



**PLUMBFAST**

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**KOSDAQ**  
LISTED COMPANY



**PLUMBFEST**

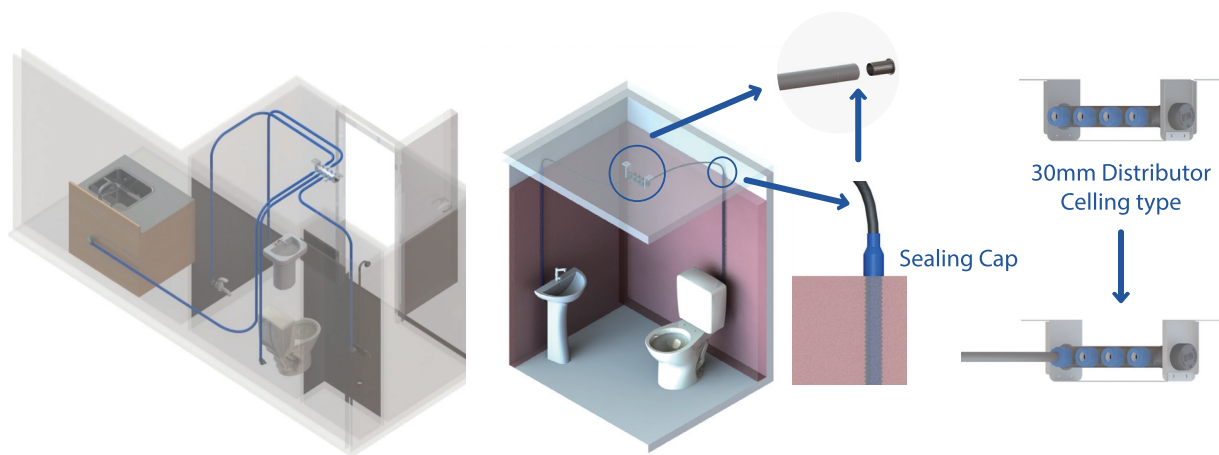
## About us

Since its establishment in 1992, PlumbFast Co., Ltd. has been the largest manufacturer of Polybutylene-1 (PB) piping materials in South Korea. Our technological excellence is internationally recognized through certifications and sales networks in Korea (KS), the United Kingdom (BSI), and Spain (AENOR).

Our goal is to provide customer satisfaction with high-quality products.

## Concept

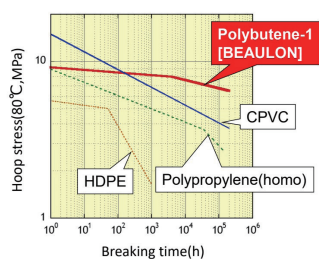
Pipes and fittings for supplying hot and cold water have significantly evolved. From copper pipes and welded fittings, PP pipes and fusion fittings, brass compression fittings, to the latest push-fit fitting systems, advancements in technology, materials, and applications have continuously progressed. Our proposed piping method involves embedding pipes and fittings directly in concrete. By using a Dual-piping system, we offer a practical piping method that ensures minimal damage in case of leaks and protects against repairs without damaging walls or tiles.



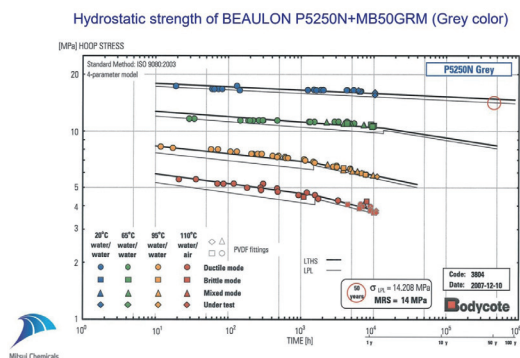
## About Polybutene-1

Polybutene-1 was developed over 30 years ago for use as a hot and cold water plumbing system. PB-1 resin is a unique isotactic and semi-crystalline polyolefin having a high molecule produced from 1-butene

※ Our Polybutene-1 is a product of Mitsui Chemicals in Japan and has excellent chlorine resistance and hydrostatic strength characteristics.



