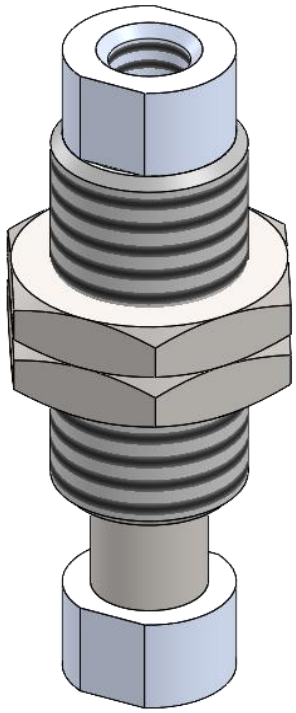
Operation Manual

PRODUCT NAME

Magnet Buffer / Basic type

MODEL / Series / Product Number

ZP3B(1,2,3)M*　series



SMC Corporation

Contents

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)[*1)], and other safety regulations.

∗1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1:Robots
etc.

Danger	**Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
Warning	**Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
Caution	**Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, combustion equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

Safety Instructions

⚠Caution

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.
Use in non-manufacturing industries is not allowed.
Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country.
The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

***2) Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

ZP3B□M Series

Specific Product Precautions 1

Be sure to read this before handling the products.

For safety instructions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: https://www.smcworld.com

Handling

(1) When mounting the buffer, tighten the nuts to the recommended tightening torque shown in Table 1 below.

Tightening outside the recommended tightening torque range may cause malfunction.

Table 1. Recommended tightening torque for buffers

Model	Mounting thread size	Tightening torque[N・m]
ZP3B1M*-B3	M8x0.75	1.5 to 2.0
ZP3B2M*-B5	M10x1.0	2.5 to 3.5
ZP3B3M*-B5	M12x1.0	4.5 to 5.5

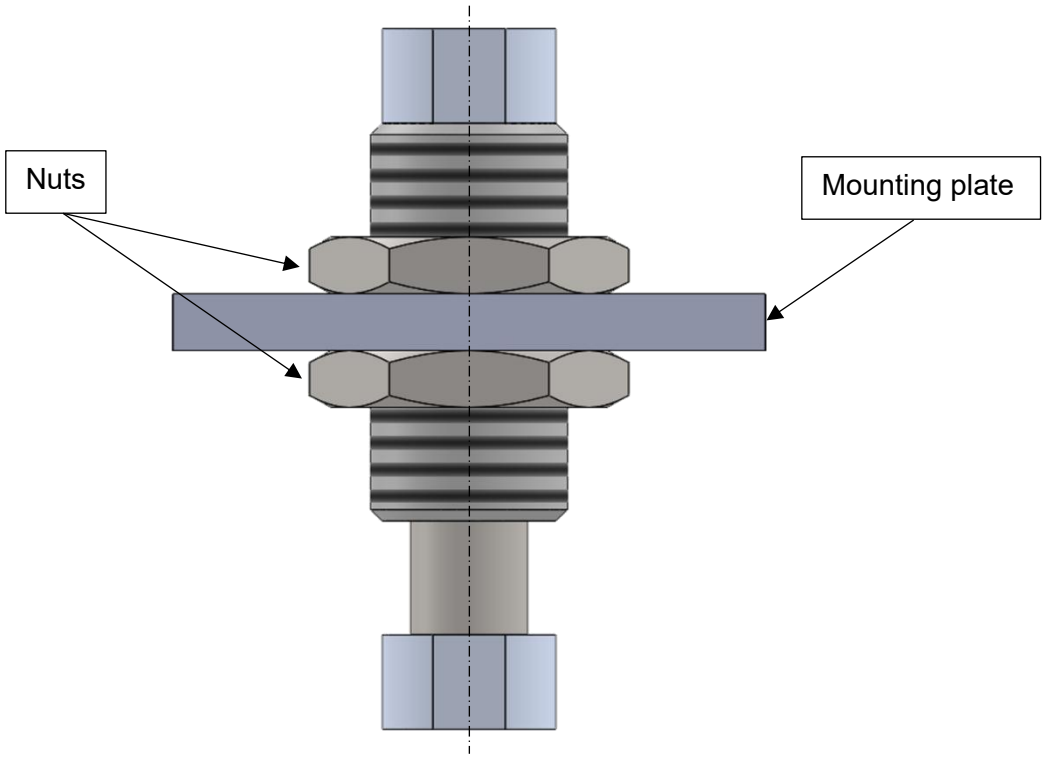


Fig.1. Buffer mounting on plate

(2) When mounting the suction cup adapter, tighten it to the recommended tightening torque shown in Table 2 below.

Tightening outside the recommended tightening torque range may cause a seal failure or a thread loosening.

Table 2. Recommended tightening torque for adapters

Model	Thread size	Tightening torque [N・m]
ZP3B1M*-B3	M3x0.5	0.2 to 0.25
ZP3B2M*-B5	M5x0.8	1.3 to 1.7
ZP3B3M*-B5	M5x0.8	

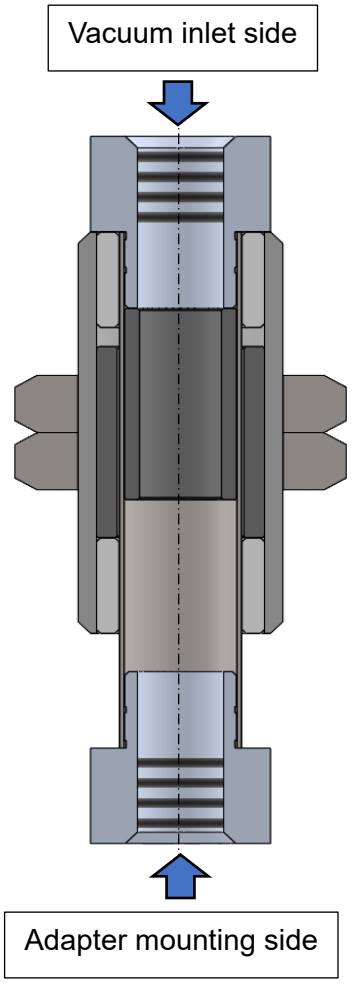


Fig.2. Adapter mounting position for Suction cup

ZP3B□M Series

Specific Product Precautions 1

Be sure to read this before handling the products.

