

# Aovita

## 冲压端拾器 选型样册

PRESS AUTOMATION TOOLING CATALOGUE  
FOR MODELS SELECTION

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ROBOTIC GRIPPING STANDARD PRODUCTS

└ 冲压端拾器选型样册

PRESS AUTOMATION TOOLING CATALOGUE FOR MODEIS SELECTION



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济南奥图科技有限责任公司  
Jinan Aotto Technologies Co., Ltd.

Since **2000**

With the rapid development of manufacturing industries such as automobiles and home appliances, automatic stamping lines become the main equipment for stamping production. Whether using robotic manipulator or general-purpose robots, the transmission of stamping parts cannot be separated from picking up. After nearly 20 years of development and precipitation, the Aovita EOAT has formed a series of products, which can not only provide solutions from high-speed lines to general applicatons, but also provide solutions to multiple foreign brands of stamping automation line. Aovita EOAT are divided into D series products suitable for high-speed line and E series products suitable for medium and low-speed lines based on the acceleration of the manipulator and the robots.



De-stack EOAT

Applied to the FOL of the stamping line, using the principle of vacuum grabbing, the sheet metal is picked up one by one from the palletizing of the loading trolley and sent to the next process. Dual material detection sensors and anti-pressure sensors are usually integrated to the de-stack EOAT.



Loading/Transfer EOAT

Applied to the transmission between medium and low speed lines, irregular or porous workpieces can be grabbed by using magnetic suction cups.



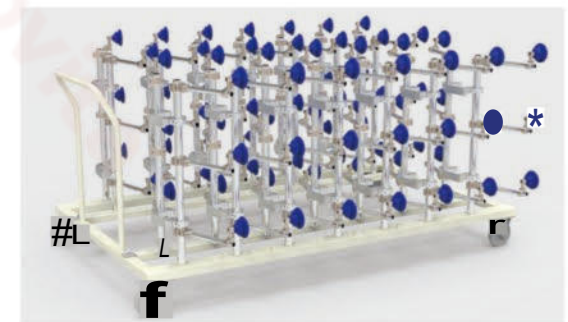
Loading/Transfer EOAT

Applied to the transmission between presses for high speed stamping lines (Stroke > 12spm)



Idle station

When there is no mold for the stamping processing, it can use the Idle to support the parts.

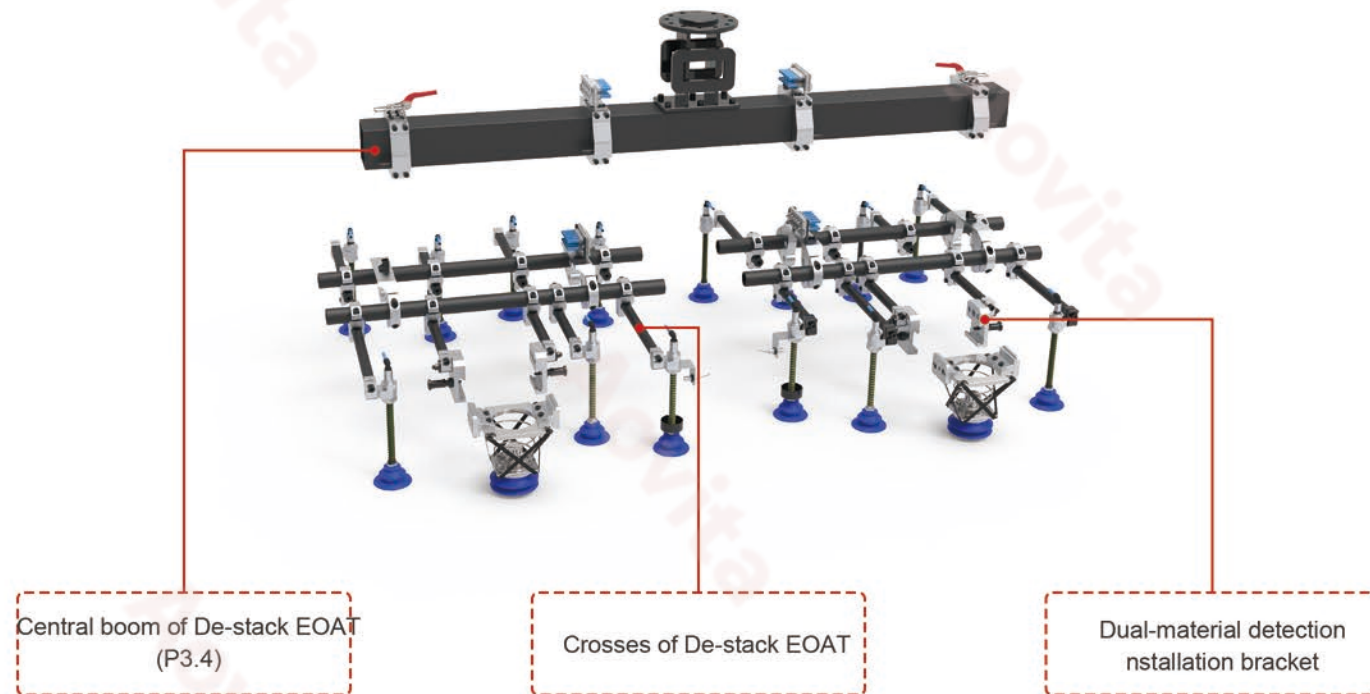


EOAT Cart

The cart for stocking and transferring the EOAT



#### ◆ Composition of the De-stack EOAT



#### □ Advantages of D series

Accept carbon fiber material, the weight is lighter and has strong fracture resistance, suitable for high-speed lines such as double/single seven axis linear robot for and big and heavy workpieces of the stamping lines.

- Optimizing the production line stroke and improving the economic efficiency of automation lines.
- To reduce the labor intensity of changing the EOAT
- To reduce the energy consumption and extending the life of robots

#### □ Characters of E series

Made of aluminum alloy material, suitable for medium and low speed production lines.

