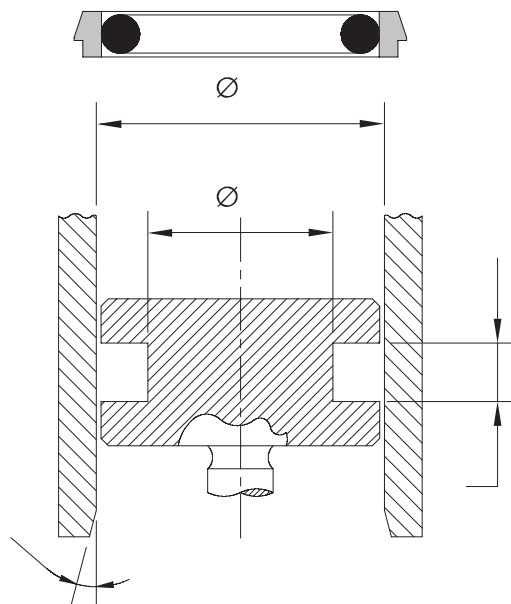
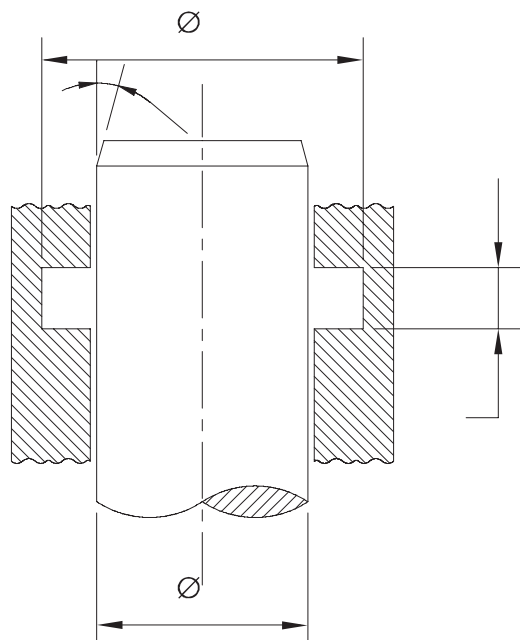
**Its advantages are:**

- high alternative slipping speed.
- Working pressure up to 700 bar.
- Low friction coefficient.
- Simplicity groove (similar to O'ring). Fluids: Mineral oils, organic oils, water and others.

**THEY ONLY MUST BE USED IN HYDRAULIC APPLICATIONS**

This products are made with the dimensions required by the client.