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Handling

(3)The buffer is used to reduce the load applied (horizontal lifting applications)

A malfunction may occur if the buffer is used for inclined or lateral lifting applications.

(4)Do not scratch or dent the piston tube.

Scratches or dents may damage the bushing in the piston tube, resulting in poor sliding performance.

Also, take care not to deform the piston tube due to its thin wall.

(5)This product has a built-in magnet.

Please check that peripheral devices are not affected by magnetic flux.

Do not use magnetic foreign matter, as they may bite into the sliding parts and cause sliding defects.

(6)The non-rotating mechanism of this product is based on magnetic force.

Since the non-rotating mechanism of this product is not mechanical, inertia or external force of the workpiece during transport may cause misalignment in the direction of rotation.

It rotates and holds within ±90[°] when the force is less than the maximum holding torque.

It also returns and holds its original position when the torque is removed.

If the maximum holding torque is exceeded, it steps out and rotates 180°.

Please ensure that the product is suitable for the conditions of use before using it.

(7)Please use the width across flats of the tightening point when connecting the adapter and piping.

If width across flats on different sides from the tightening are used, the product may be damaged.

OK

Use width across flats at the tightening point

NG

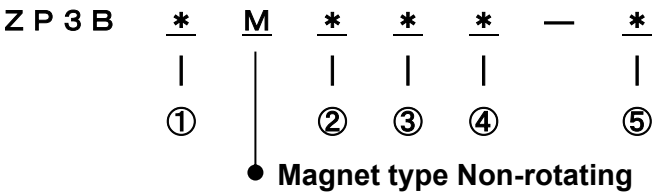
Use width across flats at different tightening point

1 About Products

1.1 Product Coverage

This product is a buffer for Suction cups.

A 1.2 How to order



①Buffer size

Symbol	Mounting thread size
1	M8x0.75
2	M10x1.0
3	M12x1.0

②Nut material

Symbol	Nut material
Nil	Stainless steel
G	Steel(Zinc chromated)

③Stroke

Symbol	Stroke	Applicable buffer (mounting thread) size		
		M8x0.75	M10x1.0	M12x1.0
3	3mm	●	●	●
6	6mm	●	●	●
16	16mm	-	-	●

④Buffer reactive force

Symbol	Applicable buffer (mounting thread) size					
	M8x0.75		M10x1.0		M12x1.0	
	Buffer reactive force [N]					
	0.15±0.05	0.3±0.1	0.3±0.1	0.5±0.1	0.5±0.1	1.0±0.1
L	●	-	●	-	●	-
H	-	●	-	●	-	●

⑤Thread size for mounting adapter and vacuum inlet

Symbol	Form	Thread size	④Thread size for mounting adapter and vacuum inlet		
			Applicable buffer (mounting thread) size		
			M8x0.75	M10x1.0	M12x1.0
B3	Female thread	M3x0.5	●	-	-
B5		M5x0.8	-	●	●

1.3 Specifications

Specifications are shown below.

At 23°C ambient temperature

Model	ZP3B1M**-*				ZP3B2M**-*				ZP3B3M**-*					
Buffer size	M8x0.75				M10x1.0				M12x1.0					
Buffer system	Magnet				Magnet				Magnet					
With or without Non-rotating *1	With				With				With					
With or without Bushing	With				With				With					
Ambient temperature and Operating temperature range [℃]	5 to 50				5 to 50				5 to 50					
Stroke [mm]	3	6	3	6	3	6	3	6	3	6	16	3	6	16
Buffer reactive force [N] *2	0.15 ±0.05		0.3 ±0.1		0.3 ±0.1		0.5 ±0.1		0.5 ±0.1			1.0 ±0.1		
Accuracy of Buffer reactive force[%] *2	±15%F.S.				±15%F.S.				±15%F.S.					
Maximum holding torque[N・cm] (Reference) *3	0.25 or more		0.5 or more		0.5 or more		0.8 or more		0.8 or more		1.3 or more	1.4 or more		3.4 or more
Nut tightening torque [N・m]	1.5 to 2.0				2.5 to 3.5				4.5 to 5.5					
Adapter / Vacuum inlet	M3x0.5				M5x0.8									

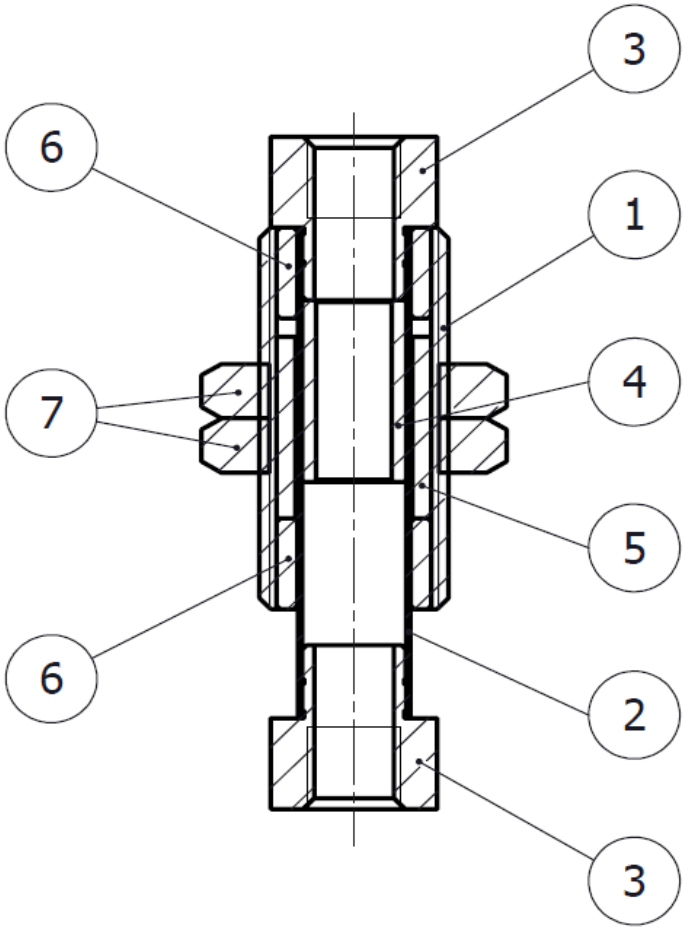
*1 By the magnetic holding.