- Low disposable investment cost

Accept high-strength aviation aluminum materials to ensure the strength requirements

#### □ Normal model of De-stack EOAT



AD-T20 De-stack EOAT

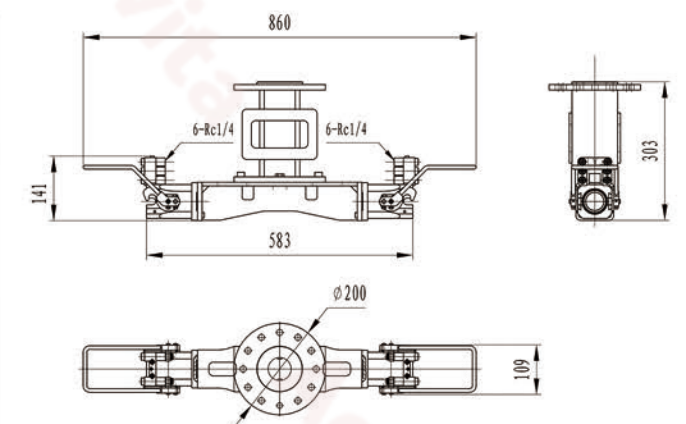


AD-T40 De-stack EOAT

#### ◆ Central boom of DE-stack EOAT

Item	Model	Workpiece weight (kg)	Air holes	Electrical Path	Weight(kg)	Material
Central boom of De-stack EOAT	AD-T20	≤20	L6+R6		11	Steel+high carbon fiber
	AD-T40	≤40	L10+R10	Left-5 pins+ Right 5 pins	17	
	AE-T20	≤20	L6+R6		16	Steel+high Alum.
	AE-T40	≤40	L10+R10		31	

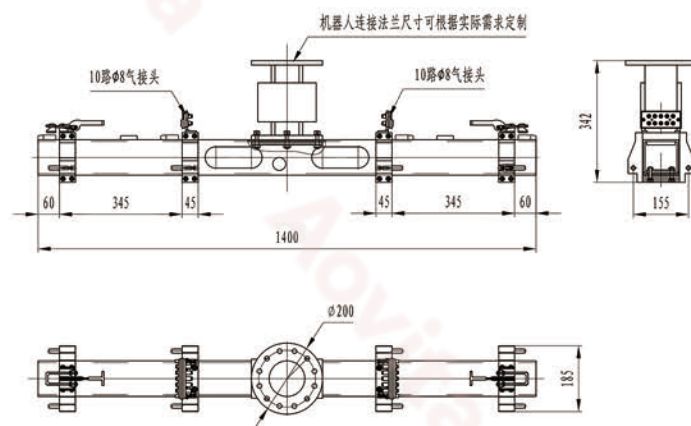
#### □ AT-D20 Central boom of De-stack EOAT



Product size

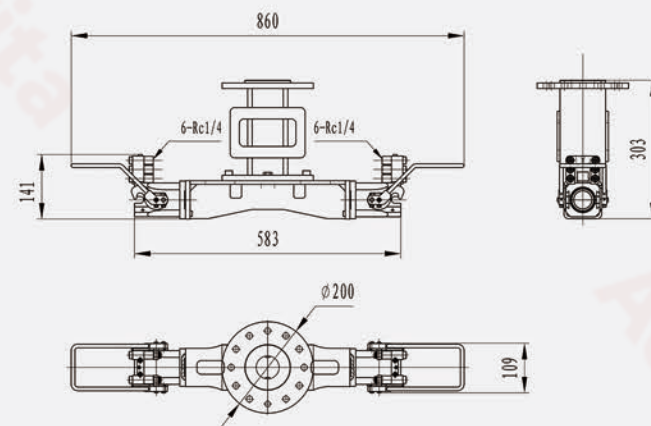
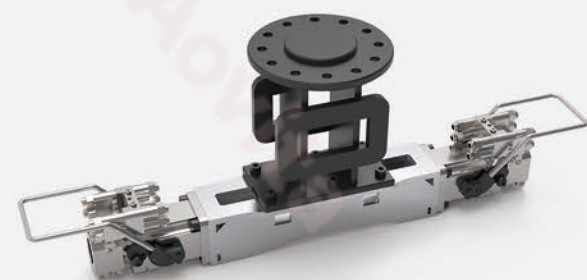


□ AT-T40 Central boom of De-stack EOAT



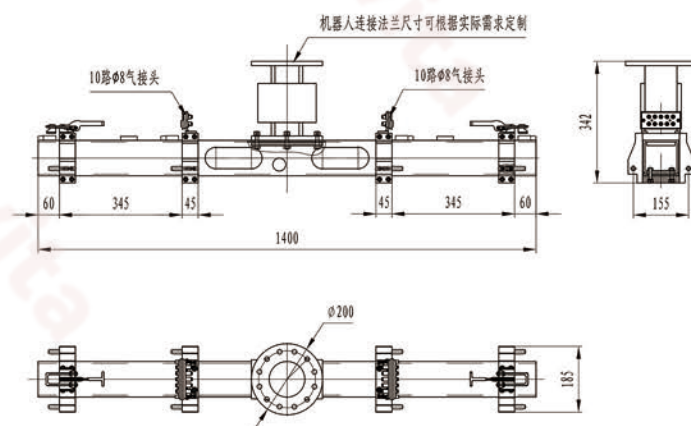
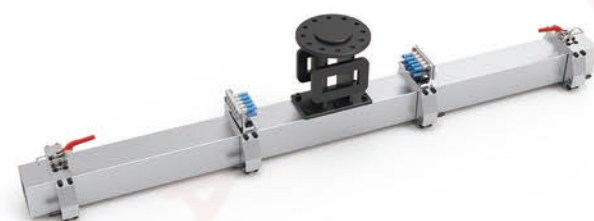
Product size