Polybutene-1 has excellent hydrostatic strength properties.



## About PE-RT

PE-RT(Polyethylene of Raised Temperature) pipes are manufactured using a material that maintains the advantages of existing PE-Xa and PE-Xb (cross-linked polyethylene) pipes while eliminating the drawbacks associated with cross-linking. This ensures uniform quality and significantly improves long-term durability at high temperatures, making them a revolutionary plastic piping material.

### The Advantages of PB & PERT Pipe / Application

- Semipermanent life
- Excellent resistance to creep
- Extremely high strength
- Low weight and very flexible
- No corrosion
- Piping system for cold/hot water facilities
- Piping systems for heating
- Piping systems for agricultural
- Air conditioner drain piping systems
- Sprinkler systems

### PB & PE-RT Pipe Material Properties

	Item	Unit	Test Method	Value Properties	
				PB	PE-RT
Physical Properties	Density	g/cm	ASTM D 1505	0.920	0.941
	Hardness	D scale	ASTM D 2240	60	61
Mechanical Properties	Tensile Yield Strength	kgf/cm <sup>2</sup>	ASTM D 638	175	165
	Tensile Breaking Strength	kgf/cm <sup>2</sup>	ASTM D 638	400	370
	Elongation at Break	%	-	250	750
	Flexural Modulus	kg/cm <sup>2</sup>	ASTM D 790	4,000	5,900
	Impact Strength (room temp.)	kg-cm/cm <sup>2</sup>	ASTM D 256	No Break	No Break
	Coefficient of Linear Expansion	°C-1	ASTM D 696	1.3×10 <sup>-4</sup>	1.9×10 <sup>-4</sup>
Thermal Properties	Thermal Conductivity	kcal/mhr°C	-	0.2	0.34
	Softening Point	°C		114	122
	Melting Point	°C	-	125	126

### PB & PE-RT Pipe Operating Temperature Conditions

#### Classification of service conditions

Application class	Design temperature, T <sub>D</sub> °C	Time at T <sub>D</sub> years	T <sub>max</sub> °C	Time at T <sub>max</sub> years	T <sub>mal</sub> °C	Time at T <sub>mal</sub> h	Typical field of application
2 <sup>a</sup>	70	49	80	1	95	100	Hot water supply(70°C)

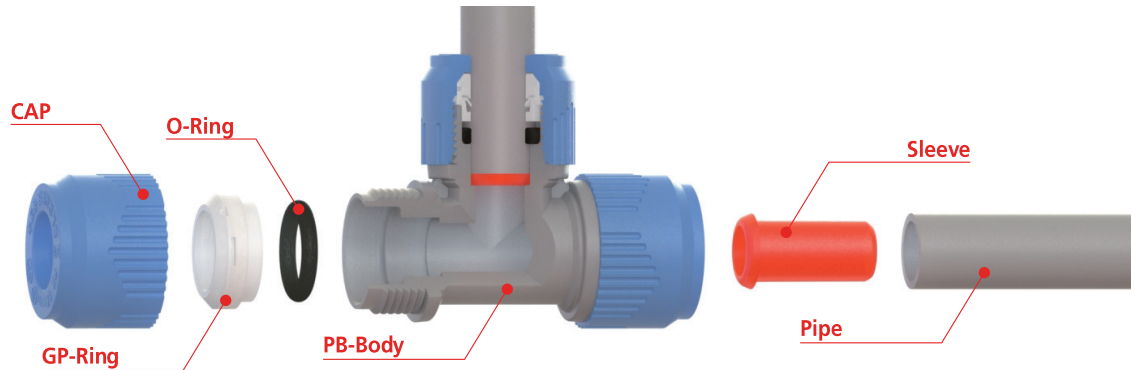
The material must be suitable for transporting cold water at 20°C with a design pressure of 1 MPa for 50 years (ISO 15876-1 and ISO 22391-1)