*2 Refer to “1.7 Product Terms” for details.

*3 When the force is applied over the maximum holding torque, it steps out and rotates 180°. Holding torque is the force that can be applied in the direction of rotation and then returned to its original position when the force is removed.

1.4 Construction

The construction of the product is shown below.



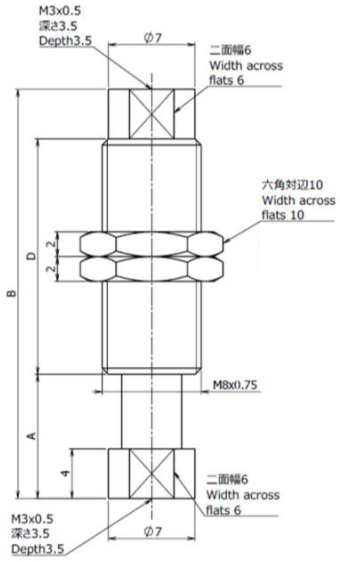
No.	Description	Material (Surface Treatment)	Note
①	Buffer body	Stainless steel	
②	Piston tube	Stainless steel	
③	Adapter	Aluminum alloy (Clear anodized)	
④	Inner magnet	Neodymium magnet	
⑤	Outer magnet	Neodymium magnet	
⑥	Bushing	POM	
⑦	Nut	Stainless steel	ZP3B*M**-*
		Steel (Zinc chromated)	ZP3B*MG**-*

A

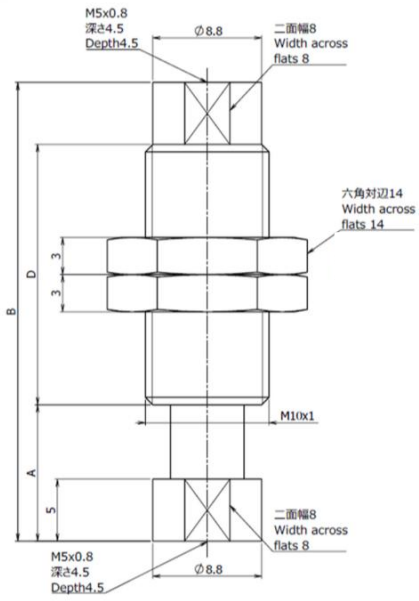
A

1.5 Dimensions

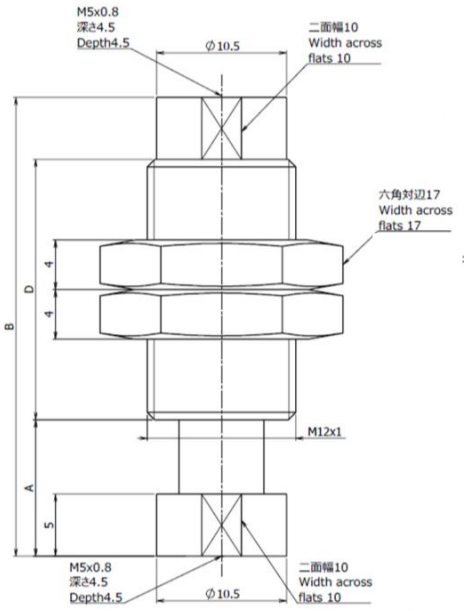
Dimensions are shown below.



ZP3B1M*(3,6)*-B3



ZP3B2M*(3,6)*-B5



ZP3B3M*(3,6,16)*-B5

Model							A	B	D	Min. hole size	Weight [g]
	Buffer size	Specifications	Nut material	Buffer stroke	Buffer reaction force	Adapter mounting thread size/ Vacuum inlet					
ZP3B	1	M	Nil	3	L	B3	7	30	19	φ2	5.8
			G								5.6
			Nil	6			10	33			5.9
			G								5.7
	2		Nil	3	H	B5	8	34	21	φ4	11.9
			G								11.3
			Nil	6			11	37			12.0
			G								11.4
	3		Nil	3	L	B5	8	34		φ4.2	20.4
			G								18.1
			Nil		H					φ2.8	21.5
			G								19.2
			Nil	6	L		11	37		φ4.2	20.5
			G								18.2
			Nil		H					φ2.8	21.7
			G								19.4
			Nil	16	L		21	57	31	φ4.2	26.1
			G								23.8
			Nil		H					φ2.8	28.5
			G								26.2

A

1.6 Applicable suction cup

Please refer to Attachment 1 for the compatible suction cups for this product.

1.7 Product Terms

The Product Terms used in the product specifications are as follows.

