



# ROTA SEAL

SIZDIRMAZLIK SİSTEMLERİ

Rotaseal Standart Mekanik Salmastra Serisi  
**Rotaseal Standard Mechanical Seal Series**

Rotaseal Özel Tip Mekanik Salmastra Serisi  
**Rotaseal Special Type Mechanical Seal Series**





[www.rotasizdirmazlik.com](http://www.rotasizdirmazlik.com)

**ROTASEAL STANDART &  
ÖZEL TİP MEKANİK SALMASTRA SERİSİ**

**ROTASEAL STANDARD &  
SPECIAL TYPE MECHANICAL SEAL SERIES**



2005 yılında kurulan Rota Sızdırmazlık Elemanları, başarılı geçmişi ve değişmez ilkeleriyle attığı sağlam adımlar sayesinde Türkiye'de sızdırmazlık sektöründe lider olma başarısına ulaşmıştır.



Rota Sızdırmazlık Elemanları gıda, kimya, kâğıt, arıtma tesisleri, gemicilik, tekstil, petrol vs. olmak üzere birçok sektörde faaliyet göstermektedir. Bu sektörlerde kullanılmak üzere mekanik salmastra, yumuşak salmastra, kızgın yağ başlıkları, buhar başlıkları, su başlıkları üretimi yapmaktadır. Hedeflerini yalnızca Türkiye ile sınırlı tutmayan firmamız, ISO 9001 standartları ile ürettiği ürün gruplarını ve bunun yanında ürettiği proje bazlı ürünlerini 13 ülkeye ihraç ederek Türkiye dışında Ortadoğu başta olmak üzere çeşitli pazarlarda da kuvvetli bir şekilde boy göstermektedir. Bölgesel olarak iç piyasadaki liderlik vizyonunu küresel pazarlara taşıma gayretiyle yatırımlarını sürdürmektedir.



Rota Sızdırmazlık Elemanları kurulduğu ilk günden itibaren kaliteye verdiği önem ve zoru başarma azmi sayesinde kısa sürede sektöründe devleşmiş, bununla beraber ilkelerinden asla vazgeçmemiştir. Firmanın değişmez prensipleri daima kalite, hizmet, zamanında teslim ve uygun fiyat olmuştur. "Üretimde başarı ve sürekliliğin teminatı hizmette dürüstlük ve kalitedir." prensibiyle çalışan Rota Sızdırmazlık Elemanları, gösterdiğiniz yakın ilgi ve desteğinizden ötürü teşekkür eder, sizlere bugün olduğu gibi gelecekte de hizmet vermeye devam etmeyi hedeflemektedir.



ROTA SIZDIRMAZLIK ELEMANLARI, which has been established in 2005, thanks to its successful background and immutable principles has become an effective leader in sealing system.

Rota Sızdırmazlık Elemanları cooperates with various companies in different sectors like food industry, chemical industry, shipping, textile, petrol and gas industries, refinery systems and etc. We are manufacturing mechanical seals, cartridge type seals, packings, PTFE compactor sheets and rotary joints for water/steam/hot oil and air which are used in the mentioned industries. Moreover, our target is not just limited to Turkey; ISO 9001 standard is used in the production line and Rotaseal products are exported to Middle East and also more than 13 countries. We are looking forward to reach the leadership in the international market.

Since the firm establishment, Rota Sızdırmazlık Elemanları has grown each passing day due to maintaining the high quality of products and its efforts. At the same time, we have been adhering to our immutable principals which are stable quality, good services, precious delivery time and reasonable prices. "The sustainability and success in production is based on the honesty and quality in service." We are thankful of your attention and support; As today, we will continue to provide you our best services.





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RT-2



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RT-3

ROTASEAL STANDART  
MEKANİK  
SALMASTRA SERİSİ  
ROTASEAL STANDARD  
MECHANICAL  
SEAL SERIES



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RT-32



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RT-33



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RT-37



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RT-20



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RT-50



17

RT-H 12 N



18

RT-7 N



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RT-74



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RT-7 D



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RT-74 D



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RT-9 O



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RT-9 V



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RT-HJ 92 N



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RT-L



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RT-62



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RT-400



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RT-491



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RT-M



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RT-130



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RT-180



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RT-580



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RT-240



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RT-502



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RTG-1



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RTG-12



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RTG-13



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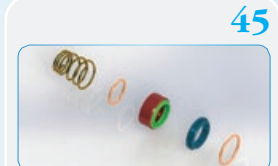
RTG-1 S 20



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RTGF-12

ROTASEAL ÖZEL  
TİP MEKANİK  
SALMASTRA SERİSİ  
ROTASEAL SPECIAL  
TYPE MECHANICAL  
SEAL SERIES



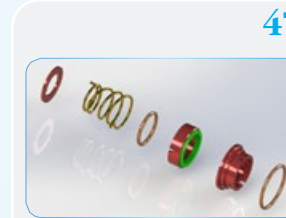
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RT-325  
RT-ASP



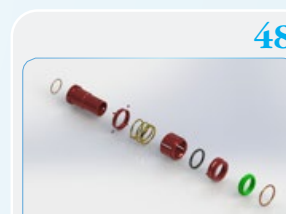
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RT-ALF  
RT-DY



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RT-800 M  
RT-FR



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RT-FLR  
RT-PRO



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RT-PV

  
**ROTA SEAL**  
SIZDIRMAZLIK SİSTEMLERİ

Rota Sızdırmazlık Elemanları  
San. ve Tic. Ltd. Şti.

BASIM TARİHİ  
14 / 12 / 2016

ÜRÜN HİZMET BİLGİSİ  
Ürün Kataloğu

ADRES

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**idea**  
CREATIVE WORKSHOP

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BASKI / MATBAA

makromat  
Basım San. ve Tic. Ltd. Şti.

MAKROMAT BASIM SAN.  
ve Tic. LTD. ŞTİ.

ADRES

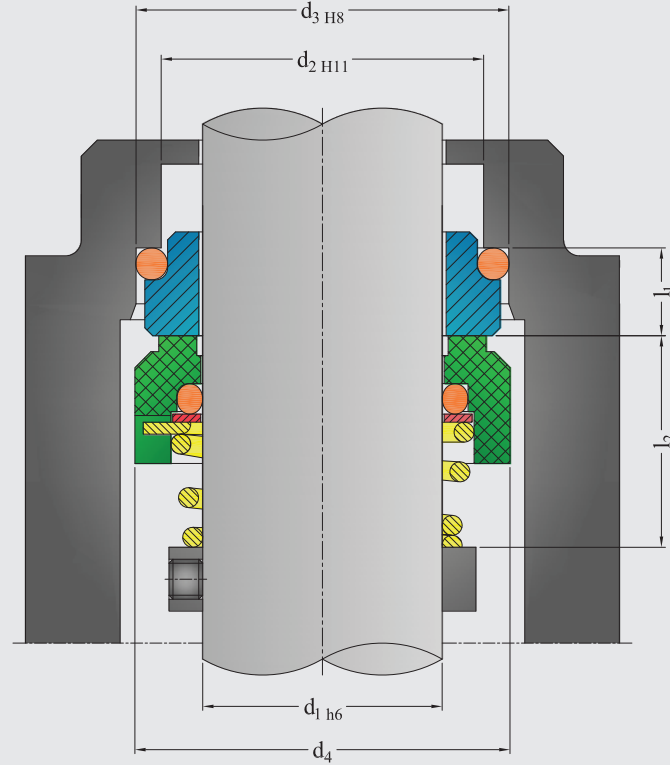
Atatürk Mah. 310 Sok. No:12 Kat:1 İkitelli

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#### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>Unbalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönme Yönüne Bağımlı	<b>Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

#### Çalışma Limitleri Operating Limits

$d_1 = 10 \dots 38 \text{ mm}$	<b><math>d_1 = 10 \dots 38 \text{ mm}</math></b>
$p_1 = 10 \text{ bar} / 145 \text{ Psi}$	<b><math>p_1 = 10 \text{ bar} / 145 \text{ Psi}</math></b>
$t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}$	<b><math>t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}</math></b>
$v_g = 15 \text{ m/s} \dots 50 \text{ ft/s}$	<b><math>v_g = 15 \text{ m/s} \dots 50 \text{ ft/s}</math></b>
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement : <math>\pm 1,0 \text{ mm}</math></b>

#### Materyal Kombinasyonları Material Combinations

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Karbon	• <b>Carbon Graphite Seat</b>
Sabit Eleman Yüzey Seçenekleri	<b>Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Seramik	• <b>Ceramic</b>

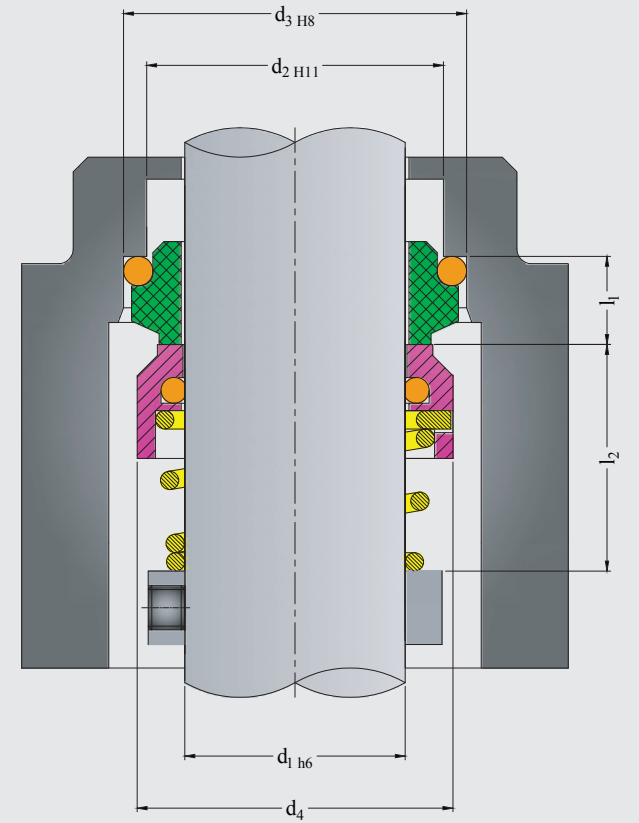
#### Elastomerler Elastomers

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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#### Sabit Eleman Form Seçenekleri Stationary Seat Alternatives

G-4 / G-6 / G-9 / G-45

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	17,0	21,0	20,0	10,0	17,5
12	19,0	23,0	22,0	10,0	17,5
14	21,0	25,0	25,0	10,0	17,5
15	22,0	24,5	27,0	10,0	17,5
16	23,0	27,0	27,0	10,0	19,5
18	27,0	33,0	30,0	11,5	20,5
20	29,0	35,0	32,0	11,5	22,0
22	31,0	37,0	35,0	11,5	23,5
24	33,0	39,0	38,0	11,5	25,0
25	34,0	40,0	40,0	11,5	26,5
26	34,0	40,0	41,0	11,5	26,5
28	37,0	43,0	43,0	11,5	26,5
30	39,0	45,0	47,0	11,5	26,5
32	42,0	48,0	48,0	11,5	28,5
35	44,0	52,0	53,0	11,5	28,5
38	49,0	56,0	56,0	14,0	33,5



#### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>Unbalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönme Yönüne Bağımlı	<b>Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

#### Çalışma Limitleri Operating Limits

$d_1 = 10 \dots 80 \text{ mm}$	<b><math>d_1 = 10 \dots 80 \text{ mm}</math></b>
$p_1 = 10 \text{ bar} / 145 \text{ Psi}$	<b><math>p_1 = 10 \text{ bar} / 145 \text{ Psi}</math></b>
$t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}$	<b><math>t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}</math></b>
$v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}$	<b><math>v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}</math></b>
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement : <math>\pm 1,0 \text{ mm}</math></b>

#### Materyal Kombinasyonları Material Combinations

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Karbon	• <b>Carbon Graphite</b>

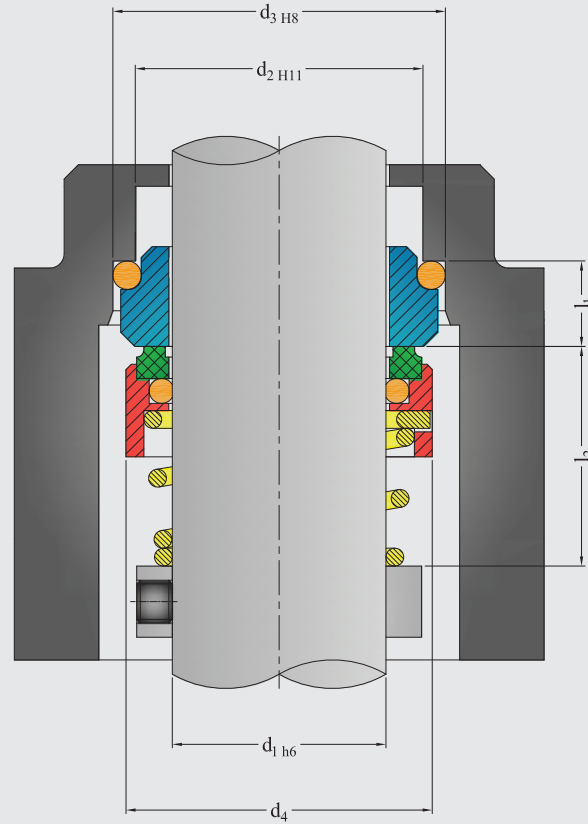
#### Elastomerler Elastomers

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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#### Sabit Eleman Form Seçenekleri Stationary Seat Alternatives

G-9 / G-13

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	15,5	19,2	19,0	7,1	15,5	40	52,2	58,0	56,0	11,5	36,0
12	17,5	21,6	21,0	7,6	16,0	42	53,3	62,0	59,0	14,3	37,5
14	20,5	24,6	23,0	7,6	16,5	43	53,3	62,0	59,0	14,3	38,5
15	20,5	24,6	24,0	8,6	18,0	45	55,3	64,0	61,0	14,3	39,5
16	22,0	28,0	26,0	9,0	18,0	48	59,7	68,4	64,0	14,3	46,0
18	24,0	30,0	29,0	10,0	19,5	50	60,8	69,3	66,0	14,3	45,0
20	29,5	35,0	31,0	9,5	22,0	53	63,8	72,3	69,0	14,3	47,0
22	29,5	35,0	33,0	9,5	21,5	55	66,5	75,4	71,0	15,3	49,0
24	32,0	38,0	35,0	9,5	23,5	58	69,5	78,4	76,0	15,3	55,0
25	32,0	38,0	36,0	9,5	26,5	60	71,5	80,4	78,0	15,3	55,0
26	34,0	40,0	37,0	10,0	26,5	63	74,5	83,4	83,0	15,3	55,0
28	36,0	42,0	40,0	11,0	26,5	65	76,5	85,4	84,0	15,3	55,0
30	39,2	45,0	43,0	11,0	26,5	68	82,7	91,5	88,0	16,0	55,0
32	42,2	48,0	46,0	11,0	28,5	70	83,0	92,0	90,0	15,3	57,0
33	44,2	50,0	47,0	11,5	28,5	75	90,2	99,0	98,0	15,3	62,0
35	46,2	52,0	49,0	11,5	28,5	80	95,2	104,0	100,0	16,3	61,8
38	49,2	55,0	53,0	11,5	33,5						



### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönme Yönüne Bağımlı EN 12756 - DIN 24960	<b>Directional Seal</b>
	<b>EN 12756 - DIN 24960</b>

### Çalışma Limitleri Operating Limits

$d_1 = 10 \dots 80 \text{ mm}$	<b><math>d_1 = 10 \dots 80 \text{ mm}</math></b>
$p_1 = 10 \text{ bar} / 145 \text{ Psi}$	<b><math>p_1 = 10 \text{ bar} / 145 \text{ Psi}</math></b>
$t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}$	<b><math>t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}</math></b>
$v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}$	<b><math>v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}</math></b>
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement : <math>\pm 1,0 \text{ mm}</math></b>

### Materyal Kombinasyonları Material Combinations

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Seramik	• <b>Ceramic</b>

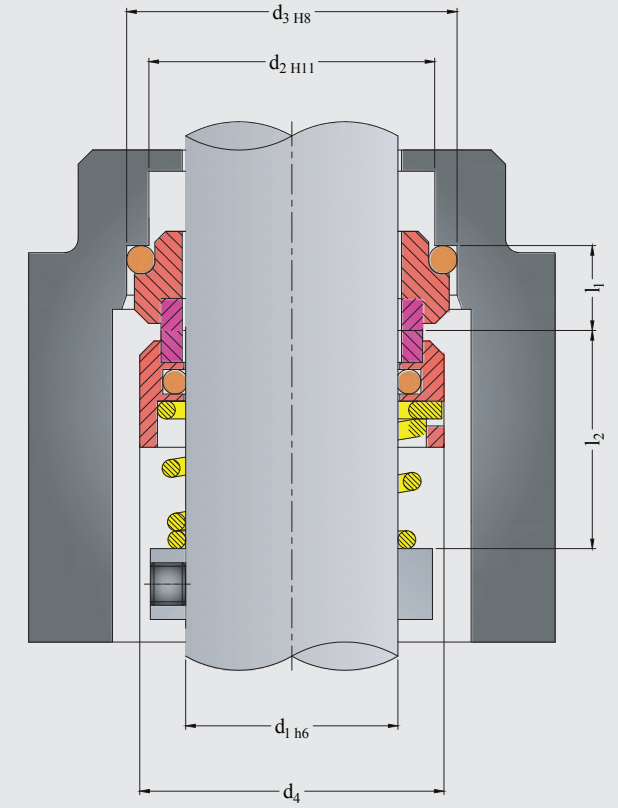
### Elastomerler Elastomers

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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### Sabit Eleman Form Seçenekleri Stationary Seat Alternatives

