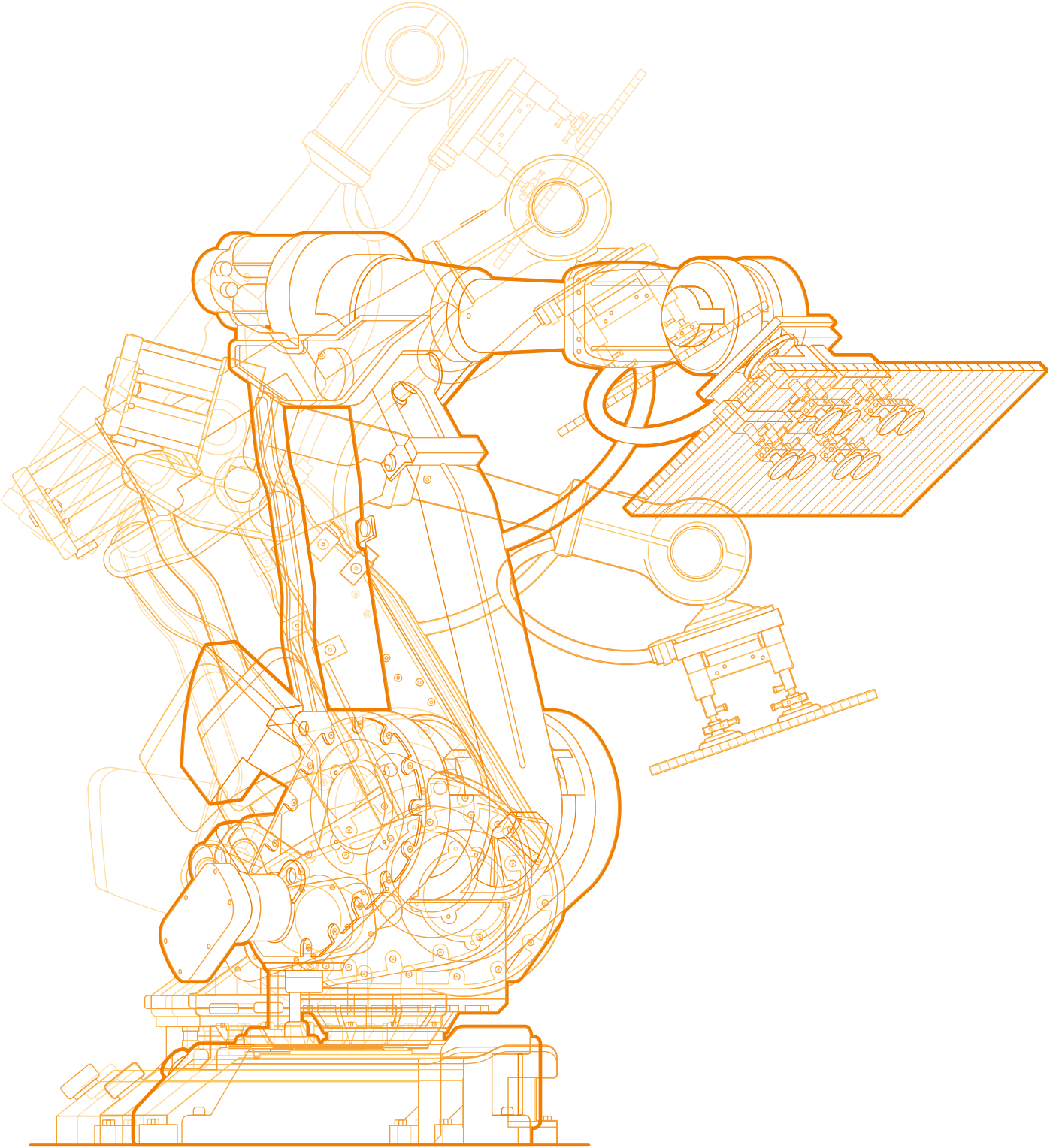




DM / Robotics - Press Automation Tooling Catalogue

Tooling Catalogue

2013 Edition



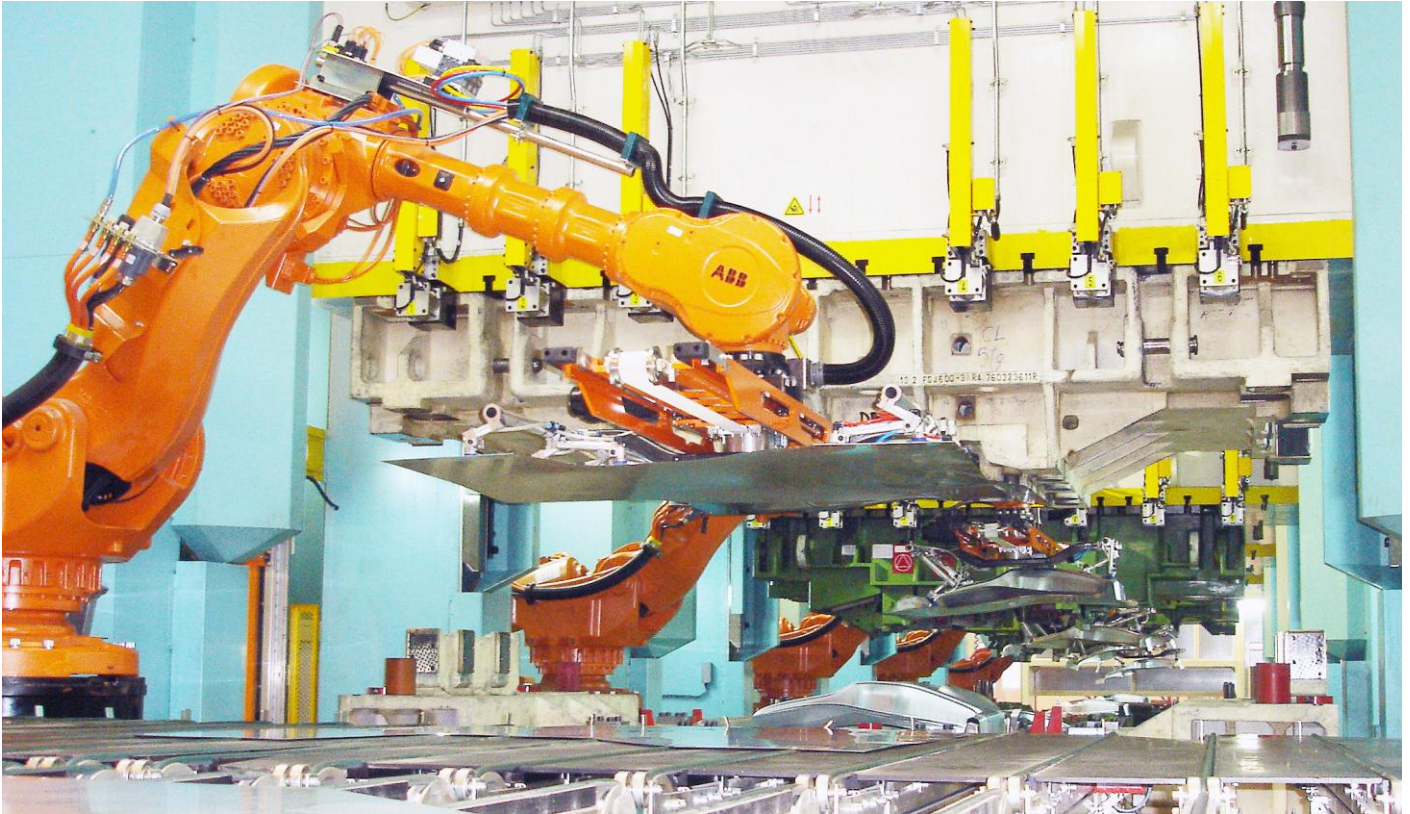
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Introduction

DM/Robotics - Press Automation Systems

ABB offers the complete solution for the robot automation of stamping processes. Our experience in press tending processes is reflected in our fast, safe and high quality systems and standardized products to optimize the economic, environmental and overall plant performance.



Tooling Products

Manufacturing processes are continuously under pressure to improve productivity, quality and safety levels, robot automation is a cost-effective method to achieve this. End of arm tooling is an important part of the automation value chain. Robust, light and cleverly designed components are the base of the repeatability, speed and uptime of the complete system.

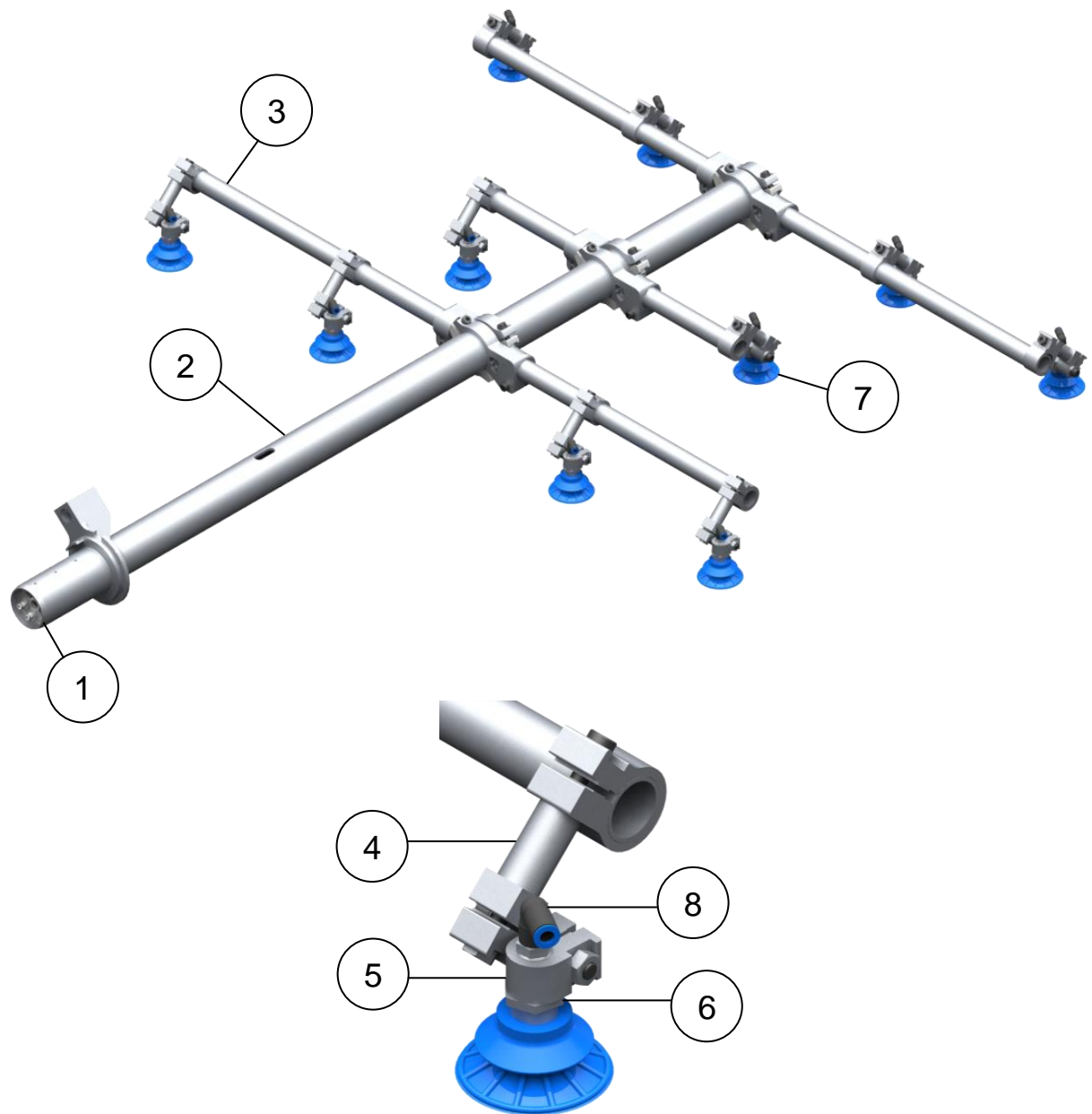
The ABB tooling products and modular solutions are focused in achieving the optimum performance of the automation processes using a wide range of modular components to reduce the project risks, time and set up costs.

We share close to 40 years of experience with our customers all over the world in order to offer the best solutions and support.