【 Buffer reactive force 】

It shows the averaged buffer reactive force (actual measurement value) when the buffer is operated from 0.1mm stroke to the end of the stroke

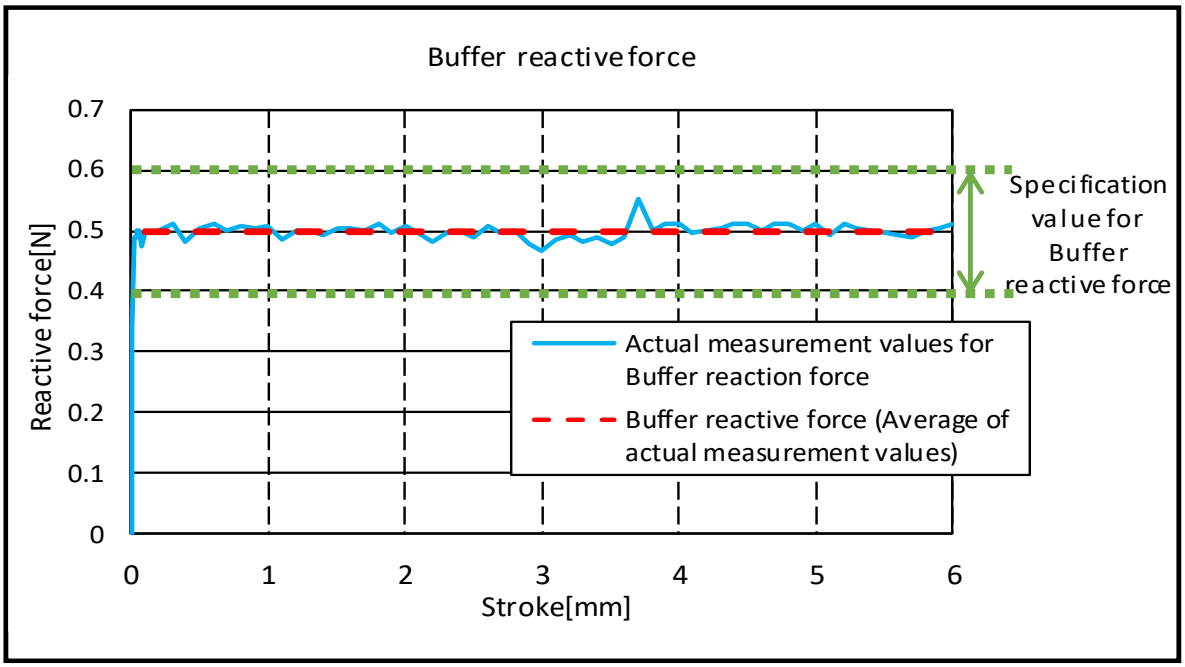


Fig.3. About buffer reactive force

A

1.7 Mounting nuts

If you need mounting nuts, please order the part numbers listed below.

Product No.	Mounting nuts No.
ZP3B1M(3, 6)*-B3	ZPSNA-M8A
ZP3B1MG(3, 6)*-B3	ZPNA-M8B
ZP3B2M(3, 6)*-B5	ZPSNA-M10
ZP3B2MG(3, 6)*-B5	ZPNA-M10
ZP3B3M(3, 6, 16)*-B5	ZPSNA-M12C
ZP3B3MG(3, 6, 16)*-B5	IR20P-600S

1. 8 Product Terms

【 Accuracy of Buffer reactive force 】

It indicates the maximum difference (maximum value - minimum value) of the buffer reactive force when the buffer is operated from 0.1 mm stroke to the end of the stroke.

The accuracy of Buffer reactive force is ±15% F.S. for each buffer reactive force specification.

In the case of Buffer reactive force: 0.5±0.1[N] specification, the variation is ±0.09[N] (±0.6[N]x15%). (Fig. 4)

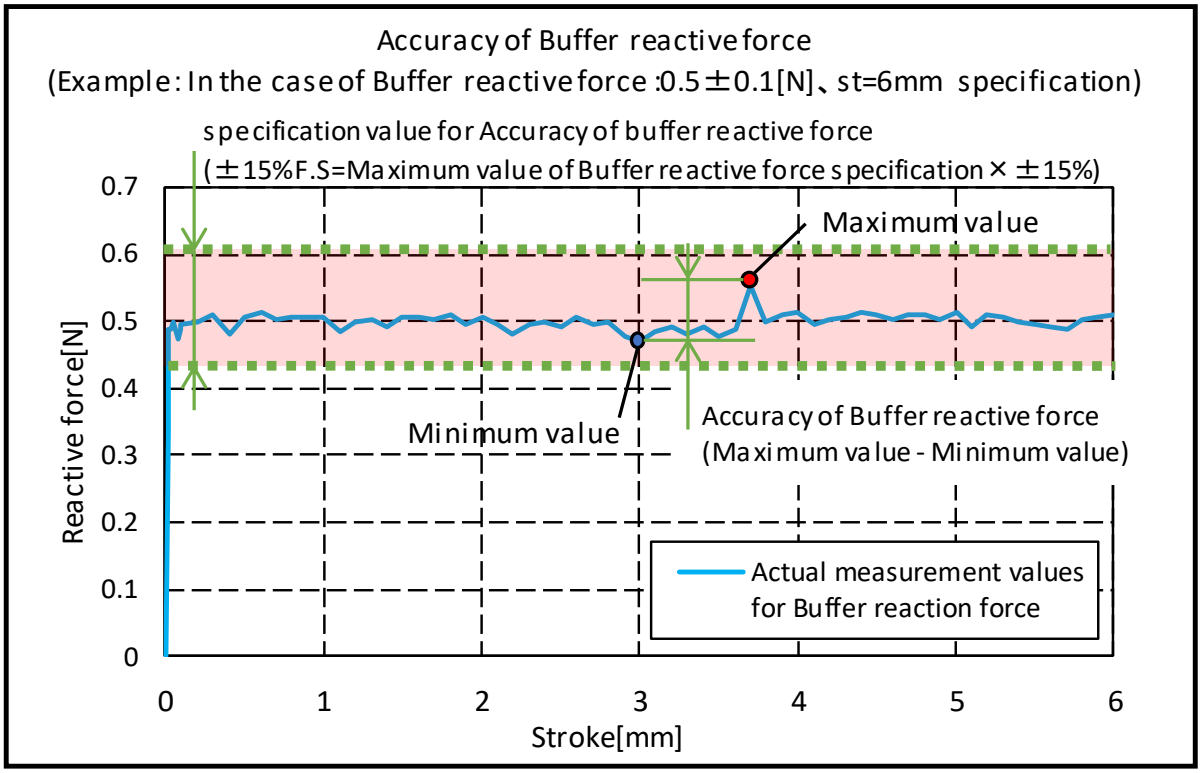


Fig.4. Accuracy of Buffer reactive force

2 Troubleshooting and Examples of non-conformance

Please refer to pages 29 to 32 of our Suction Cup catalog.