□ AE-T20 Central boom of De-stack EOAT



Product size

□ AE-T40 Central Boom of De-stack EOAT



Product size

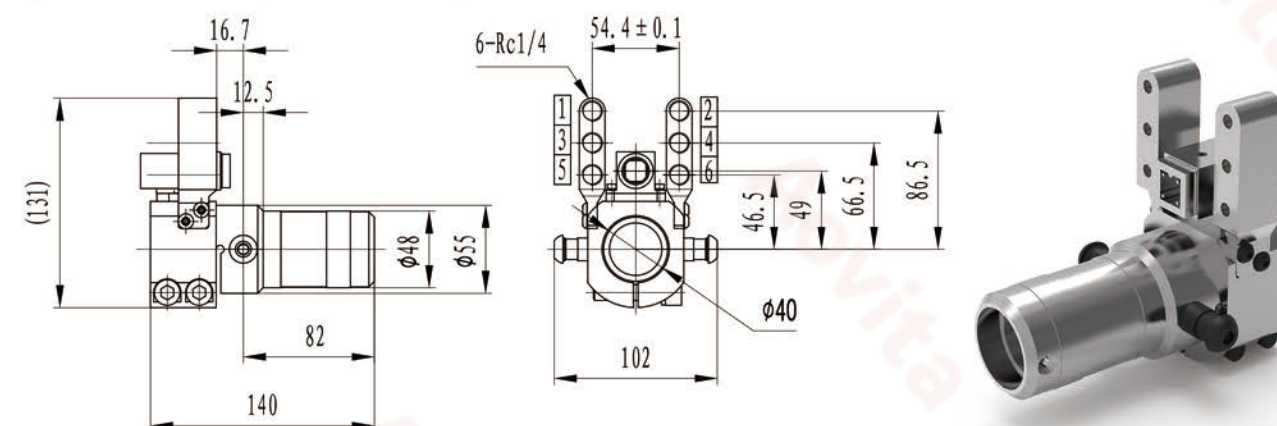
◆ Structures of De-Stack EOAT、



According to the main structure, workpieces size and weight to confirm the branches model and the vacuum suctions.

◆ Common components of De-stack EOAT crosses

□ QCE-40-MP

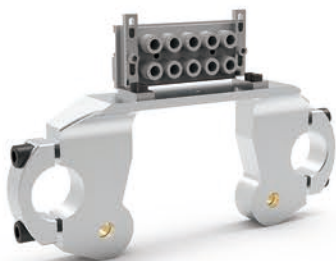


QCA-40-MP						
Item	Model	Air holes	Electrical path	Max static load(N.M)	Weight(kg)	Material
快换插头	QCA-40-MP-6-0	6	0	305	0.70	Alloy steel main body, Steel pins
	QCA-40-MP-6-5		5		0.75	

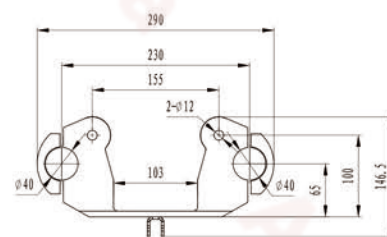
□ QCE-40-MP



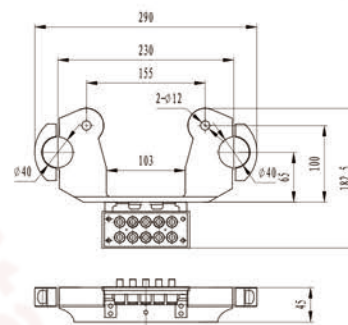
Male quick changer QCE-40-MP-A(with holder)



Male quick changer QCE-40-MP-A(with air ports)



Product size

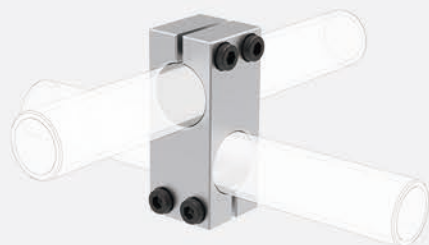


Product size

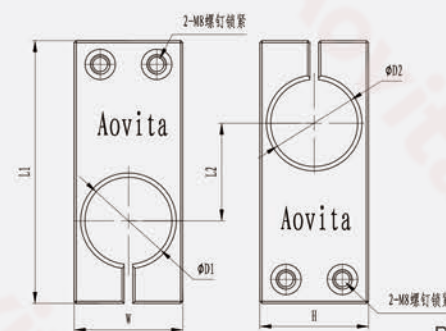
QCE*40-MP						
No	名称	Model	Air holes	Main function	Weight(kg)	Material
1	Male quick changer (with holder)	QCE-40-MP-A	0	Locked	1.15	Alloy steel main body, Self-lubricating copper sleeve
2	Male quick changer (with air ports)	QCE-40-MP-B	10(φ8)	Air connection	1.20	

Remark: Adapt to AD/E-T40 destack EOAT boom: 2. Male quick changer QCE-40-MP-B (with air ports) could connect with the air tube

□ CP-A



Application



Product size

CP-A									
No	Model	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	W (mm)	H (mm)	Weight(kg)	Material
1	CP-A-40-40	40	40	121	45	50	50	0.41	High Strength alloy
2	CP-A-25-25	25	25	91	31	35	35	0.21	

□ AB-B Alum. Tube



□ CB-B carbon fiber tube



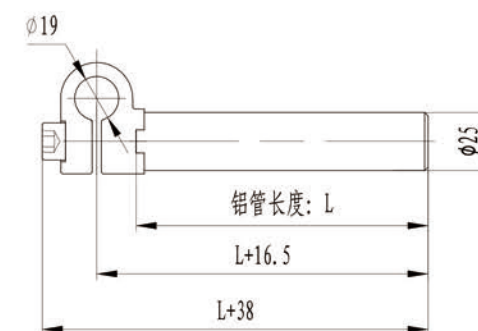
□ Material: High Strength Alloy

□ Model AB-B-----XXX-----L(Required Length)			
Alum. Tube			
1. Section: φ40*4	100-3000	Weight(kg)	
2. Section: φ25*8.25	125	0.64	
	150	0.28	
25mm Customized size			

□ Material: Carbon fiber

□ Model CB-B-----XXX-----L(Required Length)			
Carbon fiber tube			
1. Section: φ40*3.5	100-3000	Weight(kg)	
2. Section: φ25*2.5	125	0.64	
	150	0.28	
25mm Customized size			

□ D-EX extended tube (single joint)