Product performance

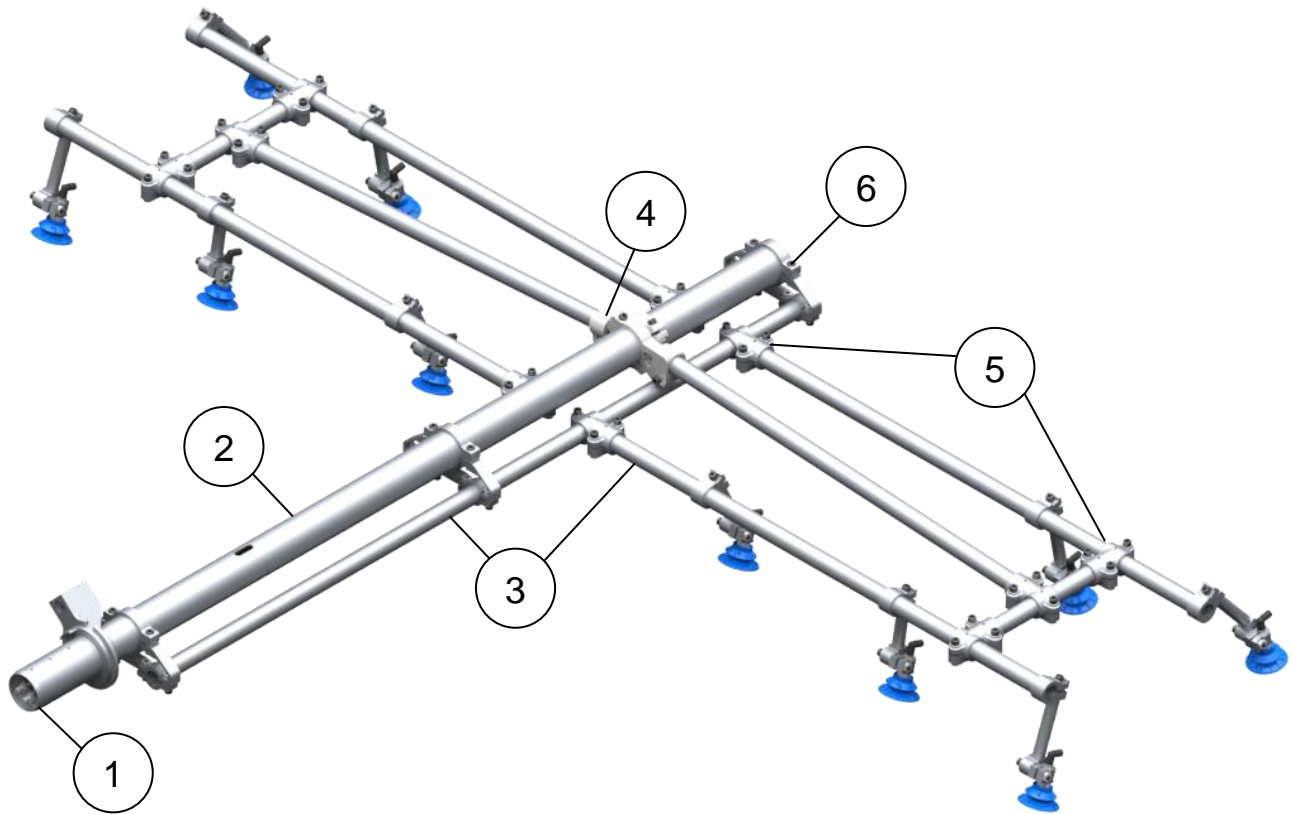
- Innovative products and solutions
- Easy-to-use, mount and adjust
- Reduced deflection and torsion
- Simple and robust
- Optimal ratio weight-performance
- Destacking, loading and interpress tooling
- Worldwide installed base

Interpress Tooling



	Page
1 Bayonet	17 - 19
2 Central boom	20 - 21
3 Cross Tube	22 - 23
4 Swivel arm	25
5 Attachment Ø19/ Ø19	26
6 Suction cup attachment	27
7 Suction cup	30 - 32
8 Air connector	42

Interpress Tooling for Large Panels

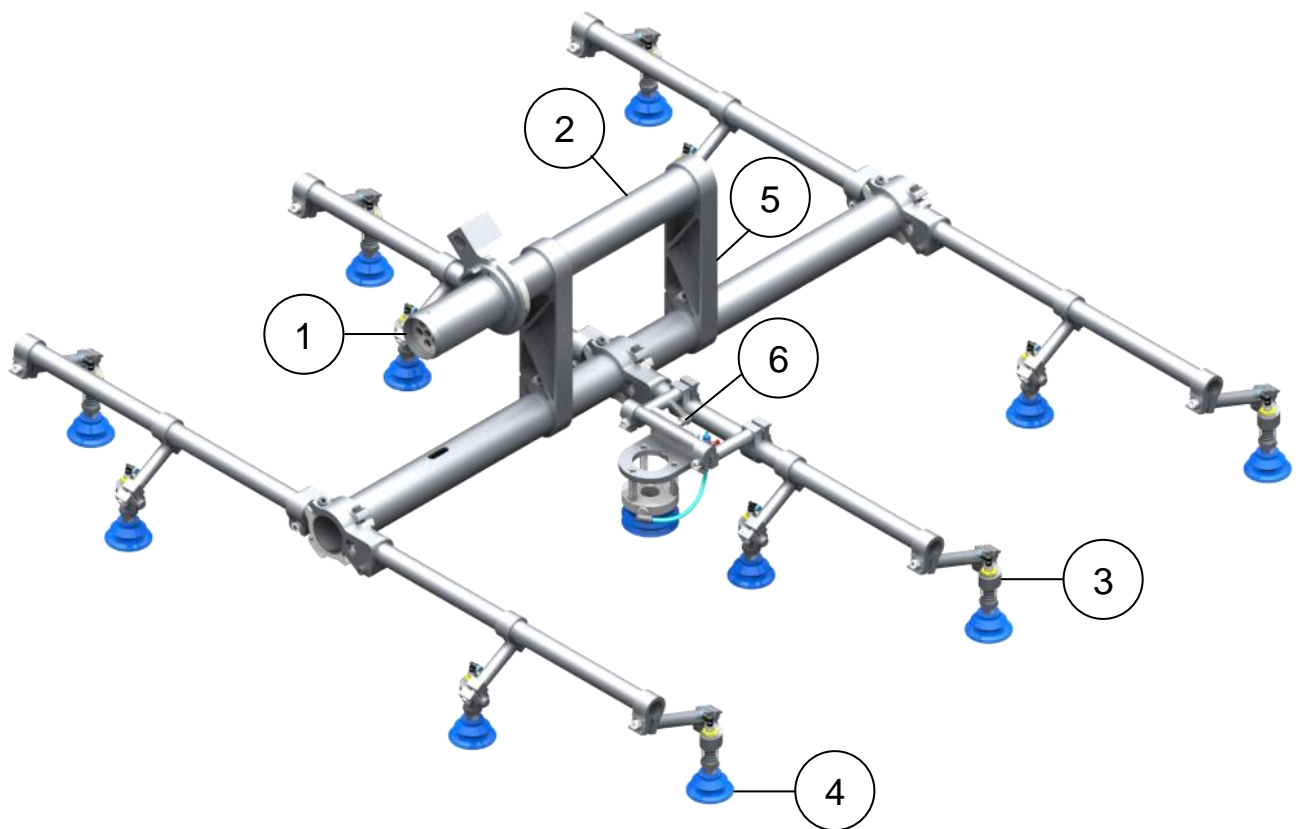


- 1 Bayonet
- 2 Central boom
- 3 Cross Tube
- 4 Wrist extension
- 5 Angle Mount
- 6 Support bracket

Page

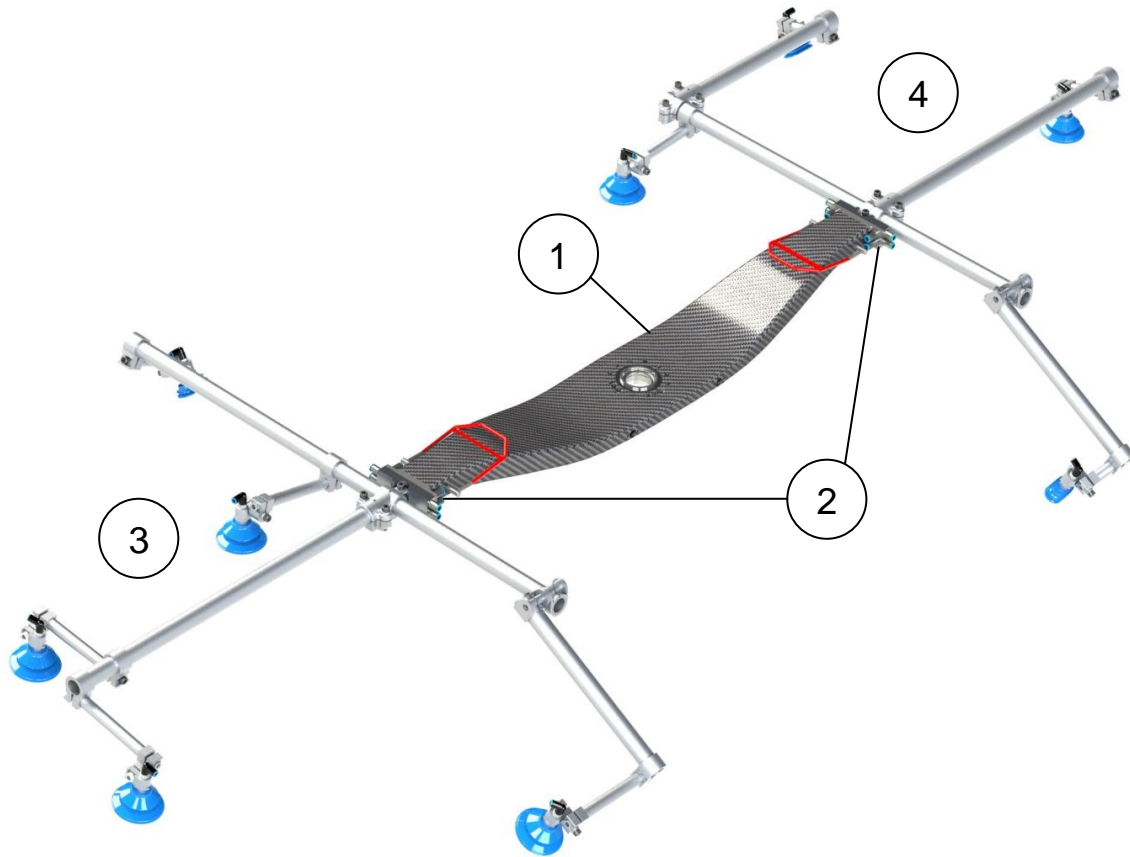
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Destacker Tooling with Central Boom Spacer



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1 Bayonet	17 - 19
2 Central boom	20 - 21
3 Suction cup attachment with Spring Assembly	29
4 Suction cup	30 - 32
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6 Double Blank Detector Support	40

Carbon Fiber Tooling



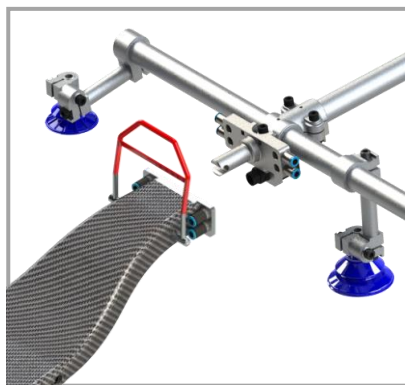
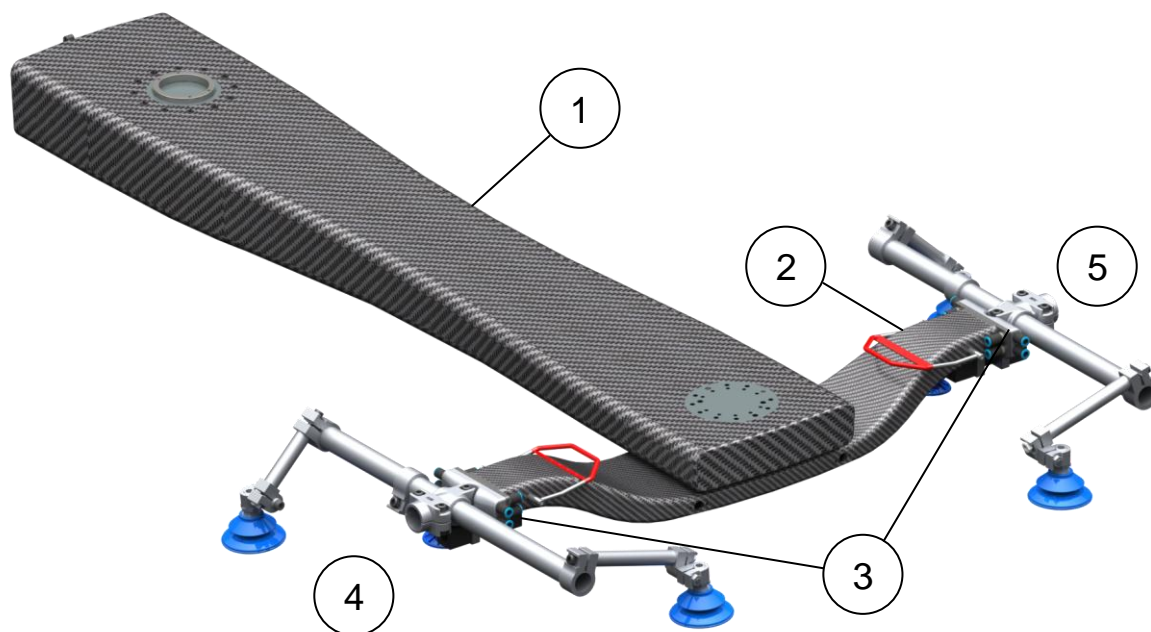
- 1 CF Gondola Arm 1.4
- 2 CF Bayonet
- 3 Tooling Left Arm
- 4 Tooling Right Arm