https://ca01.smcworld.com/catalog/BEST-technical-data-en/pdf/Vacuum-Common_en.pdf

Revision history
DOC1112701 Jan / 2025 1st printing Apr / 2026 Revision ・Addition of mounting nuts materials ・Add applicable suction cup

SMC Corporation

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URL https://www.smcworld.com

Magnet Buffer : ZP3B(1,2,3)M series applicable Suction Cup list

Model	ZP3B1M*	ZP3B2M*	ZP3B3M*
Buffer (mounting thread) size	M8x0.75	M10x1	M12x1
Thread size(Adapter for suction cup)	M3x0.5	M5x0.8	M5x0.8
Applicable symbol	○	●	◎

Series		ZP						ZP3			ZP2										
Cup form symbol		U	C	D	B	UT	CT	U	UM	B	MU	EU	AN	MT	J	MB	AU	ZJ	W	CL	S
Cup diameter [mm]	0.8												●								
	1.1												●								
	1.5							○													
	2	●◎						○			○	●◎					○	○			
	3																○				
	3.5							○			○										
	4	●◎							●◎	●◎	○	●◎				○	○	○		●◎	○
	5										○							●◎			
	6	●◎			●◎				●◎	●◎	●◎	●◎			●◎	●◎	●◎	●◎		●◎	●◎
	8	●◎			●◎				●◎	●◎	●◎	●◎				●◎	●◎			●◎	●◎
	9														●◎						
	10	●◎	●◎	●◎	●◎	●◎	●◎		●◎	●◎	●◎			●◎	●◎	●◎				●◎	●◎
	13	●◎	●◎		●◎	●◎	●◎		●◎	●◎											
	14														●◎						
	15										●◎	●◎		●◎	●◎	●◎					●◎
	16	●◎	●◎	●◎	●◎	●◎	●◎		●◎	●◎					●◎					●◎	
	20	●◎	●◎		●◎									●◎		●◎					
	25	◎	◎	◎	◎									◎	◎					◎	
	30													◎	◎						
	32	◎	◎		◎															◎	
	40	×	×	×	×															×	
	50	×	×		×															×	
	2x4	●◎																			
	3.5x7	●◎																			
	4x10	●◎																			
	3.5x7																		×		
	4x10																		×		
	5x10																		×		
	6x10																		×		
	4x20																		×		
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	8x20																		×		
	4x30																		×		
	5x30																		×		
	6x30																		×		
	8x30																		×		

Note) Items marked with an “×” in the table are not available.

Magnet Buffer：ZP3B(1,2,3)M series applicable Suction Cup list

ZP3B1M* Applicable Suction Cup

Suction Cup with adapter[Secondary battery compatible]

	Adapter unit	Cup unit
ZP3S-T015U□-A3	ZP3SA-T1-A3	ZP3-015U□
ZP3S-T02U□-A3		ZP3-02U□
ZP3S-T035U□-A3		ZP3-035U□

□ shows material symbol (N,S,U,F,GN,GS).

Suction Cup with adapter

	Adapter unit	Cup unit
ZP3-T015U□-A3	ZP3A-T1-A3	ZP3-015U□
ZP3-T02U□-A3		ZP3-02U□
ZP3-T035U□-A3		ZP3-035U□
ZP2-TB02MU□-A3	ZP2A-M01P	ZP2-B02MU□
ZP2-TB035MU□-A3		ZP2-B035MU□
ZP2-TB04MU□-A3		ZP2-B04MU□
ZP2-TB05MU□-A3		ZP2-B05MU□
ZP2-TB04MB□-A3	ZP2A-M01P	ZP2-B04MB□
ZP2-T02AU□-A3	ZP2A-T1AU-A3	ZP2-02AU□
ZP2-T03AU□-A3		ZP2-03AU□
ZP2-T04AU□-A3		ZP2-04AU□
ZP2-T02ZJ□-A3	ZP2A-T02ZJ-A3	ZP2-02ZJ□
ZP2-T04ZJ□-A3	ZP2A-T04ZJ-A3	ZP2-04ZJ□
ZP2-T04SGE-A3	ZP2A-S01P	ZP2-04SGE
ZP2-T04SDGE-A3		ZP2-04SDGE

□ shows material symbol (N,S,U,F,GN,GS).

ZP3B2M* Applicable Suction Cup

Suction Cup with adapter[Secondary battery compatible]