Product size

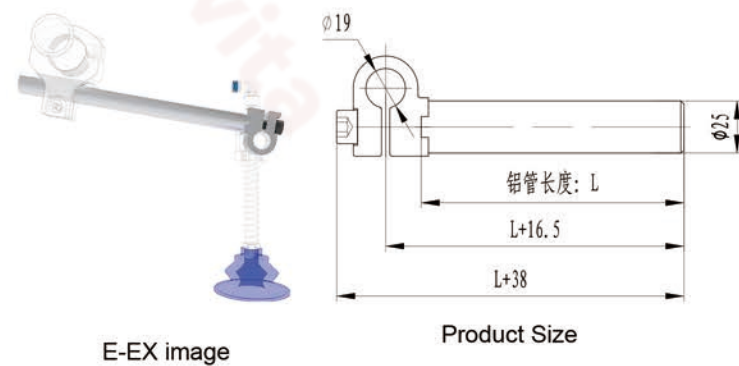


D-EX image

D-EX extended tube (single joint)				
No	Model	L (mm)	Weight(kg)	Material
1	D-EX-19-25-100	100	0.155	Carbon fiber + Alum. Joint
2	D-EX-19-25-150	150	0.17	
3	D-EX-19-25-200	200	0.185	
4	D-EX-19-25-250	250	0.20	
5	D-EX-19-25-300	300	0.215	
6	D-EX-19-25-350	350	0.23	
7	D-EX-19-25-400	400	0.245	

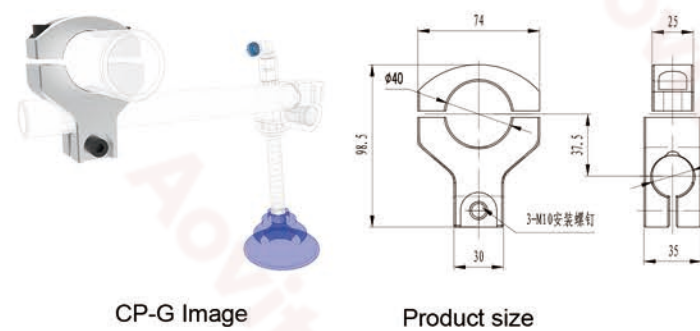


### E-EX Extended Tube(Single Head)



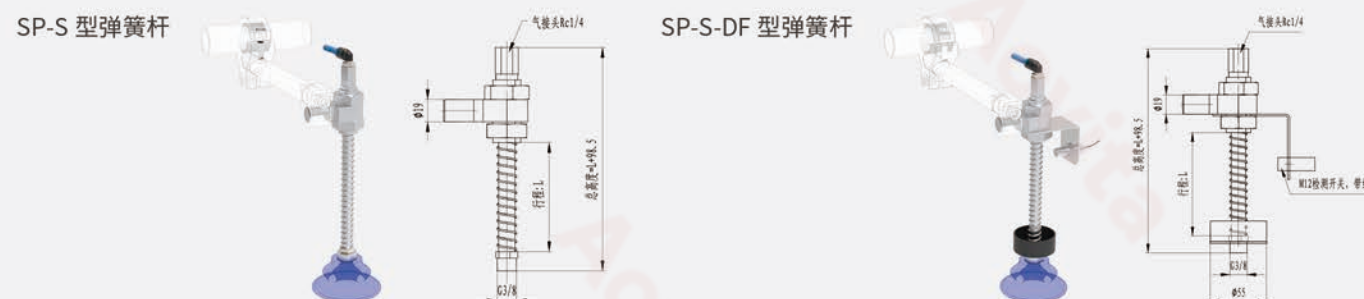
E-EX extended tube(Single Head)				
No	Model	L (mm)	Weight (kg)	Material
1	E-EX-19-25-100	100	0.18	High strength alloy
2	E-EX-19-25-150	150	0.24	
3	E-EX-19-25-200	200	0.30	
4	E-EX-19-25-250	250	0.36	
5	E-EX-19-25-300	300	0.42	
6	E-EX-19-25-350	350	0.48	
7	E-EX-19-25-400	400	0.54	

### CP-G



CP-G			
No	Model	Weight(kg)	Material
1	CP-G-40-25	0.30	High strength alloy

### SP-S 型弹簧杆



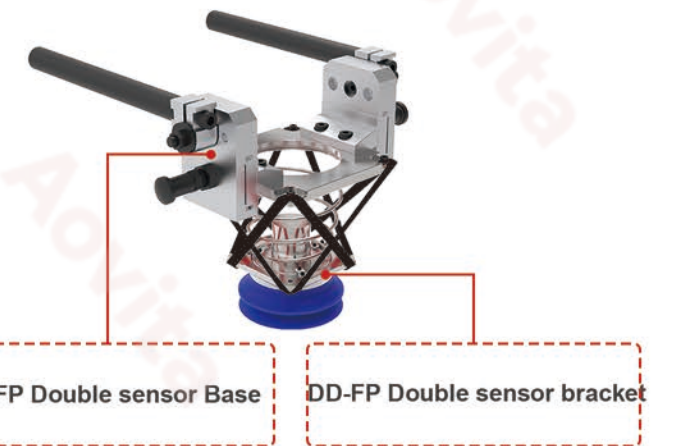
### SP-S Spring rod

Model	SP	S	Stroke	DF	SP-S/SP-DF Weight(kg)	
	Spring rod	Spring	60	None	0.39	0.582
			100	with anti-pressure detection function	0.424	0.616
			150	(M12 screw, PNP, normally open,	0.456	0.648
			200	detection distance 8mm)	0.499	0.701
			250		0.54	0.742

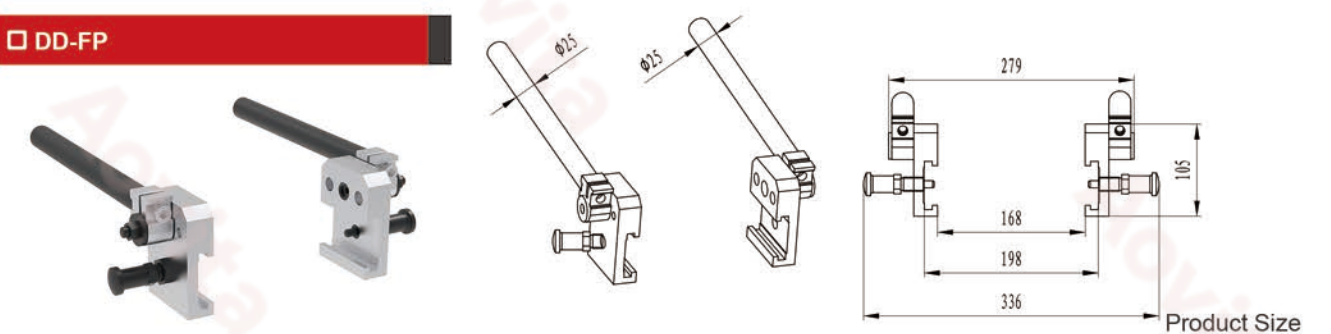
### Double blanks detection

#### Double sensor bracket:

Used for install double detection sensor, and the sensor could used for detect double blanks