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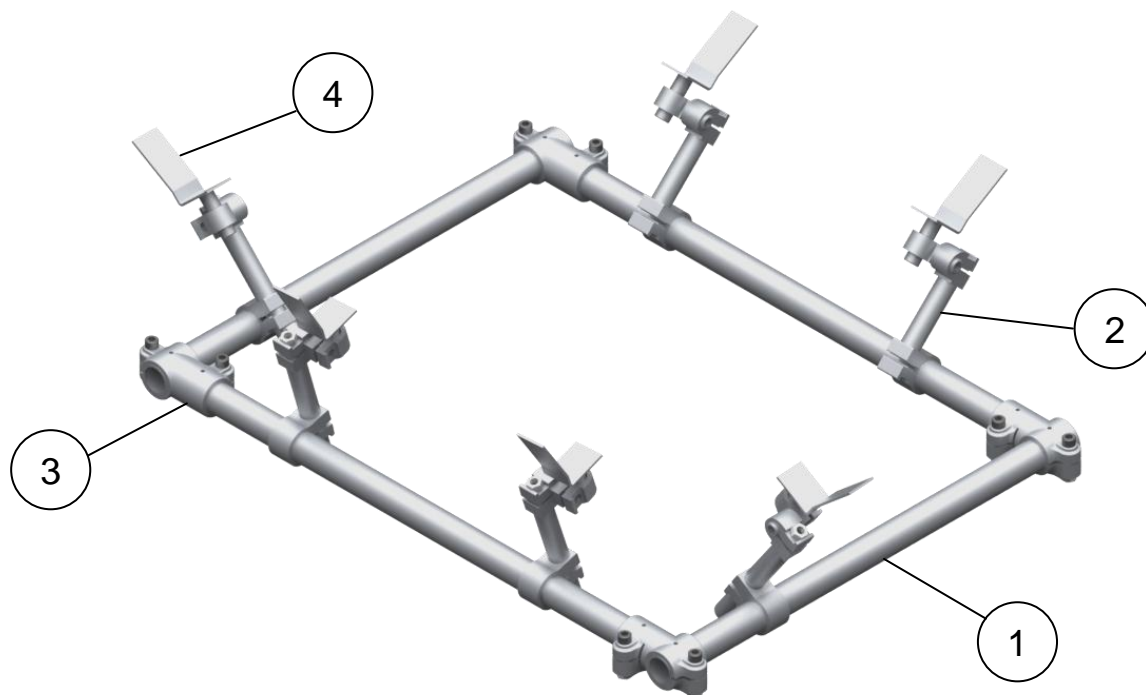
Carbon Fiber Tooling



CF bayonet detail see page 48

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1 CF Boom	45
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4 Tooling Left Arm	
5 Tooling Right Arm	

Interpress Nest

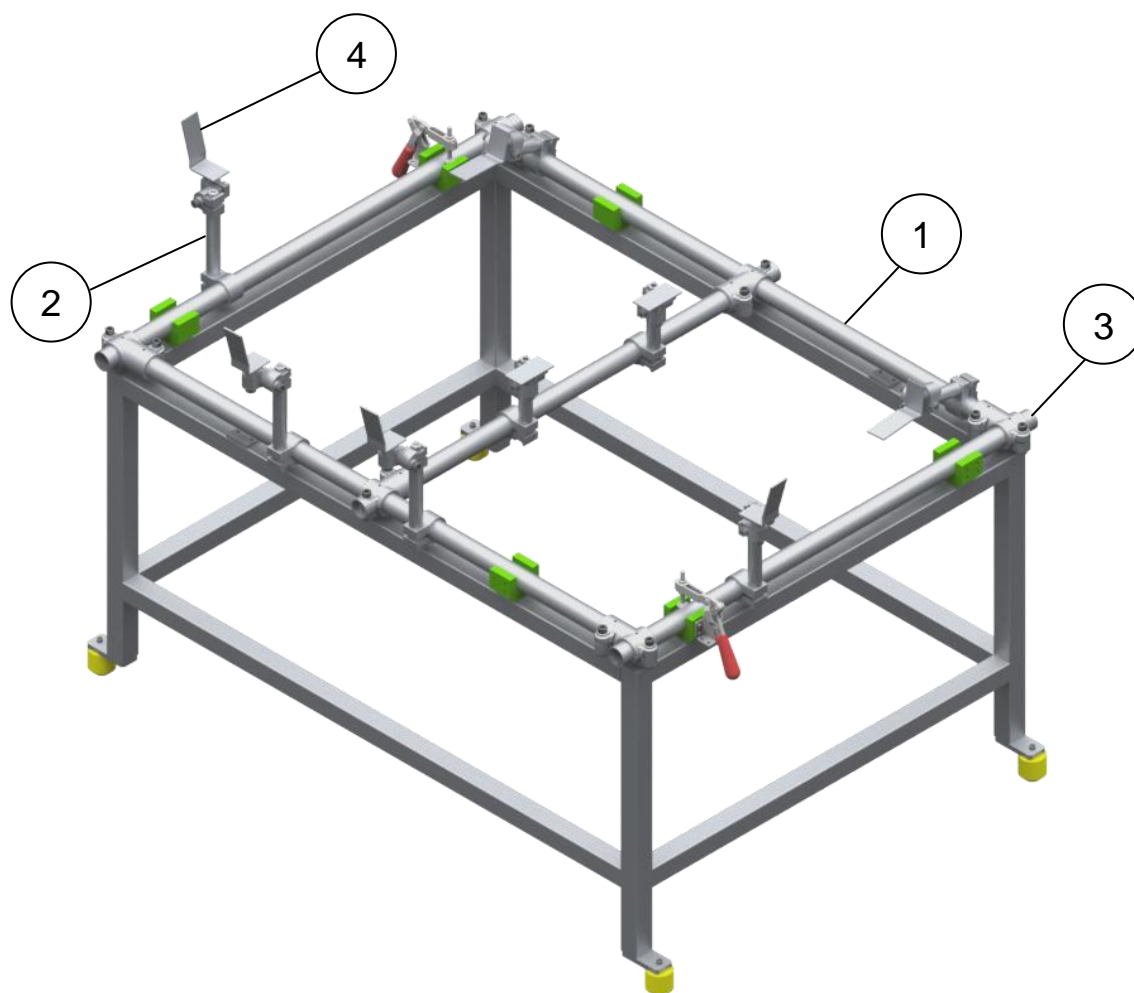


- 1 Cross tube
- 2 Swivel arm
- 3 Angle Mount
- 4 L-Support

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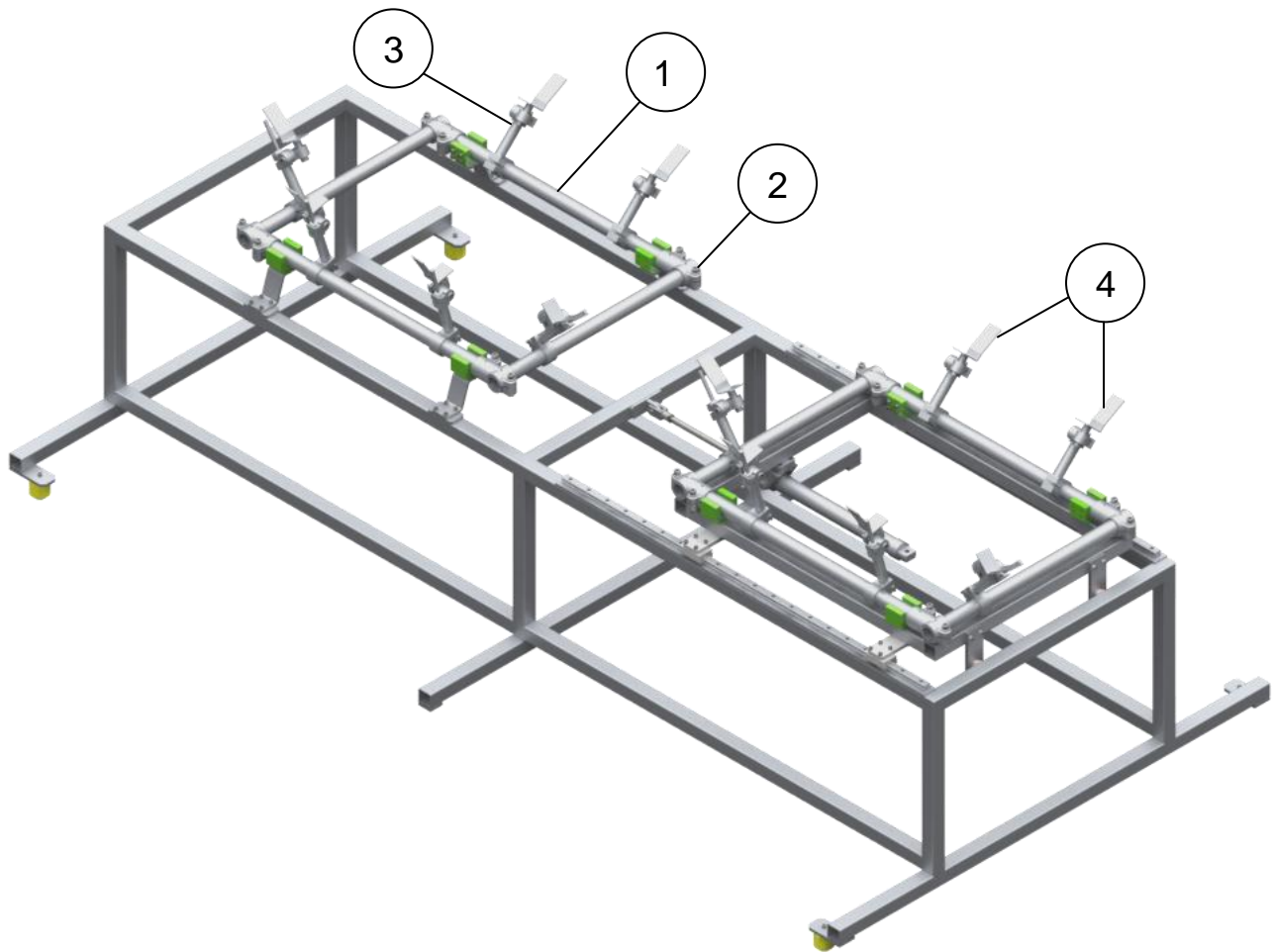
Nest Tooling



Fixed structure not included in the scope of supply

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1 Cross tube	22 - 23
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4 L-Support	38

Nest Station with Separator Device



Fixed structure not included in the scope of supply

- 1 Cross tube
- 2 Angle mount
- 3 Swivel arm
- 4 L-Support

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Components Grid



QCA
see page 12



MQCA
see page 14



Robot Attachment
see page 16



ABB Bayonet
see page 17



**ABB Bayonet
with Electrical Housing**
see page 18



Central Boom Ø76
see page 20



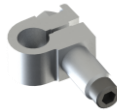
Cross Tube Ø38
see page 22



Wrist Extension
see page 24



Swivel Arm
see page 25



Attachment Ø19 / Ø19
see page 26



**Suction Cup
Attachment**
see page 27



**Suction Cup
Attachment Ball Joint**
see page 28



**Suction Cup
Attachment with Spring
Assembly**
see page 29



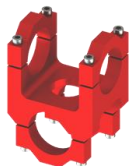
Suction Cup
see page 30



**Anglemount Swivel
Type**
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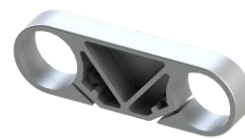
Angle Mount
see page 34



Angle Mount Ø76
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Support Bracket
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Central Boom Spacer
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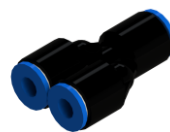
Parts Support for Nest
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**Turning and Tipping
Units**
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**Double Blank Detector
Support**
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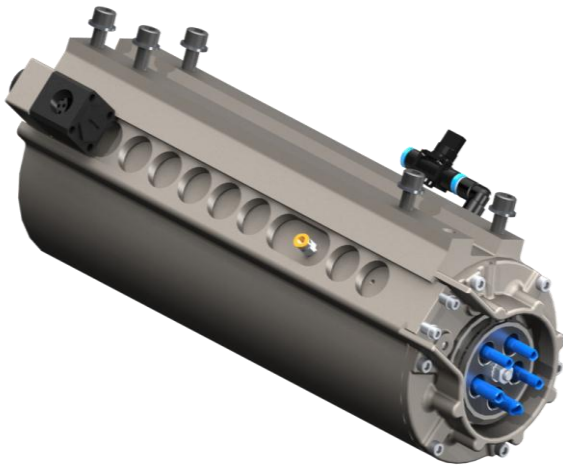


Air Connectors
see page 42



Carbon Fiber
see page 44

Quick Change Adapter



The Quick Change Adapter (QCA) is mainly made of moulded and machined parts of aluminium. The inner cone is however made of steel. Viewed from the front, you can see the inner cone and the plate for five air connectors.