- Recommended specifications by PlumbFast R&D Department (temperature refers to the water temperature)

Design water Temperature		Hydrostatic pressure	Design Water Temperature (for 50years)		
		10°C ~ 30°C	20°C	50°C	70°C
Recommended design pressure	PB	Below 15 bar	Below 10 bar	Below 8 bar	Below 6 bar
	PE-RT	Below 12 bar	Below 10 bar	Below 6 bar	Below 4 bar

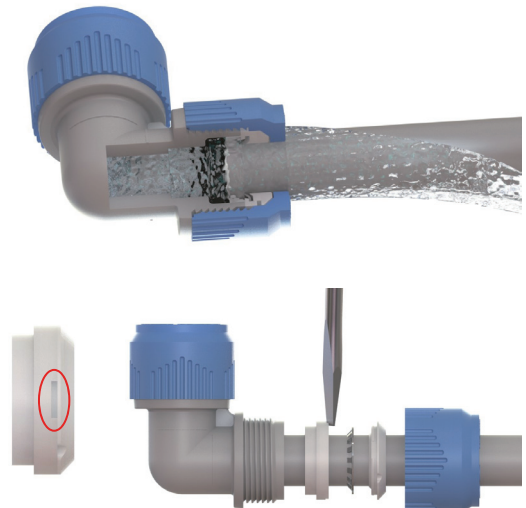
# The Advantages of PlumbFast Push-fit System

## ► Structure





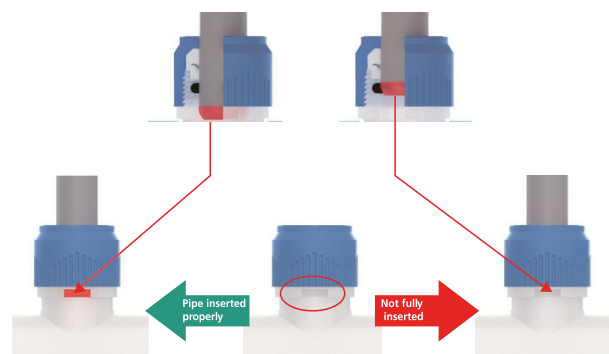
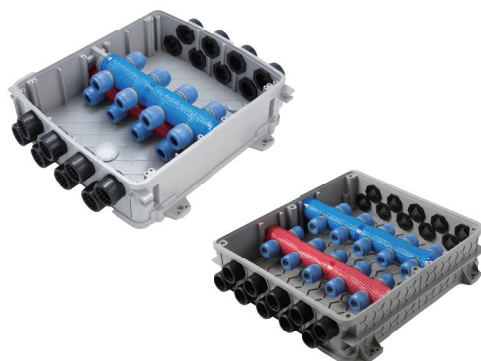
## ► Characteristic

- Application of the GP-Ring protects the metal G-Ring from damage.
- During hydraulic testing, any incomplete insertion of the pipe into the fitting can be quickly identified for leaks.
- The parts of the fitting that come into contact with water are made from a PB material body and an EPDM O-Ring, ensuring excellent hygiene.
- The design is simple, with only the O-Ring and GP-Ring assembled inside the fitting, providing excellent protection against incorrect assembly during disassembly and reassembly.
- The metal G-Ring cannot damage the PB body during pipe rotation.
- If modifications to the piping installation are needed, the GP-Ring can be disassembled and the G-Ring can be cut and removed using a flathead screwdriver.