### DD-FP



DD-FP					
No	Item	Model	Connected Part	Weight(kg)	Material
1	Double sensor base	DD-FP	E-EX	0.80	High Strength Alloy

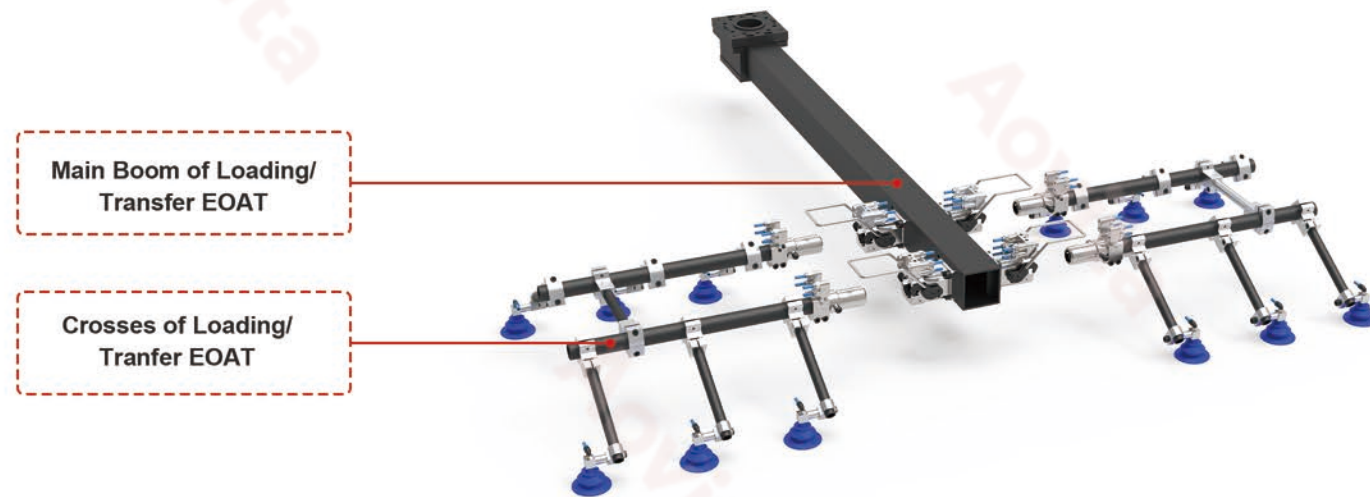
### DD-MP



DD-MP						
No	Item	Model	Stroke L(mm)	Install size	Weight(kg)	Material
1	Double material sensor bracket	DD-MP-50	50	M42X1.5	1.20	High Strength Alloy
2		DD-MP-100	100		1.40	
3		DD-MP-150	150		1.50	



#### Composition of the Loading/Transfer EOAT



AD-FT40-M EOAT



AD-FT-40-G EOAT



AD-FT-40-L

#### Advantages of D series

Accept carbon fiber material, the weight is lighter and has strong fracture resistance

- Optimizing the production line stroke and improving the economic efficiency of automation lines.
- To reduce the labor intensity of changing the EOAT
- To reduce the energy consumption and extending the life of robots

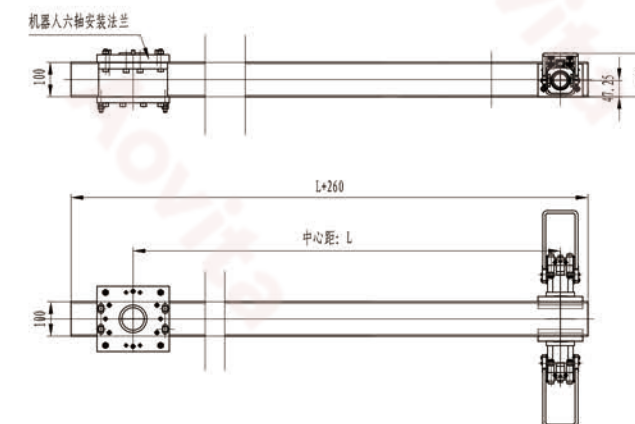
#### Characters of E series

Made of aluminum alloy material

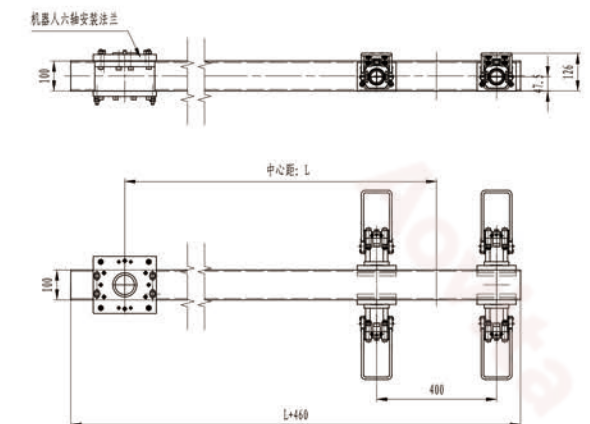
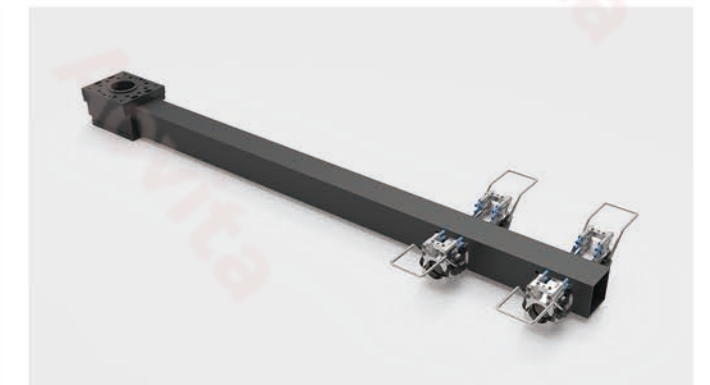
- Low disposable investment cost
- Accept high-strength aviation aluminum materials to ensure the strength requirements