On top of the QCA there is a mounting area including threaded holes for bolting to the manipulator. When the QCA is to be mounted on a robot, an adapter plate has to be fitted between the robot and the QCA.

The valve shuts off the compressed air supply to the QCA locking mechanisms. The electrical connector is used for signals from switches on the tooling equipment. These switches are used for encoding of the stamping.

To enable the QCA to loosen its grip of the tooling shaft, compressed air need to be supplied. At loss of compressed air, the mechanism is locked.

When the compressed air is turned off, the inner cone is contracted by the internal springs and the tooling shaft is pulled into the QCA. At the same

time, the pneumatic components are connected to the valves and the electrical connection is made. When the inner cone is fully contracted, a locking clamp secures the tooling shaft.

When compressed air is supplied, the springs are depressed, the locking clamp is released and the cone moves out releasing the tooling shaft.

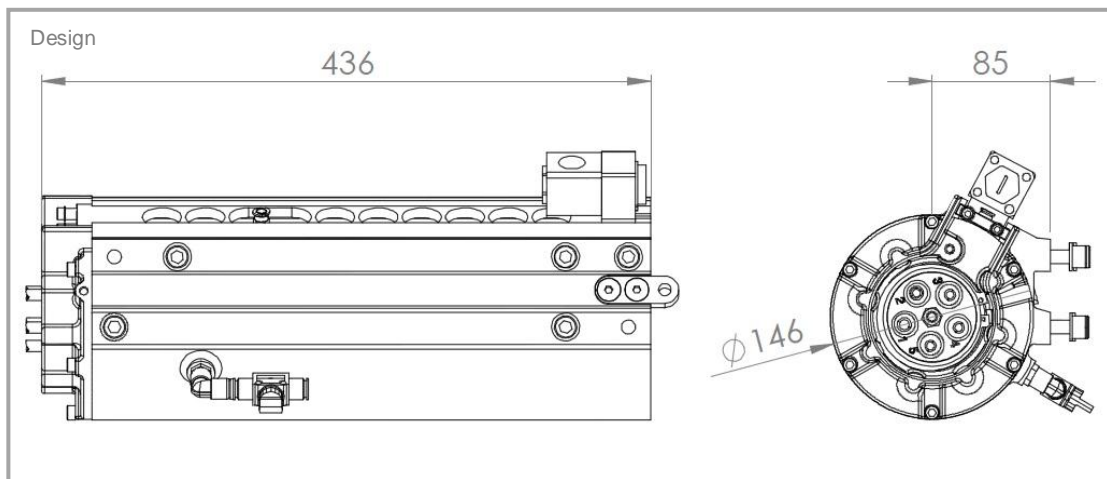


Quick Change Adapter



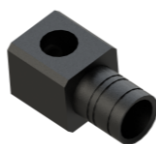
- Material: Aluminium and steel
- Minimum air pressure: 6 bar.
- 5x Air connectors Ø10 mm

Part No.	Ref.	Description	Mass (g)
91110797	QCA	Quick Change Adapter	16.000



Optional electric female connectors 6 or 18 pins

Housing	Pin Block 6 - pin	Pin Block 18 - pin
3045842	3045843	3048888



Manual Quick Change Adapter

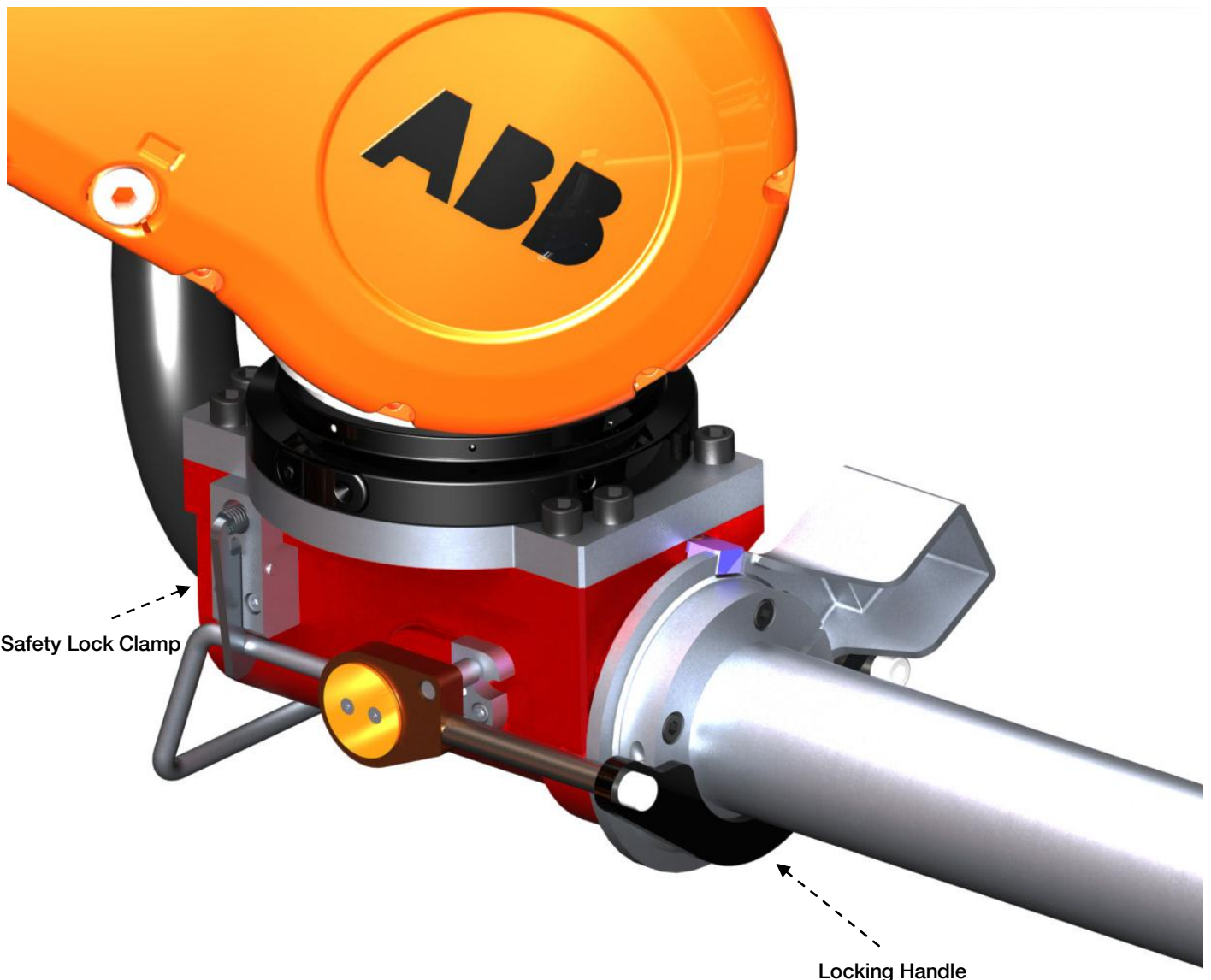


The ABB Manual Quick Change adapter (MQCA) has been designed to cover the gap between fully automated press lines using automatic tool change systems, such as the ABB MQCA, and semi-automatic lines, where the tool change is done by robot operator's.

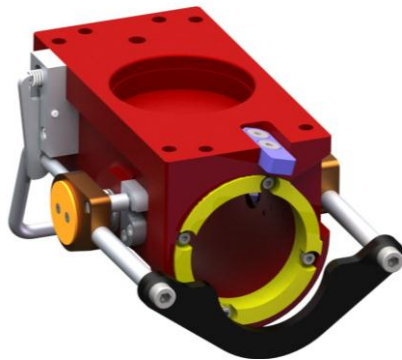
The Manual Quick Change Adapter is mainly made of molded and machined parts of aluminium.

On top of the MQCA there is a mounting area including threaded holes for bolting to the manipulator. When the MQCA is to be mounted on a robot, an adapter plate has to be fitted between the robot and the MQCA.

When the mechanical closed is fixed, the locking handle is pulling the tooling shaft into the MQCA inner cone. At the same time, the pneumatic components are connected to the valves.

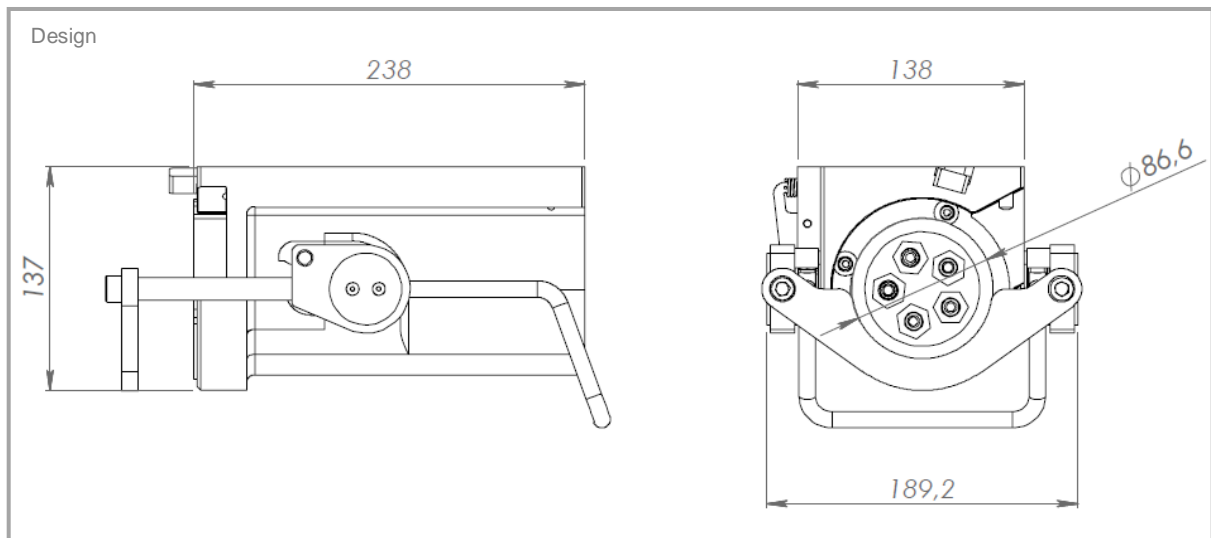


Manual Quick Change Adapter

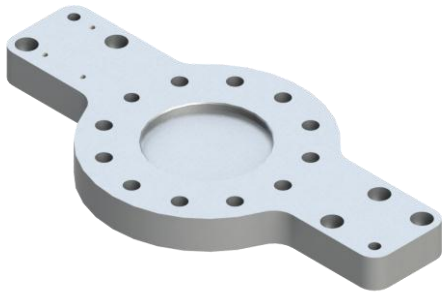


- Ambient temperature range: 0 - 45 °C
- 5x Air connectors 10 mm

Part No.	Ref.	Description	Mass (g)
91110793	MQCA	Manual Quick Change Adapter	5.000



Robot Attachment



- Material: Aluminium
- Screws threaded on robot wrist included

Part No.	Ref.	Description	Mass (g)
91110782	RA - QCA - 6400	Robot Attachment for Quick Change Adapter and Robot IRB 6400	2.232
91110829	RA - QCA - 6650 / 60	Robot Attachment for Quick Change Adapter and Robot IRB 6650 / 6660	2.500
91110781	RA - QCA - 7600	Robot Attachment for Quick Change Adapter and Robot IRB 7600	2.640

