

Vacuum Gripper for Collaborative Robots

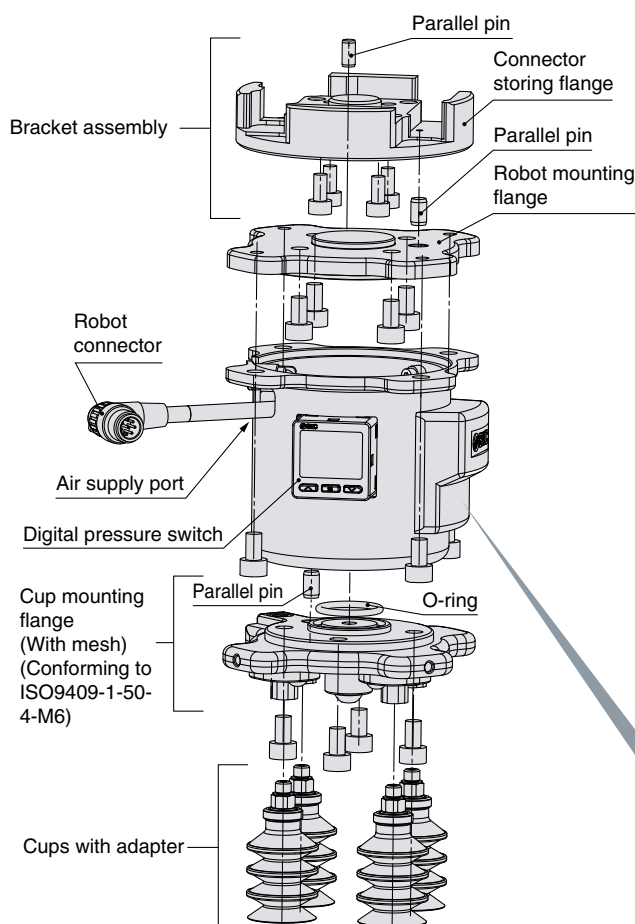
Mitsubishi Electric Corporation collaborative robot

MELFA ASSISTA compliant



Operate by simply connecting 1 compressed air supply tube and an electrical wiring M12 connector.

- Integrated vacuum ejector, air supply valve, pressure switch, and cups
- Features a rounded appearance without corners
- A wide variety of cup variations are available to support a wide range of workpieces.



Specifications

Common	Applicable fluid	Air
	Operating temperature range [°C]	5 to 50
	Weight [g]*3	1018 (793)
	Max. work load [kg]*4	7
	Air pressure supply (P) port	One-touch fitting (ø6)
	Power supply voltage [V]	24 VDC ±10%
Vacuum ejector	Connector type	M12 8-pin connector (Plug)
	Max. vacuum pressure [kPa]*5	-84
	Suction flow rate [L/min (ANR)]*5	17
	Air consumption [L/min (ANR)]*5	57
	Supply pressure range [MPa]	0.3 to 0.55
	Standard supply pressure [MPa]*6	0.5
Pressure switch	Rated pressure range [kPa]	0 to -101
	Display accuracy	±2% F.S. ±1 digit (Ambient temperature of 25 ±3°C)
	Repeatability	±0.2% F.S. ±1 digit
	Temperature characteristics	±2% F.S. (25°C conversion)

■ Included parts: Robot mounting flange, Parallel pin, Mounting bolt, Connector storing flange, Cups with adapter*1, Bolt for plug*2, Coil tube for piping (ø6), Piping fittings (3 types)

*1 Included only with cups

*2 Included only for the ZXP7A

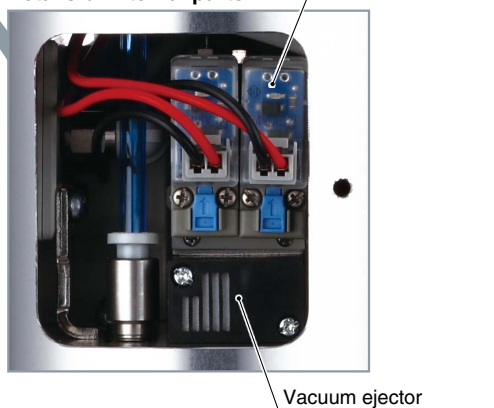
*3 The weight in brackets refers to the weight of the product without a cup mounting flange. Add the weight of the suction cups with adapter for the weight with cups. (Refer to the "Suction Cup Part Numbers and Weight" on page 6.)