G-4 / G-6 / G-9

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	17,0	21,0	19,0	10,0	17,0	40	51,0	58,0	56,0	14,0	38,0
12	19,0	23,0	21,0	10,0	17,5	42	54,0	61,0	59,0	14,0	39,5
14	21,0	25,0	23,0	10,0	18,0	43	54,0	61,0	59,0	14,0	40,5
15	22,0	27,0	24,0	10,0	19,5	45	56,0	63,0	61,0	14,0	41,5
16	23,0	27,0	26,0	10,0	19,5	48	59,0	66,0	64,0	14,0	48,0
18	27,0	33,0	29,0	11,5	21,5	50	62,0	70,0	66,0	15,0	47,0
20	29,0	35,0	31,0	11,5	24,0	53	65,0	73,0	69,0	15,0	49,0
22	31,0	37,0	33,0	11,5	23,5	55	67,0	75,0	71,0	15,0	51,0
24	33,0	39,0	35,0	11,5	25,5	58	70,0	78,0	76,0	15,0	57,0
25	34,0	40,0	36,0	11,5	28,5	60	72,0	80,0	78,0	15,0	57,5
28	37,0	43,0	40,0	11,5	28,5	65	77,0	85,0	84,0	15,0	57,5
30	39,0	45,0	43,0	11,5	28,5	68	81,0	90,0	88,0	18,0	57,5
32	42,0	48,0	46,0	11,5	30,5	70	83,0	92,0	90,0	18,0	59,5
33	42,0	48,0	47,0	11,5	30,5	75	88,0	97,0	98,0	18,0	64,5
35	44,0	50,0	49,0	11,5	30,5	80	95,0	105,0	100,0	18,2	64,5
38	49,0	56,0	53,0	14,0	35,5						



### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönme Yönüne Bağımlı EN 12756 - DIN 24960	<b>Directional Seal</b>
	<b>EN 12756 - DIN 24960</b>

### Çalışma Limitleri Operating Limits

$d_1 = 10 \dots 80 \text{ mm}$	<b><math>d_1 = 10 \dots 80 \text{ mm}</math></b>
$p_1 = 10 \text{ bar} / 145 \text{ Psi}$	<b><math>p_1 = 10 \text{ bar} / 145 \text{ Psi}</math></b>
$t_1 = -20 \dots 120 \text{ °C} / -4 \dots 248 \text{ °F}$	<b><math>t_1 = -20 \dots 120 \text{ °C} / -4 \dots 248 \text{ °F}</math></b>
$v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}$	<b><math>v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}</math></b>
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement : <math>\pm 1,0 \text{ mm}</math></b>

### Materyal Kombinasyonları Material Combinations

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>

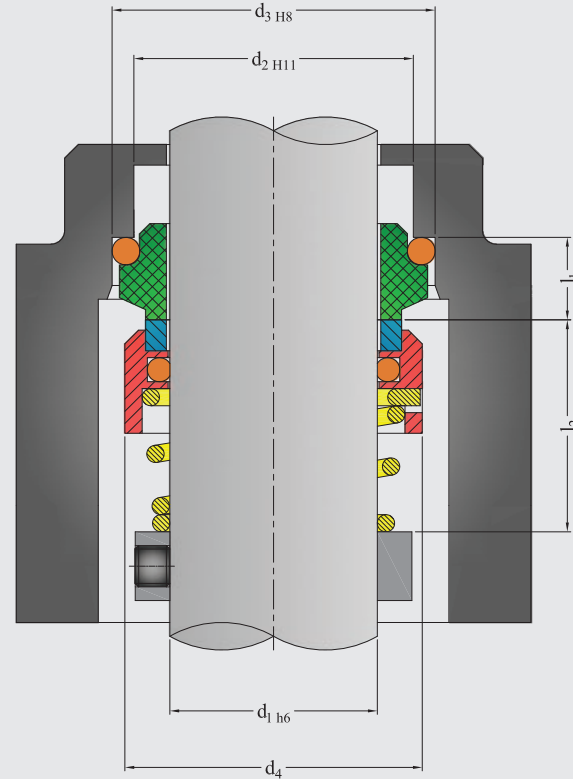
### Elastomerler Elastomers

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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### Sabit Eleman Form Seçenekleri Stationary Seat Alternatives

G-4 / G-6 / G-9 / G-13

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	17,0	21,0	19,0	10,0	15,5	40	51,0	58,0	56,0	14,0	36,0
12	19,0	23,0	21,0	10,0	16,0	42	54,0	61,0	59,0	14,0	37,5
14	21,0	25,0	23,0	10,0	16,5	43	54,0	61,0	59,0	14,0	38,5
15	22,0	27,0	24,0	10,0	18,0	45	56,0	63,0	61,0	14,0	39,5
16	23,0	27,0	26,0	10,0	18,0	48	59,0	66,0	64,0	14,0	46,0
18	27,0	33,0	29,0	11,5	19,5	50	62,0	70,0	66,0	15,0	45,0
20	29,0	35,0	31,0	11,5	22,0	53	65,0	73,0	69,0	15,0	47,0
22	31,0	37,0	33,0	11,5	21,5	55	67,0	75,0	71,0	15,0	49,0
24	33,0	39,0	35,0	11,5	23,5	58	70,0	78,0	76,0	15,0	55,0
25	34,0	40,0	36,0	11,5	26,5	60	72,0	80,0	78,0	15,0	55,0
28	37,0	43,0	40,0	11,5	26,5	65	77,0	85,0	84,0	15,0	55,0
30	39,0	45,0	43,0	11,5	26,5	68	81,0	90,0	88,0	18,0	55,0
32	42,0	48,0	46,0	11,5	28,5	70	83,0	92,0	90,0	18,0	57,0
33	42,0	48,0	47,0	11,5	28,5	75	88,0	97,0	98,0	18,0	62,0
35	44,0	50,0	49,0	11,5	28,5	80	95,0	105,0	100,0	18,2	61,8
38	49,0	56,0	53,0	14,0	33,5						



### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönme Yönüne Bağımlı	<b>Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

### Çalışma Limitleri Operating Limits

$d_1 = 10 \dots 80 \text{ mm}$	<b><math>d_1 = 10 \dots 80 \text{ mm}</math></b>
$p_1 = 10 \text{ bar} / 145 \text{ Psi}$	<b><math>p_1 = 10 \text{ bar} / 145 \text{ Psi}</math></b>
$t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}$	<b><math>t_1 = -20 \dots 180 \text{ °C} / -4 \dots 355 \text{ °F}</math></b>
$v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}$	<b><math>v_g = 10 (15) \text{ m/s} \dots 33 (50) \text{ ft/s}</math></b>
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement : <math>\pm 1,0 \text{ mm}</math></b>

### Materyal Kombinasyonları Material Combinations

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Karbon	• <b>Carbon Graphite</b>

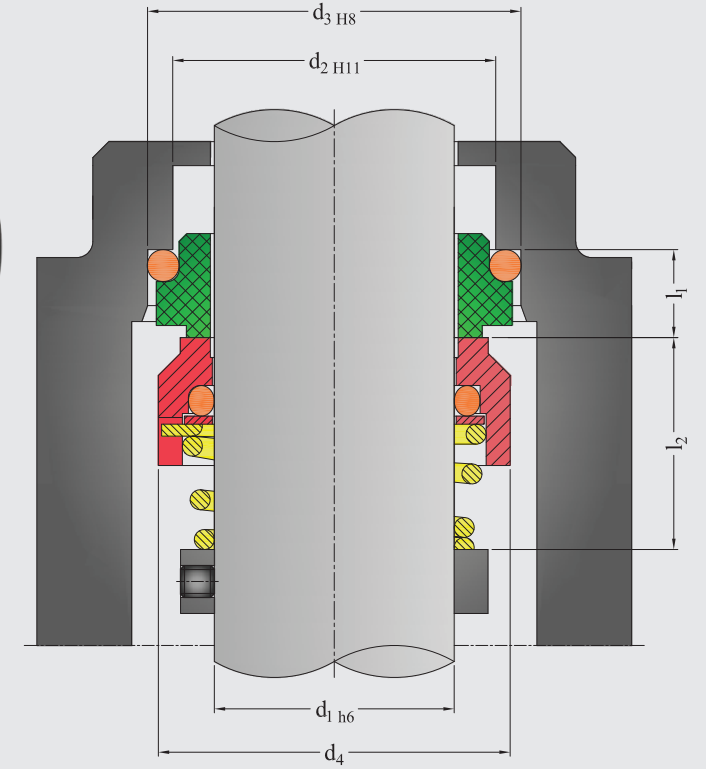
### Elastomerler Elastomers

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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### Sabit Eleman Form Seçenekleri Stationary Seat Alternatives

G-4 / G-6 / G-9 / G-13

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	17,0	21,0	19,0	10,0	15,5	40	51,0	58,0	56,0	14,0	36,0
12	19,0	23,0	21,0	10,0	16,0	42	54,0	61,0	59,0	14,0	37,5
14	21,0	25,0	23,0	10,0	16,5	43	54,0	61,0	59,0	14,0	38,5
15	22,0	27,0	24,0	10,0	18,0	45	56,0	63,0	61,0	14,0	39,5
16	23,0	27,0	26,0	10,0	18,0	48	59,0	66,0	64,0	14,0	46,0
18	27,0	33,0	29,0	11,5	19,5	50	62,0	70,0	66,0	15,0	45,0
20	29,0	35,0	31,0	11,5	22,0	53	65,0	73,0	69,0	15,0	47,0
22	31,0	37,0	33,0	11,5	21,5	55	67,0	75,0	71,0	15,0	49,0
24	33,0	39,0	35,0	11,5	23,5	58	70,0	78,0	76,0	15,0	55,0
25	34,0	40,0	36,0	11,5	26,5	60	72,0	80,0	78,0	15,0	55,0
28	37,0	43,0	40,0	11,5	26,5	65	77,0	85,0	84,0	15,0	55,0
30	39,0	45,0	43,0	11,5	26,5	68	81,0	90,0	88,0	18,0	55,0
32	42,0	48,0	46,0	11,5	28,5	70	83,0	92,0	90,0	18,0	57,0
33	42,0	48,0	47,0	11,5	28,5	75	88,0	97,0	98,0	18,0	62,0
35	44,0	50,0	49,0	11,5	28,5	80	95,0	105,0	100,0	18,2	61,8
38	49,0	56,0	53,0	14,0	33,5						



### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönüş Yönüne Bağımlı	<b>Directional Seal</b>

### Çalışma Limitleri Operating Limits

$d_1 = 6 \dots 100 \text{ mm}$	<b><math>d_1 = 6 \dots 100 \text{ mm}</math></b>
$p_1 = 10 \text{ bar} / 145 \text{ Psi}$	<b><math>p_1 = 10 \text{ bar} / 145 \text{ Psi}</math></b>
$t_1 = -35 \dots 180 \text{ °C} / -31 \dots 356 \text{ °F}$	<b><math>t_1 = -35 \dots 180 \text{ °C} / -31 \dots 356 \text{ °F}</math></b>
$v_g = 15 \text{ m/s} \dots 49,2 \text{ ft/s}$	<b><math>v_g = 15 \text{ m/s} \dots 49,2 \text{ ft/s}</math></b>
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement: <math>\pm 1,0 \text{ mm}</math></b>

### Materyal Kombinasyonları Material Combinations

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Karbon	• <b>Carbon Graphite</b>

### Elastomerler Elastomers

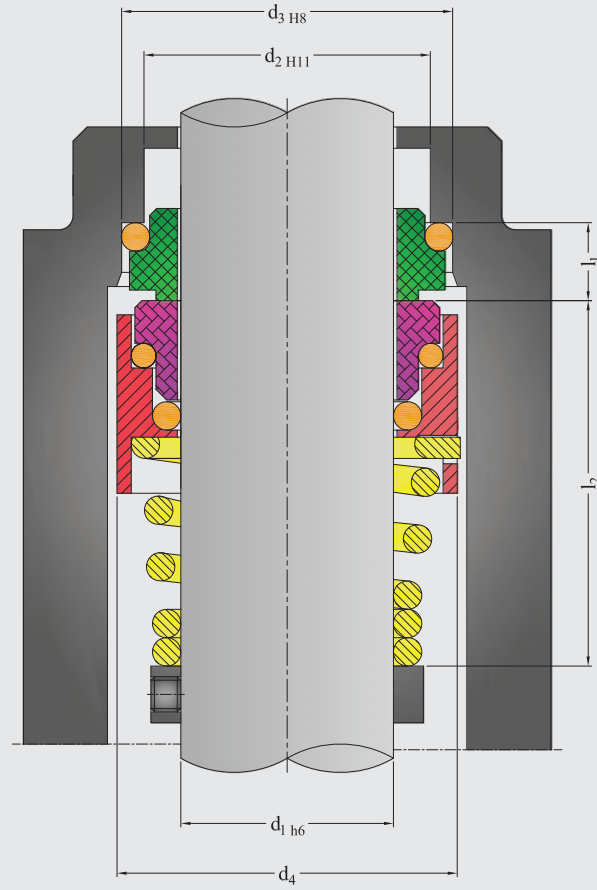
FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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### Sabit Eleman Form Seçenekleri Stationary Seat Alternatives

G-45 / G-9

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
6	10,6	13,1	12,0	4,5	15,0	35	45,0	53,5	49,0	11,5	39,0
8	13,0	17,1	16,0	5,5	15,0	38	52,0	60,5	54,0	11,5	39,0
10	14,0	18,1	20,0	5,5	15,0	40	52,0	60,5	56,0	11,5	39,0
12	16,5	20,6	22,0	5,5	18,0	42	52,0	60,5	57,0	11,5	39,0
14	19,0	23,1	24,0	6,0	22,0	43	52,0	60,5	58,0	11,5	39,0
15	21,0	26,9	24,0	7,0	22,0	45	57,0	65,5	61,0	11,5	41,0
16	21,0	26,9	26,0	7,0	23,0	48	57,0	65,5	64,0	11,5	41,0
17	21,0	26,9	26,0	7,0	23,0	50	64,0	72,5	66,0	11,5	45,0
18	25,0	30,9	32,0	8,0	24,0	55	64,0	72,5	71,0	11,5	47,0
19	25,0	30,9	32,0	8,0	25,0	60	72,0	79,3	80,0	11,5	49,0
20	25,0	30,9	34,0	8,0	25,0	65	77,0	84,5	85,0	11,5	51,0
22	30,0	35,4	36,0	8,0	25,0	70	82,0	89,5	90,0	11,5	51,0
24	30,0	35,4	38,0	8,0	27,0	75	87,0	94,5	99,0	11,5	57,0
25	33,0	38,2	39,0	8,5	27,0	80	92,0	99,5	104,0	11,5	59,0
26	33,0	38,2	39,0	8,5	27,0	85	98,0	105,5	109,0	13,5	59,0
28	38,0	43,3	42,0	9,0	29,0	90	105,0	111,5	114,0	13,5	62,0
30	38,0	43,3	44,0	9,0	30,0	95	110,0	116,5	119,0	13,5	62,0
32	38,0	43,3	46,0	9,0	30,0	100	114,0	119,5	124,0	13,5	75,0
33	45,0	53,5	47,0	11,5	39,0						





**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönme Yönüne Bağımlı	<b>Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 14 \dots 150 \text{ mm}$	$d_1 = 14 \dots 150 \text{ mm}$
$p_1 = 16 \text{ bar} / 232 \text{ Psi}$	$p_1 = 16 \text{ bar} / 232 \text{ Psi}$
$t_1 = -35 \dots 180 \text{ °C} / -31 \dots 356 \text{ °F}$	$t_1 = -35 \dots 180 \text{ °C} / -31 \dots 356 \text{ °F}$
$v_g = 15 \text{ m/s} \dots 49,2 \text{ ft/s}$	$v_g = 15 \text{ m/s} \dots 49,2 \text{ ft/s}$
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement: <math>\pm 1,0 \text{ mm}</math></b>

**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

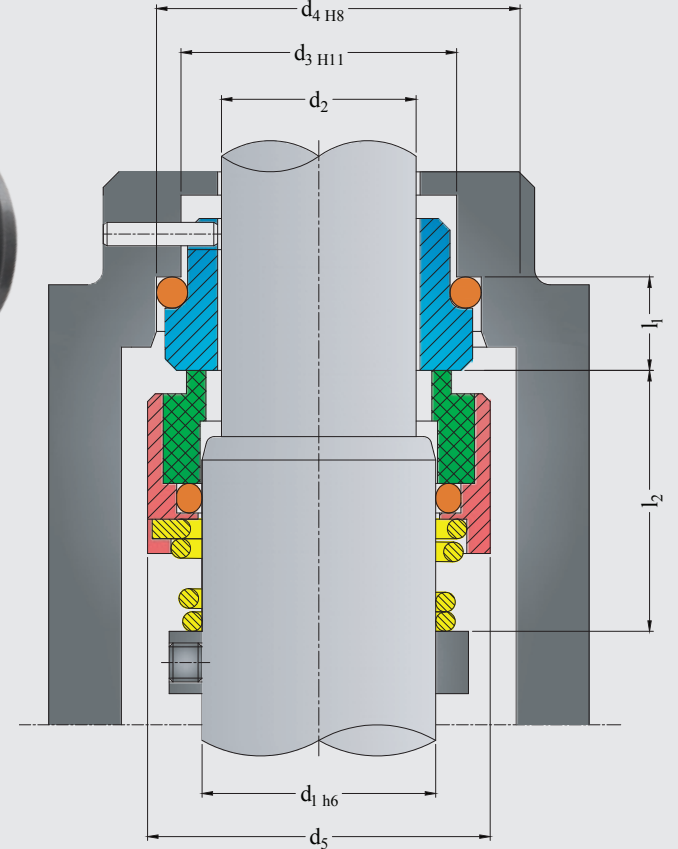
**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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**Sabit Eleman Form Seçenekleri** **Stationary Seat Alternatives**

