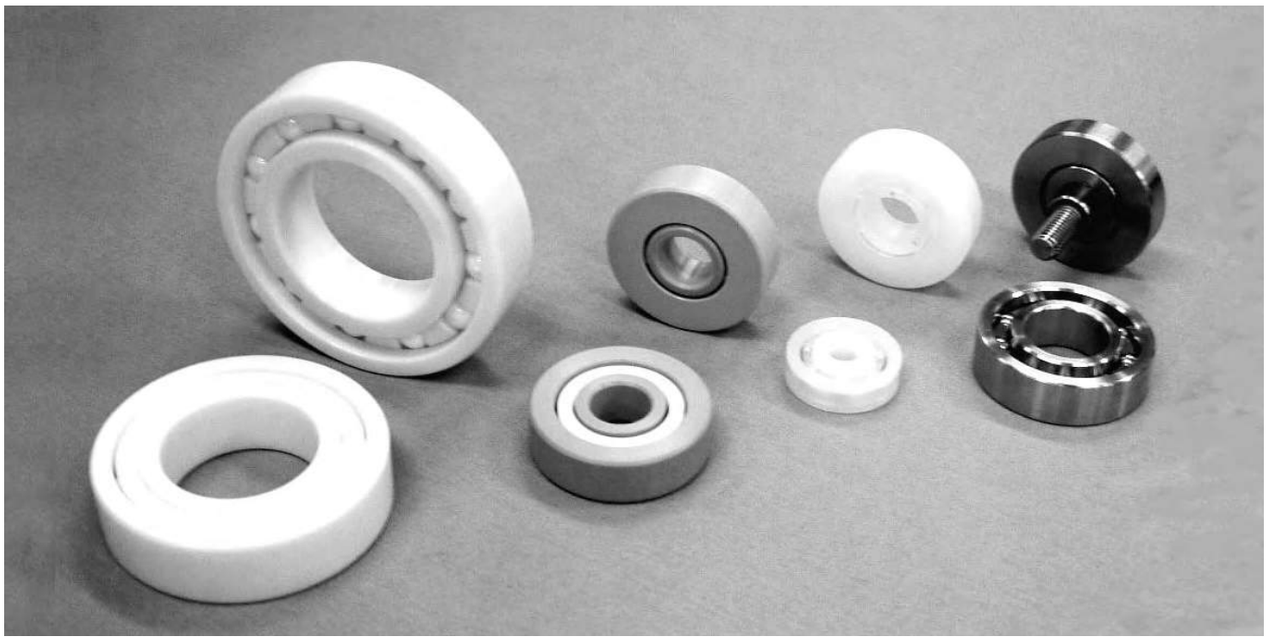

CORROSION AND CHEMICAL RESISTANT BEARINGS

PRIMARY USAGE IN THE MEDICAL AND SEMICONDUTOR INDUSTRIES

Features

1. Excellent Chemical resistance (depending on environment)
2. Excellent Corrosion resistance (depending on environment)
3. Excellent Heat resistance (depending on environment)
4. Waterproof

Applications

Ideal for use in the medical and semiconductor industries where products are subject to harsh Chemicals and environments. Other applications would be in industries using high temperatures such as transportation and cleaning.

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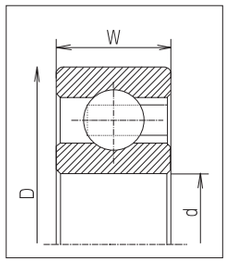
CHARACTERISTICS

Major characteristics of a ceramic bearing are: excellent corrosion and chemical resistance; self lubricating (absence of grease); and non-magnetic. Recommended environments include, but are not limited to: etching, cleaning, coating, medical, and testing equipment.



Code	Part No.	JIS	$D_{-0,02}^{0}$ [mm]	$d_{0}^{+0,02}$ [mm]	$W_{-0,1}^{0}$ [mm]	Balls material	Outer and Inner races material	Retainer material
	C-26-CHC10	6000	26	10	8	ZrO_2	ZrO_2	PTFE
	C-28-CHC12	6001	28	12	8	ZrO_2	ZrO_2	PTFE
	C-30-CHC10	6200	30	10	9	ZrO_2	ZrO_2	PTFE
	C-32-CHC12	6201	32	12	10	ZrO_2	ZrO_2	PTFE
	C-32-CHC15	6002	32	15	9	ZrO_2	ZrO_2	PTFE
	C-35-CHC15	6202	35	15	11	ZrO_2	ZrO_2	PTFE
	C-35-CHC17	6003	35	17	10	ZrO_2	ZrO_2	PTFE
	C-40-CHC17	6203	40	17	12	ZrO_2	ZrO_2	PTFE
	C-42-CHC20	6004	42	20	12	ZrO_2	ZrO_2	PTFE
	C-47-CHC20	6204	47	20	14	ZrO_2	ZrO_2	PTFE
	C-47-CHC25	6005	47	25	12	ZrO_2	ZrO_2	PTFE
	C-52-CHC25	6205	52	25	15	ZrO_2	ZrO_2	PTFE
	C-55-CHC30	6006	55	30	13	ZrO_2	ZrO_2	PTFE
	C-62-CHC30	6206	62	30	16	ZrO_2	ZrO_2	PTFE
	C-62-CHC35	6007	62	35	14	ZrO_2	ZrO_2	PTFE
	C-68-CHC40	6008	68	40	15	ZrO_2	ZrO_2	PTFE
	C-72-CHC35	6207	72	35	17	ZrO_2	ZrO_2	PTFE
	C-80-CHC40	6208	80	40	18	ZrO_2	ZrO_2	PTFE