Robot Attachment for Quick Change Adapter and Robot IRB 6400



Robot Attachment for Quick Change Adapter and Robot IRB 6650 / 6660



Robot Attachment for Quick Change Adapter and Robot IRB 7600

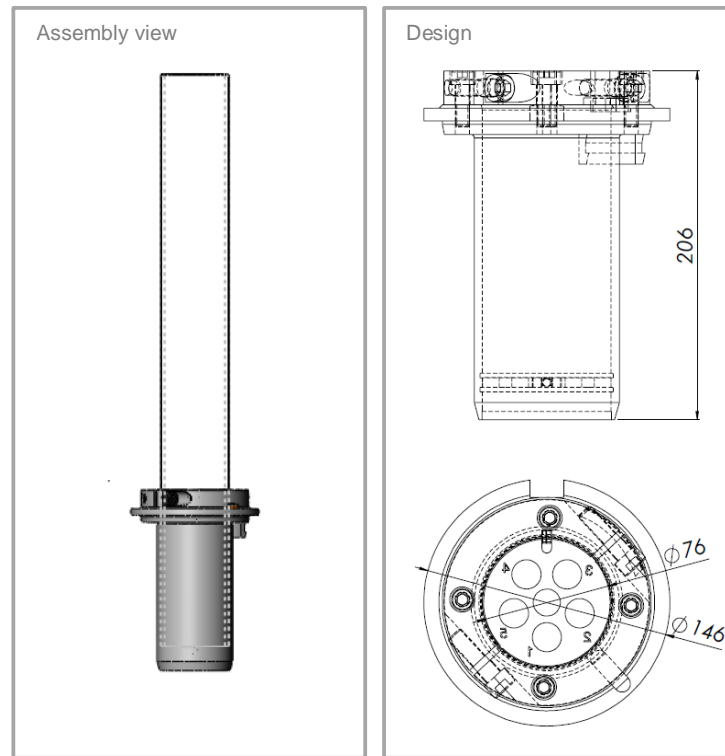


ABB Bayonet



- Material: Aluminium
- Mounting ring for Ø76 mm tube replacement.
- NO - Electrical housing

Part No.	Ref.	Description	Mass (g)
9936203	BAY - NE - 76	ABB Bayonet no electrical housing	1.650



Pneumatic connectors for ABB Bayonets: 9936203 and 9936200

Part No.	Description
3045075	Air Quick Connector PLC400-M10 Male Ø10 mm
3045840	Air Quick Connector PLC400-M10 Male Ø8 mm

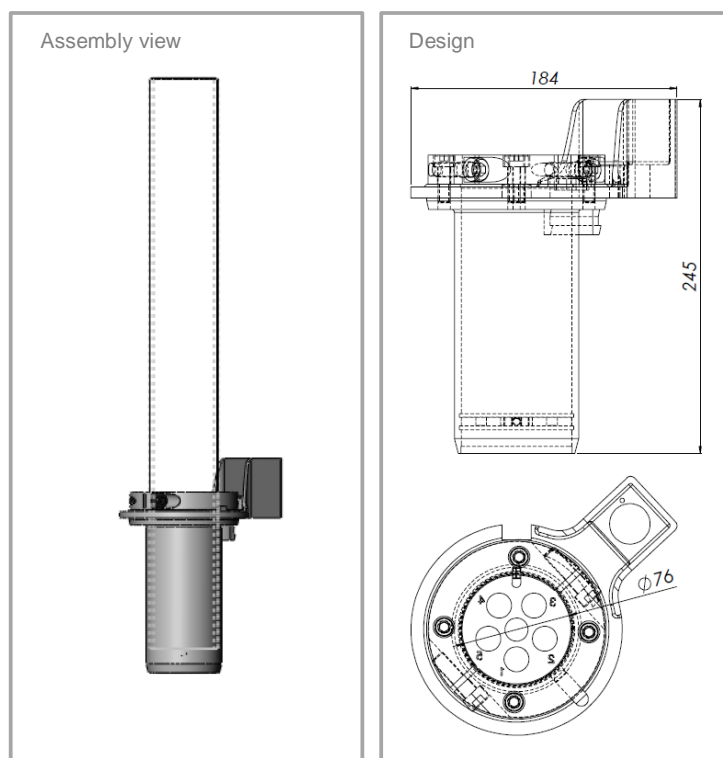


ABB Bayonet with electrical housing



- Material: Aluminium
- Mounting ring for Ø76 mm tube replacement.
- Electrical housing

Part No.	Ref.	Description	Mass (g)
9936200	BAY - E - 76	ABB Bayonet with electrical housing	1.900



Optional electric male connectors for 6 and 18 pins (according to connector on QCA)

Housing	Pin Block 6 - pin	Pin Block 18 - pin
3046099	3046098	3048889

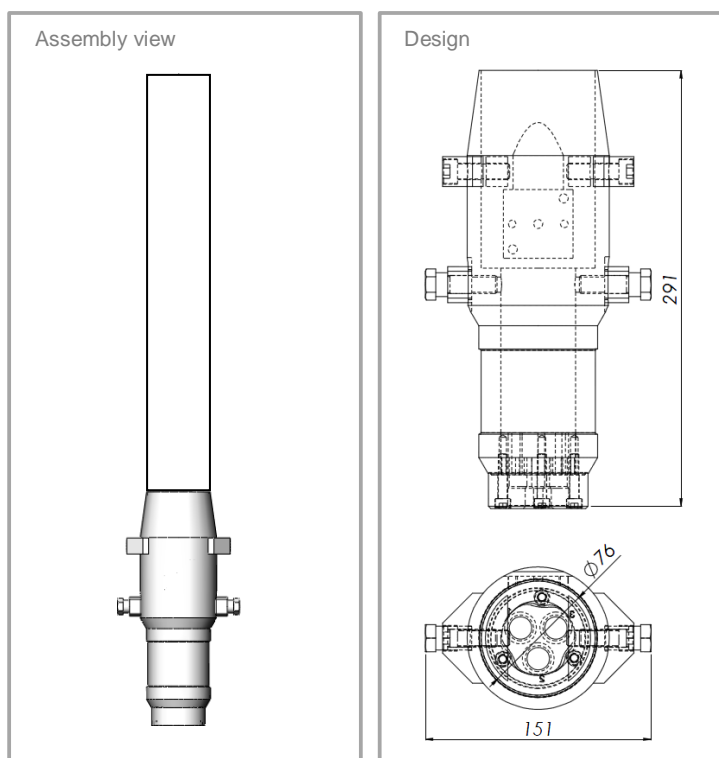


CPI - Type Bayonet



- Material: Aluminium
- Mounting ring for Ø76 mm tube replacement.
- Electrical housing

Part No.	Ref.	Description	Mass (g)
9936201	BAY - NE - 76	CPI - Type Bayonet with no electrical housing	3.000



Optional end plates and fittings

Part No.	Description	Mass (g)
9939374	End plate for Push-in fittings - 3 holes	198
9939375	End plate for Push-in fittings - 6 holes	170
91207662	Push-in fittings Ø8 mm - G3/8"	50
91204069	Push-in fittings Ø8 mm - G1/8"	50
91205003	Push-in fittings Ø10 mm - G3/8"	51

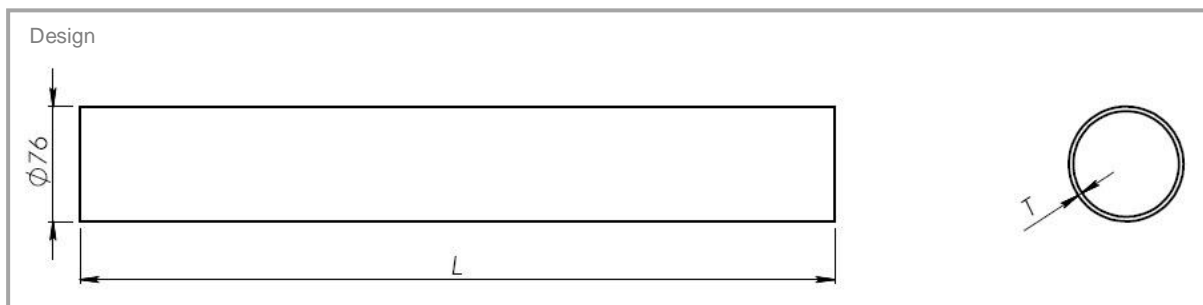


Central Boom



- Material: Aluminium
- Ø76 mm
- Two thicknesses available:
(T = 3 mm and T = 5 mm)

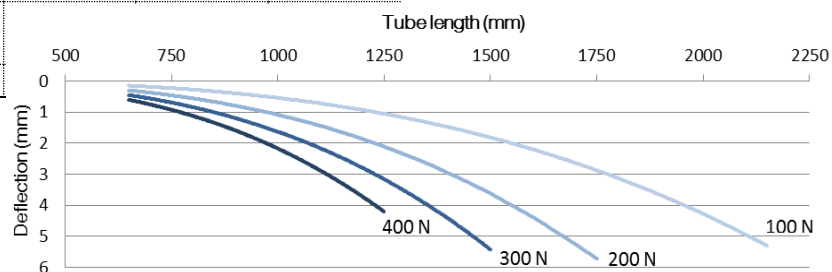
Part No.	Ref.	Description	L (mm)	T (mm)	Mass (g)
9936318	TB - 76 - 650 - 3	Central Boom L = 650 mm T = 3 mm	650	3	1.200
9936319	TB - 76 - 1250 - 3	Central Boom L = 1.250 mm T = 3 mm	1.250	3	2.310
9936320	TB - 76 - 1500 - 3	Central Boom L = 1.500 mm T = 3 mm	1.500	3	2.775
9936321	TB - 76 - 1750 - 3	Central Boom L = 1.750 mm T = 3 mm	1.750	3	3.240
9936322	TB - 76 - 2000 - 3	Central Boom L = 2.000 mm T = 3 mm	2.000	3	3.700
9936323	TB - 76 - 2150 - 3	Central Boom L = 2.150 mm T = 3 mm	2.150	3	3.980
91108325	TB - 76 - 650 - 5	Central Boom L = 650 mm T = 5 mm	650	5	1.960
91108326	TB - 76 - 1250 - 5	Central Boom L = 1.250 mm T = 5 mm	1.250	5	3.760
91108327	TB - 76 - 1500 - 5	Central Boom L = 1.500 mm T = 5 mm	1.500	5	4.510
91108328	TB - 76 - 1750 - 5	Central Boom L = 1.750 mm T = 5 mm	1.750	5	5.270
91108329	TB - 76 - 2000 - 5	Central Boom L = 2.000 mm T = 5 mm	2.000	5	6.020
91108330	TB - 76 - 2150 - 5	Central Boom L = 2.150 mm T = 5 mm	2.150	5	6.470



Central Boom

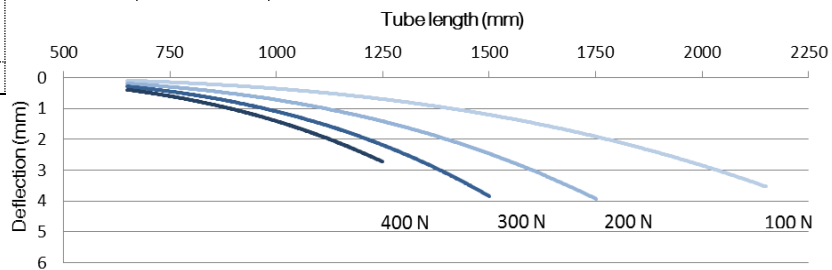
Deflection Chart for Central Boom Ø76 T = 3 mm (mm)

Load [N]	Tube length (mm)					
	650	1.250	1.500	1.750	2.000	2.150
100	0,152	1,053	1,814	2,878	4,291	5,328
200	0,304	2,105	3,628	5,755	-	-
300	0,456	3,158	5,441	-	-	-
400	0,608	4,211	-	-	-	-
500	-	-	-	-	-	-



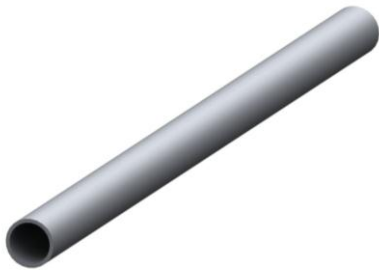
Deflection Chart for Central Boom Ø76 T = 5 mm (mm)

Load [N]	Tube length (mm)					
	650	1.250	1.500	1.750	2.000	2.150
100	0,098	0,683	1,349	1,869	2,787	3,462
200	0,196	1,367	2,699	3,739	-	-
300	0,294	2,051	4,048	5,608	-	-
400	0,395	2,734	-	-	-	-
500	-	-	-	-	-	-