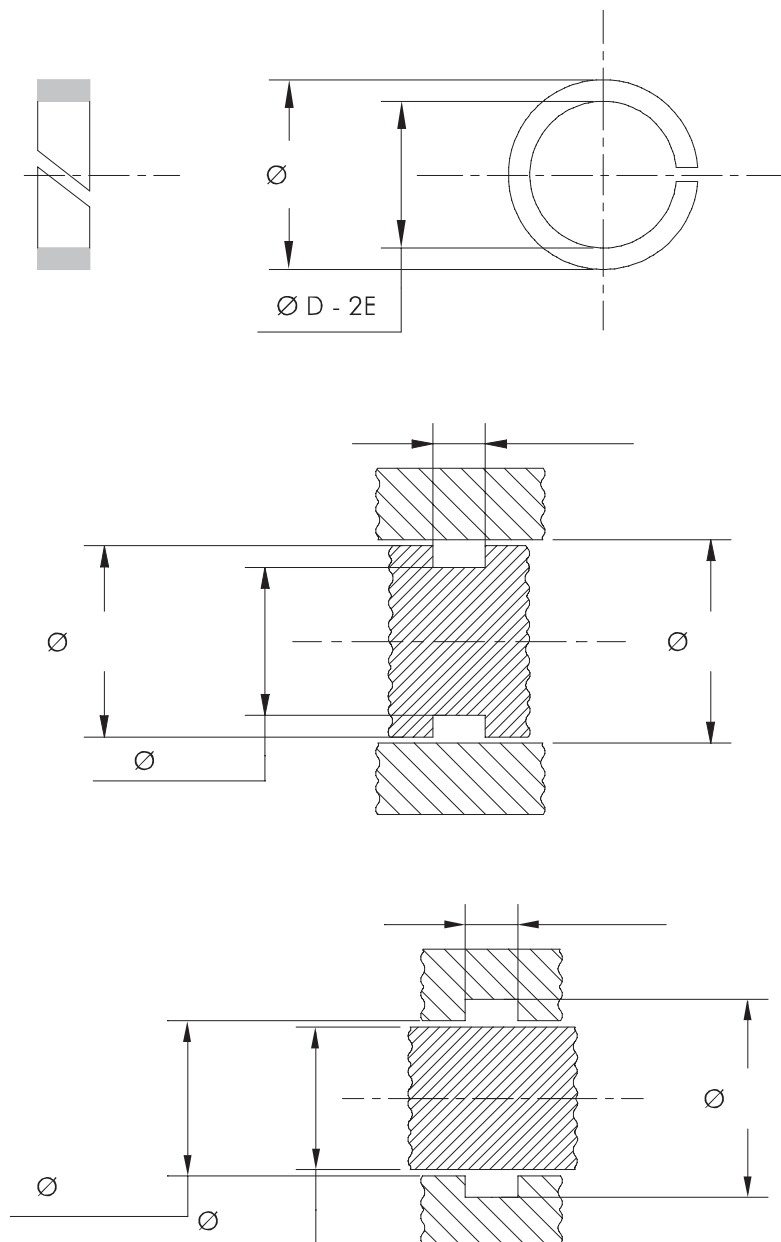
The maximum outside diameter able to be done is about 1350 mm.



Son anillos o bandas de poliamida con cargas reforzadas especialmente diseñadas para el correcto centrado de vástagos y pistones, evitando el rozamiento metal-metal en cilindros hidráulicos y neumáticos. Son compatibles con la mayoría de los fluidos hidráulicos, su temperatura de uso es hasta 130 ° C y además se fabrican en diferentes materiales.

São anéis de poliamida, com cargas reforçadas especialmente desenvolvidas para a correta centralização das hastes e pistões evitando o atrito metal-metal em cilindros hidráulicos e pneumáticos. São compatíveis com a maioria dos fluidos hidráulicos. Sua temperatura de uso vai até 130°C ou mais se fabricadas em diferentes materiais.

This seal is a ring of polyamide with reinforced charges specially designed to center correctly rods and pistons, avoiding the friction between metals pneumatic and hydraulic cylinders. It is compatible with most of hydraulics fluids. Its working temperature is about 130 °C. Moreover it is made in different materials.

