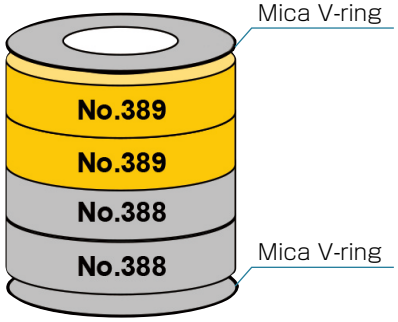
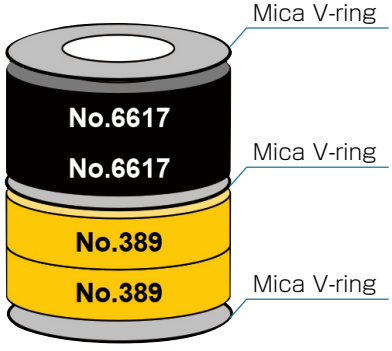
Gland Packing for Molten Salt and High temperature Gas

No.389 + No.388 + Mica V-ring

No.6617 + No.389 + Mica V-ring

Item	No. 389 + No. 388 + Mica V-ring			No. 6617 + No. 389 + Mica V-ring		
Specification	For General			Fugitive Emission		
Model	No. 389 (Seal packing)	No. 388 (Seal packing)	Mica V-ring (Adapter packing)	No. 6617 (Seal packing)	No. 389 (Seal packing)	Mica V-ring (Adapter packing)
Main material	Vermiculite	Mica	Mica +SUS foil	Expanded graphite	Vermiculite	Mica +SUS foil
Style	Die Mold	Die Mold	Laminated adhesion	Die Mold	Die Mold	Laminated adhesion
Temperature	1000°C			650°C (Packing temperature 450°C max.)		
Maximum operating pressure	40MPaG			5.2MPaG (class 300)		
Application	Applicable to markets that require corrosion resistance at high temperatures, such as molten salt for solar thermal power generation. Especially suitable for high-pressure conditions. Can also be used for water applications.			Option when FE requirement is required in addition to the conditions listed on the left. Not for use in water applications.		
Product Configuration						

PILLAR Corporation

Vermiculite Spiral Wound Gasket for Molten Salt and High temperature Gas

No.2900

Temperature	Maximum opearating pressure	Pressure class	Gasket factor "m" value	Minimum design ("y"value)	Minimum Tightening Pressure ("Y"value)
1000°C	43.1MPaG	Class 2500 or lower	3	68.9N/mm²	78.5N/mm²

●Gasket Type

No.2900	Basic form(No inner and outer ring)
No.2901	With inner ring
No.2902	With outer ring
No.2903	With inner and outer ring

●Standard Material

Filler	Vermiculite
Hoop	SUS316L or equivalent
Inner ring	SUS316L or equivalent
Outer ring	SUS316L or equivalent

●Application

Applicable to valve bonnet and piping gaskets for markets that require corrosion resistance at high temperatures, such as molten salt used in solar thermal power generation.

PILLAR
CLEAN SAFETY FRONTIER

PILLAR Corporation

Head office/Sales Headquarters
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https://www3.pillar.co.jp/en/product/

Safety precaution	● When using this product, please use correctly and pay sufficient attention to safety.