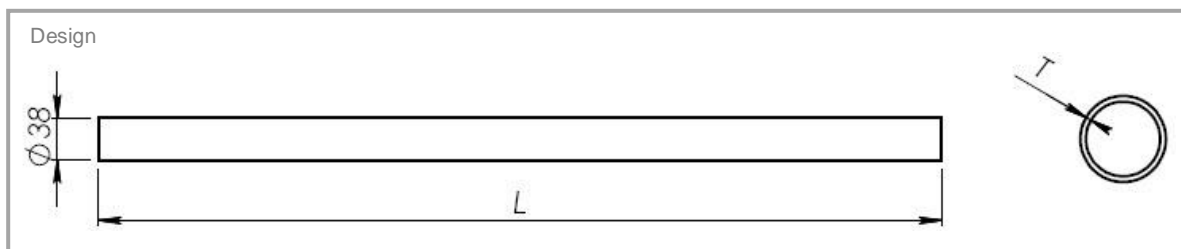
- = NON-RECOMMENDED Working Range

Cross Tube



- Material: Aluminium
- $\varnothing 38$ mm
- Two thickness available:
(T = 3 mm and T = 5 mm)

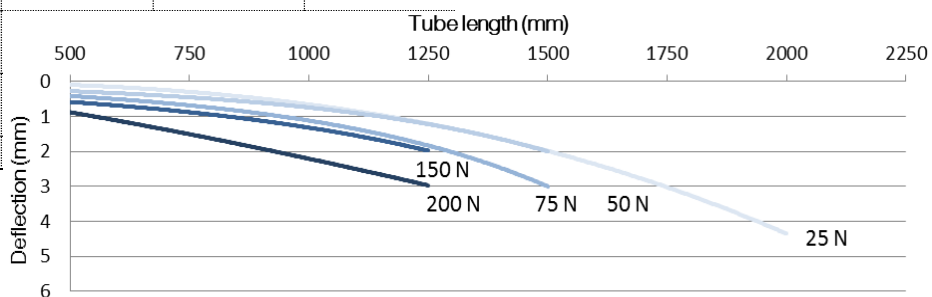
Part No.	Ref.	Description	L (mm)	T (mm)	Mass (g)
9936324	TB - 38 - 500 - 3	Cross Tube L = 500 mm T = 3 mm	500	3	375
9936325	TB - 38 - 750 - 3	Cross Tube L = 750 mm T = 3 mm	750	3	560
9936326	TB - 38 - 1000 - 3	Cross Tube L = 1.000 mm T = 3 mm	1.000	3	750
9936327	TB - 38 - 1500 - 3	Cross Tube L = 1.500 mm T = 3 mm	1.500	3	1.125
91206682	TB - 38 - 2000 - 3	Cross Tube L = 2.000 mm T = 3 mm	2.000	3	1.500
91108321	TB - 38 - 500 - 5	Cross Tube L = 500 mm T = 5 mm	500	5	700
91108322	TB - 38 - 750 - 5	Cross Tube L = 750 mm T = 5 mm	750	5	1.050
91108323	TB - 38 - 1000 - 5	Cross Tube L = 1.000 mm T = 5 mm	1.000	5	1.400
91108324	TB - 38 - 1500 - 5	Cross Tube L = 1.500 mm T = 5 mm	1.500	5	2.100
91111291	TB - 38 - 2000 - 5	Cross Tube L = 2.000 mm T = 5 mm	2.000	5	2.800



Cross Tube

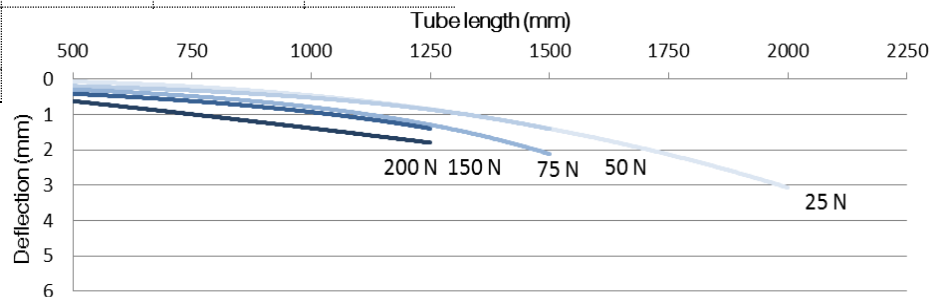
Deflection Chart for Cross Tube Ø38 T = 3 mm (mm)

Load (N)	Tube length (mm)				
	500	1.250	1.500	1.750	2.000
25	0,147	0,495	1,171	3,954	9,377
50	0,294	0,991	2,343	-	-
75	0,442	1,486	3,514	-	-
100	0,589	1,981			
150	0,883	2,972			
200	-	-			



Deflection Chart for Cross Tube Ø38 T = 5 mm (mm)

Load (N)	Tube length (mm)				
	500	1.250	1.500	1.750	2.000
25	0,104	0,349	0,827	2,791	6,616
50	0,208	0,698	1,654	5,582	-
75	0,312	1,048	2,482	-	-
100	0,416	1,398	-	-	-
150	0,624	-			
200	-	-			



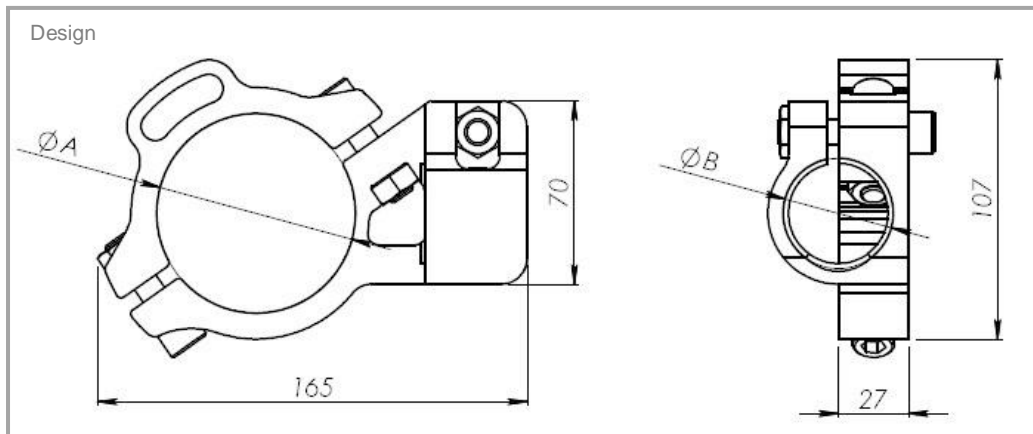
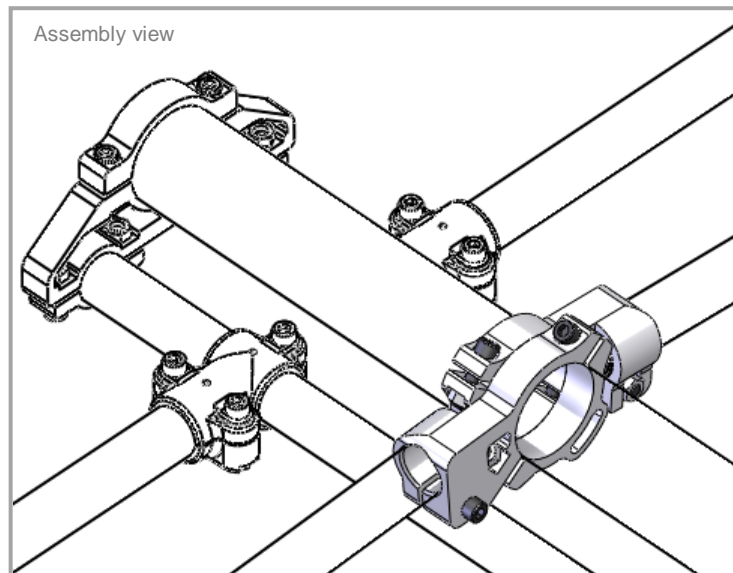
- = NON-RECOMMENDED Working Range

Wrist Extension



- Material: Aluminium
- Max torque for $\varnothing A$ = 400 Nm
- Max torque for $\varnothing B$ = 440 Nm

Part No.	Ref.	Description	$\varnothing A$ (mm)	$\varnothing B$ (mm)	Mass (g)
91110322	WE - 76 - 38	Wrist Extension 76 - 38	76	38	606

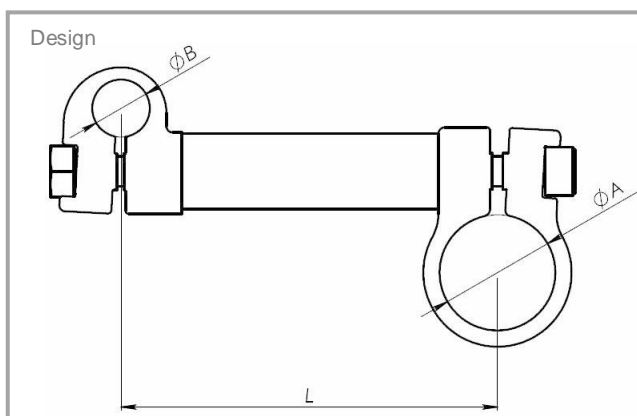
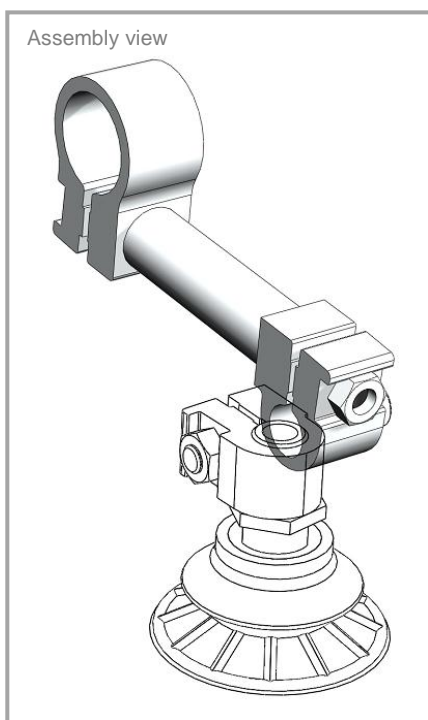


Swivel Arm



- Material: Aluminium
- Max torque for $\varnothing A$ = 352 Nm
- Max torque for $\varnothing B$ = 48 Nm

Part No.	Ref.	Description	$\varnothing A$ (mm)	$\varnothing B$ (mm)	L (mm)	Mass (g)
9934860	SA - 38 - 19 - 85	Swivel Arm L = 85 mm	38	19	85	312
9934861	SA - 38 - 19 - 125	Swivel Arm L = 125 mm	38	19	125	354
9934862	SA - 38 - 19 - 165	Swivel Arm L = 165 mm	38	19	165	390
9934863	SA - 38 - 19 - 205	Swivel Arm L = 205 mm	38	19	205	436

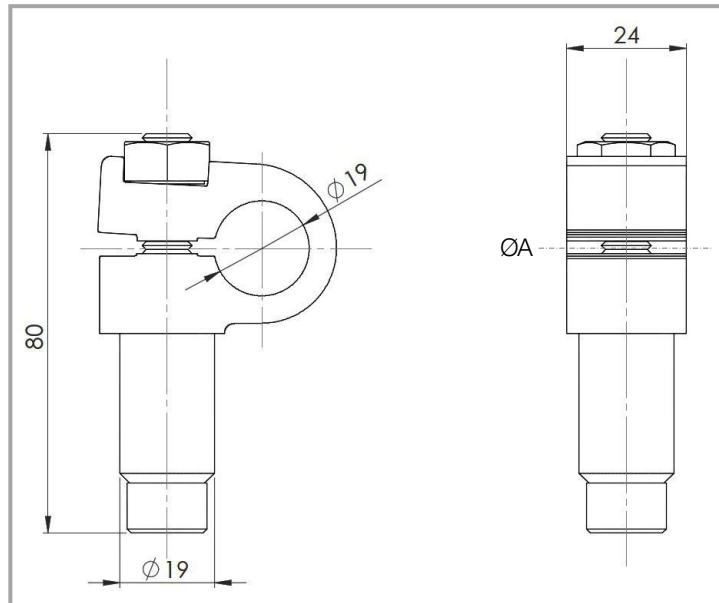
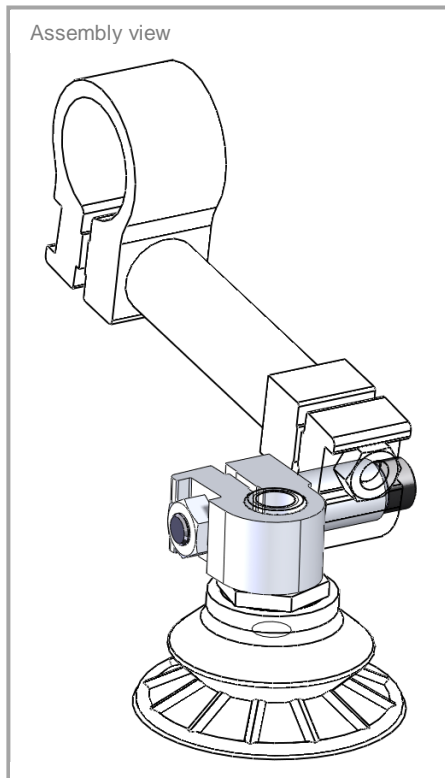