G-45 / G-9

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
14	19,0	23,1	24,5	6,0	27,0	45	57,0	65,5	68,5	11,5	51,0
15	21,0	26,9	28,5	7,0	27,0	48	57,0	65,5	69,5	11,5	51,0
16	21,0	26,9	28,5	7,0	28,0	50	64,0	72,5	77,0	11,5	55,0
18	25,0	30,9	32,5	8,0	30,0	55	64,0	72,5	75,0	11,5	57,0
19	25,0	30,9	33,0	8,0	30,0	60	72,0	79,3	83,0	11,5	61,0
20	25,0	30,9	33,0	8,0	30,0	65	77,0	84,5	89,0	11,5	63,0
22	30,0	35,4	37,0	8,0	30,0	70	82,0	89,5	90,0	11,5	63,0
24	30,0	35,4	37,0	8,0	32,0	75	87,0	94,5	95,0	11,5	68,0
25	33,0	38,2	40,0	8,5	33,0	80	92,0	99,5	97,0	11,5	70,0
28	38,0	43,3	45,0	9,0	36,0	85	98,0	105,5	110,0	13,5	72,0
30	38,0	43,3	46,5	9,0	37,0	90	105,0	111,5	115,0	13,5	75,0
32	38,0	43,3	46,5	9,0	37,0	95	110,0	116,5	120,0	13,5	75,0
33	45,0	53,5	57,0	11,5	48,0	100	114,0	119,5	124,5	13,5	85,0
35	45,0	53,5	57,0	11,5	48,0	110	124,0	132,5	135,0	17,5	89,0
38	52,0	60,5	64,0	11,5	48,0	120	134,0	142,2	145,0	17,5	97,0
40	52,0	60,5	64,0	11,5	48,0	130	145,0	153,2	160,0	17,5	108,0
42	52,0	60,5	64,0	11,5	48,0	140	157,0	164,3	175,0	18,5	110,0
43	52,0	60,5	64,0	11,5	48,0	150	167,0	174,2	190,0	18,5	120,0



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanslı	<b>Balanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönüş Yönüne Bağımlı EN 12756 - DIN 24960	<b>Directional Seal</b>
	<b>EN 12756 - DIN 24960</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 14 \dots 85 \text{ mm}$	$d_1 = 14 \dots 85 \text{ mm}$
$p_1 = 25 \text{ bar} / 360 \text{ Psi}$	$p_1 = 25 \text{ bar} / 360 \text{ Psi}$
$t_1 = -80 \dots 220 \text{ °C} / -175 \dots 430 \text{ °F}$	$t_1 = -80 \dots 220 \text{ °C} / -175 \dots 430 \text{ °F}$
$v_g = 15 \text{ m/s} \dots 50 \text{ ft/s}$	$v_g = 15 \text{ m/s} \dots 50 \text{ ft/s}$
Eksenel Hareket : $\pm 1,0 \text{ mm}$	<b>Axial Movement: <math>\pm 1,0 \text{ mm}</math></b>

**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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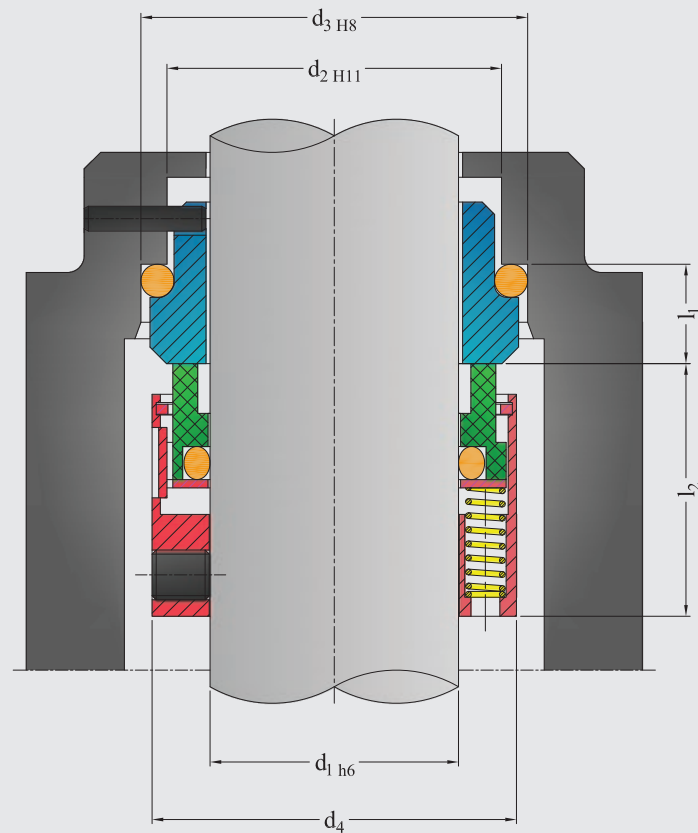
**Sabit Eleman Form Seçenekleri** **Stationary Seat Alternatives**

G-9

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
14	10,0	17,0	21,0	10,0	25,5	45	40,0	51,0	58,0	14,0	48,0
16	12,0	19,0	23,0	10,0	26,5	48	43,0	54,0	61,0	14,0	51,0
18	14,0	21,0	25,0	10,0	29,5	50	45,0	56,0	63,0	14,0	55,0
20	16,0	23,0	27,0	10,0	31,0	53	48,0	59,0	66,0	14,0	55,0
22	18,0	27,0	33,0	11,5	32,5	55	50,0	62,0	70,0	15,0	58,0
24	20,0	29,0	35,0	11,5	32,5	58	53,0	65,0	73,0	15,0	60,0
26	22,0	31,0	37,0	11,5	32,5	60	55,0	67,0	75,0	15,0	60,0
28	24,0	33,0	39,0	11,5	32,5	63	58,0	70,0	78,0	15,0	60,0
30	25,0	34,0	40,0	11,5	33,5	65	60,0	72,0	80,0	15,0	60,0
33	28,0	37,0	43,0	11,5	35,5	68	63,0	75,0	83,0	15,0	60,0
35	30,0	39,0	45,0	11,5	35,5	70	65,0	77,0	85,0	15,0	61,0
38	32,0	42,0	48,0	11,5	39,5	75	70,0	83,0	92,0	18,0	63,0
38	33,0	42,0	48,0	11,5	39,5	80	75,0	88,0	97,0	18,0	68,0
40	35,0	44,0	50,0	11,5	43,5	85	80,0	95,0	105,0	18,2	68,0
43	38,0	49,0	56,0	14,0	46,0						







**Teknik Özellikleri Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>Unbalanced</b>
Çok Yaylı	<b>Multi Spring</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
ISO 3069 - DIN 24960	<b>ISO 3069 - DIN 24960</b>

**Çalışma Limitleri Operating Limits**

$d_1 = 14 \dots 100 \text{ mm}$	$d_1 = 14 \dots 100 \text{ mm}$
$p_1 = 24 \text{ bar} / 350 \text{ Psi}$	$p_1 = 24 \text{ bar} / 350 \text{ Psi}$
$t_1 = -40 \dots 205 \text{ }^\circ\text{C} / -40 \dots 401 \text{ }^\circ\text{F}$	$t_1 = -40 \dots 205 \text{ }^\circ\text{C} / -40 \dots 401 \text{ }^\circ\text{F}$
$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$	$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$

**Materyal Kombinasyonları Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

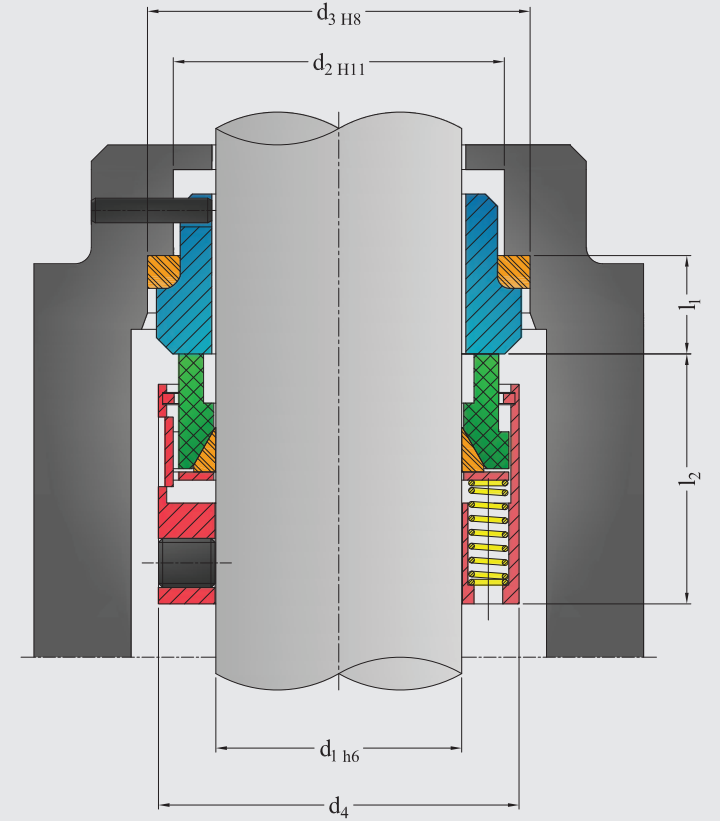
**Elastomerler Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitril, EPDM, Silicon Rubber</b>
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**Sabit Eleman Form Seçenekleri Stationary Seat Alternatives**

G-9 / G-6

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
14	21,0	25,0	24,0	10,0	23,0	50	62,0	70,0	66,0	15,0	34,0
16	23,0	27,0	26,0	10,0	23,0	53	65,0	73,0	69,0	15,0	34,0
18	27,0	33,0	32,0	11,5	24,0	55	67,0	75,0	71,0	15,0	34,0
20	29,0	35,0	34,0	11,5	24,0	58	70,0	78,0	78,0	15,0	39,0
22	31,0	37,0	36,0	11,5	24,0	60	72,0	80,0	80,0	15,0	39,0
24	33,0	39,0	38,0	11,5	26,7	63	75,0	83,0	83,0	15,0	39,0
25	34,0	40,0	39,0	11,5	26,0	65	77,0	85,0	85,0	15,0	39,0
28	37,0	43,0	42,0	11,5	30,0	68	81,0	90,0	88,0	18,0	39,0
30	39,0	45,0	44,0	11,5	30,5	70	83,0	92,0	90,0	18,0	45,5
32	42,0	48,0	46,0	11,5	30,5	75	88,0	97,0	95,0	18,0	45,5
33	42,0	48,0	47,0	11,5	30,5	80	95,0	105,0	104,0	18,2	45,0
35	44,0	50,0	49,0	11,5	30,5	85	100,0	110,0	109,0	18,2	45,0
38	49,0	56,0	54,0	14,0	32,0	90	105,0	115,0	114,0	18,2	50,0
40	51,0	58,0	56,0	14,0	32,0	95	110,0	120,0	119,0	17,2	50,0
43	54,0	61,0	59,0	14,0	32,0	100	115,0	125,0	124,0	17,2	50,0
45	56,0	63,0	61,0	14,0	32,0						
48	59,0	66,0	64,0	14,0	32,0						



**Teknik Özellikleri Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>Unbalanced</b>
Çok Yaylı	<b>Multi Spring</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
ISO 3069 - DIN 24960	<b>ISO 3069 - DIN 24960</b>

**Çalışma Limitleri Operating Limits**

$d_1 = 14 \dots 100 \text{ mm}$	$d_1 = 14 \dots 100 \text{ mm}$
$p_1 = 24 \text{ bar} / 350 \text{ Psi}$	$p_1 = 24 \text{ bar} / 350 \text{ Psi}$
$t_1 = -40 \dots 205 \text{ }^\circ\text{C} / -40 \dots 401 \text{ }^\circ\text{F}$	$t_1 = -40 \dots 205 \text{ }^\circ\text{C} / -40 \dots 401 \text{ }^\circ\text{F}$
$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$	$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$

**Materyal Kombinasyonları Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

**Elastomerler Elastomers**

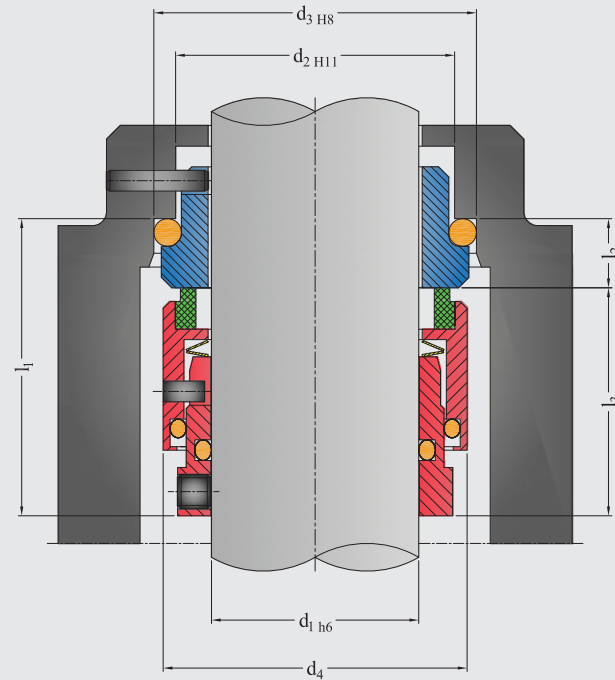
FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk, PTFE	<b>FKM (Viton®), Nitril, EPDM, Silicon Rubber, PTFE</b>
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**Sabit Eleman Form Seçenekleri Stationary Seat Alternatives**

G-9 / G-60

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
14	21,0	25,0	24,0	10,0	23,0	48	59,0	66,0	64,0	14,0	32,0
16	23,0	27,0	26,0	10,0	23,0	50	62,0	70,0	66,0	15,0	34,0
18	27,0	33,0	32,0	11,5	24,0	53	65,0	73,0	69,0	15,0	34,0
20	29,0	35,0	34,0	11,5	24,0	55	67,0	75,0	71,0	15,0	34,0
22	31,0	37,0	36,0	11,5	24,0	58	70,0	78,0	78,0	15,0	39,0
24	33,0	39,0	38,0	11,5	26,7	60	72,0	80,0	80,0	15,0	39,0
25	34,0	40,0	39,0	11,5	26,0	63	75,0	83,0	83,0	15,0	39,0
28	37,0	43,0	42,0	11,5	30,0	65	77,0	85,0	85,0	15,0	39,0
30	39,0	45,0	44,0	11,5	30,5	68	81,0	90,0	88,0	18,0	39,0
32	42,0	48,0	46,0	11,5	30,5	70	83,0	92,0	90,0	18,0	45,5
33	42,0	48,0	47,0	11,5	30,5	75	88,0	97,0	95,0	18,0	45,5
35	44,0	50,0	49,0	11,5	30,5	80	95,0	105,0	104,0	18,2	45,0
38	49,0	56,0	54,0	14,0	32,0	85	100,0	110,0	109,0	18,2	45,0
40	51,0	58,0	56,0	14,0	32,0	90	105,0	115,0	114,0	18,2	50,0
43	54,0	61,0	59,0	14,0	32,0	95	110,0	120,0	119,0	17,2	50,0
45	56,0	63,0	61,0	14,0	32,0	100	115,0	125,0	124,0	17,2	50,0

# RT-HJ 92 N



## Teknik Özellikleri / Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanslı	<b>Balanced</b>
Yay Ürün Korumalıdır	<b>Protected Spring</b>
Dönüş Yönüne Bağımsız	<b>Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

## Çalışma Limitleri / Operating Limits

$d_1 = 18 \dots 100 \text{ mm}$	<b><math>d_1 = 18 \dots 100 \text{ mm}</math></b>
$p_1 = 25 \text{ bar} / 360 \text{ Psi}$	<b><math>p_1 = 25 \text{ bar} / 360 \text{ Psi}</math></b>
$t_1 = -50 \dots 220 \text{ °C} / -58 \dots 430 \text{ °F}$	<b><math>t_1 = -50 \dots 220 \text{ °C} / -58 \dots 430 \text{ °F}</math></b>
$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$	<b><math>v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}</math></b>

## Materyal Kombinasyonları / Material Combinations

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

## Elastomerler / Elastomers

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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## Sabit Eleman Form Seçenekleri / Stationary Seat Alternatives

G-9 / G-6 / G-46

## RT-HJ 927

Parça modeller ve açıklamalar RT-HJ 92 N ile aynı fakat G46 model sabit eleman kullanılır.  $l_{11} (l_3+l_4)$  montaj boyu  $l_1$  boyuna göre daha uzundur.