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GPLC2505B-1/CAT No.252002B

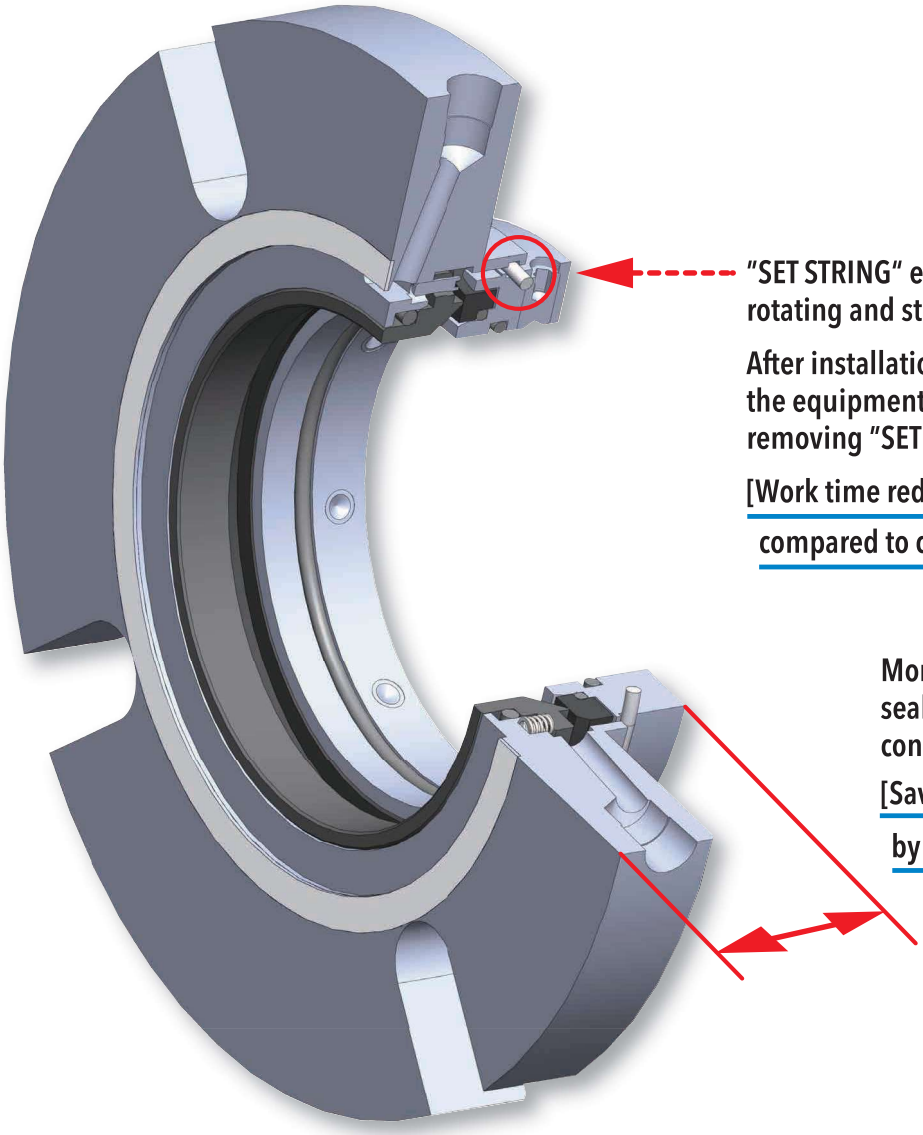
More Compact × Quick Installing

PILLAR
CLEAN SAFETY FRONTIER

TANKEN SEAL SEIKO

3C Cartridge Seal™ Outside type

Compact Cost saving Compatible



"SET STRING" enable the integration of rotating and stationary parts.

After installation of the cartridge seal on the equipment, complete the setup by removing "SET STRING" before operation.

[Work time reduced by 14% compared to coventional one.]

More compact cartridge seal compared to conventional one.

[Save the axial span by up to 5%]

Seal Face Shape: Knife Edge Shape

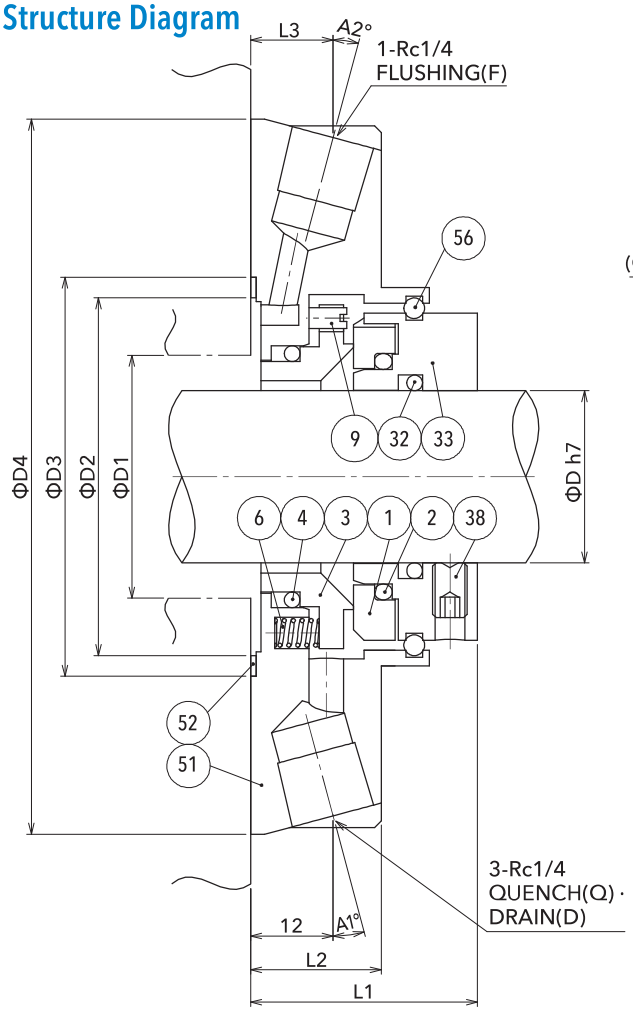
Compared to our standard width and narrow width of SiC vs. SiC seal face, power consumption is **58**% lower