	Adapter unit	Cup unit
ZPST02U□-A5	MS-5AU-6-X112	ZP02U□
ZPST04U□-A5		ZP04U□
ZPST06U□-A5		ZP06U□
ZPST08U□-A5		ZP08U□
ZPST10U□-AS5	ZPST2-AS5	ZPS10U□
ZPST13U□-AS5		ZPS13U□
ZPST16U□-AS5		ZPS16U□
ZPST20U□-AS5	ZPST3-AS5	ZPS20U□
ZPST2004U□-A5	MS-5AU-6-X112	ZP2004U□
ZPST3507U□-A5		ZP3507U□
ZPST4010U□-A5		ZP4010U□
ZPST10C□-A5	ZPST2-AS5	ZPS10C□
ZPST13C□-A5		ZPS13C□
ZPST16C□-A5		ZPS16C□
ZPST20C□-A5	ZPST3-AS5	ZPS20C□
ZPST10D□-A5	ZPST2-AS5	ZPS10D□
ZPST16D□-A5		ZPS16D□
ZPST06B□-A5	ZPST2-AS5	ZP06B□
ZPST08B□-A5		ZP08B□
ZPST10B□-AS5	ZPST3-AS5	ZPS10B□
ZPST13B□-AS5		ZPS13B□
ZPST16B□-AS5		ZPS16B□
ZPST20B□-AS5	ZPST3-AS5	ZPS20B□
ZPST10UT□-A5	MS-5AU-6-X112	ZP10UT□
ZPST13UT□-A5		ZP13UT□
ZPST16UT□-A5		ZP16UT□
ZPST10CT□-A5		ZP10CT□
ZPST13CT□-A5		ZP13CT□
ZPST16CT□-A5		ZP16CT□
ZP3S-T04UM□-A5	ZP3SA-T2-A5	ZP3-04UM□
ZP3S-T06UM□-A5		ZP3-06UM□
ZP3S-T08UM□-A5		ZP3-08UM□
ZP3S-T10UM□-A5	ZP3SA-T3-A5	ZP3-10UM□
ZP3S-T13UM□-A5		ZP3-13UM□
ZP3S-T16UM□-A5		ZP3-16UM□
ZP3S-T04B□-A5	ZP3SA-T2-A5	ZP3-04B□
ZP3S-T06B□-A5		ZP3-06B□
ZP3S-T08B□-A5		ZP3-08B□
ZP3S-T10B□-A5	ZP3SA-T3-A5	ZP3-10B□
ZP3S-T13B□-A5		ZP3-13B□
ZP3S-T16B□-A5		ZP3-16B□

□ shows material symbol (N,S,U,F,GN,GS).

Suction Cup with adapter

	Adapter unit	Cup unit
ZPT02U□-A5	ZPT1-A5	ZP02U□
ZPT04U□-A5		ZP04U□
ZPT06U□-A5		ZP06U□
ZPT08U□-A5		ZP08U□
ZPT10U□-AS5	ZPT2-AS5	ZP10U□
ZPT13U□-AS5		ZP13U□
ZPT16U□-AS5		ZP16U□
ZPT20U□-AS5	ZPT3-AS5	ZP20U□
ZPT2004U□-A5	ZPT1-A5	ZP2004U□
ZPT3507U□-A5		ZP3507U□
ZPT4010U□-A5		ZP4010U□
ZPT10C□-A5	ZPT2-AS5	ZP10C□
ZPT13C□-A5		ZP13C□
ZPT16C□-A5		ZP16C□
ZPT20C□-A5	ZPT3-AS5	ZP20C□
ZPT10D□-A5	ZPT2-AS5	ZP10D□
ZPT16D□-A5		ZP16D□
ZPT25D□-A5	ZPT3-AS5	ZP25D□
ZPT06B□-A5	ZPT2-AS5	ZP06B□
ZPT08B□-A5		ZP08B□
ZPT10B□-AS5	ZPT3-AS5	ZP10B□
ZPT13B□-AS5		ZP13B□
ZPT16B□-AS5		ZP16B□
ZPT20B□-AS5	ZPT3-AS5	ZP20B□
ZPT10UT□-A5	ZPT1-A5	ZP10UT□
ZPT13UT□-A5		ZP13UT□
ZPT16UT□-A5		ZP16UT□
ZPT10CT□-A5		ZP10CT□
ZPT13CT□-A5		ZP13CT□
ZPT16CT□-A5		ZP16CT□
ZP3-T04UM□-A5	ZP3A-T2-A5	ZP3-04UM□
ZP3-T06UM□-A5		ZP3-06UM□
ZP3-T08UM□-A5		ZP3-08UM□
ZP3-T10UM□-A5	ZP3A-T3-A5	ZP3-10UM□
ZP3-T13UM□-A5		ZP3-13UM□
ZP3-T16UM□-A5		ZP3-16UM□
ZP3-T04B□-A5	ZP3A-T2-A5	ZP3-04B□
ZP3-T06B□-A5		ZP3-06B□
ZP3-T08B□-A5		ZP3-08B□
ZP3-T10B□-A5	ZP3A-T3-A5	ZP3-10B□
ZP3-T13B□-A5		ZP3-13B□
ZP3-T16B□-A5		ZP3-16B□
ZP2-TB06MU□-A5	ZP2A-M02P	ZP2-B06MU□
ZP2-TB08MU□-A5		ZP2-B08MU□
ZP2-TB10MU□-A5	ZP2A-M02P	ZP2-B10MU□

□ shows material symbol (N,S,U,F,GN,GS).