**Items and descriptions as RT-HJ 92 N, but with seat G46.**  
**Installations length  $l_{11} (l_3+l_4)$  is longer than  $l_1$ .**

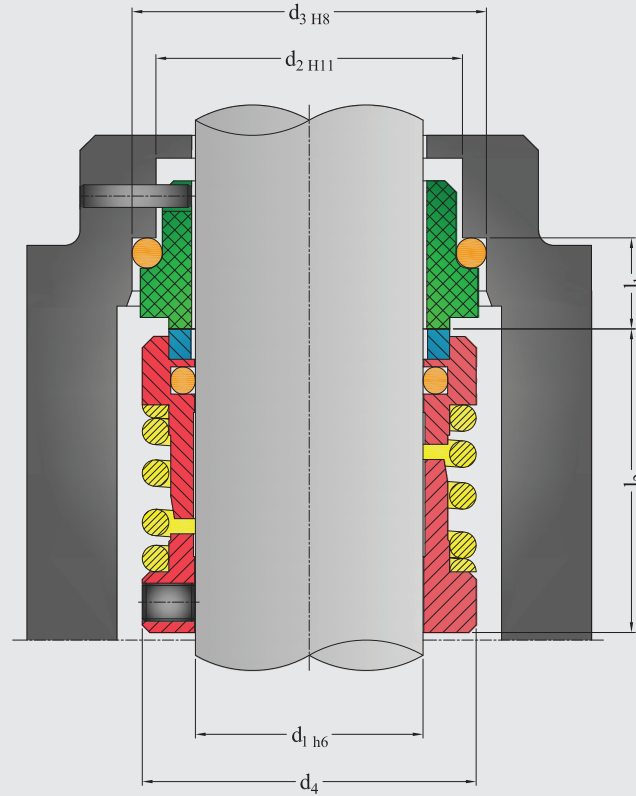
## RT-HJ 977

Parça modeller ve açıklamalar RT-HJ 92 N ile aynı fakat döner eleman sıkı geçme silisyum karbür ve sabit eleman G46 model kullanılır. montaj boyu  $l_1$ .

**Items and descriptions as RT-HJ 92 N, but with shrink fitted silicon carbide seal face and seat G46. Installations length  $l_1$ .**

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$l_3$	$l_4$	$l_5$	$l_{11}$
18	27,0	33,0	32,0	37,5	7,0	30,5	9,0	28,5	39,5
20	29,0	35,0	34,0	37,5	7,0	30,5	9,0	28,5	39,5
22	31,0	37,0	36,0	37,5	7,0	30,5	9,0	28,5	39,5
24	33,0	39,0	38,0	40,0	7,0	33,0	9,0	31,0	42,0
25	34,0	40,0	39,0	40,0	7,0	33,0	9,0	31,0	42,0
28	37,0	43,0	42,0	42,5	7,0	35,5	9,5	33,0	45,0
30	39,0	45,0	44,0	42,5	7,0	35,5	9,5	33,0	45,0
32	42,0	48,0	47,0	42,5	7,0	35,5	9,5	33,0	45,0
33	42,0	48,0	47,0	42,5	7,0	35,5	9,5	33,0	45,0
35	44,0	50,0	49,0	42,5	7,0	35,5	9,5	33,0	45,0
38	49,0	56,0	54,0	45,0	8,0	37,0	10,5	34,5	47,5
40	51,0	58,0	56,0	45,0	8,0	37,0	10,5	34,5	47,5
43	54,0	61,0	59,0	45,0	8,0	37,0	10,5	34,5	47,5
45	56,0	63,0	61,0	45,0	8,0	37,0	10,5	34,5	47,5
48	59,0	66,0	64,0	45,0	8,0	37,0	10,5	34,5	47,5
50	62,0	70,0	66,0	47,5	9,5	38,0	12,0	35,5	50,0
53	65,0	73,0	69,0	47,5	9,5	38,0	12,0	35,5	50,0
55	67,0	75,0	71,0	47,5	9,5	38,0	12,0	35,5	50,0
58	70,0	78,0	78,0	52,5	10,5	42,0	13,0	39,5	55,0
60	72,0	80,0	80,0	52,5	10,5	42,0	13,0	39,5	55,0
63	75,0	83,0	83,0	52,5	10,5	42,0	13,0	39,5	55,0
65	77,0	85,0	85,0	52,5	10,5	42,0	13,0	39,5	55,0
68	81,0	90,0	88,0	52,5	11,0	41,5	13,5	39,0	55,0
70	83,0	92,0	90,0	60,0	11,5	48,5	14,0	46,0	62,5
75	88,0	97,0	99,0	60,0	11,5	48,5	14,0	46,0	62,5
80	95,0	105,0	104,0	60,0	11,5	48,5	14,0	46,0	62,5
85	100,0	110,0	109,0	60,0	11,5	48,5	14,0	46,0	62,5
90	105,0	115,0	114,0	65,0	13,0	52,0	15,5	49,5	67,5
95	110,0	120,0	119,0	65,0	13,0	52,0	15,5	49,5	67,5
100	115,0	125,0	124,0	65,0	13,0	52,0	15,5	49,5	67,5





**Teknik Özellikleri Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

**Çalışma Limitleri Operating Limits**

$d_1 = 20 \dots 85 \text{ mm}$	<b><math>d_1 = 20 \dots 85 \text{ mm}</math></b>
$p_1 = 12 \text{ bar} / 174 \text{ Psi}$	<b><math>p_1 = 12 \text{ bar} / 174 \text{ Psi}</math></b>
$t_1 = -40 \dots 205 \text{ °C} / -40 \dots 401 \text{ °F}$	<b><math>t_1 = -40 \dots 205 \text{ °C} / -40 \dots 401 \text{ °F}</math></b>
$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$	<b><math>v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}</math></b>

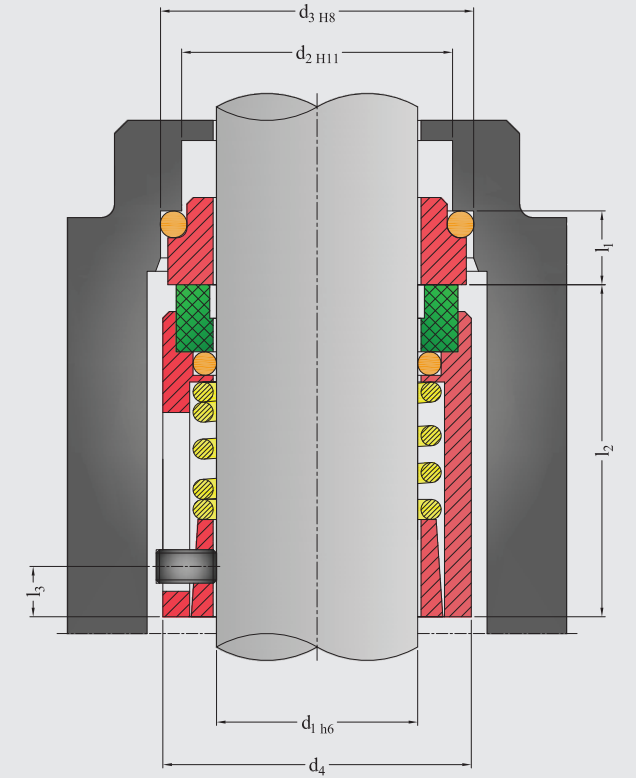
**Materyal Kombinasyonları Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>

**Elastomerler Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
20	29,0	35,0	34,0	13,0	41,0
22	31,0	37,0	36,0	13,0	41,0
24	33,0	39,0	38,0	13,0	43,0
25	34,0	40,0	39,0	13,0	43,0
28	37,0	43,0	42,0	13,0	45,0
30	39,0	45,0	44,0	13,0	45,0
33	42,0	48,0	47,0	13,0	45,0
35	44,0	50,0	49,0	13,0	49,0
38	49,0	56,0	54,0	13,0	53,0
40	51,0	58,0	56,0	13,0	55,0
43	54,0	61,0	59,0	13,0	55,0
45	56,0	63,0	61,0	13,0	55,0
48	59,0	66,0	64,0	13,0	55,0
50	62,0	68,0	66,0	13,0	60,0
53	65,0	71,0	69,0	13,0	61,0
55	67,0	73,0	71,0	13,0	61,0
58	70,0	79,0	76,0	16,0	63,0
60	72,0	81,0	78,0	16,0	63,0
63	75,0	84,0	81,0	16,0	63,0
65	77,0	86,0	83,0	16,0	67,0
70	83,0	92,0	90,0	16,0	68,0
75	88,0	97,0	95,0	16,0	72,0
80	95,0	105,0	100,0	16,0	72,0
85	100,0	110,0	105,0	16,0	77,0



**Teknik Özellikleri Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri Operating Limits**

$d_1 = 18 \dots 65 \text{ mm}$	<b><math>d_1 = 18 \dots 65 \text{ mm}</math></b>
$p_1 = 12 (16) \text{ bar} / 173 (232) \text{ Psi}$	<b><math>p_1 = 12 (16) \text{ bar} / 173 (232) \text{ Psi}</math></b>
$t_1 = -20 \dots 180 \text{ °C} / -4 \dots 356 \text{ °F}$	<b><math>t_1 = -20 \dots 180 \text{ °C} / -4 \dots 356 \text{ °F}</math></b>
$v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}$	<b><math>v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}</math></b>

**Materyal Kombinasyonları Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Faces</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

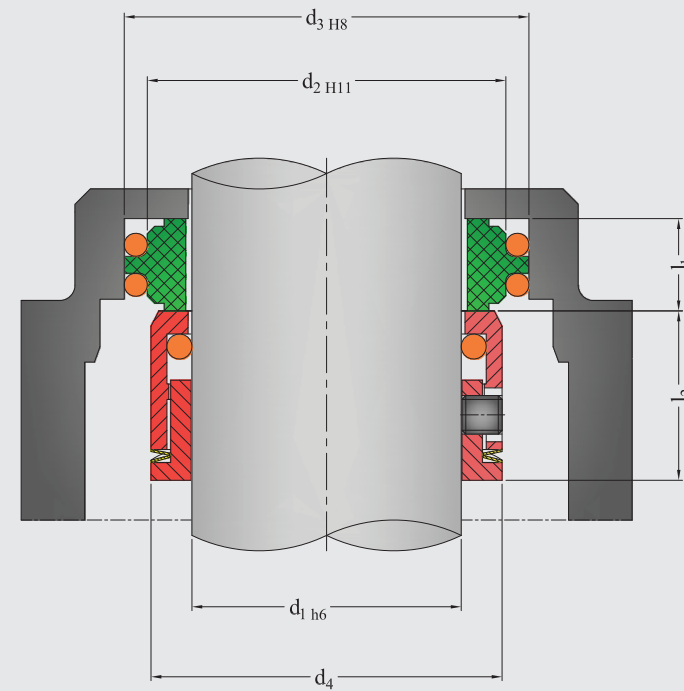
**Elastomerler Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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**Sabit Eleman Form Seçenekleri Stationary Seat Alternatives**

G-6 / G-60 / G-606 / G-4 / G-50

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$l_3$
18	24,0	30,0	38,0	9,0	31,0	6,0
20	29,5	35,0	40,0	9,0	31,0	6,0
22	29,5	35,0	40,0	9,0	31,0	6,0
24	32,0	38,0	43,0	10,0	31,0	6,0
25	32,0	38,0	43,0	10,0	31,0	6,0
28	36,0	42,0	44,0	10,0	40,0	7,0
30	39,2	45,0	44,0	10,5	40,0	7,0
32	42,2	48,0	48,0	11,0	44,0	7,5
35	46,2	52,0	49,5	10,5	46,5	7,5
38	49,2	55,0	53,0	11,0	50,0	7,5
40	52,2	58,0	54,5	11,0	50,0	7,5
42	53,3	62,0	64,0	11,0	50,0	7,5
45	55,3	64,0	64,0	14,0	50,0	8,0
48	59,7	68,4	69,0	14,0	51,2	8,0
50	60,8	69,3,0	69,0	11,0	54,0	8,0
55	66,5	75,4	74,0	14,0	55,0	8,0
58	69,5	78,4	79,0	14,0	57,0	8,0
60	71,5	80,4	79,0	14,0	59,0	8,0
65	76,5	85,4	89,0	14,0	68,4	9,0



**Teknik Özellikleri**      **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönme Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri**      **Operating Limits**

$d_1 = 10 \dots 100 \text{ mm}$	<b><math>d_1 = 10 \dots 100 \text{ mm}</math></b>
$p_1 = 12 \text{ bar} / 174 \text{ Psi}$	<b><math>p_1 = 12 \text{ bar} / 174 \text{ Psi}</math></b>
$t_1 = -35 \dots 180 \text{ °C} / -31 \dots 356 \text{ °F}$	<b><math>t_1 = -35 \dots 180 \text{ °C} / -31 \dots 356 \text{ °F}</math></b>
$v_g = 15 \text{ m/s} \dots 49,5 \text{ ft/s}$	<b><math>v_g = 15 \text{ m/s} \dots 49,5 \text{ ft/s}</math></b>

**Materyal Kombinasyonları**      **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>

**Elastomerler**      **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	14,0	18,1	21,0	5,5	18,0	40	52,0	60,5	55,0	11,5	21,1
12	16,5	20,6	23,0	5,5	18,0	42	52,0	60,5	60,0	11,5	21,1
14	19,0	23,1	25,0	6,0	18,0	43	52,0	60,5	60,0	11,5	21,1
15	21,0	26,9	26,0	7,0	19,1	45	57,0	65,5	60,0	11,5	21,1
16	21,0	26,9	29,0	7,0	19,1	48	57,0	65,5	65,0	11,5	21,1
18	25,0	30,9	29,0	8,0	19,1	50	64,0	72,5	65,0	11,5	21,1
20	25,0	30,9	32,0	8,0	19,1	55	64,0	72,5	74,0	11,5	22,1
22	30,0	35,4	35,0	8,0	19,1	60	72,0	79,3	79,0	11,5	25,8
24	30,0	35,4	37,0	8,0	19,1	65	77,0	84,5	87,0	11,5	25,8
25	33,0	38,2	41,0	8,5	19,1	70	82,0	89,5	93,0	11,5	25,8
28	38,0	43,3	41,0	9,0	19,1	75	87,0	94,5	98,0	11,5	25,8
30	38,0	43,3	47,0	9,0	19,1	80	92,0	99,5	104,0	11,5	25,8
32	38,0	43,3	47,0	9,0	19,1	85	98,0	105,5	108,0	13,5	25,8
33	45,0	53,5	48,0	11,5	19,1	90	105,0	111,5	113,0	13,5	25,8
35	45,0	53,5	49,0	11,5	19,1	95	110,0	116,5	118,0	13,5	25,8
38	52,0	60,5	53,0	11,5	21,1	100	114,0	119,5	123,0	13,5	25,8

**Teknik Özellikleri**      **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönme Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri**      **Operating Limits**

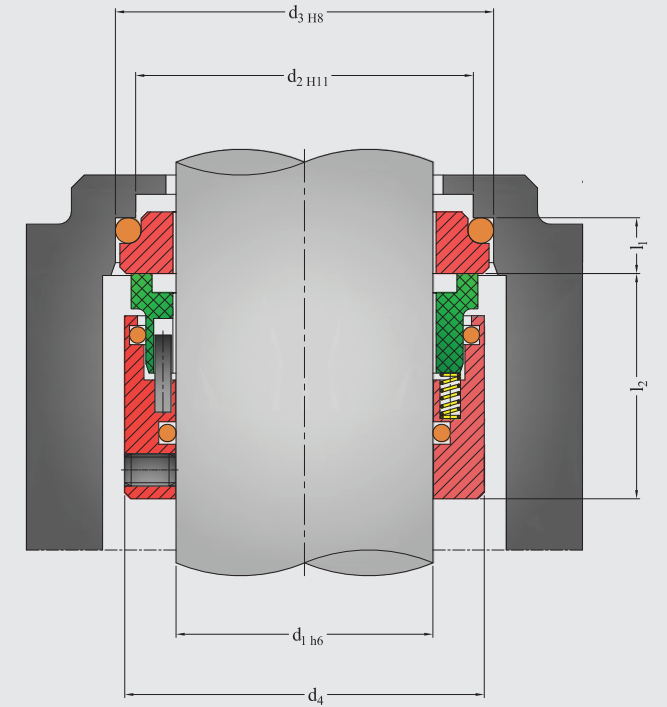
$d_1 = 18 \dots 100 \text{ mm}$	<b><math>d_1 = 18 \dots 100 \text{ mm}</math></b>
$p_1 = 16 \text{ bar} / 232 \text{ Psi}$	<b><math>p_1 = 16 \text{ bar} / 232 \text{ Psi}</math></b>
$t_1 = -40 \dots 200 \text{ °C} / -40 \dots 392 \text{ °F}$	<b><math>t_1 = -40 \dots 200 \text{ °C} / -40 \dots 392 \text{ °F}</math></b>
$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$	<b><math>v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}</math></b>

**Materyal Kombinasyonları**      **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Seramik	• <b>Ceramic</b>

**Elastomerler**      **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
18	27,0	33,0	32,3	8,5	35,2	45	56,0	63,0	61,1	10,0	44,7
20	29,0	35,0	34,3	8,5	35,2	48	59,0	66,0	64,1	10,0	44,7
22	31,0	37,0	36,3	8,5	35,2	50	62,0	70,0	66,1	10,5	44,7
24	33,0	39,0	38,3	8,5	35,2	55	67,0	75,0	71,1	12,0	44,7
25	34,0	40,0	39,3	8,5	35,2	60	72,0	80,0	77,2	12,0	44,7
28	37,0	43,0	42,3	8,5	35,2	65	77,0	85,0	83,0	12,0	44,7
30	39,0	45,0	44,3	8,5	35,2	70	83,0	92,0	86,1	12,5	44,7
32	42,0	48,0	46,3	8,5	35,2	75	88,0	97,0	98,4	12,5	51,0
33	42,0	48,0	47,9	8,5	35,2	80	95,0	105,0	104,8	13,0	51,0
35	44,0	50,0	49,5	8,5	35,2	85	100,0	110,0	108,0	15,0	51,0
38	49,0	56,0	54,3	10,0	44,7	90	105,0	115,0	114,3	15,0	51,0
40	51,0	58,0	58,1	10,0	44,7	95	110,0	120,0	117,5	15,0	51,0
43	54,0	61,0	59,1	10,0	44,7	100	115,0	125,0	123,9	15,0	51,0