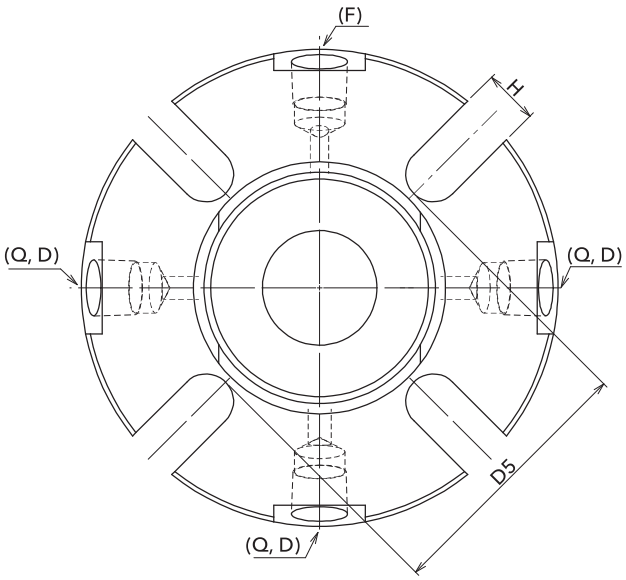
Reducution of CO_2 emissions **-0.3tons/year**[*1] **Energy Saving** **-0.24kWh**[*2]

*1: Size60mm 8hr/365days, 0.447kg-CO_2/kWh *2: Size60mm test data

Type : GAKQ0 (SiC vs SiC, Seal Face Shape:Knife Edge Shape)
GABQ0 (SiC vs Carbon)

Standard Structure Diagram





Bill of Materials

NO.	PART	MATERIAL	NO.REQ'D
1	ROTAT. RING	SiC	1
2	O RING	FKM	1
3	SEAL RING	SiC	1
4	O RING	FKM	1
6	SPRING	ALLOY 20	1 SET
9	DRIVE PIN	SUS316 or eq.	1 SET
32	O RING	FKM	1
33	STOPPER RING	SUS316 or eq.	1
38	SET SCREW	SCM435 or eq.	1 SET
51	FLANGE	SUS316 or eq.	1
52	GASKET	GLASS F. PTFE	1
56	SET STRING	PTFE	1

Dimensions

ΦD	ΦD1		ΦD2	ΦD3	ΦD4	D5	H	L1	L2	L3	A1	A2
	Min	Max										
20	35	46	45	53	104	53	12	33	19	12	15	15
25	40	51	50	58	104	58	12	33	19	12	15	15
28	45	54	53	61	108	61	12	33	19	12	15	15
30	45	56	55	63	108	63	12	33	19	12	15	15
32	48	58	57	65	115	65	14	33	19	12	15	15
35	50	61	60	68	118	68	14	33	19	12	15	15
38	50	64	63	71	118	71	14	33	19	12	15	15
40	55	66	65	73	118	73	14	33	19	10	15	15
42	60	68	67	75	125	75	14	33	19	10	15	15
45	60	71	70	78	128	78	14	33	19	10	15	15
48	60	75	74	82	135	82	16	38	23	12	0	0
50	60	79	78	86	138	88	18	38	23	12	0	0
55	65	81	80	88	138	90	18	38	23	12	0	0
60	70	96	95	103	164	105	18	38	23	12	0	0
65	75	96	95	103	164	105	18	38	23	12	0	0
70	80	102	99	109	178	111	18	45	23	12	0	0
75	85	114	111	121	193	123	22	45	23	12	0	0
80	90	117	114	124	193	128	22	45	23	12	0	0
85	95	124	121	131	208	133	22	45	23	12	0	0
90	100	124	121	131	208	133	22	45	23	12	0	0
95	105	134	131	141	218	143	22	45	23	12	0	0
100	110	134	131	141	218	143	22	45	23	12	0	0