Attachment $\varnothing 19 / \varnothing 19$

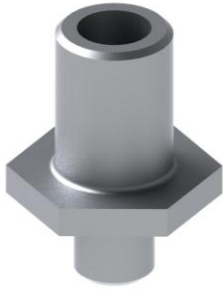


- Material: Aluminium
- Tightening Torque for M10 = 47 Nm
- Max torque for $\varnothing A$ = 152 Nm

Part No.	Ref.	Description	Mass (g)
9936312	AT - 1919	Attachment $\varnothing 19 / \varnothing 19$	132

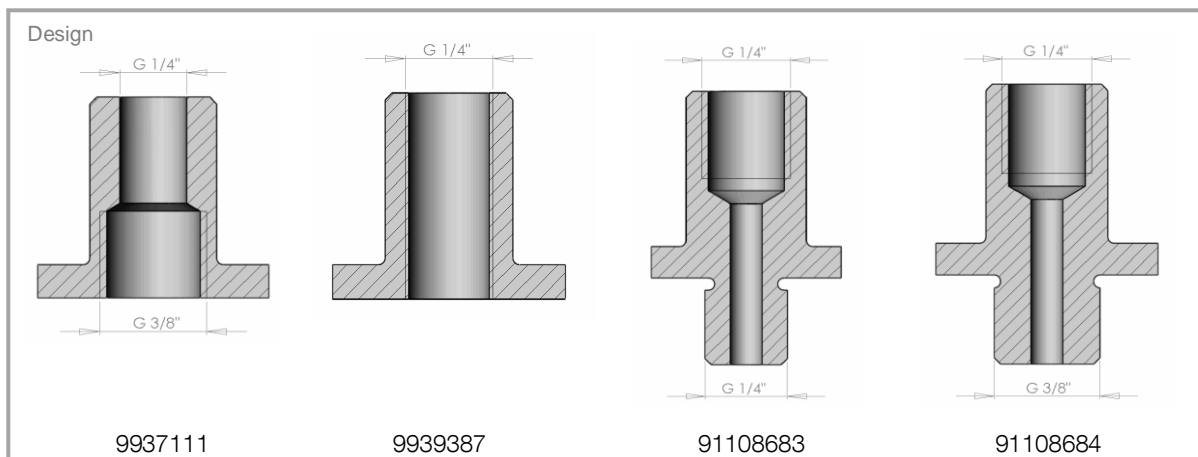
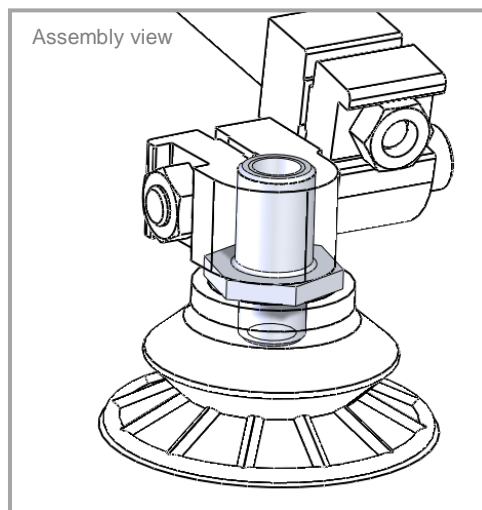


Suction Cup Attachment



- Material: Aluminium
- Suction Cup Air Connector

Part No.	Ref.	Description	Mass (g)
9937111	SCA - F3/8 - F1/4	Suction Cup Attachment Female 3/8" - Female 1/4"	46
9939387	SCA - F1/4 - F1/4	Suction Cup Attachment Female 1/4" - Female 1/4"	82
91108683	SCA - M1/4 - F1/4	Suction Cup Attachment Male 1/4" - Female 1/4"	76
91108684	SCA - M3/8 - F1/4	Suction Cup Attachment Male 3/8" - Female 1/4"	84

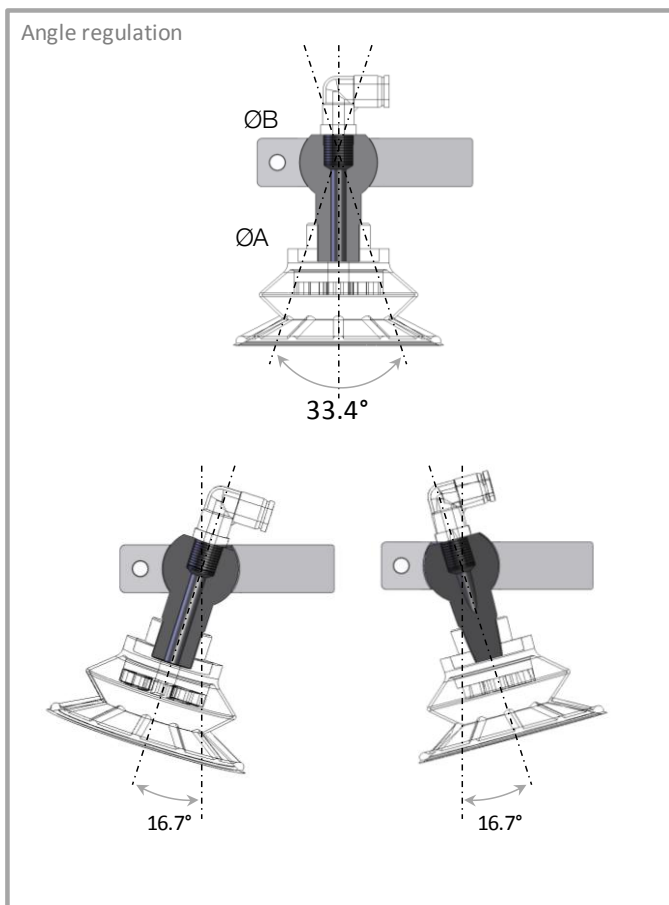
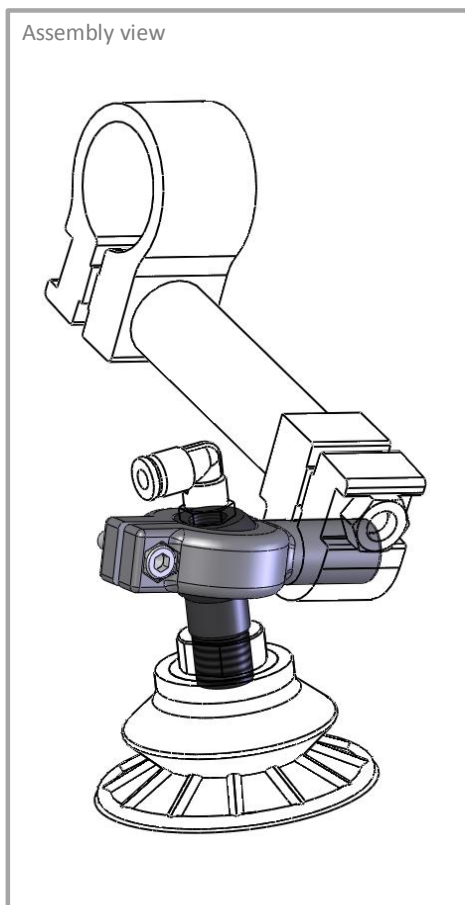


Suction Cup Attachment Ball Joint



- Material: PF-PV (polyamide with fiber reinforcement)
- For Standard Swivel Arm
- Ball angle regulation
- Ultra - light component

Part No.	Ref.	Description	ØA	ØB	Mass (g)
3HES3150001 - 001	SCA - BJ - F1/4 - M3/8	Suction Cup Attachment Ball Joint	Female G 1/4"	Male G 3/8"	60

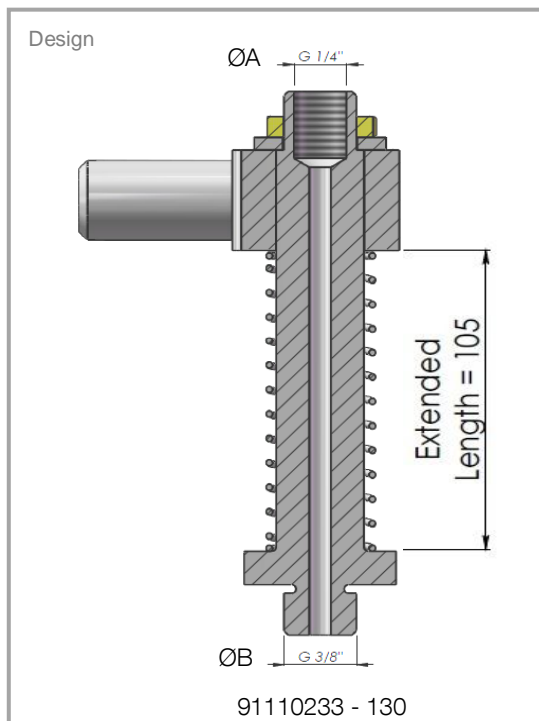
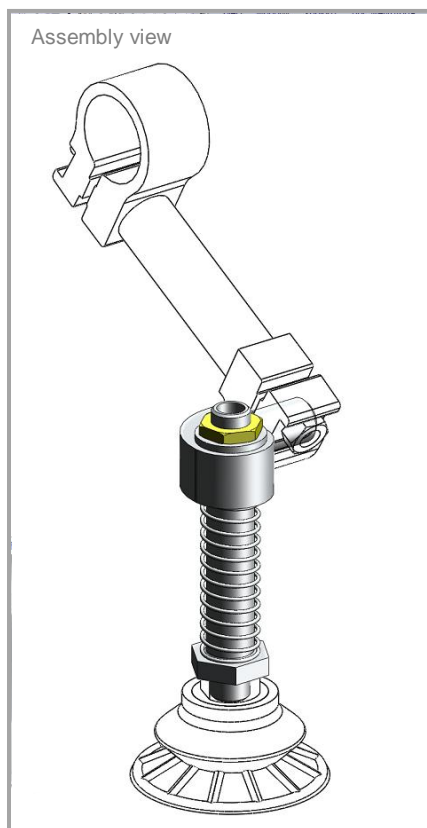


Suction Cup Attachment with Spring Assembly



- Material: Steel and Aluminium
- Suitable for Destacker Tooling
- Compressed Length = 30 mm
- Stroke 75 mm

Part No.	Ref.	Description	ØA	ØB	Mass (g)
91110230 - 130	SCAS - F1/4 - F1/4	Suction Cup Attachment with Spring Female 1/4'	Female G 1/4'	Female G 1/4'	290
91110231 - 130	SCAS - F1/4 - F3/8	Suction Cup Attachment with Spring Female 3/8'	Female G 1/4'	Female G 3/8'	260
91110232 - 130	SCAS - F1/4 - M1/4	Suction Cup Attachment with Spring Male 1/4'	Female G 1/4'	Male G 1/4'	310
91110233 - 130	SCAS - F3/8 - M3/8	Suction Cup Attachment with Spring Male 3/8'	Female G 1/4'	Male G 3/8'	280



Compressed Length = 30 mm

Circular Suction Cup Flat



- Material: Perbunan (NBR)
- Suitable for flat panels

Part No.	Ref.	Description	Ø (mm)
91207600	SAF - 30 - F1/4	Circular Suction Cup SAF 30 - 1/4' Female Thread	30
91207601	SAF - 40 - F1/4	Circular Suction Cup SAF 40 - 1/4' Female Thread	40
91207602	SAF - 50 - F3/8	Circular Suction Cup SAF 50 - 3/8' Female Thread	50
91206821	SAF - 60 - F3/8	Circular Suction Cup SAF 60 - 3/8' Female Thread	60
91206822	SAF - 80 - F3/8	Circular Suction Cup SAF 80 - 3/8' Female Thread	80
91206823	SAF - 100 - F3/8	Circular Suction Cup SAF 100 - 3/8' Female Thread	100
91206824	SAF - 125 - F3/8	Circular Suction Cup SAF 125 - 3/8' Female Thread	125