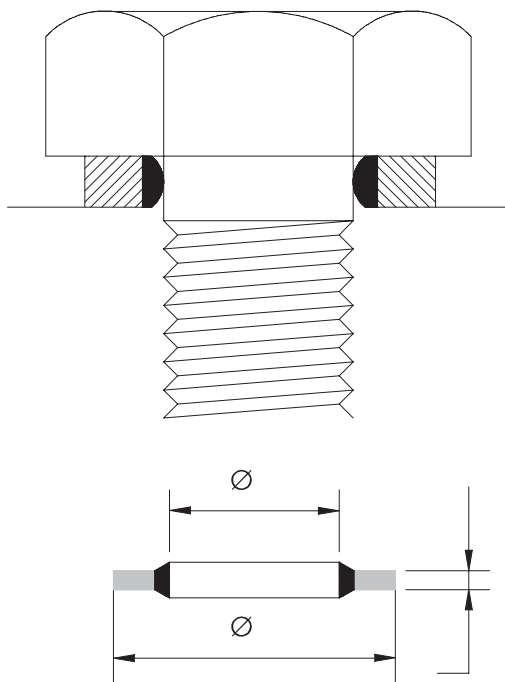


Aro Guía Código N° Anel Guia Código N° Guide Ring Code N°	Espesor Espessura Thickness		Guiado del Pistón Guiado do Pistão Piston Guideness				Guiado del Vástago Guiado do Haste Rod Guideness			
	E min	E max	Ø D Camisa	Ø d Alojamiento Alojamento Groove	Ø D1 Pistón Pistão Piston	L Ancho Ranura Ancho Ranhura Groove width	Ø d Vástago Haste Rod	Ø D Alojamiento Alojamento Groove	Ancho L Ranura Ancho Ranhura Groove width	Ø d1 Pasaje Passagem Passage
W-1000-500	1,905	2,032	25,4	21,34	24,89	13	21,34	25,4	13	21,84
W-1250-500	1,905	2,032	31,75	27,69	31,24	13	27,69	31,75	13	28,19
W-1375-500	1,905	2,032	34,92	30,86	34,41	13	30,86	34,92	13	31,36
W-1500-500	1,905	2,032	38,1	34,04	37,59	13	34,04	38,1	13	34,54
W-1625-500	3,048	3,175	41,27	34,92	40,76	13	34,92	41,27	13	35,42
W-1750-500	1,905	2,032	44,44	40,38	43,39	13	40,38	44,44	13	40,88
W-2000-500	3,048	3,175	50,8	44,45	50,29	13	44,45	50,8	13	44,95
W-2500-500	3,048	3,175	63,5	57,15	62,99	13	57,15	63,5	13	57,65
W-3000-500	3,048	3,175	76,2	69,85	75,69	13	69,85	76,2	13	70,35
W-3500-500	3,048	3,175	88,9	82,55	88,39	13	82,55	88,9	13	83,05
W-4000-500	3,048	3,175	101,6	95,25	101,09	13	95,25	101,6	13	95,75
W-4500-500	3,048	3,175	114,3	107,95	113,79	13	107,95	114,3	13	108,45
W-5000-500	3,048	3,175	127	120,65	126,49	13	120,65	127	13	121,15
W-5500-500	3,048	3,175	139,7	133,35	139,19	13	133,35	139,7	13	133,85
W-6000-500	3,048	3,175	152,4	146,05	151,89	13	146,05	152,4	13	146,55
W-7000-500	3,048	3,175	177,8	171,45	177,29	13	171,45	177,8	13	171,95
W-8000-500	3,048	3,175	203,2	196,85	202,69	13	196,85	203,2	13	197,35

El anillo metálico de acero, recubierto de aleaciones especiales no es atacado por agentes atmosféricos ni oxidantes. La guarnición de caucho proporciona un sello perfecto para cualquier presión de trabajo. Son resistentes a aceites, agua, líquidos refrigerantes, fluidos hidráulicos, hidrocarburos, etc. Se lo recomienda para la retención de cualquier fluido entre dos superficies fijas, en circuitos hidráulicos, neumáticos, válvulas de distribución, empalmes, bridas, conexiones, etc. Absorben vibraciones eliminando el gasto del bulón y del empalme.

O anel metálico de aço recoberto de uma liga especial, não é atacado por agentes atmosféricos nem oxidantes. A gaxeta de borracha proporciona uma vedação perfeita para qualquer pressão de trabalho. São resistentes a óleos, água, fluídos refrigerante, fluídos hidráulicos, hidrocarbônicos, entre outros. São recomendados para a retenção de qualquer fluído entre duas superfícies fixas, em sistemas hidráulicos, pneumáticos, válvulas de distribuição, juntas, freios, conexões, etc. Absorvem vibrações eliminando o gasto do pino e das juntas.