Applicable Conditions

Speed	~20m/s
Pressure	[Standard] 0~0.8MPaG (SiC vs SiC, Knife Edge) 0~1.6MPaG (SiC vs SiC) 0~2.0MPaG (carbon vs SiC)
Temperature	–30~170°C
Fluid	Water · Oil (Slurry concentration max. 5wt%)

Note

1) To be recommended to flush at a flow rate of 2~3L/min to maintain the lubrication between the seal faces.
2) Knife Edge Type can be used in no flushing if the fluid temperature is 40°C or more below the boiling point (e.g. Water@atmospheric pressure: max. applicable fluid temperature is approx. 60°C).
(Please contact us for consideration about no flushing.)
3) O-ring and Gasket: Applicable Temperature Range by Materials
4) The quench fluid is released to the atmosphere. If quench piping is to be applied, please consult with us before adoption.

Material	Temperature inside the stuffing box(°C)
NBR	–20~80
EPDM	–30~100
FKM	–5~150
FFKM	–5~170

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official website

Safety precaution When using this product, please use correctly and pay sufficient

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MPLC2510D-1/CAT No.252006D

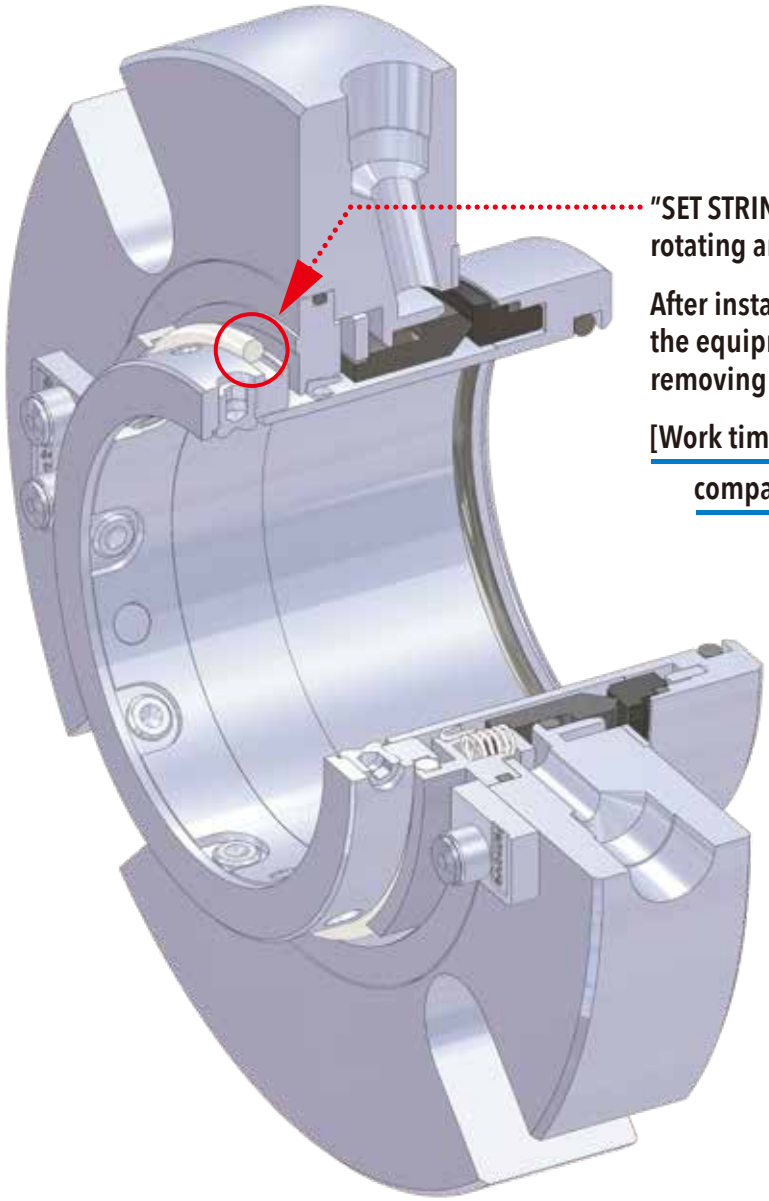
Quick Installing

PILLAR
CLEAN SAFETY FRONTIER

TANKEN SEAL SEIKO

3C Cartridge Seal™ Inside type

Compact Cost saving Compatible



"SET STRING" enable the integration of rotating and stationary parts.

After installation of the cartridge seal on the equipment, complete the setup by removing "SET STRING" before operation.