#### Central boom of Loading and Transfer EOAT

##### Main structures



Central boom of AD-F-T-20-M



Central boom of AD-FT-40-M

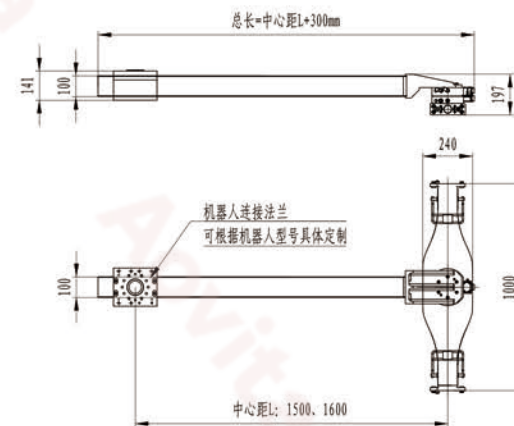
Central boom of Loading/Transfer EOAT							
Item	Model	Central distance L (mm)	Workpiece weight (kg)	MQC No.	Air holes	Weight(kg)	Material
Central boom of Loading/Transfer EOAT	AD-FT40-M1300	1300	$\leq 40$	4	L8+R8	20.2	Carbon fiber
	AD-FT40-M1400	1400				20.5	
	AD-FT40-M1500	1500				20.8	
	AE-FT20-M1300	1300	$\leq 20$	2	L4+R4	21.8	Alloy
	AE-FT40-M1300		$\leq 40$	4	L8+R8	25.8	
	AE-FT20-M1400		$\leq 20$	2	L4+R4	22.4	
	AE-FT40-M1400	1400	$\leq 40$	4	L8+R8	26.3	
	AE-FT20-M1500		$\leq 20$	2	L4+R4	23.0	
	AE-FT40-M1500		$\leq 40$	4	L8+R8	27.0	



□ G model



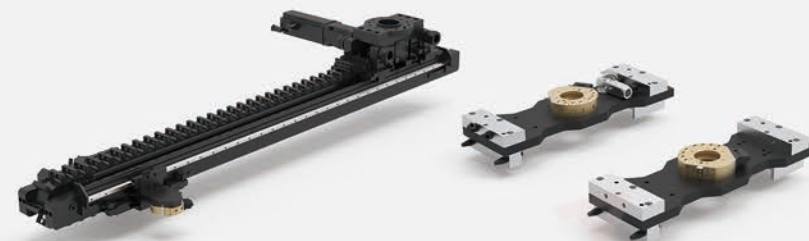
Main boom of AD-FT40-G image



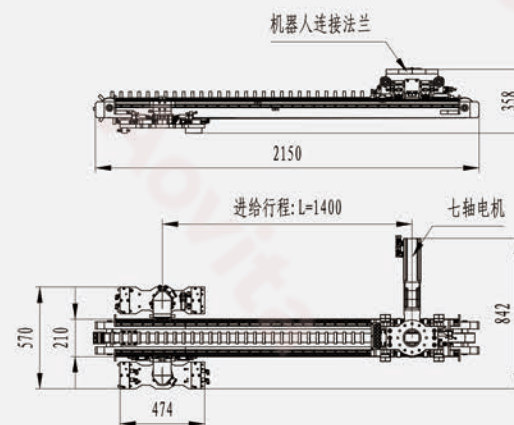
Product Size

AD-FT-40-G								
Item	Model	Central distance L(mm)	Workpiece weight (kg)	Boom Qty	Crosses Qty	Air Holes	1 Boom+1 Crosses Weight (kg)	Material
Central boom of Loading/Transfer EOAT	AD-FT40-G1500	1500	≤40	1	2	L4+R4	33.0	High strength carbon fiber
	AD-FT40-G1600	1600					33.5	

□ L Model



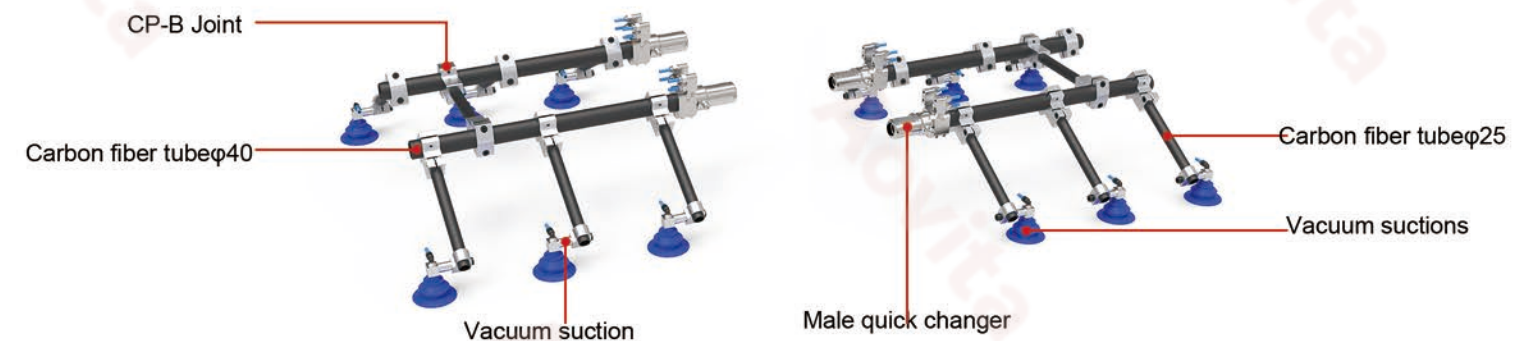
Main boom of D-FT40-L image



Product size

AD-FT40-L							
Item	Model	Central distance L(mm)	Workpieces weight (kg)	Boom Qty	Crosses Qty	Air Path	Material
Central boom of Loading/Transfer EOAT	AD-FT40-L1400	1400	≤40	1	2	L4+R4	High strength carbon fiber