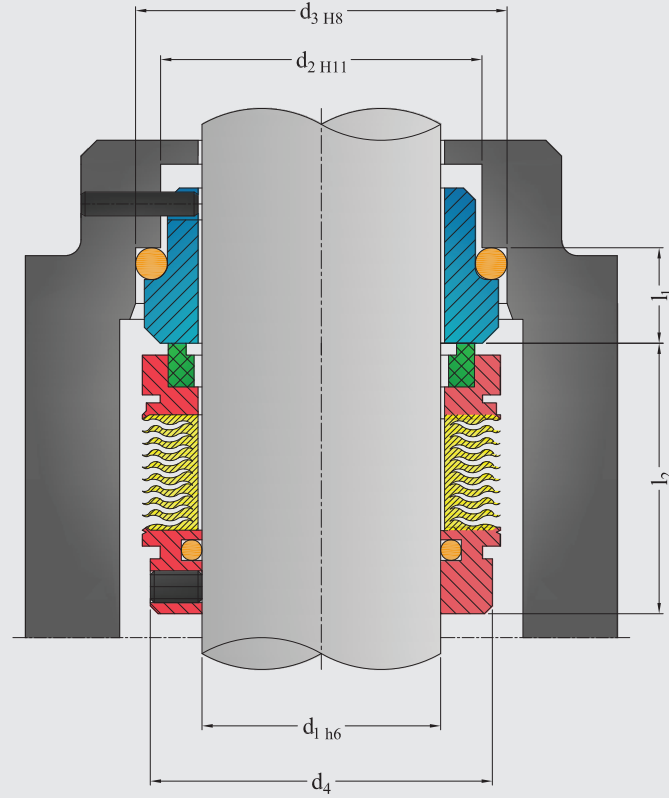


  
**ROTA SEAL**  
SIZDIRMAZLIK SİSTEMLERİ

  
**ROTA SEAL**  
SIZDIRMAZLIK SİSTEMLERİ

  
**ROTA SEAL**  
SIZDIRMAZLIK SİSTEMLERİ





**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanslı	<b>Balanced</b>
Dönme Yönüne Bağımsız	<b>Bi-Directional Seal</b>
Metal Körük	<b>Metal Bellow</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 16 \dots 100 \text{ mm}$	<b><math>d_1 = 16 \dots 100 \text{ mm}</math></b>
$p_1 = 25 \text{ bar / 360 Psi}$	<b><math>p_1 = 25 \text{ bar / 360 Psi}</math></b>
$t_1 = -40 \dots 220 \text{ °C / -40} \dots 428 \text{ °F}$	<b><math>t_1 = -40 \dots 220 \text{ °C / -40} \dots 428 \text{ °F}</math></b>
$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$	<b><math>v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}</math></b>

**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternative</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>

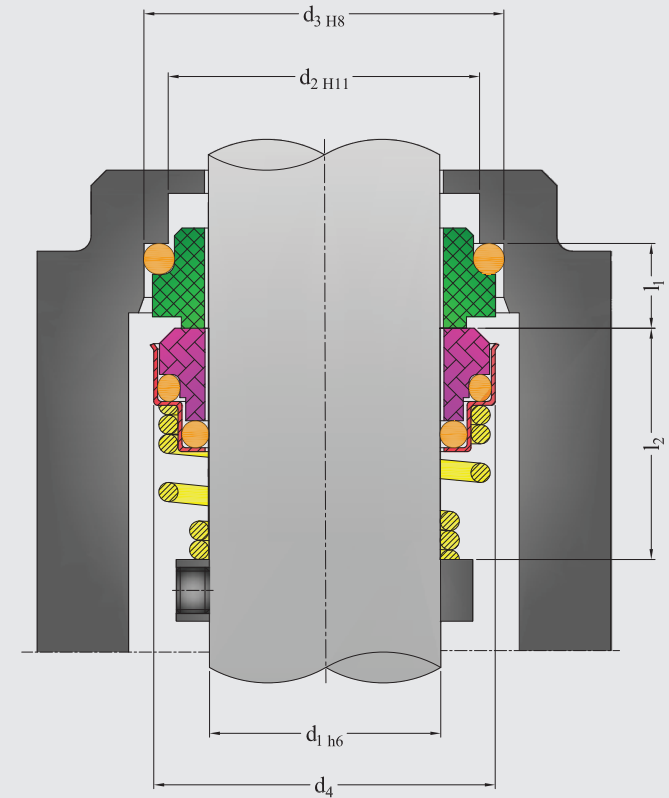
**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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**Sabit Eleman Form Seçenekleri** **Stationary Seat Alternatives**

G-9 / G-16

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
16	23,0	27,0	30,0	10,0	32,5	50	62,0	70,0	65,0	15,0	32,5
18	27,0	33,0	32,0	7,0	30,5	53	65,0	73,0	68,2	15,0	32,5
20	29,0	35,0	33,5	7,0	30,5	55	67,0	75,0	70,0	15,0	32,5
22	31,0	37,0	36,5	7,0	30,5	58	70,0	78,0	71,7	15,0	37,5
24	33,0	39,0	39,0	11,5	28,5	60	72,0	80,0	74,6	15,0	37,5
25	34,0	40,0	39,6	11,5	28,5	63	75,0	83,0	79,0	15,0	37,5
28	37,0	43,0	42,8	11,5	28,5	65	77,0	85,0	84,1	15,0	37,5
30	39,0	45,0	45,0	11,5	31,0	68	81,0	90,0	87,3	18,0	34,5
32	42,0	48,0	46,0	11,5	31,0	70	83,0	92,0	87,3	18,0	42,0
33	42,0	48,0	48,0	11,5	31,0	75	88,0	97,0	95,0	18,0	42,0
35	44,0	50,0	49,2	11,5	31,0	80	95,0	105,0	98,4	18,2	41,8
38	49,0	56,0	52,3	14,0	31,0	85	100,0	110,0	104,7	18,2	41,8
40	51,0	58,0	55,5	14,0	31,0	90	105,0	115,0	111,0	18,2	46,8
43	54,0	61,0	57,5	14,0	31,0	95	110,0	120,0	114,0	17,2	47,8
45	56,0	63,0	58,7	14,0	31,0	100	115,0	125,0	117,4	17,2	47,8
48	59,0	66,0	61,9	14,0	31,0						



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönüş Yönüne Bağımlı	<b>Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 10 \dots 40 \text{ mm}$	<b><math>d_1 = 10 \dots 40 \text{ mm}</math></b>
$p_1 = 10 \text{ bar / 145 Psi}$	<b><math>p_1 = 10 \text{ bar / 145 Psi}</math></b>
$t_1 = -20 \dots 180 \text{ °C / -4} \dots 356 \text{ °F}$	<b><math>t_1 = -20 \dots 180 \text{ °C / -4} \dots 356 \text{ °F}</math></b>
$v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}$	<b><math>v_g = 20 \text{ m/s} \dots 66 \text{ ft/s}</math></b>
Eksenel Hareket : $\pm 0,5 \text{ mm}$	<b>Axial Movement : <math>\pm 0,5 \text{ mm}</math></b>

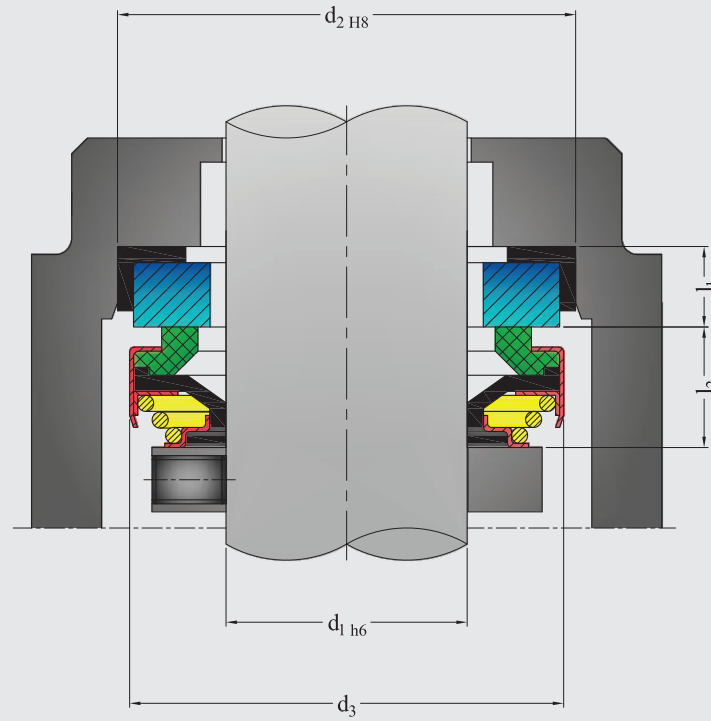
**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	14,0	18,1	20,0	5,5	15,0
11	16,5	20,6	22,0	5,5	18,0
12	16,5	20,6	22,0	5,5	18,0
13	19,0	23,1	25,0	6,0	22,0
14	19,0	23,1	25,0	6,0	22,0
15	21,0	26,9	29,0	7,0	22,0
16	21,0	26,9	29,0	7,0	23,0
17	21,0	26,9	33,0	7,0	23,0
18	25,0	30,9	33,0	8,0	24,0
19	25,0	30,9	33,0	8,0	25,0
20	25,0	30,9	33,0	8,0	25,0
22	30,0	35,4	38,0	8,0	25,0
24	30,0	35,4	38,0	8,0	27,0
25	33,0	38,2	40,0	8,5	27,0
28	38,0	43,3	46,0	9,0	29,0
30	38,0	43,3	46,0	9,0	30,0
32	38,0	43,3	46,0	9,0	30,0
35	45,0	53,5	50,0	11,5	39,0
38	52,0	60,5	55,0	11,5	39,0
40	52,0	60,5	55,0	11,5	39,0



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 6 \dots 70 \text{ mm}$	<b><math>d_1 = 6 \dots 70 \text{ mm}</math></b>
$p_1 = 6 \text{ bar} / 87 \text{ Psi}$	<b><math>p_1 = 6 \text{ bar} / 87 \text{ Psi}</math></b>
$t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}$	<b><math>t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}</math></b>
$v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}$	<b><math>v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}</math></b>
Eksenel Hareket :	<b>Axial Movement:</b>
$d_1 \leq 12 \text{ mm} + 0,5 \text{ mm}$	<b><math>d_1 \leq 12 \text{ mm} + 0,5 \text{ mm}</math></b>
$> 12 \text{ mm} + 0,7 \text{ mm}$	<b><math>&gt; 12 \text{ mm} + 0,7 \text{ mm}</math></b>
$\geq 23 \text{ mm} + 1,0 \text{ mm}$	<b><math>\geq 23 \text{ mm} + 1,0 \text{ mm}</math></b>

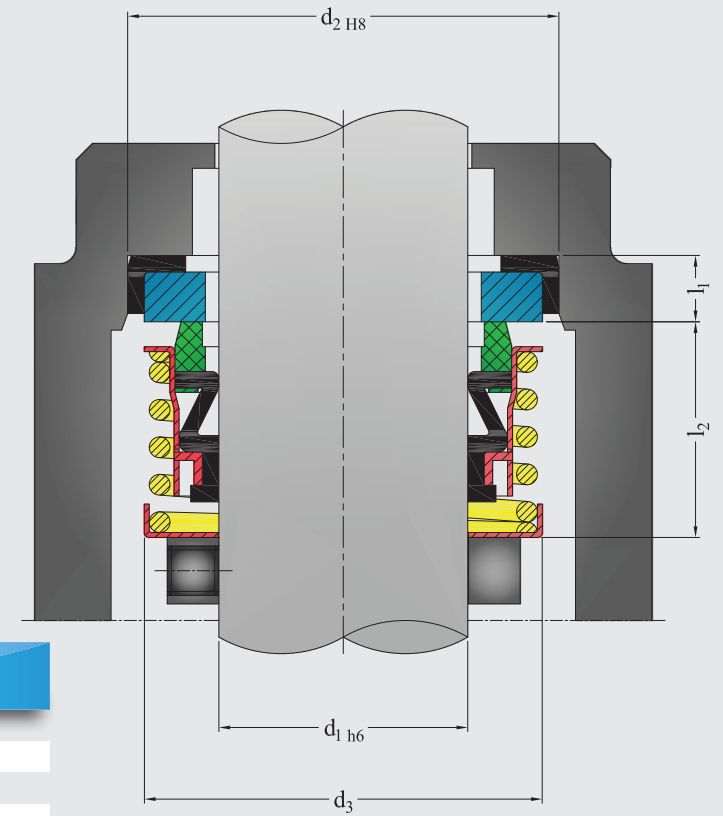
**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Faces</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>

**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM, Silikon Kauçuk	<b>FKM (Viton®), Nitrile, EPDM, Silicon Rubber</b>
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$d_1$	$d_2$	$d_3$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$l_1$	$l_2$
6	22,0	18,0	4,0	8,0	17	42,0	39,0	8,0	13,0
8a	26,0	20,0	4,0	11,0	18	42,0	39,0	8,0	13,0
8b	22,0	20,0	4,0	11,0	19	42,0	39,0	8,0	13,0
8c	26,0	24,0	8,0	11,0	20a	42,0	39,0	8,0	13,0
9	26,0	24,0	8,0	11,0	20b	45,0	42,0	10,0	13,0
10	26,0	24,0	8,0	11,0	22	45,0	42,0	10,0	13,0
11	26,0	24,0	8,0	11,0	23	50,0	47,0	10,0	14,0
12a	26,0	24,0	8,0	11,0	24	50,0	47,0	10,0	14,0
12b	26,0	24,0	8,0	13,0	25a	50,0	42,0	10,0	14,0
12c	35,0	32,0	8,0	13,0	25b	50,0	47,0	10,0	14,0
13	26,0	24,0	8,0	13,0	26	50,0	47,0	10,0	14,0
14a	25,0	28,0	7,0	13,0	28	57,0	54,0	10,0	15,0
14b	28,5	28,0	8,0	13,0	30	57,0	54,0	10,0	15,0
14c	29,5	32,0	8,0	13,0	32	57,0	54,0	10,0	15,0
14d	35,0	32,0	8,0	13,0	35	63,0	60,0	10,0	16,0
15a	29,5	32,0	8,0	13,0	38	68,0	65,0	12,0	18,0
15b	38,0	32,0	8,0	13,0	40	68,0	65,0	12,0	18,0
15c	38,0	35,0	8,0	13,0	45	73,0	70,0	12,0	20,0
16a	29,5	32,0	8,0	13,0	50	88,0	85,0	15,0	23,0
16b	38,0	35,0	8,0	13,0	55	88,0	85,0	15,0	23,0
16c	38,0	39,0	8,0	13,0	60	110,0	105,0	15,0	30,0
16d	42,0	39,0	8,0	13,0	70	110,0	105,0	15,0	32,0



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 16 \dots 120 \text{ mm}$	<b><math>d_1 = 16 \dots 120 \text{ mm}</math></b>
$p_1 = 14 \text{ bar} / 203 \text{ Psi}$	<b><math>p_1 = 14 \text{ bar} / 203 \text{ Psi}</math></b>
$t_1 = -40 \dots 150 \text{ °C} / -40 \dots 302 \text{ °F}$	<b><math>t_1 = -40 \dots 150 \text{ °C} / -40 \dots 302 \text{ °F}</math></b>
$v_g = 13 \text{ m/s} \dots 42,6 \text{ ft/s}$	<b><math>v_g = 13 \text{ m/s} \dots 42,6 \text{ ft/s}</math></b>

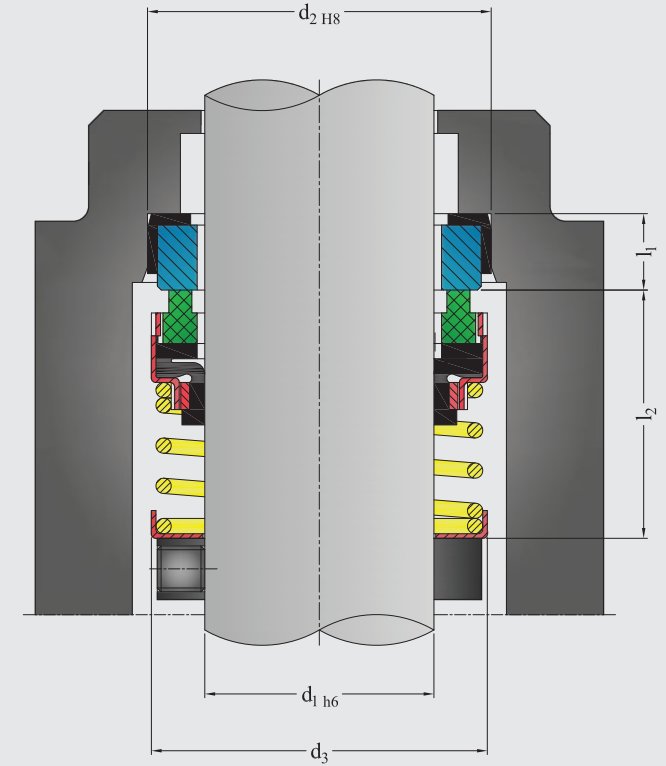
**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Seramik	• <b>Ceramic</b>