[Work time reduced by **14%** compared to conventional one.]

Seal Face Shape: Knife Edge Shape

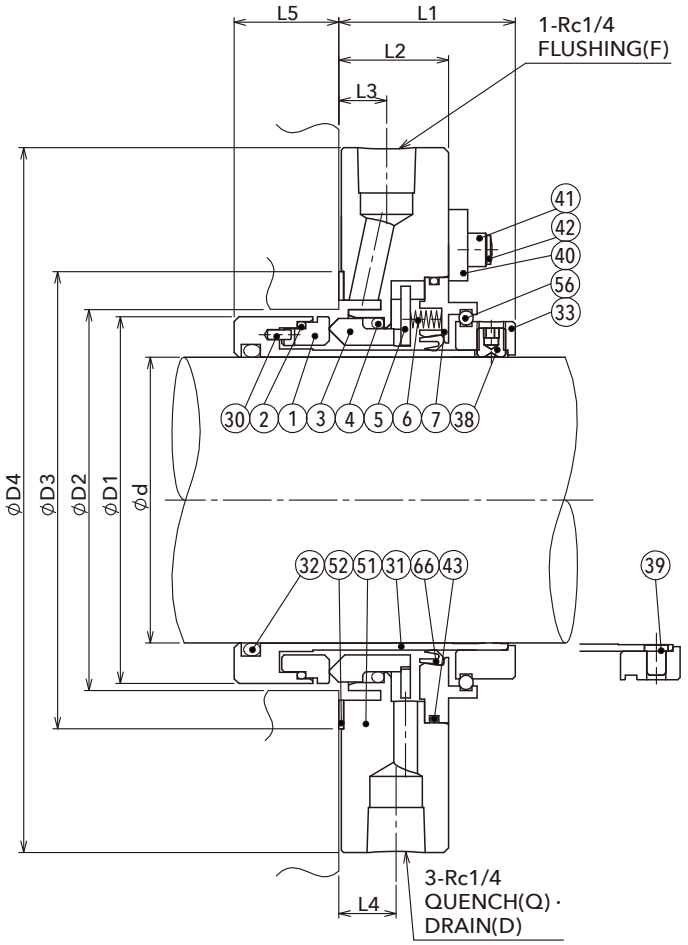
Compared to our standard width and narrow width of SiC vs. SiC seal face, power consumption is **58%** lower

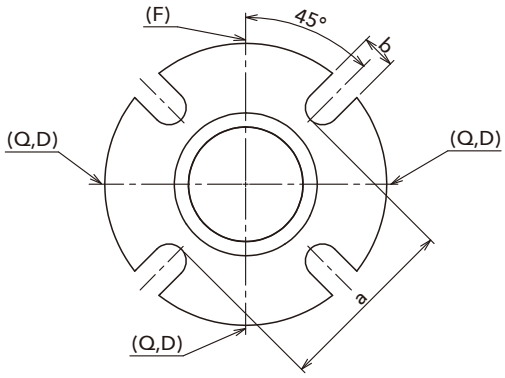
Reduction of CO_2 emissions **-0.3tons/year**[*1] **Energy Saving** **-0.24kWh**[*2]

*1: Size60mm 8hr/365days, 0.434kg-CO_2/kWh *2: Size60mm test data

Type : GAKXM (SiC vs SiC, Seal Face Shape:Knife Edge Shape)
GABF0 (SiC vs Carbon)

Standard Structure Drawing





Bill of Materials

NO.	PART	MATERIAL	NO.REQ'D
1	MATING RING	SiC	1
2	O-RING	FKM	1
3	SEAL RING	SiC	1
4	O-RING	FKM	1
5	DRIVE PLATE	SUS316 or eq.	1
6	SPRING	ALLOY 20	1 SET
7	SPRING RETAINER	SUS316 or eq.	1
30	PIN	SUS316 or eq.	1
31	SLEEVE	SUS316 or eq.	1
32	O-RING	FKM	1
33	SET COLLAR	SUS316 or eq.	1
38	SET SCREW	SCM435 or eq.	1 SET
39	PIN	SUS316 or eq.	1 SET
40	RETAINER PLATE	SCS13 or eq.	1 SET
41	CAP BOLT	SUS304 or eq.	1 SET
42	COVER CAP	POM	1 SET
43	O-RING	FKM	1
51	SEAL COVER	SUS316 or eq./SCS14	1
52	GASKET	GLASS F. PTFE	1
56	SET STRING	PTFE	2
66	BUSH	GRAPHITE F. PTFE	1