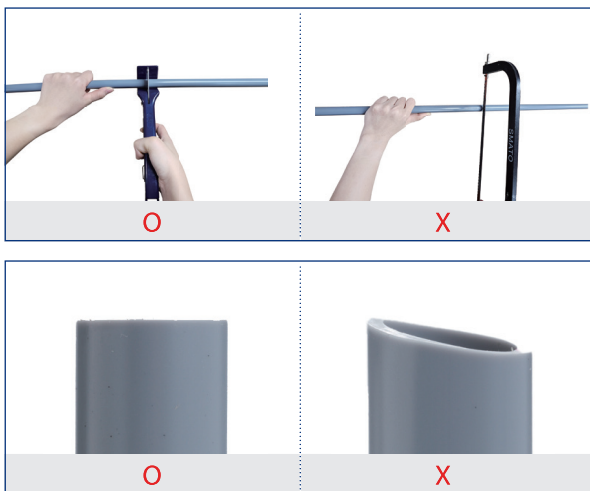
## ► Pipe Insertion Visual Inspection Distributor

-  Through the rectangular hole in the indicator, the pipe insertion status can be visually confirmed.
-  It is recommended to use a plastic sleeve in the red color.  
(Nylon material, which has been verified for long-term use in South Korea).



## Precautions for Handling Plastic Pipes

1. Perform loading and unloading operations on flat ground.
2. Do not roll or throw the pipes during transportation.
3. Store the pipes away from places exposed to ultraviolet rays and rain.
4. PB pipes and PERT pipes are connected using the Push-Fit System. As they are flexible, there is a risk of leakage if the surface is scratched. Therefore, during transportation, avoid dragging them on the ground or damaging them with sharp objects.
5. Use dedicated cutters to cut the pipes.



6. When pipe-work is partially completed or sections are isolated, protect the pipes from foreign matter infiltration by using temporary caps.
7. During storage, installation, and after completion, be cautious of welding sparks, cigarette ashes, and other sources of fire.
8. Ensure other workers from different processes are aware and careful not to damage the installed pipes.
9. The cutter blade and the grip ring of the fittings are made of metal. Be careful not to cut yourself on the blade or grip ring.
10. Before installation, verify that the pipe specifications match the design pressure and temperature.
11. When connecting pipes to Push-Fit System fittings, mark the insertion length before connection. Avoid reverse piping installation as it may cause defects.
12. Conduct a pressure test at the recommended pressure (below 15bar at room temperature) after installation. Use a pressure gauge that can measure up to twice the recommended pressure.

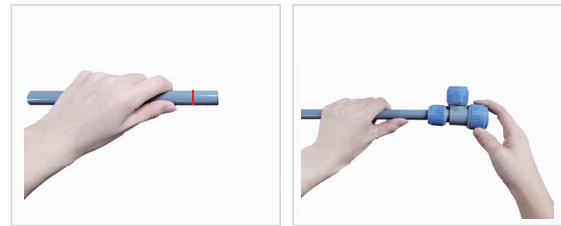
## Precautions for Connecting Pipes to Fittings

1. Pipe connection method to fittings.



1. Cut the Pipe

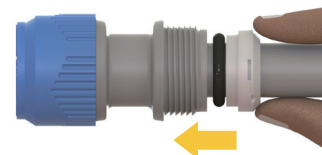
2. Insert the sleeve



3. Mark the insertion depth

4. Connect the pipe with a fitting

2. Ensure no foreign matter enters the inside of the fittings.
3. Confirm there are no foreign substances or scratches on the pipe exterior that could cause leakage when inserting the pipe into the fittings.
4. Insert a support sleeve inside the pipe.
5. Insert the pipe into the fitting with the cap fully tightened, passing through the 1st stage (G-Ring) and 2nd stage (O-Ring) with force.
6. When disassembling the fitting, reassemble in the order of the fitting body, O-Ring, GP-Ring, and cap.
7. If leakage occurs due to incomplete insertion, remove the pressure and push the pipe back into the fitting with force.
8. When reassembling after disassembly, ensure the O-Ring is not omitted and the GP-Ring inside the pipe is not pushed back. Hold the GP-Ring with your hand and push it into the PB fitting body, then fully tighten the cap.