**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM	<b>FKM (Viton®), Nitrile, EPDM</b>
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$d_1$	$d_2$	$d_3$	$l_1$	$l_2$
16	34,0	30,0	8,0	25,0
18	36,8	32,0	8,0	25,0
20	36,8	34,0	8,0	25,0
22	41,5	36,0	8,0	25,0
25	44,8	39,0	8,0	26,0
28	48,5	43,0	8,0	26,0
30	52,0	48,0	8,0	26,0
35	57,0	53,0	10,0	30,0
40	67,0	58,0	10,0	34,0
45	73,0	63,0	10,0	36,0
50	79,0	68,0	10,0	42,0
55	84,0	73,0	12,0	41,0
60	90,0	79,0	12,0	41,0
65	98,5	86,0	12,0	49,0
70	103,5	91,0	12,0	52,0
75	110,5	96,0	12,0	52,0
80	120,0	105,0	14,0	56,0
85	125,0	110,0	14,0	56,0
90	132,0	115,0	14,0	56,0
95	137,0	120,0	14,0	56,0
100	144,0	125,0	14,0	62,0
110	157,0	135,0	16,0	62,0
120	169,5	145,0	16,0	72,0



**Teknik Özellikleri**

**Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri**

**Operating Limits**

$d_1 = 12 \dots 85 \text{ mm}$	$d_1 = 12 \dots 85 \text{ mm}$
$p_1 = 12 \text{ bar/174 Psi}$	$p_1 = 12 \text{ bar/174 Psi}$
$t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}$	$t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}$
$v_g = 10 \text{ m/s } 33 \text{ ft/s}$	$v_g = 10 \text{ m/s } \dots 33 \text{ ft/s}$
Eksenel Hareket: $\pm 0,5 \text{ mm}$	<b>Axial Movement: <math>\pm 0,5 \text{ mm}</math></b>

**Materyal**

**Material**

**Kombinasyonlar**

**Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

**Elastomerler**

**Elastomers**

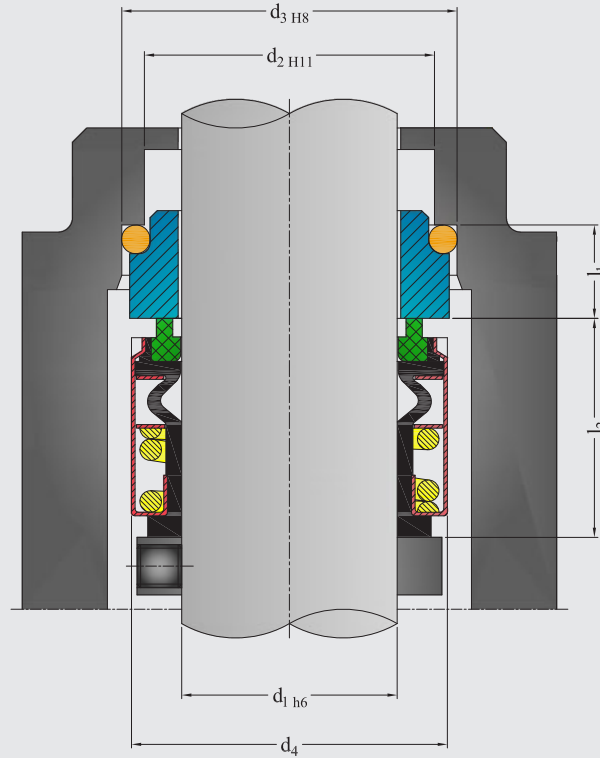
FKM (Viton®), Nitril (NBR), EPDM	<b>FKM (Viton®), Nitrile, EPDM</b>
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**Sabit Eleman Form Seçenekleri**

**Stationary Seat Alternatives**

G-50 / G-55 / G-60

$d_1$	$d_2$	$d_3$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$l_1$	$l_2$
12	23,0	21,7	8,6	23,9	43	61,0	58,8	11,0	34,0
14	25,0	23,9	8,6	26,4	45	63,0	61,0	11,0	34,0
16	27,0	26,7	8,6	26,4	48	66,0	64,0	11,0	34,0
18	33,0	30,4	10,0	27,5	50	70,0	66,0	13,0	34,5
20	35,0	33,4	10,0	27,5	55	75,0	71,7	13,0	34,5
22	37,0	33,4	10,0	27,5	58	78,0	78,4	13,0	39,5
24	39,0	38,0	10,0	30,0	60	80,0	78,4	13,0	39,5
25	40,0	39,3	10,0	30,0	63	83,0	81,5	13,0	39,5
28	43,0	42,0	10,0	32,5	65	85,0	84,3	13,0	39,5
30	45,0	44,0	10,0	32,5	68	90,0	89,7	15,3	37,2
32	48,0	45,8	10,0	32,5	70	92,0	89,7	15,3	37,2
33	48,0	45,8	10,0	32,5	75	97,0	96,8	15,3	44,7
35	50,0	49,0	11,0	34,0	80	105,0	104,0	15,7	44,3
38	56,0	52,8	11,0	34,0	85	110,0	109,0	15,7	44,3
40	58,0	55,8	11,0	34,0					



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 14 \dots 100 \text{ mm}$	$d_1 = 14 \dots 100 \text{ mm}$
$p_1 = 40 \text{ bar} / 580 \text{ Psi}$	$p_1 = 40 \text{ bar} / 580 \text{ Psi}$
$t_1 = -40 \dots 150 \text{ °C} / -40 \dots 302 \text{ °F}$	$t_1 = -40 \dots 150 \text{ °C} / -40 \dots 302 \text{ °F}$
$v_g = 13 \text{ m/s} \dots 42,6 \text{ ft/s}$	$v_g = 13 \text{ m/s} \dots 42,6 \text{ ft/s}$

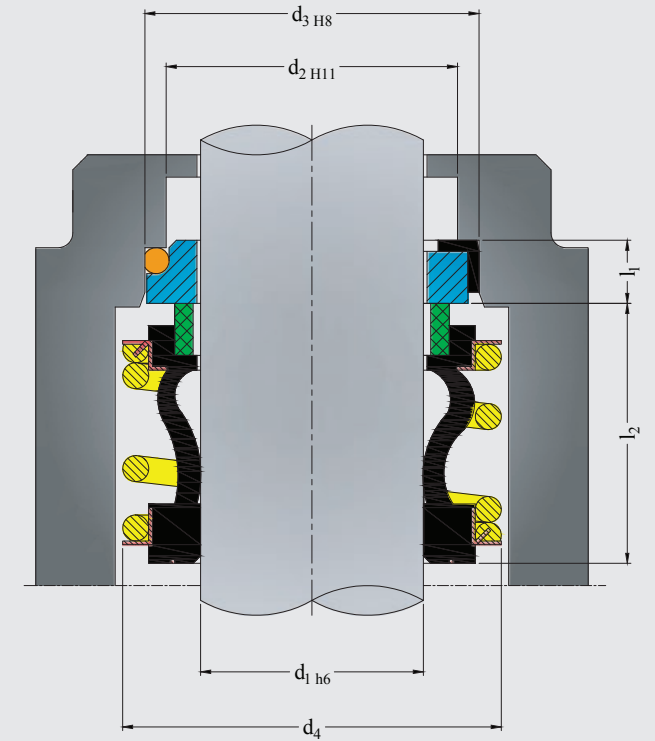
**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM	<b>FKM (Viton®), Nitrile, EPDM</b>
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$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
14	21,0	25,0	24,0	12,0	23,0	48	59,0	66,0	64,0	13,0	32,0
16	23,0	27,0	26,0	12,0	23,0	50	62,0	70,0	66,0	13,5	34,0
18	27,0	33,0	32,0	13,5	24,0	53	65,0	73,0	69,0	13,5	34,0
20	29,0	35,0	34,0	13,5	24,0	55	67,0	75,0	71,0	13,5	34,0
22	31,0	37,0	36,0	13,5	24,0	58	70,0	78,0	78,0	13,5	39,0
24	33,0	39,0	38,0	13,5	26,7	60	72,0	80,0	80,0	13,5	39,0
25	34,0	40,0	39,0	13,0	27,0	63	75,0	83,0	83,0	13,5	39,0
28	37,0	43,0	42,0	12,5	30,0	65	77,0	85,0	85,0	13,5	39,0
30	39,0	45,0	44,0	12,0	30,5	68	81,0	90,0	88,0	13,5	39,0
32	42,0	48,0	46,0	12,0	30,5	70	83,0	92,0	90,0	14,5	45,5
33	42,0	48,0	47,0	12,0	30,5	75	88,0	97,0	95,0	15,0	45,5
35	44,0	50,0	49,0	12,0	30,5	80	95,0	105,0	104,0	15,0	45,0
38	49,0	56,0	54,0	13,0	32,0	85	100,0	110,0	109,0	15,0	45,0
40	51,0	58,0	56,0	13,0	32,0	90	105,0	115,0	110,0	15,0	50,0
43	54,0	61,0	59,0	13,0	32,0	95	110,0	120,0	119,0	15,0	50,0
45	56,0	63,0	61,0	13,0	32,0	100	115,0	125,0	124,0	15,0	50,0



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 10 \dots 100 \text{ mm}$	$d_1 = 10 \dots 100 \text{ mm}$
$p_1 = 12 (16) \text{ bar} / 170 (230) \text{ Psi}$	$p_1 = 12 (16) \text{ bar} / 170 (230) \text{ Psi}$
$t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}$	$t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}$
$v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}$	$v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}$

**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

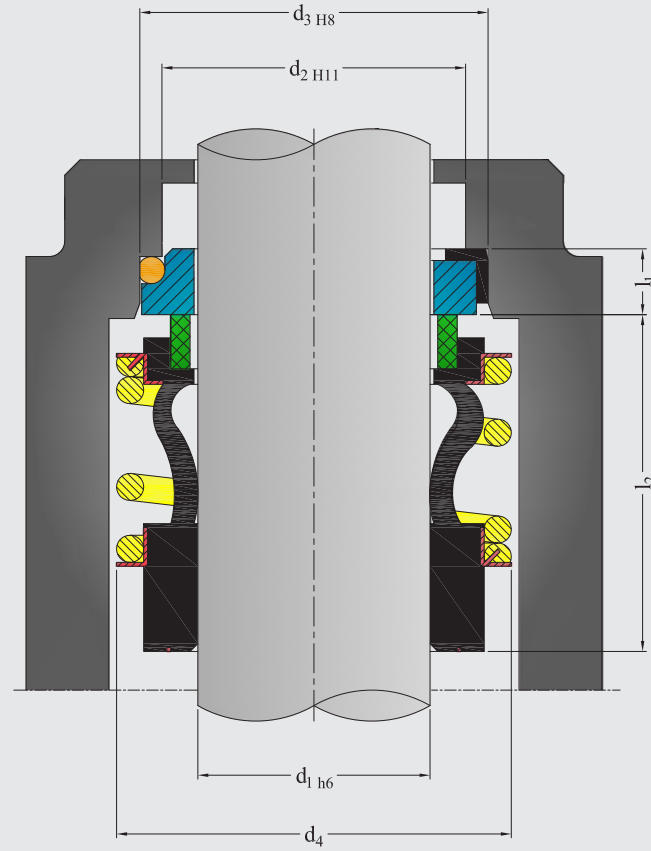
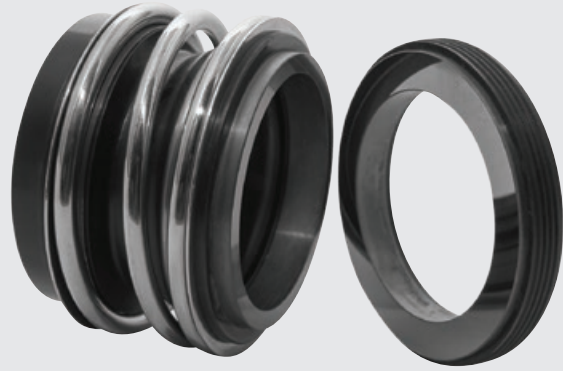
**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM	<b>FKM (Viton®), Nitrile, EPDM</b>
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**Sabit Eleman Form Seçenekleri** **Stationary Seat Alternatives**

G-4 / G-6 / G-9 / G-50 / G-60 / G-606

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	17,0	21,0	22,5	6,6	14,5	43	54,0	61,0	61,0	9,0	30,0
12	19,0	23,0	25,0	6,6	15,0	45	56,0	63,0	63,0	9,0	30,0
14	21,0	25,0	28,5	6,6	17,0	48	59,0	66,0	66,0	9,0	30,5
15	22,0	27,0	28,5	6,6	17,0	50	62,0	70,0	70,0	9,5	30,5
16	23,0	27,0	28,5	6,6	17,0	53	65,0	73,0	73,0	11,0	33,0
18	27,0	33,0	32,0	7,5	19,5	55	67,0	75,0	75,0	11,0	35,0
20	29,0	35,0	37,0	7,5	21,5	58	70,0	78,0	78,0	11,0	37,0
22	31,0	37,0	37,0	7,5	21,5	60	72,0	80,0	80,0	11,0	38,0
24	33,0	39,0	39,0	7,5	22,5	65	77,0	85,0	85,0	11,0	40,0
25	34,0	40,0	40,0	7,5	23,0	68	81,0	90,0	90,0	11,3	40,0
28	37,0	43,0	43,0	7,5	26,5	70	83,0	92,0	92,0	11,3	40,0
30	39,0	45,0	45,0	7,5	26,5	75	88,0	97,0	97,0	11,3	40,0
32	42,0	48,0	48,0	7,5	27,5	80	95,0	105,0	105,0	12,0	40,0
33	42,0	48,0	48,0	7,5	27,5	85	100,0	110,0	110,0	14,0	41,0
35	44,0	50,0	50,0	7,5	28,5	90	105,0	115,0	115,0	14,0	45,0
38	49,0	56,0	56,0	9,0	30,0	95	110,0	120,0	120,0	14,0	46,0
40	51,0	58,0	58,0	9,0	30,0	100	115,0	125,0	125,0	14,0	47,0
42	54,0	61,0	61,0	9,0	30,0						



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 10 \dots 100 \text{ mm}$	$d_1 = 10 \dots 100 \text{ mm}$
$p_1 = 12 \text{ (16) bar / 170 (230) Psi}$	$p_1 = 12 \text{ (16) bar / 170 (230) Psi}$
$t_1 = -20 \dots 140 \text{ °C / -4 } \dots 284 \text{ °F}$	$t_1 = -20 \dots 140 \text{ °C / -4 } \dots 284 \text{ °F}$
$v_g = 10 \text{ m/s } \dots 33 \text{ ft/s}$	$v_g = 10 \text{ m/s } \dots 33 \text{ ft/s}$

**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

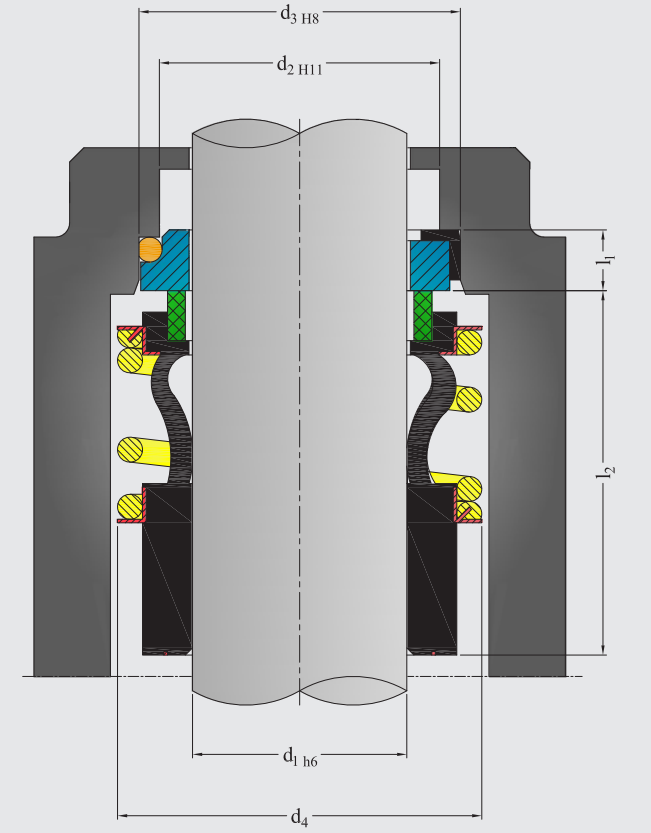
**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM	<b>FKM (Viton®), Nitrile, EPDM</b>
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**Sabit Eleman Form Seçenekleri** **Stationary Seat Alternatives**

G-4 / G-6 / G-9 / G-50 / G-60 / G-606

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	17,0	21,0	22,5	6,6	25,9	43	54,0	61,0	61,0	9,0	36,0
12	19,0	23,0	25,0	6,6	25,9	45	56,0	63,0	63,0	9,0	36,0
14	21,0	25,0	28,5	6,6	28,4	48	59,0	66,0	66,0	9,0	36,0
15	22,0	27,0	28,5	6,6	28,4	50	62,0	70,0	70,0	9,5	36,0
16	23,0	27,0	28,5	6,6	28,4	53	65,0	73,0	73,0	11,0	36,5
18	27,0	33,0	32,0	7,5	30,0	55	67,0	75,0	75,0	11,0	36,5
20	29,0	35,0	37,0	7,5	30,0	58	70,0	78,0	78,0	11,0	41,5
22	31,0	37,0	37,0	7,5	30,0	60	72,0	80,0	80,0	11,0	41,5
24	33,0	39,0	39,0	7,5	32,5	65	77,0	85,0	85,0	11,0	41,5
25	34,0	40,0	40,0	7,5	32,5	68	81,0	90,0	90,0	11,3	41,5
28	37,0	43,0	43,0	7,5	35,0	70	83,0	92,0	92,0	11,3	48,7
30	39,0	45,0	45,0	7,5	35,0	75	88,0	97,0	97,0	11,3	48,7
32	42,0	48,0	48,0	7,5	35,0	80	95,0	105,0	105,0	12,0	48,0
33	42,0	48,0	48,0	7,5	35,0	85	100,0	110,0	110,0	14,0	46,0
35	44,0	50,0	50,0	7,5	35,0	90	105,0	115,0	115,0	14,0	51,0
38	49,0	56,0	56,0	9,0	36,0	95	110,0	120,0	120,0	14,0	51,0
40	51,0	58,0	58,0	9,0	36,0	100	115,0	125,0	125,0	14,0	51,0
42	54,0	61,0	61,0	9,0	36,0						