Dimensions

size Φd	ΦD1	ΦD2		ΦD3	ΦD4	L1	L2	L3	L4	L5	a	b
		Min	Max									
20	34	36	48	54	108	37	23	10	12	21	56	14
25	39	41	53	59	113	37	23	10	12	21	61	14
28	42	44	56	62	116	37	23	10	12	21	64	14
30	44	46	58	64	118	37	23	10	12	21	66	14
32	46	48	60	66	120	37	23	10	12	21	68	14
35	49	51	63	69	123	37	23	10	12	21	71	14
38	55	57	66	74	126	37	23	10	12	21	74	14
40	57	59	68	76	128	37	23	10	12	21	76	14
42	59	61	70	78	130	37	23	10	12	21	78	14
45	62	64	73	81	133	37	23	10	12	21	81	18
48	65	67	76	84	136	37	23	10	12	22	84	18
50	67	69	78	86	138	37	23	10	12	22	86	18
55	72	74	83	91	143	37	23	10	12	22	91	18
60	77	79	88	96	148	37	23	10	12	22	96	18
65	85	87	95	105	168	44	26	13	15	23	108	18
70	90	92	100	110	178	44	26	13	15	23	113	18
75	95	97	108	119	198	44	26	13	15	23	122	22
80	102.5	105	113	124	198	45	26	13	16	23	128	22
85	107.5	110	118	129	208	45	26	13	16	23	133	22
90	113.5	116	123	134	208	45	26	13	16	23	138	22
95	117.5	120	128	139	218	45	26	13	16	23	143	22
100	122.5	125	133	144	218	45	26	13	16	23	148	22

Applicable Conditions

Speed	~20m/s
Pressure	[Standard] 0~1.0MPaG (SiC vs SiC, Knife Edge) 0~1.6MPaG (SiC vs SiC) 0~2.2MPaG (carbon vs SiC)
Temperature	–30~170°C
Fluid	Water · Oil (Slurry concentration max. 10wt%)

Note

1) To be recommended to flush at a flow rate of 2~3L/min to maintain the lubrication between the seal faces.
2) Knife Edge Type can be used in no flushing if the fluid temperature is 40°C or more below the boiling point (e.g. Water@atmospheric pressure: max. applicable fluid temperature is approx. 60°C).
(Please contact us for consideration about no flushing.)
3) O-ring and Gasket: Applicable Temperature Range by Materials

Material	Temperature inside the stuffing box(°C)
NBR	–20~80
EPDM	–30~100
FKM	–5~150
FFKM	–5~170

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official website

Safety precaution When using this product, please use correctly and pay sufficient

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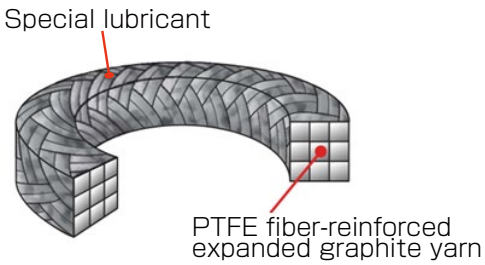
Non-metallic PILLARFOIL™ yarn braided packing for control valves No.6720CL (EDP20CL)

Non-metallic, standalone use.
Expanded graphite packing for low-emission applications.

In addition to ring molding, we also offer a lineup of spool-type parts. They can be widely used for MRO (Maintenance, Repair, and Overhaul) applications.

Item	6720CL
Applicable Valves	Control Valve
Main material	This structure is constructed by braiding expanded graphite yarn reinforced with PTFE fibers, and then adding a special lubricant to its surface, resulting in stable airtightness even during long-term sliding.
Temperature	-270 to +455°C (Below +350°C under the oxidizing atmosphere)
Pressure	43.1MPaG (ASME class 2500)
Structure	