9. Do not use tightening tools to tighten the fitting cap.



10. Do not reuse GP-Rings that have been separated into upper and lower parts.

# Certification



British Standards Institution  
: ISO 9001 : 2015 Quality Management



British Standards Institution  
: PB Pipe & Fittings (PB , Brass)



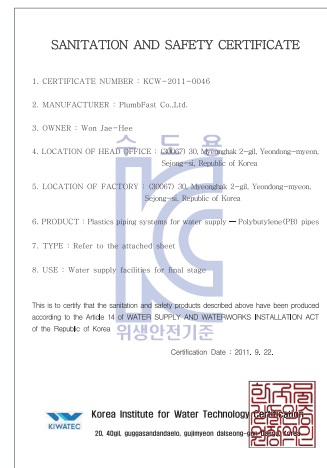
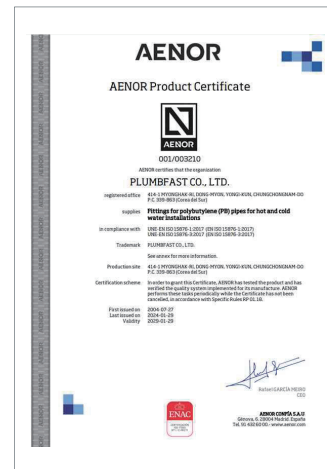
The Spanish Association for Standardization and Certification  
: PB Pipe & Fittings (PB , Brass)



Korean Industrial Standards  
: PB Pipe & PE-RT Pipe





Korea Certification  
: PB Pipe , PE-RT Pipe , PB & Brass Fittings , PB Distributer







### ■ Polybutene (PB) Pipes

COIL				LENGTH			
	Code	Size (mm*M)	Pack (Qty)		Code	Size (mm*M)	Pack (Qty)
	PPCR16100	16 × 100	1		PPCS16006	16 × 6	40
	PPCR20100	20 × 100	1		PPCS20006	20 × 6	30
	PPCR25050	25 × 50	1		PPCS25006	25 × 6	20



### ■ Polyethylene of raised temperature resistance (PE-RT) Pipe

COIL				LENGTH			
	Code	Size (mm*M)	Pack (Qty)		Code	Size (mm*M)	Pack (Qty)
	PRPG1610015	16 × 100	1		PRPG1600615	16 × 6	40
	PRPG20100	20 × 100	1		PRPG20006	20 × 6	30
	PRPG25100	25 × 50	1		PRPG25006	25 × 6	20

### ■ PB Pipe & PE-RT Pipe Diameter

Nominal size DN/OD	Mean outside diameter ( mm )	Wall thicknesses ( mm )	Reference weight ( g/m )	
			PB	PE-RT
16	16.0 ~ 16.3	1.5 ~ 1.8	69	69
20	20.0 ~ 20.3	1.9 ~ 2.2	106	106
25	25.0 ~ 25.3	2.3 ~ 2.7	160	160

### ■ Protective Tube

RED				BLUE			
	Code	Size (mm*M)	Pack (Qty)		Code	Size (mm*M)	Pack (Qty)
	PPMERR22100	22 × 100	1		PPMERS22100	22 × 100	1
	PPMERR28050	28 × 50	1		PPMERS28050	28 × 50	1
	PPMERR36050	36 × 50	1		PPMERS36050	36 × 50	1

Nominal size DN/OD	Mean outside diameter ( mm )	Wall thicknesses ( mm )	Internal diameter ( mm )	Reference weight ( g/m )
22	27.5	±0.5	22	80
28	34.0	±0.5	28	105
36	42.0	±0.5	36	200



## ■ PB Fittings

ELBOW	Code	Size (mm)	Pack (Qty)
	GEAE16	16	120
	GEAE20	20	80
	GEAE25	25	50



STRAIGHT COUPLER	Code	Size (mm)	Pack (Qty)
	GEAS16	16	140
	GEAS20	20	90
	GEAS25	25	60



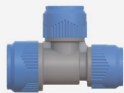
SPIGOT REDUCER	Code	Size (mm)	Pack (Qty)
	GEASR2016	20 × 16	180