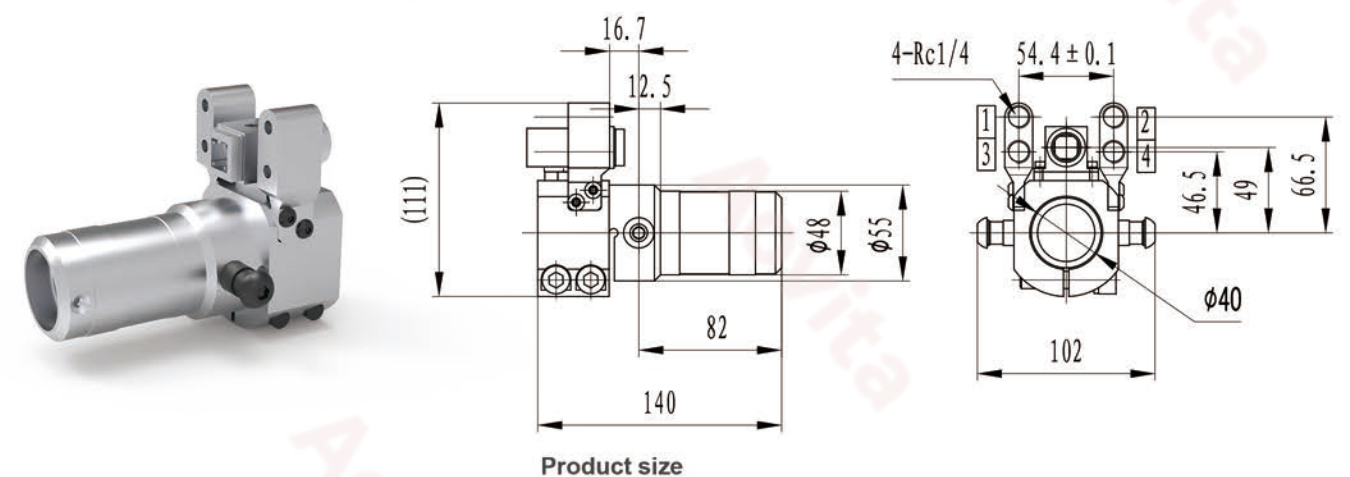
◆ Models and Structures of Loading/Transfer Crosses



According to the main structure, workpieces size and weight to confirm the branches model and the vacuum suction.

◆ Common components of Loading/Transfer crosses

□ QCA-40-MP

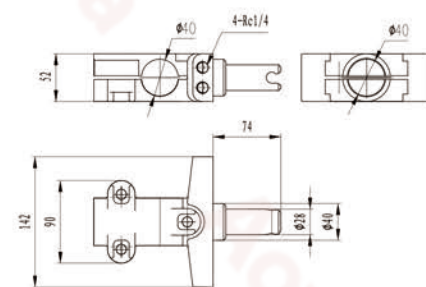


Product size

QCA-40-MP						
Item	Model	Air holes	Electrical path	Max static load(N.M)	Weight(kg)	Material
Manual quick changer	QCA-40-MP-4-0	4	0	305	0.65	High strength alloy body, Steel pins
	QCA-40-MP-4-5		5		0.70	



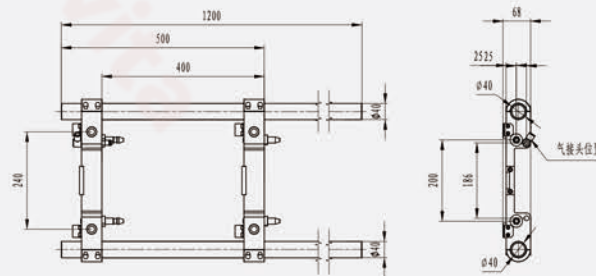
☐ QCD-40-MP-II



### Product Size

QCS-D-40-MP-II						
Item	Model	Air holes	φD (mm)	Max static load(N.M)	Weight(kg)	Material
Male quick changer	QCD-40-MP-4-0-II	4	40	305	1.10	High strength alloy body, steel pin

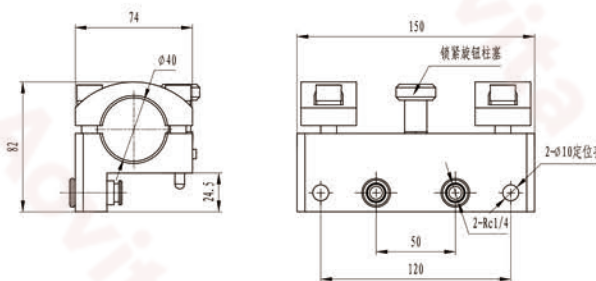
□ QCS-40-MP



### Product Size

QCS-40-MP						
Item	Model	Air holes	Air tube size	Max static load(N.M)	Weight(kg)	Material
Male quick changer	QCS-40-MP	1	Φ10	305	0.90	High strength alloy body, steel pin

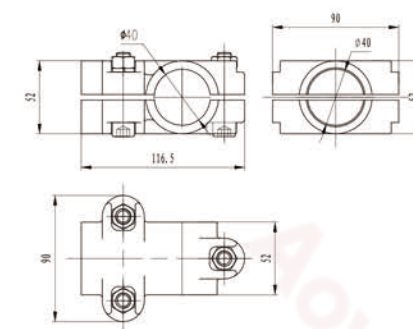
□ QCZ-40-MP



### Product size

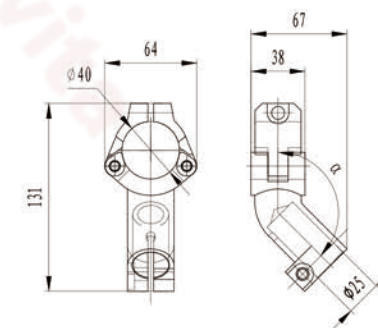
QCZ-40-MP						
Item	Model	Air holes	Electrical path	Max static load(N.M)	Weight(kg)	Material
Male quick changer	QCZ-40-MP-2-0	2	0	305	0.65	High strength alloy