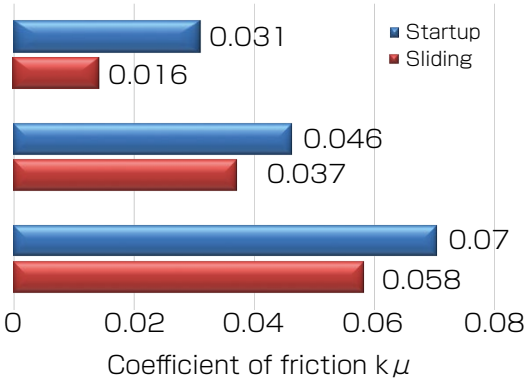
PILLAR Corporation

■Stem Friction performance

No.6720CL (EDP20CL)
○Reinforced with PTFE fibers
○Non-PTFE lubrication

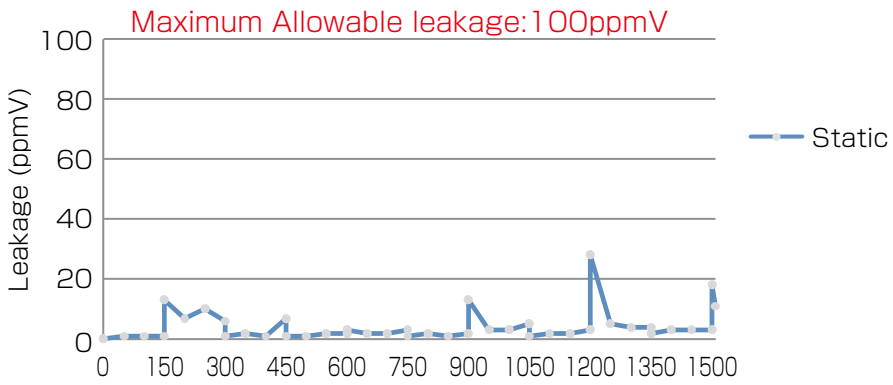
Expanded graphite gland packing set
○Reinforced with metal fibers
○Non-PTFE lubrication

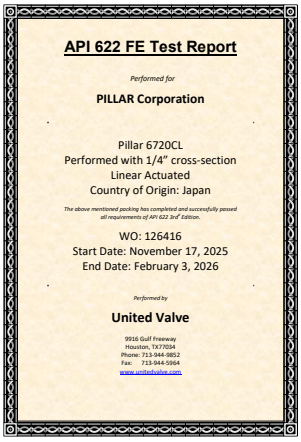
General expanded graphite gland packing set
○Reinforced with metal fibers
○Non-PTFE lubrication



No.6720CL (EDP20CL) exhibits superior stem friction performance due to PTFE fibers reinforcement and the addition of special lubricants.
Its coefficient of friction (kμ) is approximately half that of other expanded graphite packings with PTFE-containing, metal fibers reinforcement.

■API622 FE(Fugitive Emission)





API 622 FE Test Report

Performed for

PILLAR Corporation

Pillar 6720CL
Performed with 1/4" cross-section
Linear Actuated
Country of Origin: Japan

The above mentioned packing has completed and successfully passed all requirements of API 622 3rd Edition.

WO: 126416
Start Date: November 17, 2025
End Date: February 3, 2026

Performed by

United Valve

9916 Gulf Freeway
Houston, TX77034
Phone: 713-944-9852
Fax: 713-944-5964
www.unitedvalve.com

Certificate

No.6720CL (EDP20CL) has successfully passed 1510 mechanical cycles and 5 thermal cycles of severe tests with stable performance.

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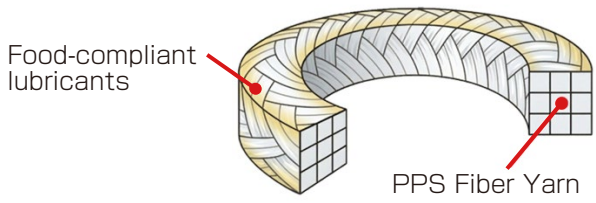
GPLC2610-1/CAT No.260006

PTFE-free packing solution designed specifically for food processing applications No.4509L

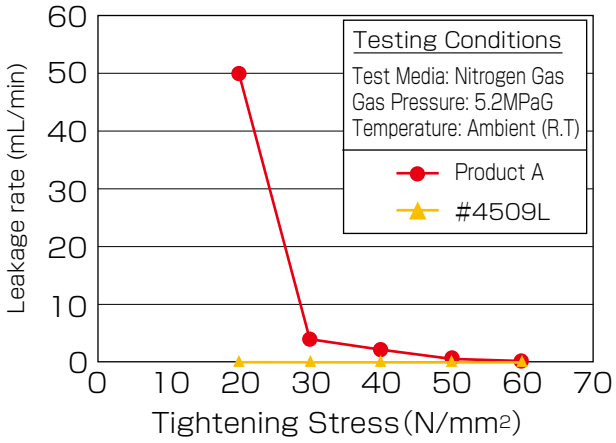
For valves & low-speed rotation equipment.