Suction Cup with adapter

	Adapter unit	Cup unit
ZP2-TB15MU□-A5	ZP2A-M02P	ZP2-B15MU□
ZP2-TB02EU□-A5	ZP2A-Z01P	ZP2-B02EU□
ZP2-TB02EU□-H5	ZP2A-Z02P	
ZP2-TB04EU□-A5	ZP2A-Z01P	ZP2-B04EU□
ZP2-TB04EU□-H5	ZP2A-Z02P	
ZP2-TB06EU□-A5	ZP2A-Z01P	ZP2-B06EU□
ZP2-TB06EU□-H5	ZP2A-Z02P	
ZP2-T08EU□-A5	ZP2A-Z01P	ZP2-08EU□
ZP2-T08EU□-H5	ZP2A-Z02P	
ZP2-T15EU□-A5	ZP2A-Z01P	ZP2-15EU□
ZP2-T15EU□-H5	ZP2A-Z02P	
ZP2-T08AN□-A5	ZP2A-Z21P	ZP2-08AN□
ZP2-T11AN□-A5		ZP2-11AN□
ZP2-TB10MT○-A5	ZP2A-M08P	ZP2-B10MT○
ZP2-TB10MT○-H5	ZP2A-M02	
ZP2-TB10MT○-H5G	ZP2A-M02P	
ZP2-TB15MT○-A5	ZP2A-M08P	ZP2-B15MT○
ZP2-TB15MT○-H5	ZP2A-M02	
ZP2-TB15MT○-H5G	ZP2A-M02P	
ZP2-TB20MT○-A5	ZP2A-M09P	ZP2-B20MT○
ZP2-TB20MT○-H5	ZP2A-M03	
ZP2-TB20MT○-H5G	ZP2A-M03P	
ZP2-T06J□-A5	ZPT1-A5	ZP2-06J□
ZP2-T09J□-AS5	ZPT2-AS5	ZP2-09J□
ZP2-TB10J□-A5	ZPT1-A5	ZP2-B10J□
ZP2-T14J□-AS5	ZPT2-AS5	ZP2-14J□
ZP2-TB15J□-A5	ZPT1-A5	ZP2-B15J□
ZP2-T16J□-AS5	ZPT2-AS5	ZP2-16J□
ZP2-TB25J□-AS5	ZPT3-AS5	ZP2-B25J□
ZP2-TB30J□-AS5		ZP2-B30J□
ZP2-TB06MB□-H5	ZP2A-M02P	ZP2-B06MB□
ZP2-TB08MB□-H5		ZP2-B08MB□
ZP2-TB10MB□-H5	ZP2A-M05	ZP2-B10MB□
ZP2-TB15MB□-H5		ZP2-B15MB□
ZP2-TB20MB□-H5	ZP2A-M06	ZP2-B20MB□
ZP2-T06AU□-A5	ZP2A-T2AU-A5	ZP2-06AU□
ZP2-TB08AU□-A5		ZP2-B08AU□
ZP2-T05ZJ□-A5	ZP2A-T05ZJ-A5	ZP2-05ZJ□
ZP2-T06ZJ□-A5	ZP2A-T06ZJ-A5	ZP2-06ZJ□
ZP2-T06SGE-A5	ZP2A-S02P	ZP2-06SGE
ZP2-T06SDGE-A5		ZP2-06SDGE
ZP2-T08SGE-A5	ZP2A-S03P	ZP2-08SGE
ZP2-T08SDGE-A5		ZP2-08SDGE
ZP2-T10SGE-A5	ZP2A-S04P	ZP2-10SGE
ZP2-T10SDGE-A5		ZP2-10SDGE
ZP2-T15SGE-A5	ZP2A-S05P	ZP2-15SGE
ZP2-T15SDGE-A5		ZP2-15SDGE

□ shows material symbol (N,S,U,F,GN,GS).
○ shows material symbol (N,S,F,GN,GS)

ZP3B3M* Applicable Suction Cup

Suction Cup with adapter[Secondary battery compatible]

	Adapter unit	Cup unit
ZPST02U□-A5	MS-5AU-6-X112	ZP02U□
ZPST04U□-A5		ZP04U□
ZPST06U□-A5		ZP06U□
ZPST08U□-A5		ZP08U□
ZPST10U□-AS5	ZPST2-AS5	ZPS10U□
ZPST13U□-AS5		ZPS13U□
ZPST16U□-AS5		ZPS16U□
ZPST20U□-AS5	ZPST3-AS5	ZPS20U□
ZPST25U□-AS5		ZPS25U□
ZPST32U□-AS5		ZPS32U□
ZPST2004U□-A5	MS-5AU-6-X112	ZP2004U□
ZPST3507U□-A5		ZP3507U□
ZPST4010U□-A5		ZP4010U□
ZPST10C□-A5	ZPST2-AS5	ZPS10C□
ZPST13C□-A5		ZPS13C□
ZPST16C□-A5		ZPS16C□
ZPST20C□-A5	ZPST3-AS5	ZPS20C□
ZPST25C□-A5		ZPS25C□
ZPST32C□-A5		ZPS32C□
ZPST10D□-A5	ZPST2-AS5	ZPS10D□
ZPST16D□-A5		ZPS16D□
ZPST25D□-A5	ZPST3-AS5	ZPS25D□
ZPST06B□-A5	ZPST2-AS5	ZP06B□
ZPST08B□-A5		ZP08B□
ZPST10B□-A5	ZPST3-AS5	ZPS10B□
ZPST13B□-A5		ZPS13B□
ZPST16B□-A5		ZPS16B□
ZPST20B□-A5	ZPST3-AS5	ZPS20B□
ZPST25B□-A5		ZPS25B□
ZPST32B□-A5		ZPS32B□
ZPST10UT□-A5	MS-5AU-6-X112	ZP10UT□
ZPST13UT□-A5		ZP13UT□
ZPST16UT□-A5		ZP16UT□
ZPST10CT□-A5		ZP10CT□
ZPST13CT□-A5		ZP13CT□
ZPST16CT□-A5		ZP16CT□

□ shows material symbol (N,S,U,F,GN,GS).

Suction Cup with adapter

	Adapter unit	Cup unit
ZPT02U□-A5	ZPT1-A5	ZP02U□
ZPT04U□-A5		ZP04U□
ZPT06U□-A5		ZP06U□
ZPT08U□-A5		ZP08U□
ZPT10U□-AS5	ZPT2-AS5	ZP10U□
ZPT13U□-AS5		ZP13U□
ZPT16U□-AS5		ZP16U□
ZPT20U□-AS5	ZPT3-AS5	ZP20U□
ZPT25U□-AS5		ZP25U□
ZPT32U□-AS5		ZP32U□
ZPT2004U□-A5	ZPT1-A5	ZP2004U□
ZPT3507U□-A5		ZP3507U□
ZPT4010U□-A5		ZP4010U□
ZPT10C□-AS5	ZPT2-AS5	ZP10C□
ZPT13C□-AS5		ZP13C□
ZPT16C□-AS5		ZP16C□
ZPT20C□-AS5	ZPT3-AS5	ZP20C□
ZPT25C□-AS5		ZP25C□
ZPT32C□-AS5		ZP32C□
ZPT10D□-AS5	ZPT2-AS5	ZP10D□
ZPT16D□-AS5		ZP16D□
ZPT25D□-AS5	ZPT3-AS5	ZP25D□
ZPT06B□-A5	ZPT1-A5	ZP06B□
ZPT08B□-A5		ZP08B□
ZPT10B□-AS5	ZPT2-AS5	ZP10B□
ZPT13B□-AS5		ZP13B□
ZPT16B□-AS5		ZP16B□
ZPT20B□-AS5	ZPT3-AS5	ZP20B□
ZPT25B□-AS5		ZP25B□
ZPT32B□-AS5		ZP32B□
ZPT10UT□-A5	ZPT1-A5	ZP10UT□
ZPT13UT□-A5		ZP13UT□
ZPT16UT□-A5		ZP16UT□
ZPT10CT□-A5		ZP10CT□
ZPT13CT□-A5		ZP13CT□
ZPT16CT□-A5		ZP16CT□

□ shows material symbol (N,S,U,F,GN,GS).