The steel metallic ring, covered with special alloys, is not attacked by atmospheric agents, neither oxidations. The NBR seal gives a perfect seal to any kind of work. It is resistant to oil, water, refrigerant fluids, hydrocarbons and others. It is recommended to any kind of fluid between two fixed surfaces in hydraulic circuits, pneumatics, distribution valves, bridles, seals, connections, and others. It absorbs vibrations eliminating the slow waste of the bolt an the seal.



Ø D mm	Ø d mm	H mm	Ø D mm	Ø d mm	H mm	Ø D mm	Ø d mm	H mm	Ø D mm	Ø d mm	H mm
11,0	6,0	1,3	22,0	13,7	1,5	36,0	27,2	2,0	43,0	34,0	3,5
12,0	7,0	1,9	24,0	16,0	1,5	36,0	28,5	2,0	44,5	33,2	3,0
13,4	6,8	1,4	24,0	17,4	1,5	36,0	28,5	2,8	48,0	38,7	3,5
14,0	8,0	2,0	24,2	16,0	2,5	37,0	26,7	2,8	51,0	40,0	3,3
15,0	9,3	1,5	27,0	19,7	2,5	37,5	29,0	2,0	53,0	42,0	3,0
16,0	10,0	2,0	28,0	20,5	2,5	38,0	27,3	2,6	53,0	43,0	3,0
18,0	10,5	1,5	28,0	21,0	2,0	38,0	30,8	2,2	59,0	48,7	3,0
18,0	12,0	1,5	30,0	22,7	2,0	39,0	34,0	2,4	70,0	61,0	3,2
19,0	12,0	2,0	32,0	23,5	2,0	43,0	33,2	3,4	133,8	122,4	4,0
20,0	13,7	1,5	35,0	26,4	2,5	43,0	34,0	2,0			

## PIEZAS ESPECIALES

### PEÇAS ESPECIAIS / SPECIAL SEALS

**Winner-Pak** mecaniza en cortos plazos sellos, piezas especiales en poliuretano, PTFE, micarta, nylon, plásticos de Ingeniería, bronce, etc. en diámetros hasta 1350 mm. según muestra, planos o diseño propio. Además moldea piezas de hasta 1000 mm de diámetro en distintos tipos de elastómeros.

A **Winner-Pak**, usina a curto prazo gaxetas, peças especiais em poliuretano, PTFE, nylon, plásticos de engenharia, bronze, etc, em diâmetros de até 1350mm, conforme amostra, projeto ou desenhos próprios. Além de moldar peças de até 1000mm de diâmetro em vários tipos de elastômeros.

**Winner-Pak** mechanize in short term seals and other special products made of polyurethane, PTFE, fabric reinforced with resin, polyamide, engineering plastics, bronze, etc ; in diameters up to 1350mm, according to the sample, drawings, or own design. Besides the mold products up to 1000mm diameter in different types of elastomers.



ESPAÑOL

PORTUGUES

ENGLISH

## SELLOS MECANICOS

### SELOS MECANICOS / ROTARY SEALS

ESPAÑOL

- Sellos industriales para bombas de alta exigencia y centrífugas comerciales.
- Sellos mecánicos standard de origen Italiano (Roten).
- Certificación ISO 9001.
- Sellos mecánicos especiales sobre diseño propio.
- Tipos balanceados y dobles con cámara de lavado.
- Con pistas de metal duro, cerámica - carbón para distintos tipos de fluidos, presiones y diámetros de eje.
- Sellos mecánicos para trabajos con fluidos abrasivos, corrosivos y con altas temperaturas.
- Usos en industrias Químicas, medicinales, textiles, celulosas, petroleras, cloacales, etc.
- Sellos mecánicos de línea automotor para bombas de autos nacionales e importados.
- Sellos mecánicos para electrodomésticos (Lavarropa, lavavajillas y electro lavadoras).