Inner gap is under C4 (within 0.03mm)
Can be designed and produce in different sizes
Material: Ball and outer/inner races-Zirconia (ZrO_2); retainer — polytetrafluoroethylene (PTFE)

Guide to Corrosion Resistance

Material / Use liquid	Si_3N_4	ZrO_2	PTFE
Salt-Water	◎	◎	◎
Potassium Hydroxide	△	△	◎
Sodium Hydroxide	△	○	◎
Hydrofluoric acid	△	▲	◎
Phosphoric Acid	○	○	◎
Sulphuric Acid	○	○	◎
Hydrochloric Acid	△	○	◎
Nitric Acid	○	○	◎

※Chemical and corrosion resistance will vary depending on chemical concentrations and temperatures.
(Guide to Corrosion resistance, is only a reference. For more information Please contact our sales and engineering departments for assistance)

◎ : anticorrosive
○ : hardly corrosive
△ : slight corrosive
▲ : possibility of corrosiveness

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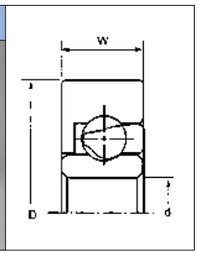
PEEK/PVDF

CHEMICAL AND HEAT RESISTANCE BEARINGS:

PEEK/PVDF bearings have much better chemical and heat resistance than our conventional PE SERIES BEARINGS. These bearings are suitable for use in these environments: automated systems used in chemical processing; transportation systems used in chemical processing; washing and cleaning systems used in the medical and semiconductor industries where chemical solution and high heat are present.

TYPE 1



Code	Part No.	$D_{-0.1}^{0}$ [mm]	$d_{0}^{+0.12}$ [mm]	$W_{-0.2}^{0}$ [mm]	Balls material *1	Outer and Inner races material *2	Retainer material *3
801009	PK-30-GHP10	30	10	9	ガラス	PEEK	PTFE
—	PV-30-GHP10	30	10	9	ガラス	PVDF	PTFE
—	PK-32-GHP12	32	12	10	ガラス	PEEK	PTFE
—	PV-32-GHP12	32	12	10	ガラス	PVDF	PTFE
—	PK-35-GHP15	35	15	11	ガラス	PEEK	PTFE
—	PV-35-GHP15	35	15	11	ガラス	PVDF	PTFE

＊1 Ball Material: G=Glass. Ceramic balls can be used, please contact our sales/engineering department for more details.
＊2 Outer/Inner Race Material: PEEK=Polyetheretherketone; PVDF=Polyvinylidene fluoride.
＊3 Retainer Material: PTFE=Polytetrafluoroethylene.
＊4 Size limits can be modified for practical applications. Please contact our sales/engineering departments for further information and assistance. These bearings are lubricant free and are made to order.

Characteristics \ Materials		Chemical Resistance Resin					Other Resin			
		PTFE	PCTFE	PVDF	PEEK	UHMWPE	PA	POM	PP	PVC
Temperature Resistance [℃]		130	80	80	130	60	70	50	50	35
Mechanical		△	○	○	◎	○	○	◎	○	○
Electrical		◎	○	○	◎	△	△	△	◎	△
Chemical proof	Acid	◎	◎	○	○	○	×	×	○	○
	Alkalis	◎	◎	○	◎	○	×	△	○	○
	Solvents	◎	○	○	◎	△	×	○	△	△

Information provided is for reference only.
Materials only reflect standard characteristics provided by technical books and material supplier's catalogs.