☐ CP-E



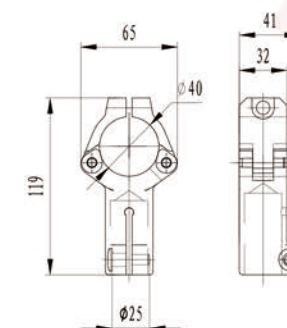
CP-E			
No	Model	Weight (kg)	Material
1	CP-E-40	0.60	High strenght alloy

☐ D-CP-B



D-CP-B				
No	Model	$\alpha$	Weight(kg)	Material
1	D-CP-B-40-25-R	135	0.27	High strength alloy
2	D-CP-B-40-25-L	225		

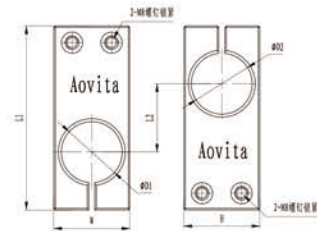
□ D-CP\*B\*180



D-CP-B-180				
No	Model	$\alpha$	Weight(kg)	Material
1	D-CP-B-40-25-180	180	0.20	High strength alloy

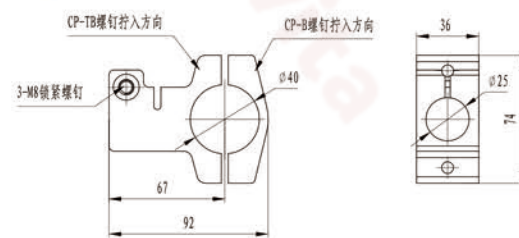
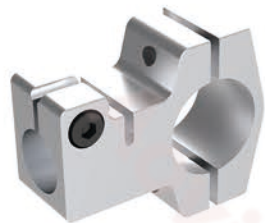


□ CP-A



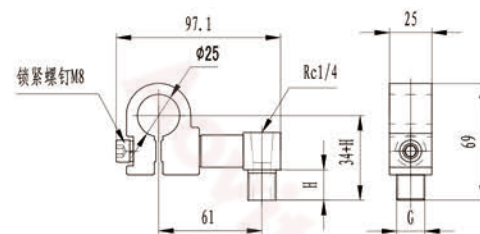
CP-A									
No	Model	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	W (mm)	H (mm)	Weight(kg)	Material
1	CP-A-25-25	25	25	91	31	35	35	0.21	High strength alloy

□ CP-B



CP-B			
No	Model	Weight(kg)	Material
1	CP-B-40-25	0.30	High strength alloy
2	CP-TB-40-25		
Remarks:The screw direction of CP-B and CP-TB			

□ CC-A 型吸盘接头组件

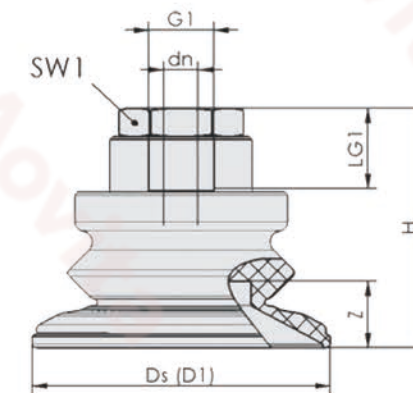


CC-A Suction Attachment					
No	Model	G	H (mm)	Weight(lg)	Material
1	CC-A-G1/4	G1/4	13	0.15	High strength alloy
2	CC-A-G3/8	G3/8	16		

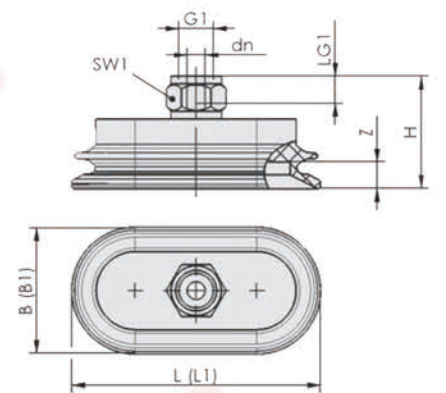
□ Suction cups

The suction cup is made of special materials, which has excellent oil resistance, wear resistance and aging resistance. Choosing a proper suction cup can save the use cost, obtain a stable production state, and improve the production efficiency. The special groove structure at the bottom of the suction cup can prevent the oily thin plate from sliding during transportation, ensuring the accuracy of workpiece handling.

- Application: Used for transfer metal sheet, especially for stamping automation line transferring
- Advantages: No denting and deform when transfer the metal sheet.



Flat suction cup(round)



Flat suction cup(Oval)

Flat suction cup (round)												
No	Model	Suction(N)	Lateral force(N)	D1	dn	Ds	G1	H	LG1	SW1	Z(Stroke)	Weight(kg)
1	VA-100-G3/8-IG	190	220	110	101	6	G3/8	56.6	15	22	25.8	88
2	VA-80-G3/8-IG	135	145	89	81	6	G3/8	49.9	15	22	22.1	63
3	VA-60-G3/8-IG	82	82	67	61	6	G3/8	41.3	15	22	14.5	40
4	VA-50-G3/8-IG	53	55	56	50	6	G3/8	36.9	15	22	11.5	32
5	VA-40-G1/4-IG	38	36	45	40	4	G1/4	28.8	12	17	10	14
6	VA-30-G1/4-IG	22	30	34	31	4	G1/4	28	12	17	9	14
7	VA-22-G1/4-IG	16	18	24	21	3.5	G1/4	25	12	16	5.8	9

Flat Suction Cup(Oval)													
No	Model	Suction (N)	Lateral force (N)	B	B1	dn	G1	H	L	LG1	L1	SW1	Z(Stroke)
1	VB-110*55-G3/8-IG	110	299	53	59	8	G3/8	43.5	99	9	114	22	12
2	VB-80*40-G1/4-IG	65	153	40	43	6	G1/4	37.2	73	8	83	17	9
3	VB-60*30-G1/4-IG	38	73	31	33	6	G1/4	34.5	56	8	63	17	7