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 10 \dots 100 \text{ mm}$	$d_1 = 10 \dots 100 \text{ mm}$
$p_1 = 12 \text{ (16) bar / 170 (230) Psi}$	$p_1 = 12 \text{ (16) bar / 170 (230) Psi}$
$t_1 = -20 \dots 140 \text{ °C / -4 } \dots 284 \text{ °F}$	$t_1 = -20 \dots 140 \text{ °C / -4 } \dots 284 \text{ °F}$
$v_g = 10 \text{ m/s } \dots 33 \text{ ft/s}$	$v_g = 10 \text{ m/s } \dots 33 \text{ ft/s}$

**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

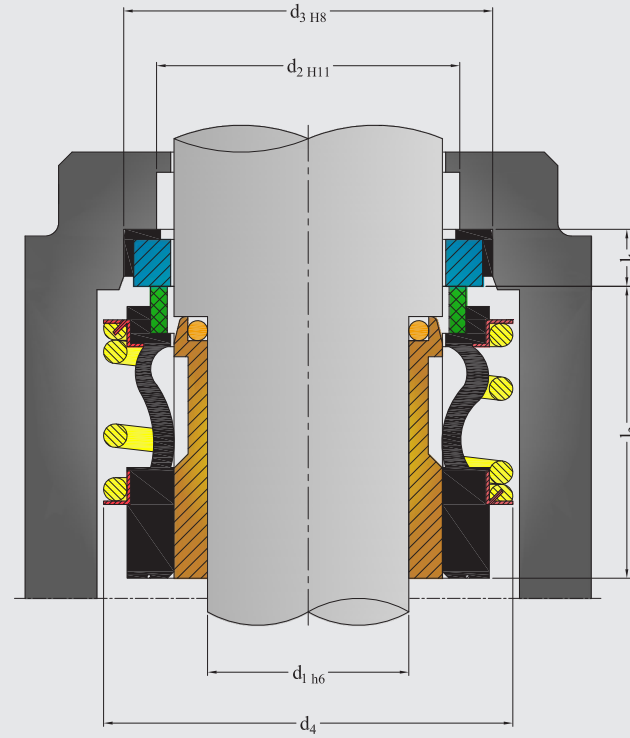
**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM	<b>FKM (Viton®), Nitrile, EPDM</b>
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**Sabit Eleman Form Seçenekleri** **Stationary Seat Alternatives**

G-4 / G-6 / G-9 / G-50 / G-60 / G-606

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	17,0	21,0	22,5	6,6	33,4	43	54,0	61,0	61,0	9,0	51,0
12	19,0	23,0	25,0	6,6	33,4	45	56,0	63,0	63,0	9,0	51,0
14	21,0	25,0	28,5	6,6	33,4	48	59,0	66,0	66,0	9,0	51,0
15	22,0	27,0	28,5	6,6	33,4	50	62,0	70,0	70,0	9,5	50,5
16	23,0	27,0	28,5	6,6	33,4	53	65,0	73,0	73,0	11,0	59,0
18	27,0	33,0	32,0	7,5	37,5	55	67,0	75,0	75,0	11,0	59,0
20	29,0	35,0	37,0	7,5	37,5	58	70,0	78,0	78,0	11,0	59,0
22	31,0	37,0	37,0	7,5	37,5	60	72,0	80,0	80,0	11,0	59,0
24	33,0	39,0	39,0	7,5	42,5	65	77,0	85,0	85,0	11,0	69,0
25	34,0	40,0	40,0	7,5	42,5	68	81,0	90,0	90,0	11,3	68,7
28	37,0	43,0	43,0	7,5	42,5	70	83,0	92,0	92,0	11,3	68,7
30	39,0	45,0	45,0	7,5	42,5	75	88,0	97,0	97,0	11,3	68,7
32	42,0	48,0	48,0	7,5	47,5	80	95,0	105,0	105,0	12,0	78,0
33	42,0	48,0	48,0	7,5	47,5	85	100,0	110,0	110,0	14,0	76,0
35	44,0	50,0	50,0	7,5	47,5	90	105,0	115,0	115,0	14,0	76,0
38	49,0	56,0	56,0	9,0	46,0	95	110,0	120,0	120,0	14,0	76,0
40	51,0	58,0	58,0	9,0	46,0	100	115,0	125,0	125,0	14,0	76,0
42	54,0	61,0	61,0	9,0	51,0						



**Teknik Özellikleri** **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Körüklü Tip	<b>Bellows Type</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>

**Çalışma Limitleri** **Operating Limits**

$d_1 = 10 \dots 100 \text{ mm}$	$d_1 = 10 \dots 100 \text{ mm}$
$p_1 = 12 (16) \text{ bar} / 170 (230) \text{ Psi}$	$p_1 = 12 (16) \text{ bar} / 170 (230) \text{ Psi}$
$t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}$	$t_1 = -20 \dots 140 \text{ °C} / -4 \dots 284 \text{ °F}$
$v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}$	$v_g = 10 \text{ m/s} \dots 33 \text{ ft/s}$

**Materyal Kombinasyonları** **Material Combinations**

Döner Eleman Yüzey Seçenekleri	<b>Seal Faces</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Karbon	• <b>Carbon Graphite</b>
Sabit Eleman Yüzey Seçenekleri	<b>Seat Face Alternatives</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>
• Paslanmaz Çelik	• <b>Stainless Steel</b>
• Karbon	• <b>Carbon Graphite</b>
• Seramik	• <b>Ceramic</b>

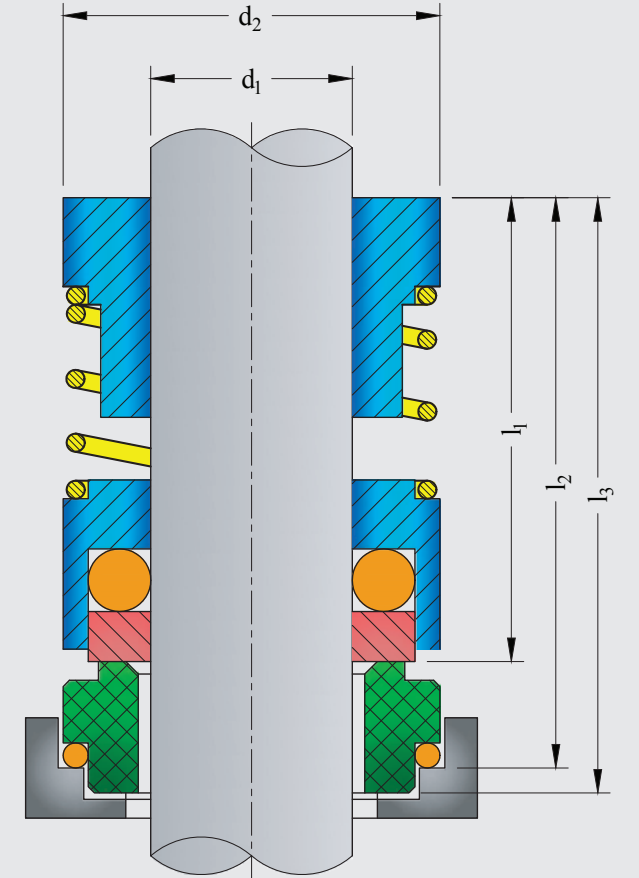
**Elastomerler** **Elastomers**

FKM (Viton®), Nitril (NBR), EPDM	<b>FKM (Viton®), Nitrile, EPDM</b>
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**Sabit Eleman Form Seçenekleri** **Stationary Seat Alternatives**

G-4 / G-6 / G-9 / G-50 / G-60 / G-606

$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	$d_4$	$l_1$	$l_2$
10	11,0	24,6	22,5	9,0	25,0	43	46,0	63,5	61,0	12,0	51,0
12	13,5	27,8	25,0	9,0	25,0	45	46,0	63,5	63,0	12,0	51,0
14	17,0	31,0	28,5	10,5	25,0	48	49,0	66,7	66,0	12,0	51,0
15	17,0	31,0	28,5	10,5	25,0	50	52,0	69,9	70,0	13,5	50,5
16	17,0	31,0	28,5	10,5	25,0	53	55,5	73,1	73,0	13,5	59,0
18	20,0	34,2	32,0	10,5	25,0	55	58,5	76,2	75,0	13,5	59,0
20	21,5	35,7	37,0	10,5	25,0	58	61,5	79,4	78,0	13,5	59,0
22	23,0	37,3	37,0	10,5	25,0	60	61,5	79,4	80,0	13,5	59,0
24	26,5	40,5	39,0	10,5	25,0	65	68,0	92,1	85,0	16,0	69,0
25	26,5	40,5	40,0	10,5	25,0	68	71,0	95,3	90,0	16,0	68,7
28	29,5	47,7	43,0	12,0	33,0	70	71,0	95,3	92,0	16,0	68,7
30	32,5	50,8	45,0	12,0	33,0	75	77,5	101,6	97,0	16,0	68,7
32	32,5	50,8	48,0	12,0	33,0	80	84,0	114,3	105,0	20,0	78,0
33	36,5	54,0	48,0	12,0	33,0	85	87,0	117,5	110,0	20,0	76,0
35	36,5	54,0	50,0	12,0	33,0	90	93,5	123,9	115,0	20,0	76,0
38	39,5	57,2	56,0	12,0	33,0	95	96,5	127,0	120,0	20,0	76,0
40	42,5	60,4	58,0	12,0	33,0	100	103,0	133,4	125,0	20,0	76,0
42	46,0	63,5	61,0	12,0	51,0						



MODEL	D1	D2	D3	L1	L2	L3
RTGF-12-001	12	22,0	23,0	31,0	39,0	40,5
RTGF-12-002	16	26,0	27,0	32,5	40,5	41,5

**Özellikler** **Specification**

Tekli Salmastra	<b>Single Seal</b>
Balanslı - Dengelenmiş	<b>Balanced</b>
Dönme Yönüne Bağımsız	<b>Bi-Directional Seal</b>
Pompa Sistemlerine Entegre Edilmiş	<b>Integrated With Standard Pump Systems</b>

**Çalışma Aralığı** **Operating Range**

Şaft Çapı / <b>Shaft Diameter</b> : $D_1 = \varnothing 12 \text{ mm} / \varnothing 16 \text{ mm}$
Sıcaklık / <b>Temperature</b> : $T = -20 \text{ °C} \dots 150 \text{ °C}$
Basınç / <b>Pressure</b> : $P_1 = 3 \text{ Bar}$
Çevresel Hız / <b>Sliding Velocity</b> : $V_g = 15 \text{ m/s}$

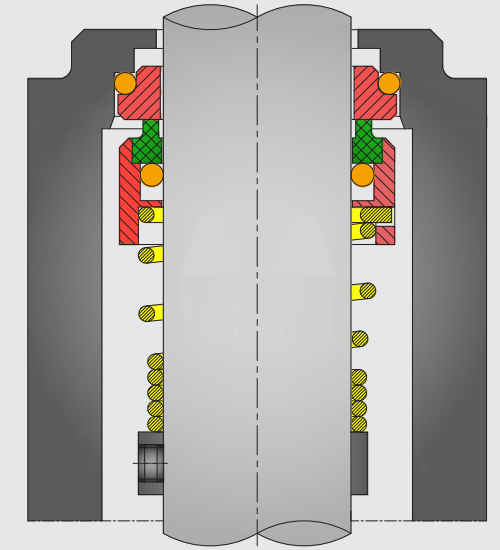
**Materyal Kombinasyonları** **Material Combinations**

Salmastra Yüzeyleri	<b>Seal Faces</b>
• Silisyum Karbür	• <b>Silicon Carbide</b>
• Karbon Grafit Reçine	• <b>Carbon Graphite Resin Impregnated</b>
• Tungsten Karbür	• <b>Tungsten Carbide</b>

**Elastomerler** **Elastomers**

FKM (Viton®), EPDM	<b>FKM (Viton®), EPDM</b>
Yaylar : 316 CrNiMo Steel	<b>Springs: 316 CrNiMo Steel</b>
Metal Parçalar : 316 CrNiMo Steel	<b>Metal Parts : 316 CrNiMo Steel</b>

## RT-325

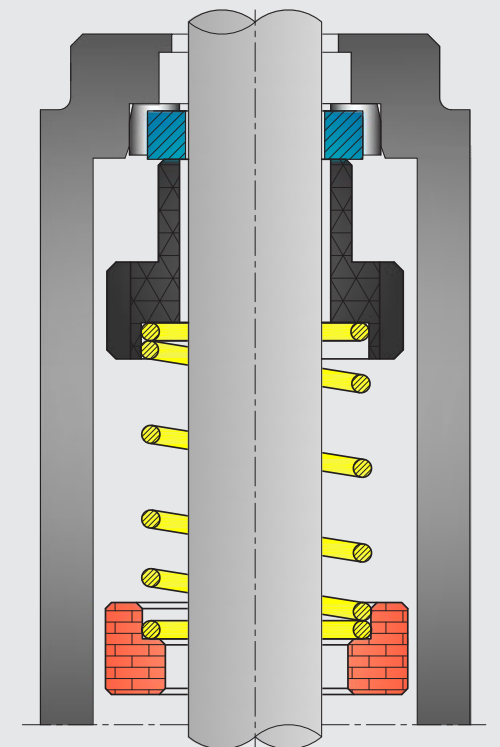
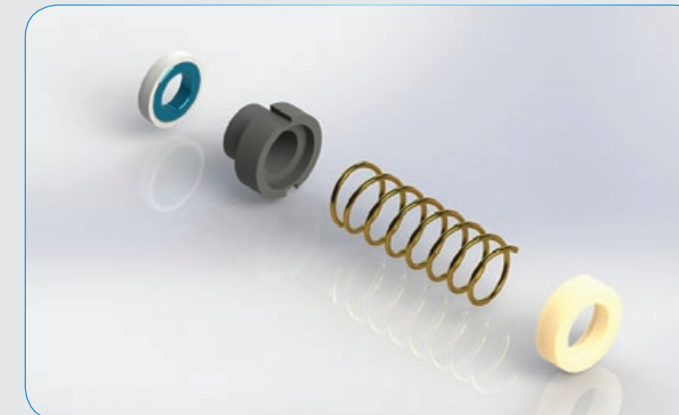


### Teknik Özellikleri

### Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Konik Yaylı	<b>Conical Spring</b>
Dönüş Yönüne Bağımlı	<b>Directional Seal</b>
EN 12756 – DIN 24960	<b>EN 12756 – DIN 24960</b>

## RT-ASP



### Teknik Özellikleri

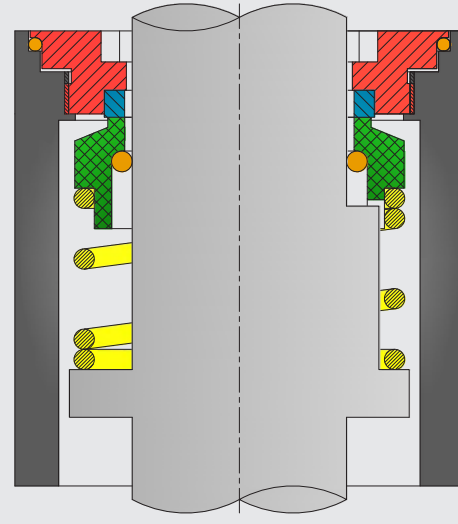
### Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 – DIN 24960	<b>EN 12756 – DIN 24960</b>

Özel hammadde bileşiminden oluştuğu için yüksek asidlik ortam direncine sahiptir.