Die-formed gland packing made of PPS (Polyphenylene Sulfide) fiber, impregnated with lubricant comply with FDA 21 CFR and EU 10/2011 positive list requirements for food contact materials.

Products No.	4509L
Applications	Gland packing for valves, low-speed rotation equipment (mixer, dryer etc.), and food-contact sealing environments.
Main Material Composition	PPS (Polyphenylene Sulfide) fiber compliant with FDA 21 CFR and EU 10/2011 positive list requirements for food contact materials
Operating Temperature	0～100℃ Recommended for use under conditions which the temperature of packing box shall be mainted below 60℃ at 2.5MPaG
Maximum Pressure	Valve 5.2 MPaG (Class 300) Low-speed rotation equipment 0.8MPaG
Maximum Operating Speed	Low-speed rotation equipment 0.5m/s (Recommended PV 0.4 MPaG·m/s)
Structure	

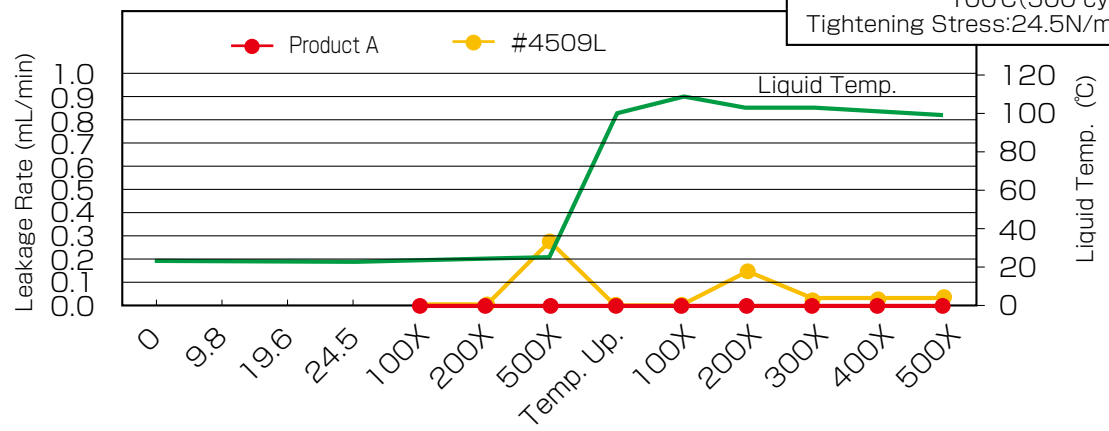
PILLAR Corporation

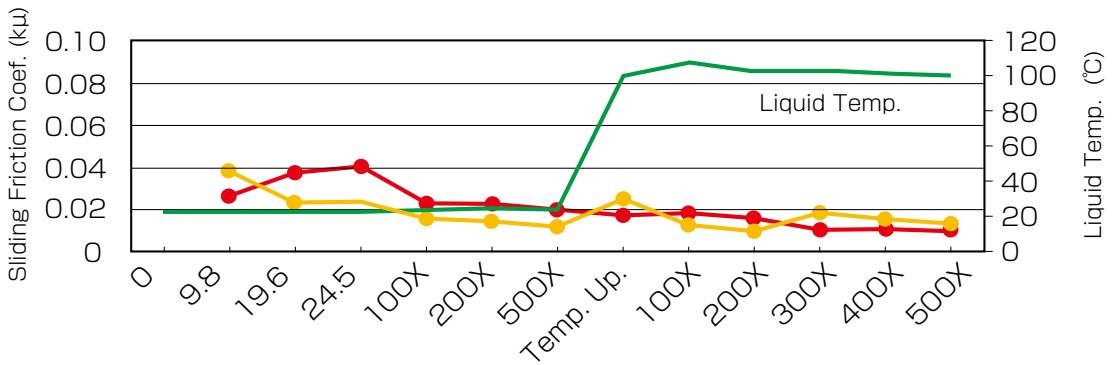
■Gas-sealing Perfromance



■Hot Water Sealing and Sliding Performance

Test Media : Water
Test Pressure : 2.5MPaG
Test Temp : Ambient(500 cycles)
100℃(500 cycles)
Tightening Stress:24.5N/mm²





Product A is PILLAR PTFE Gland Packing.

PILLAR CLEAN SAFETY FRONTIER

PILLAR Corporation

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https://www3.pillar.co.jp/en/product/

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GPLC2611-1/CAT No.260004