Suction Cup with adapter

	Adapter unit	Cup unit
ZP3-T04UM□-A5	ZP3A-T2-A5	ZP3-04UM□
ZP3-T06UM□-A5		ZP3-06UM□
ZP3-T08UM□-A5		ZP3-08UM□
ZP3-T10UM□-A5	ZP3A-T3-A5	ZP3-10UM□
ZP3-T13UM□-A5		ZP3-13UM□
ZP3-T16UM□-A5		ZP3-16UM□
ZP3-T04B□-A5	ZP3A-T2-A5	ZP3-04B□
ZP3-T06B□-A5		ZP3-06B□
ZP3-T08B□-A5		ZP3-08B□
ZP3-T10B□-A5	ZP3A-T3-A5	ZP3-10B□
ZP3-T13B□-A5		ZP3-13B□
ZP3-T16B□-A5		ZP3-16B□
ZP2-TB06MU□-A5	ZP2A-M02P	ZP2-B06MU□
ZP2-TB08MU□-A5		ZP2-B08MU□
ZP2-TB10MU□-A5		ZP2-B10MU□
ZP2-TB02EU□-A5	ZP2A-Z01P	ZP2-B02EU□
ZP2-TB02EU□-H5	ZP2A-Z02P	
ZP2-TB04EU□-A5	ZP2A-Z01P	ZP2-B04EU□
ZP2-TB04EU□-H5	ZP2A-Z02P	
ZP2-TB06EU□-A5	ZP2A-Z01P	ZP2-B06EU□
ZP2-TB06EU□-H5	ZP2A-Z02P	
ZP2-T08EU□-A5	ZP2A-Z01P	ZP2-08EU□
ZP2-T08EU□-H5	ZP2A-Z02P	
ZP2-T15EU□-A5	ZP2A-Z01P	ZP2-15EU□
ZP2-T15EU□-H5	ZP2A-Z02P	
ZP2-T08AN□-A5	ZP2A-Z21P	ZP2-08AN□
ZP2-T11AN□-A5		ZP2-11AN□
ZP2-TB10MT○-A5	ZP2A-M08P	ZP2-B10MT○
ZP2-TB10MT○-H5G	ZP2A-M02P	
ZP2-TB15MT○-A5	ZP2A-M08P	ZP2-B15MT○
ZP2-TB15MT○-H5G	ZP2A-M02P	
ZP2-TB20MT○-A5	ZP2A-M09P	ZP2-B20MT○
ZP2-TB20MT○-H5G	ZP2A-M03P	
ZP2-TB25MT○-A5	ZP2A-M09P	ZP2-B25MT○
ZP2-TB25MT○-H5G	ZP2A-M03P	

□ shows material symbol (N,S,U,F,GN,GS).
○ shows material symbol (N,S,F,GN,GS)

Suction Cup with adapter

	Adapter unit	Cup unit
ZP2-TB30MT○-A5	ZP2A-M09P	ZP2-B30MT○
ZP2-TB30MT○-H5G	ZP2A-M03P	
ZP2-T06J□-A5	ZPT1-A5	ZP2-06J□
ZP2-T09J□-AS5	ZPT2-AS5	ZP2-09J□
ZP2-TB10J□-A5	ZPT1-A5	ZP2-B10J□
ZP2-T14J□-AS5	ZPT2-AS5	ZP2-14J□
ZP2-TB15J□-A5	ZPT1-A5	ZP2-B15J□
ZP2-T16J□-AS5	ZPT2-AS5	ZP2-16J□
ZP2-TB25J□-AS5	ZPT3-AS5	ZP2-B25J□
ZP2-TB30J□-AS5		ZP2-B30J□
ZP2-TB06MB□-H5	ZP2A-M02P	ZP2-B06MB□
ZP2-TB08MB□-H5		ZP2-B08MB□
ZP2-TB10MB□-H5	ZP2A-M05	ZP2-B10MB□
ZP2-TB15MB□-H5		ZP2-B15MB□
ZP2-TB20MB□-H5	ZP2A-M06	ZP2-B20MB□
ZP2-T06AU□-A5	ZP2A-T2AU-A5	ZP2-06AU□
ZP2-TB08AU□-A5		ZP2-B08AU□
ZP2-T05ZJ□-A5	ZP2A-T05ZJ-A5	ZP2-05ZJ□
ZP2-T06ZJ□-A5	ZP2A-T06ZJ-A5	ZP2-06ZJ□
ZP2-T06SGE-A5	ZP2A-S02P	ZP2-06SGE
ZP2-T06SDGE-A5		ZP2-06SDGE
ZP2-T08SGE-A5	ZP2A-S03P	ZP2-08SGE
ZP2-T08SDGE-A5		ZP2-08SDGE
ZP2-T10SGE-A5	ZP2A-S04P	ZP2-10SGE
ZP2-T10SDGE-A5		ZP2-10SDGE
ZP2-T15SGE-A5	ZP2A-S05P	ZP2-15SGE
ZP2-T15SDGE-A5		ZP2-15SDGE

□ shows material symbol (N,S,U,F,GN,GS).
○ shows material symbol (N,S,F,GN,GS)