*4 May be restricted depending on the cup diameter, mounting orientation, or workpiece. Please use within the max. work load. Suction and transfer exceeding the max. work load may result in reduced vacuum pressure due to air leakage.

*5 Values are at the standard supply pressure and based on SMC's measurement standards. They depend on atmospheric pressure (weather, altitude, etc.) and the measurement method.

*6 This value indicates the pressure right before the air pressure supply (P) port when vacuum is generated. The pressure right before the P port of the vacuum gripper when vacuum is generated may fall below 0.5 MPa due to the air supply capacity, piping size, and the amount of air being consumed by other devices being operated simultaneously.

Details of internal parts



Vacuum Gripper

Magnet Gripper

Air Gripper

Combination part no. **ZXP 7** - **X1** - **ASSISTA**

1 2 3 4 5 6 7 8

*1 Refer to the table below for the applicable cups. For models with cups, 4 cups with adapters are included in the package.

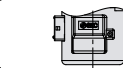
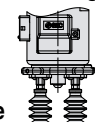
1 Body size

Symbol	Size
7	75 mm

2 Cup mounting flange shape

Symbol	Flange shape
A	With flange (42 mm x 42 mm)
N	Without flange

With flange Without flange



* Customers selecting the product without a cup mounting flange will be required to produce a flange that matches the mounting dimensions on their own.

5 Cup form

Symbol	Cup form
U	Flat
C	Flat with rib
B	Bellows
UT	Thin flat
J	Multistage bellows
JT2	2.5-stage bellows
JT5	5.5-stage bellows
Nil	Without cup

6 Cup material

Symbol	Material
N	NBR
S	Silicone rubber (White)*2
U	Urethane rubber
F	FKM
SF	Silicone rubber (Blue)*2
Nil	Without cup

*2 The silicone material is compliant with the FDA (U.S. Food and Drug Administration) regulation 21CFR§177.

3 Cup series

Symbol	Cup series
ZP	Basic
ZP3P	Bellows type for film packaging workpieces
Nil	Without cup

7 Attachment*3

Symbol	Attachment
Nil	With (guide) attachment
M	With mesh attachment

*3 Only applicable to the cup form "JT□." Note that "M" applies only to cup form: JT2.

4 Cup diameter

Symbol	Cup diameter	Symbol	Cup diameter
08	ø8	25	ø25
10	ø10	B25	ø25
13	ø13	B30	ø30
16	ø16	32	ø32
20	ø20	Nil	Without cup

8 Pressure switch output specifications/Unit

Symbol	Output/Unit
Nil	NPN/With unit switching function*4
A	NPN/SI unit only*5
B	NPN/With unit switching function (Initial value psi)*4
C	PNP/With unit switching function*4
D	PNP/SI unit only*5
E	PNP/With unit switching function (Initial value psi)*4

*4 Under the New Measurement Act, switches with the unit switching function are not permitted for use in Japan.