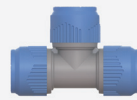
SPIGOT ELBOW	Code	Size (mm)	Pack (Qty)
	GEALA16	16	180
	GEALA20	20	110



BORT	Code	Size (mm)	Pack (Qty)
	GEABOR2016	20 × 16 × 16	60
	GEABOR2520	25 × 20 × 20	35



EQUAL TEE	Code	Size (mm)	Pack (Qty)
	GEAT16	16	80
	GEAT20	20	50
	GEAT25	25	30



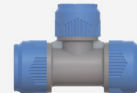
STRAIGHT REDUCER	Code	Size (mm)	Pack (Qty)
	GEAR2016	20 × 16	100
	GEAR2516	25 × 16	80
	GEAR2520	25 × 20	70



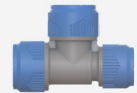
SPIGOT TEE	Code	Size (mm)	Pack (Qty)
	GEASPT1616	16 × 16	90
	GEASPT1620	16 × 20	80



BRT	Code	Size (mm)	Pack (Qty)
	GEABRT2016	20 × 16 × 20	60
	GEABRT2516	25 × 16 × 25	40



ERT	Code	Size (mm)	Pack (Qty)
	GEAERT202016	20 × 20 × 16	60
	GEAERT252520	25 × 25 × 20	35



## ■ Brass Fittings

MALE ADAPTOR	Code	Size (mm)	Pack (Qty)
	GBAMVS1612	16 × 1/2"	200
	GBAMVS2012	20 × 1/2"	150
	GBAMVS2034	20 × 3/4"	150
	GBAMVS251	25 × 1"	50



FEMALE ELBOW	Code	Size (mm)	Pack (Qty)
	GBASLA1612	16 × 1/2"	150
	GBASLA2012	20 × 1/2"	100
	GBASLF2034	20 × 3/4"	100
	GBASLF2534	25 × 3/4"	50
	GBASLF251	25 × 1"	50



FEMALE CENTER TEE	Code	Size (mm)	Pack (Qty)
	GBASTC161216	16 × 1/2"	100
	GBASTC201220	20 × 1/2"	50



FEMALE ADAPTOR	Code	Size (mm)	Pack (Qty)
	GBAFVS1612	16 × 1/2"	200
	GBAFVS2012	20 × 1/2"	150
	GBAFVS2034	20 × 3/4"	150
	GBAFVSN251	25 × 1"	50





MALE ELBOW	Code	Size (mm)	Pack (Qty)
	GBASLB1612	16 × 1/2"	150
	GBASLG2034	20 × 3/4"	50
	GBASLG251	25 × 1"	50





WALL PLATE ELBOW	Code	Size (mm)	Pack (Qty)
	GBASLE1612	16 × 1/2"	150

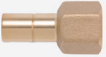


MALE BALL VALVE	Code	Size (mm)	Pack (Qty)
	GBABMH1612	16 × 1/2"	50

FEMALE BALL VALVE	Code	Size (mm)	Pack (Qty)
	GBABFH1612	16 × 1/2"	50

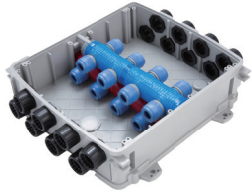
LEVER VALVE	Code	Size (mm)	Pack (Qty)
	GBABW16	16	50
	GBABW20	20	50

CM ADAPTER	Code	Size (mm)	Pack (Qty)
	GBPCMA1512	16 × 1/2"	100
	GBPCMA2034	20 × 3/4"	100
	GBPCMA2534	25 × 3/4"	100

CF ADAPTER	Code	Size (mm)	Pack (Qty)
	GBPCFA1512	16 × 1/2"	100
	GBPCFA2034	20 × 3/4"	100
	GBPCFA2534	25 × 3/4"	100

## ■ Distributer

### BOX Distributer ( H • C 8 Hole )



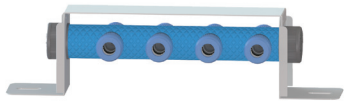
Code	Size (mm)	Pack (Qty)
GDABC0808H05T	298mm × 340mm × 92mm	1