(Explanation of Codes)
◎ : GOOD ·····Acceptable—Visually free of any corrosive affect. Durable for field applications.
○ : FAIR ·····Limited—Slight corrosion influence, but can be used for specific field applications in ambient conditions
△ : AVERAGE ···Unacceptable—Yielding and not applicable
× : IMPROPER···No rating—easily corrodes and not usable

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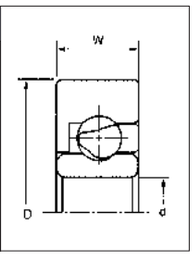
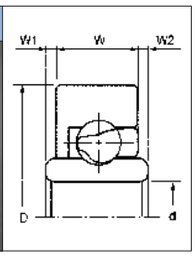
PE ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE (ANTI-ACID/ANTI-ALKALI BEARINGS)

TYPE1



TYPE2



Code	Part No.	$D_{-0.1}^{0}$ [mm]	$d^{+0.12}_{0}$ [mm]	$W_{-0.2}^{0}$ [mm]	W1 *1 [mm]	W2 *1 [mm]	Type	Q'ty [pcs/box]	Gross Weight [kg/box]	BALL *2
250126	PE-35-SHP15	35	$15^{+0.15}_{0}$	11	—	—	1	400	5.3	S
250010	PE-35-SHP8W1.75	35	8	11	1.75	1.75	2	300	3.7	S
250017	PE-35-SHP17W1.75	35	$17^{+0.2}_{+0.01}$	11	1.75	1.75	2	400	4.8	S
250100	PE-26-PHP10	$26_{-0.2}^{0}$	10	8	—	—	1	1,000	2.9	P
250121	PE-30-PHP10	30	10	9	—	—	1	500	2.2	P
250124	PE-32-PHP12	32	$12^{+0.2}_{0}$	10	—	—	1	500	3	P
250127	PE-35-PHP15	35	$15^{+0.15}_{0}$	11	—	—	1	400	2.5	P
250132	PE-47-PHP20	47	20	14	—	—	1	150	4	P
250011	PE-35-PHP8W1.75	35	8	11	1.75	1.75	2	300	3.4	P
250122	PE-30-GHP10	30	10	9	—	—	1	500	6	G
250131	PE-40-GHP17	40	17	12	—	—	1	300	3.7	G
250012	PE-35-GHP8W1.75	35	8	11	1.75	1.75	2	300	3.1	G
250019	PE-35-GHP17W1.75	35	$17^{+0.2}_{+0.01}$	11	1.75	1.75	2	400	3.5	G

＊1 Reference Dimension
＊2 Ball Material: S=Stainless Steel; P=Polyethylene; G=Glass. Outer/Inner Race Material: Ultra-high Molecular Weight Polyethylene.
＊3 Size limits can be modified for practical applications. Please contact our sales/engineering departments for further information and assistance. These bearings are lubricant free and are made to order.

DURABILITY OF PLASTICS IN A CHEMICAL ENVIRONMENT

Table No.1 : durability of plastics in a chemical enviroment

		Polyacetal (POM)	Polyamid (PA)	Polyethylene (PE)	Polypropylene (PP)
Liquid Ammonia			◎	◎	○
Calcium Hydroxide		◎	◎	◎	◎
Potassium Hydroxide		○	○	◎	◎
Sodium Hydroxide	30% 30℃		×	○	◎
	30% RT		◎	◎	◎
	10% RT	△	◎	◎	◎
Oxalic Acid		◎	◎	◎	◎
Acetic Acid	50% RT		△	○	○
Hydrochloric Acid	38% RT		×	◎	◎
	10% RT		○	◎	◎
Nitric Acid	RT FumingRT	×	×	×	×
	61% RT	×	×	△	△
	10% RT	△	△	◎	◎
Sulphuric Acid	RT FumingRT	×	×	×	△
	98% RT	×	×	△	△
	10% RT	△	○	◎	◎
Chromic Acid	25% RT	×	×	○	△

Table No.1 denotes the durability of Polyacetal, Polyamide(nylon), Polyethylene, and Polypropylene, against acids and alkali solutions.

Table No.2 : durability of plastics against solvent, oil, gasses and sea water

	Polyacetal (POM)	Polyamid (PA)	Polyethylene (PE)	Polypropylene (PP)
Sea-Water	◎	＊	◎	◎
Sulfur Dioxide Gas			○	◎
Carbonic Acid Gas	◎	◎	◎	◎
Ammonia		◎	◎	
Petroleum	○	◎	△	○
Benzine	△	○	△	△
Holmaldehyde		△	○	◎
Ethyl Alcohol	◎	○	○	○
Cresol	○	×	○	○

Bearing used in sea water, must be corrosion resistance to sea water.

＊polyamide resins water absorption ratios are too high to be considered for use as balls or races in a water or sea water environment.

(Explanation of Codes)
◎ : GOOD ·····Acceptable—Visually free of any corrosive affect. Durable for field applications.
○ : FAIR ·····Limited—Slight corrosion influence, but can be used for specific field applications in ambient conditions.
△ : AVERAGE ···Unacceptable—Yielding and not applicable
× : IMPROPER···No rating—easily corrodes and not usable
RT : Room Temperature

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