*5 Fixed unit: kPa, MPa

*1

Suction Cup Part Numbers and Weight

Part No. **ZXP7(A,N)** - - **X1** - **ASSISTA**

3 4 5 6 7

Applicable cups

3 Cup series	4 Cup diameter	5 Cup form	6 Cup material	7 Attachment
ZP	08	U	□	
ZP	08	B	□	
ZP	10	UT	□	
ZP	13	UT	□	
ZP	16	UT	□	
ZP	10	U	□	
ZP	13	U	□	
ZP	16	U	□	
ZP	20	U	□	
ZP	25	U	□	
ZP	32	U	□	
ZP	10	C	□	
ZP	13	C	□	
ZP	16	C	□	
ZP	20	C	□	
ZP	25	C	□	
ZP	32	C	□	
ZP	10	B	□	
ZP	13	B	□	
ZP	16	B	□	
ZP	20	B	□	
ZP	25	B	□	
ZP	32	B	□	
ZP	20	UT	□	
ZP	16	J	□	
ZP	B25	J	□	
ZP	B30	J	□	
ZP3P	20	JT2	SF	
ZP3P	20	JT2	SF	M
ZP3P	32	JT2	SF	
ZP3P	32	JT2	SF	M
ZP3P	20	JT5	SF	
ZP3P	25	JT5	SF	
ZP3P	32	JT5	SF	

Cup part numbers

Part no.	Cup with adapter Weight by cup material (g/cup)				Adapter unit (Vacuum inlet: Male thread M6 x 1)	Cup unit
	N (NBR)	S/SF (Silicone)	U (Urethane)	F (FKM)		
ZPT08U□-A6	4	4	4	4	ZPT1-A6	ZP08U□
ZPT08B□-A6	4	4	4	4		ZP08B□
ZPT10UT□-A6	4	4	4	4		ZP10UT□
ZPT13UT□-A6	4	4	4	4		ZP13UT□
ZPT16UT□-A6	4	4	4	4		ZP16UT□
ZPT10U□-AS6	7	7	7	7	ZPT2-AS6	ZP10U□
ZPT13U□-AS6	7	7	7	8		ZP13U□
ZPT16U□-AS6	7	7	7	8		ZP16U□
ZPT20U□-AS6	9	10	10	10		ZP20U□
ZPT25U□-AS6	10	10	10	11		ZP25U□
ZPT32U□-AS6	10	11	11	12	ZPT3-AS6	ZP32U□
ZPT10C□-AS6	7	7	7	7		ZP10C□
ZPT13C□-AS6	7	7	7	7		ZP13C□
ZPT16C□-AS6	7	7	7	8		ZP16C□
ZPT20C□-AS6	9	10	10	11		ZP20C□
ZPT25C□-AS6	10	10	10	11	ZPT2-AS6	ZP25C□
ZPT32C□-AS6	10	11	11	12		ZP32C□
ZPT10B□-AS6	7	7	7	8		ZP10B□
ZPT13B□-AS6	7	8	8	8		ZP13B□
ZPT16B□-AS6	8	8	8	9		ZP16B□
ZPT20B□-AS6	11	11	11	13	ZPT3-AS6	ZP20B□
ZPT25B□-AS6	11	12	12	14		ZP25B□
ZPT32B□-AS6	14	15	15	18		ZP32B□
ZPG20UT□-7A-X2	4	4	4	4		ZP2-20UT□
ZPG16J□-7A-X2	8	8	8	9		ZP2-16J□
ZPGB25J□-7A-X2	14	15	15	18	ZPT1-A6	ZP2-B25J□
ZPGB30J□-7A-X2	18	19	19	25		ZP2-B30J□
ZP3PG20JT2SF-7A-X2	—	21	—	—		ZP3P-20JT2SF-W
ZP3PG20JT2SF-M-7A-X2	—	21	—	—		ZP3P-20JT2SF-WM
ZP3PG32JT2SF-7A-X2	—	48	—	—	ZPT2-AS6	ZP3P-32JT2SF-W
ZP3PG32JT2SF-M-7A-X2	—	48	—	—		ZP3P-32JT2SF-WM
ZP3PG20JT5SF-7A-X2	—	23	—	—		ZP3P-20JT5SF-WG
ZP3PG25JT5SF-7A-X2	—	25	—	—		ZP3P-25JT5SF-WG
ZP3PG32JT5SF-7A-X2	—	54	—	—		ZP3P-32JT5SF-WG

* Refer to the **Web Catalog** for details on suction cups.

Input the material symbol ("N," "S," "U," or "F") into the □ in the part number.