### BOX Distributer (H • C 10 Hole)



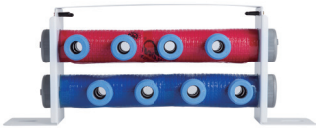
Code	Size (mm)	Pack (Qty)
GDABC1010H05T	356mm × 403mm × 96.5mm	1

### Stand Distributer ( Cold only )




Code	Size (mm)	Pack (Qty)
GDAE30R08H05T	16 , 20 Order Type	1


### Stand Distributer ( H • C )



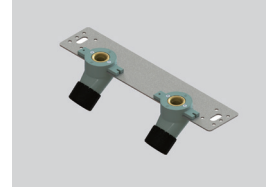
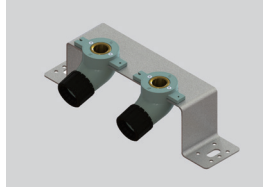
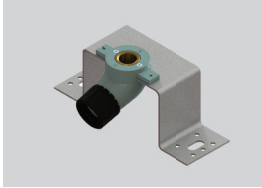
Code	Size (mm)	Pack (Qty)
GDAE30R0808H05T	16 , 20 Order Type	1

## ■ Round Faucet Box


Insert type	Code	Size (mm)	Pack (Qty)
	GWASB40FI1622	40° 16	35
	GWASB15FI1622	15° 16	35


Brass type	Code	Size (mm)	Pack (Qty)
	PHWASB40B1622	40° 16	100
	PHWASB15B1622	15° 16	100


## ■ Fixed Bracket Type (Custom Order)





## ■ Other Items


Water Plug	Code	Size (mm)	Pack (Qty)
	PWPSCG16	1/2"	150


SLEEVE	Code	Size (mm)	Pack (Qty)
	PEMSPR16	16	1500
	PEMSPR20	20	800
	PEMSPR25	25	400


CAP	Code	Size (mm)	Pack (Qty)
	GEMC16	16	500
	GEMC20	20	300
	GEMC25	25	200


GP-Ring	Code	Size (mm)	Pack (Qty)
	GEWER16	16	1500
	GEWER20	20	1000
	GEWER25	25	500


O-Ring	Code	Size (mm)	Pack (Qty)
	PEMO15	16	4000
	PEMO20	20	3000
	PEMO25	25	2500


B CAP (SUS)	Code	Size (mm)	Pack (Qty)
	PEPBC15	16	500
	PEPBC20	20	300
	PEPBC25	25	200


B CAP (PLA)	Code	Size (mm)	Pack (Qty)
	PEZBC10	16	1500


PB Cutter	Code	Size (mm)	Pack (Qty)
	PEPCUT	16 ~ 25	20


CD Cutter	Code	Size (mm)	Pack (Qty)
	PWPCDB22	22	20
	PWPCDB28	28	20

Guide ball	Code	Size (mm)	Pack (Qty)
	PWPGB16	16	1500
	PWPGB20	20	800
	PWPGB25	25	400

Sealing CAP (blue)	Code	Size (mm)	Pack (Qty)
	PWPSCB2216	22 × 16	1500
	PWPSCB2816	28 × 16	1000
	PWPSCB2820	28 × 20	1000
	PWPSCB3625	36 × 25	500

Sealing CAP (red)	Code	Size (mm)	Pack (Qty)
	PWPSCR2216	22 × 16	1500
	PWPSCR2816	28 × 16	1000
	PWPSCR2820	28 × 20	1000
	PWPSCR3625	36 × 25	500

CD tube cap	Code	Size (mm)	Pack (Qty)
	PWPGCW22	22	500
	PWPGCW28	28	300
	PWPGCW36	36	200

PB Wrench	Code	Size (mm)	Pack (Qty)
	PWPBP	16 ~ 25	20

## Manufacturer



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