**PARA MAS INFORMACION CONSULTAR CON NUESTRO DEPARTAMENTO DE VENTAS**

PORTUGUES

- Selos industriais para bombas de alta precisão e centrífugas comerciais.
- Selos mecânicos standard de origem italiana (Roten)
- Certificação ISO 9001
- Selos mecânicos especiais sobre desenhos próprios
- Tipos balanceados e duplos de máquinas de lavar.
- Pistas de metal duro, cerâmica, carbono para diferentes tipos de fluídos, pressões e diâmetros de eixo.
- Selos mecânicos para trabalhos com fluídos abrasivos, corrosivos e com altas temperaturas.
- Selos de uso em industrias químicas, farmacêuticas, têxteis, celulose, petrolíferas, tubos, etc.
- Selos mecânicos da linha automotiva para bombas de veículos nacionais e importados.
- Selos mecânicos para electrodomésticos (máquinas de lavar louças, máquinas de lavar roupas, máquinas lavadoras).

**PARA MAIORES INFORMAÇÕES, CONSULTAR NOSSO DEPARTAMENTO DE VENDAS.**

ENGLISH

- Industrial seals for commercial centrifugal and high emergency pumps.
- Standard rotary seals from Italy (Roten).
- Certification ISO 9001.
- Special rotary seals based on our own design.
- Balanced types and doubles with washing machine.
- Seals with tracks made of hard metal, ceramic-carbon or other combinations between them, for different types of fluids, pressures and axis diameters.
- Rotary seals for works with abrasive, corrosive and high working temperature fluids.
- Usages in chemical, medicinal, textiles, celluloses, petroleum , sewers, etc.
- Rotary seals for pump from national and imported cars.
- Rotary seals for electro domestics (dish-washers, washing machines, electro washers).

**FOR MORE INFORMATION PLEASE CONTACT OUR SALES DEPARTMENT**





**Winner-pak** tiene a su disposición la línea completa de retenes DBH, los cuales pueden ser solicitados sin compromiso alguno al depto de ventas de nuestra empresa, ya sea de la serie standard como de la línea especial.

**Winner-pak** tem a sua disposição a linha completa dos retentores DBH, os quais podem ser solicitados sem compromisso algum com o departamento de vendas de nossa empresa, tanto para a série standard como a linha especial.

**Winner-pak** offers you the complete DBH oil seals set, which could be applied for calling to our sales department, even if they are from the standard series or the special one.



**Kz**  
Simple Labio con Resorte  
Simple Lip with Spring



**Lz**  
Simple Labio con Resorte  
Simple Lip with Spring



**Mz**  
Simple Labio con Resorte  
Simple Lip with Spring



**Kx**  
Doble Labio con un Resorte  
Double Lip with one Spring



**Lx**  
Doble Labio con un Resorte  
Double Lip with one Spring



**Mx**  
Doble Labio con un Resorte  
Double Lip with one Spring



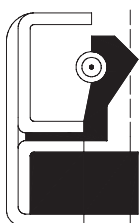
**Ki**  
Simple Labio sin Resorte  
Simple Lip without Spring



**Li**  
Simple Labio sin Resorte  
Simple Lip without Spring



**Mi**  
Simple Labio sin Resorte  
Simple Lip without Spring



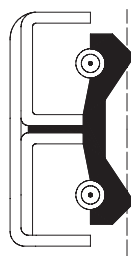
**Kp**  
Filtro Sintético con Resorte  
Simetric Felt with Spring



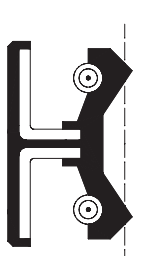
**Ls**  
Doble Labio sin Resorte  
Double Lip without Spring



**Ms**  
Doble Labio sin Resorte  
Double Lip without Spring



**Kr**  
Doble Labio con dos Resortes  
Double Lip with two Springs



**Lr**  
Doble Labio con dos Resortes  
Double Lip with two Springs



**Mr**  
Doble Labio con dos Resortes  
Double Lip with two Springs