**Due to special combination of raw materials, it has high acid resistancy.**

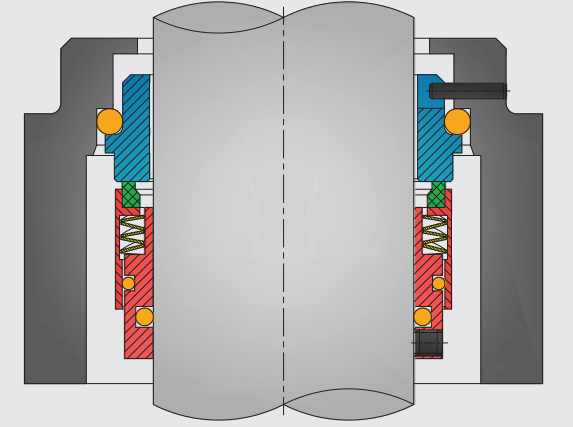
## RT-ALF



### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

## RT-800 M

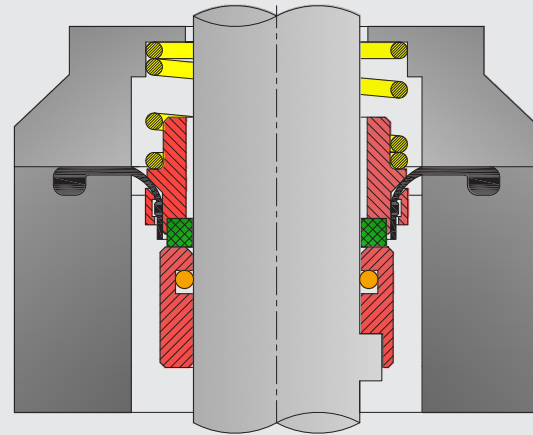
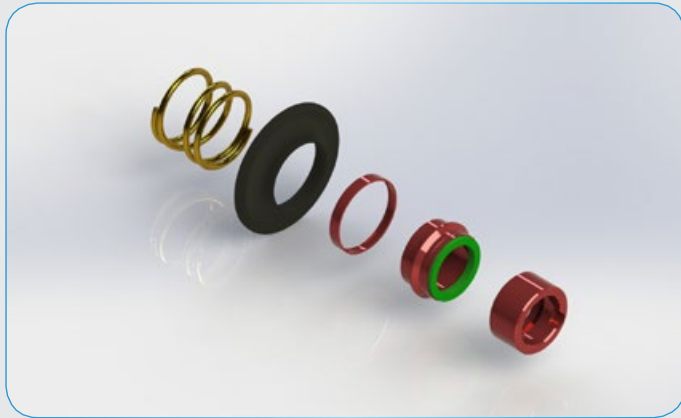


### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

RT-800 M mekanik salmastraları geniş çalışma alanına sahiptir.  
**RT-800 M is the most commonly used mechanical seal model.**

## RT-DY

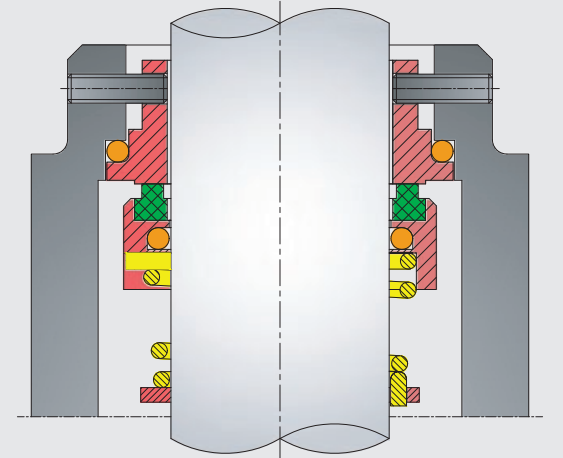


### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

RT-DY tekstil sektöründe oldukça yaygın kullanılan bir salmastra modelidir.  
**RT-DY is the most commonly used model in textile industry.**

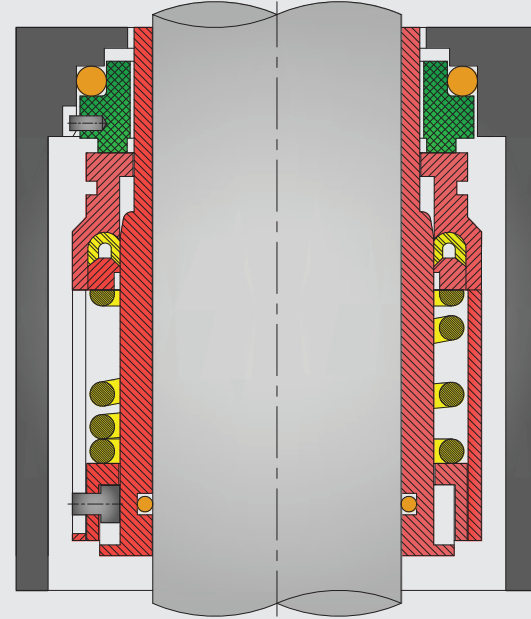
## RT-FR



### Teknik Özellikleri Technical Features

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>





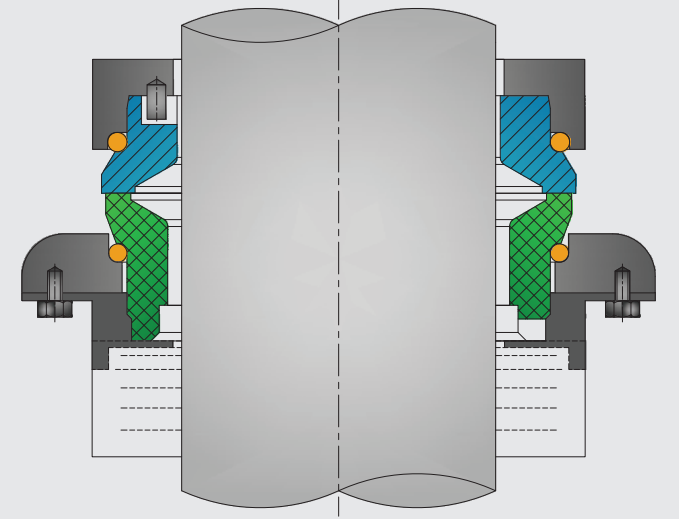
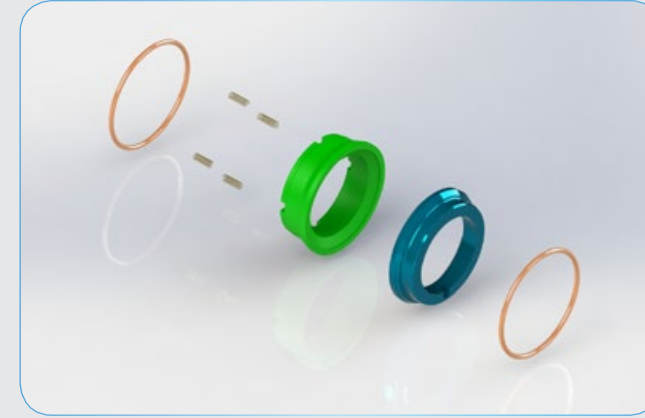
Teknik Özellikleri **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>

Kauçuk keçe elastomeri sayesinde çok iyi sızdırmazlık ve dayanıklılık sağlar.

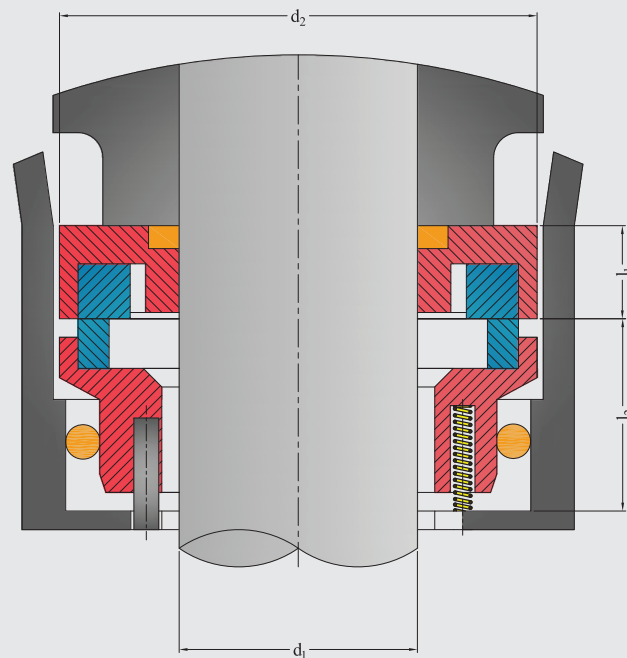
**It provides excellent sealing and durability thanks to its rubber seal elastomers.**

Pompa milini salmastra burcu sayesinde deformasyondan kurtarır.  
**It preserves pump shaft from deformation thanks to seal bush.**



Teknik Özellikleri **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>
$d_1 = 25 \text{ mm} - 35 \text{ mm} - 55 \text{ mm}$	$d_1 = 25 \text{ mm} - 35 \text{ mm} - 55 \text{ mm}$



Teknik Özellikleri **Technical Features**

Tekli Salmastra	<b>Single Seal</b>
Balanssız	<b>UnBalanced</b>
Dönüş Yönüne Bağımsız	<b>Bi-Directional Seal</b>
EN 12756 - DIN 24960	<b>EN 12756 - DIN 24960</b>
Çok Yaylı	<b>Multi - Spring</b>



## MONTAJ VE İŞLETME İLE İLGİLİ UYARILAR

Lütfen tüm uyarıları dikkatle okuyunuz. Anlaşılmayan durumlarda mutlaka RotaSeal ile temasa geçiniz. RotaSeal mekanik salmastraları, kullanımı mesleki bilgi gerektiren, hassas işçilik ve kontrol ürünü makine elemanlarıdır.

İş güvenliği, kaza önleme esasları, tehlikeli maddelerin kullanılmasına ilişkin prensipler ve usulüne uygun kullanım ile ilgili talimatların dikkate alınması gerekir.

Mekanik salmastra üzerindeki çalışmalar ancak duruş anında, basınçsız ve soğutulmuş durumlarda yapılabilir. Salmastra üzerinde herhangi bir montaj değişikliği veya tadilat yapılmaz. Bu tip değişiklikler salmastranın görevini yapmamasına ve garanti kapsamından çıkmasına sebep olabilir. Sadece orijinal RotaSeal yedek parçalarını kullanın.Kendi emniyetiniz için tamiratlar RotaSeal tarafından yapılmalıdır.

### Genel Hususlar

- Montaj alanını temizleyin, sistemde ki hasarı, şeklini ve boyutunu kontrol ediniz. Montaj ve bağlantı ölçülerini, mil ve yuva arasındaki radyal ve ekstenel salgıyı kontrol ediniz.
- Mil yüzeyinin, dinamik yük altında bulunan sızdırmazlık elemanları bölgesinde ( örneğin o-ring ) Rmax 5 µm değerinde bir yüzey pürüzlülüğüne sahip olması gerekir. Statik yük altında bulunan o-ringler ile ilgili sızdırmazlık yüzeylerinin Rz 10 µm veya daha iyi bir pürüzlülük değeri ile hazırlanmış olması gerekir.
- Montaj sırasında sızdırmazlık elemanları ( örneğin o-ring ) ile temas eden kenar, kademe ve geçişlere yeterli derecede pah kınılması veya yuvarlatılması gerekir. ( örneğin 2 mm x 30°veya EN 12756'a uygun olarak.
- Montaj işlemini temiz koşullar altında ve çok itinalı olarak uygulayınız. Zor kullanmayınız! Kalıcı defomasyona ve seramik parçalarda kırılmaya sebebiyet verebilirsiniz.
- Mekanik salmastra montaj ve demontaj sırası, makinanın montaj sırasına göre değişir.
- Döner eleman ve sabit eleman yüzeylerine gelecek bir hasarı önleme amacıyla, yüzeyler üstte kalacak şekilde konulmalıdır.
- Sürtünmeyi azaltmak için montaj sırasında o-ringler ile ilgili tüm temas yüzeylerini su veya alkol ile nemlendiriniz veya silikon yağı sürünüz.
- Elastomer parçaların depolanması ve kullanımı için talimatlara dikkat ediniz.
- Saf PTFE'den oluşan o-ringleri, diğer sızdırmazlık parçalarında deformasyonu önlemek amacıyla acele etmeden, az güç uygulayarak monte ediniz.
- Sızdırmazlık yüzeylerine asla yağlama maddeleri sürmeyiniz tamamen kuru,tozsuz ve temiz olarak monte ediniz.

### Temel Hususlar

RT-2, RT-3, RT-32, RT-33, RT-37, RT-20, RT-50, RT-130 .... SERİSİ MONTAJ

• Konik yaylı mekanik salmastralar dönme yönüne bağımlıdırlar. Sağ dönme yönlü bir mil, sağ sanımlı bir yay gerektirir ve aynı şekilde aksi geçerlidir.( Bakış yönü tahrik tarafından ) Konik yayı sarma yönünde mil üzerine itiniz.

RTG-1, RTG-12, RTG-13, RTG-1 S 20, RT-180, RT-240, RT-502, RT-580 .... SERİSİ MONTAJ

• Elastomer körüklü mekanik salmastraları yumuşatılmış su ( sıvı deterjan katkılı ) kullanarak ve vida şeklinde çevirerek mil üzerine itiniz. Yağ veya gres kullanmayınız! Sadece köşe çemberleri üzerine basınız. Montajdan sonra köşe çemberleri, yay ve yüzeyin düzgün yerleşimini kontrol ediniz.

RT-7, RT-7 D, RT-9, RT-HJ 92 N, RT-L, RT-M, RT-62, RT-400, RT-491 .... SERİSİ MONTAJ

• Bu seri mekanik salmastralan dönme yönüne bağımsızdırlar. Örneğin Loctite solüsyonu ile setuskurları sabitleyiniz.

RT-M .... SERİSİ MONTAJ

• Metal körüklü mekanik salmastraları, körük bloke olacak şekilde sıkmayınız. Salmastranın mil üzerine montajı sadece körük taşıyıcısı üzerine güç uygulanarak yapılır. Döner bölümdeki vidaları bir turdan fazla çevirip ( çapraz olarak değil ), eşit aralıkta sıkınız. Metal körüklerin darbeden korunması gereklidir. Hiçbir zaman hasar körük monte edilemez.

### İşletme

- Talimatlara uygun olarak kullanılan bir mekanik salmastra bakım gerektirmez, ancak belirli bir aşınmaya maruz kalır. Aşırı ısınma tehlikesi ve tortu birikiminin önlenmesi amacıyla, salmastra yuvasına pompanın basma ağzından bir sirkülasyon hattının tesis edilmesi gerekir.
  - Makinayı işletmeye almadan önce salmastra yuvasının havasını alın, salmastra yüzeylerinin tamamen sıvı ile çevrili olmasını sağlayın. Aksi halde kuru çalışma tehlikesi oluşacaktır.
    - Çiftli salmastra düzeninde kullanılan bariyer sıvı basıncı;  $\Delta ( p_3 > p_1 ) = \min 2 \text{ bar}$  ( veya ürün basıncı 20 barnn üzerinde (  $p_3 > 20 \text{ bar}$  ) olduğu takdirde, bariyer sıvı basıncı ürün basıncından max. % 10 fazla (  $p_{1\max}$  ) olmalıdır. Azami basınç farkına (  $p_3 > p_1$  ) dikkat ediniz.

## NOTICE REGARDING THE ASSEMBLY AND OPERATION

Please read carefully all warnings. Please contact with RotaSeal, in case of disagreement. Using RotaSeal brand mechanical seals, which are the product of sensitive labor and examinations, requires professional skills.

Worksafety, accident prevention measures, instructions regarding the principles and proper use for the use of hazardous substances must be taken into account.

Operations on a mechanical seal must be done in depressurized and cooled conditions after it stops working.

Any assembling, disassembling or modifications on mechanical seals should not be done. Such changes may lead to disfunction of mechanical seals which may cancel the product guarantee. Use only original RotaSeal spare parts.Repair must be performed by RotaSeal specialists.

### Key Issues

- Disinfect the assembly portion, then check the size, shape and structure of the damage on the system. Please check axial and radial runouts between the housing and shaft,also check seal installation and connection dimensions
- Shaft surface, for sealing materials which are exposed to a dynamic load (e.g. O-ring ) should have a surface roughness equals to Rmax value of 5 µm and for O-rings which are exposed to a static load, the surface roughness shoul be equal to 10 µm, or even a better surface roughness is needed.
- The installation process must be done very carefully in clean conditions . Please do not use force! Because you can cause visible or invisible permanent deformations and breakages.
- Sequence of assembly or disassembly can be different according to machines.
- Surfaces should be placed top to avoid any damage to stationary seat face or seal face.
- Please moisten O-rings and bearings with alcohol and water or greasing with silicon oil. Thus friction will decrease and service life will be increased.
- Please pay attention to the storage and instructions of an elastomer.
- Assemble O-ring , which is made of PTFE ( Polytetrafluoroethylene ) , without hurrying or excess and uncontrolled force . Otherwise you can damage the other sealing parts.
- Sealing surfaces must be dry, dust-free and clean during installation. Do not apply lubricants and derivatives.

### Basic Considerations

RT-2, RT-3, RT-32, RT-33, RT-37, RT-20, RT-50, RT-130 .... SERIES ASSEMBLY

• Conical spring mechanical seals are dependent on the direction of rotation. A clockwise (right direction) shaft requires a right-handed spring and vice versa.(Direction is from drive side.) Push conical spring by the spinning direction onto the shaft .Smaller diameters springs should hold the shaft and get the drive from it.

• RTG-1, RTG-12, RTG-13, RTG-1 S 20, RT-180, RT-240, RT-502, RT-580 .... SERIES ASSEMBLY

• Push elastomer bellow seals onto the shaft using a screw-shaped like rotation with demineralized water without grease or oil(liquid detergent additives). Press the seal on the corner without touching the work surface. Check the proper placement of the spring and the surface during and after assembly.

RT-7, RT-7 D, RT-9, RT-HJ 92 N, RT-L, RT-M, RT-62, RT-400, RT-491 .... SERIES ASSEMBLY

• These series are independent on the direction of rotation of the mechanical seal.

RT-M .... SERİSİ MONTAJ/ RT-M .... SERIES ASSEMBLY

• Do not squeeze metal bellows mechanical seal that the blower will be blocked and deformed. The shaft assembly is done simply by applying force on the blower shaft seal carrier. Turn the screw more than one round of the rotary section (not diagonally), tighten equally spaced. The impact protection for the metal bellows is required. Never install damaged bellows.

### Plant

• A seal which is mounted and used according to the instructions doesnt require maintenance before overwear . Problems can occure due to sedimentation and overheating.

• Before seal works , housing must be deflated and faces of seal must be covered with liquid.

This fluid will be a thin film between the seal faces the sealing surfaces and it will provide sealing. Otherwise the film will not be formed and surfaces will be deformed so the service life becomes shorter.

• Barrier fluid pressure used in the double seal arrangement;  $\Delta ( p_3 > p_1 ) =$

min. 2 bar (or if product pressure is over 20 bar (  $p_3 > 20 \text{ bar}$  ), barrier fluid

pressure must be greater than 10% (  $p_{1\max}$  ) of the yield stress. Pay

attention to the maximum pressure differences. (  $p_3 > p_1$  )

**Rota Sızdırmazlık Elemanları  
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14 / 12 / 2016

**MAKROMAT BASIM SAN.  
ve TİC. LTD. ŞTİ.**