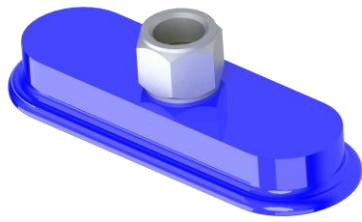
Circular Suction Cup Bellow



- Material: Perbunan (NBR)
- Suitable for shaped panels

Part No.	Ref.	Description	Ø (mm)
91206336	SAB - 40 - F1/4	Circular Suction Cup Bellow SAB 40 - 1/4' Female Thread	40
91207599	SAB - 50 - F3/8	Circular Suction Cup Bellow SAB 50 - 3/8' Female Thread	50
91206337	SAB - 60 - F3/8	Circular Suction Cup Bellow SAB 60 - 3/8' Female Thread	60
91206338	SAB - 80 - F3/8	Circular Suction Cup Bellow SAB 80 - 3/8' Female Thread	80
91206339	SAB - 100 - F3/8	Circular Suction Cup Bellow SAB 100 - 3/8' Female Thread	100
91206340	SAB - 125 - F3/8	Circular Suction Cup Bellow SAB 125 - 3/8' Female Thread	125
91207632	SAB - 40 - M1/4	Circular Suction Cup Bellow SAB 40 - 1/4' Male Thread	40
91207633	SAB - 50 - M3/8	Circular Suction Cup Bellow SAB 50 - 3/8' Male Thread	50
91207634	SAB - 60 - M3/8	Circular Suction Cup Bellow SAB 60 - 3/8' Male Thread	60
91207635	SAB - 80 - M3/8	Circular Suction Cup Bellow SAB 80 - 3/8' Male Thread	80
91207636	SAB - 100 - M3/8	Circular Suction Cup Bellow SAB 100 - 3/8' Male Thread	100
91207640	SAB - 125 - M3/8	Circular Suction Cup Bellow SAB 125 - 3/8' Male Thread	125

Oval Suction Cup Flat



- Material: Perbunan (NBR)
- Suitable for flat panels

Part No.	Ref.	Description	Ø (mm)
91207639	SAOF - 16x50 - F1/4	Oval Suction Cup SAOF 16x50 - 1/4' Female Thread	16x50
91207603	SAOF - 23x60 - F3/8	Oval Suction Cup SAOF 23x60 - 3/8' Female Thread	23x60
91207298	SAOF - 30x90 - F1/4	Oval Suction Cup SAOF 30x90 - 1/4' Female Thread	30x90
91207598	SAOF - 30x90 - F3/8	Oval Suction Cup SAOF 30x90 - 3/8' Female Thread	30x90
91207299	SAOF - 40x80 - F1/4	Oval Suction Cup SAOF 40x80 - 1/4' Female Thread	40x80
91207597	SAOF - 40x80 - F3/8	Oval Suction Cup SAOF 40x80 - 3/8' Female Thread	40x80
91207637	SAOF - 40x80 - M3/8	Oval Suction Cup SAOF 40x80 - 3/8' Male Thread	40x80
91207604	SAOF - 50x100 - F3/8	Oval Suction Cup SAOF 50x100 - 3/8' Female Thread	50x100
91207605	SAOF - 60x120 - F3/8	Oval Suction Cup SAOF 60x120 - 3/8' Female Thread	60x120
91207606	SAOF - 70x140 - F3/8	Oval Suction Cup SAOF 70x140 - 3/8' Female Thread	70x140

Oval Suction Cup Bellow



- Material: Perbunan (NBR)
- Suitable for shaped panels

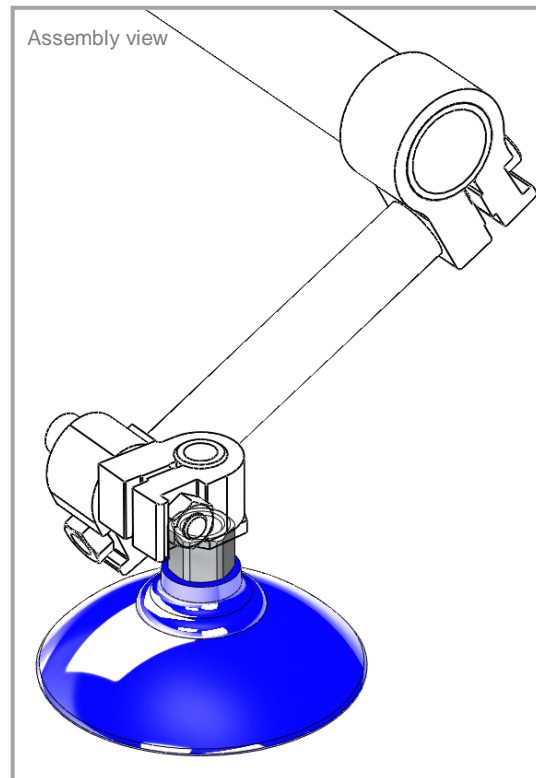
Part No.	Ref.	Description	Ø (mm)
91207300	SAOB - 30x60 - F1/4	Oval Suction Cup Bellow SAOB 30X60 - 1/4' Female Thread	30x60
91207607	SAOB - 30x60 - F3/8	Oval Suction Cup Bellow SAOB 30X60 - 3/8' Female Thread	30x60
91206868	SAOB - 40x80 - F1/4	Oval Suction Cup Bellow SAOB 40X80 - 1/4' Female Thread	40x80
91207608	SAOB - 40x80 - F3/8	Oval Suction Cup Bellow SAOB 40X80 - 3/8' Female Thread	40x80
91207638	SAOB - 40x80 - M3/8	Oval Suction Cup Bellow SAOB 40X80 - 3/8' Male Thread	40x80
91207609	SAOB - 55x110 - F3/8	Oval Suction Cup Bellow SAOB 55X110 - 3/8' Female Thread	55x110
91207610	SAOB - 70x140 - F3/8	Oval Suction Cup Bellow SAOB 70x140 - 3/8' Female Thread	70x140

Bell Suction Cup



- Material: Elastodur
- Suitable for both flat and shaped panels

Part No.	Ref.	Description	Ø (mm)
3HES315 - 0002 - 01	SAXM - 30 - F3/8	Bell Suction cup SAXM 30 - 3/8" Female Thread	30
3HES315 - 0003 - 01	SAXM - 40 - F3/8	Bell Suction cup SAXM 40 - 3/8" Female Thread	40
3HES315 - 0004 - 01	SAXM - 50 - F3/8	Bell Suction cup SAXM 50 - 3/8" Female Thread	50
3HES315 - 0005 - 01	SAXM - 60 - F3/8	Bell Suction cup SAXM 60 - 3/8" Female Thread	60
3HES315 - 0006 - 01	SAXM - 80 - F3/8	Bell Suction cup SAXM 80 - 3/8" Female Thread	80
3HES315 - 0007 - 01	SAXM - 100 - F3/8	Bell Suction cup SAXM 100 - 3/8" Female Thread	100
3HES315 - 0008 - 01	SAXM - 115 - F3/8	Bell Suction cup SAXM 115 - 3/8" Female Thread	115

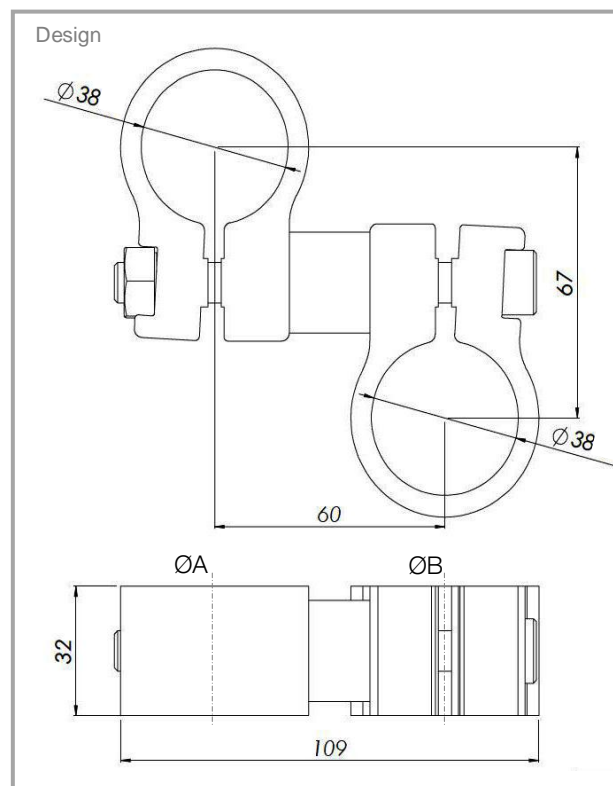


Angle Mount Swivel Type



- Material: Aluminium
- Max torque for ØA = 352 Nm
- Max torque for ØB = 352 Nm

Part No.	Ref.	Description	Mass (g)
91110335	AMST - 38 - 38	Angle Mount Swivel Type Ø38 - Ø38	350

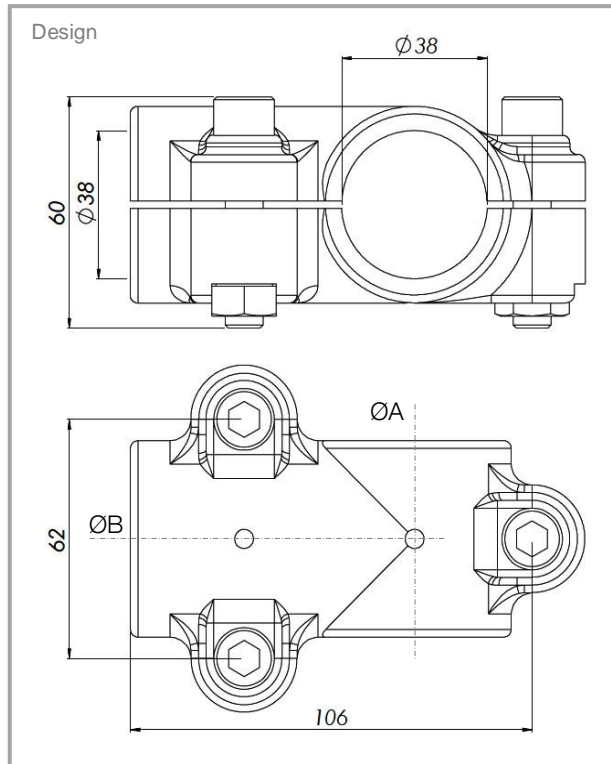
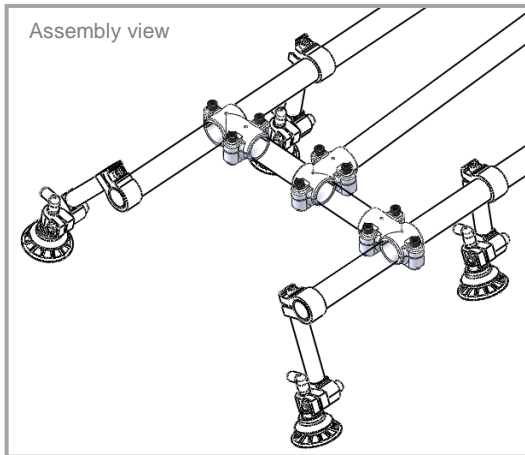


Angle Mount

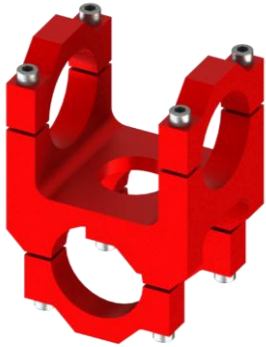


- Material: Aluminium
- Max torque for ØA = 168 Nm
- Max torque for ØB = 100 Nm

Part No.	Ref.	Description	Mass (g)
39915122	AM - 38 - 38	Angle Mount 90° split	568

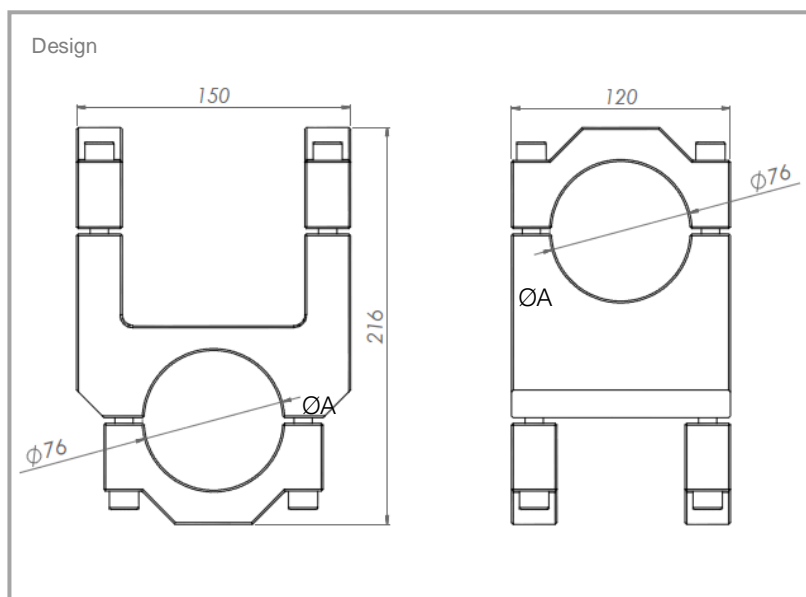
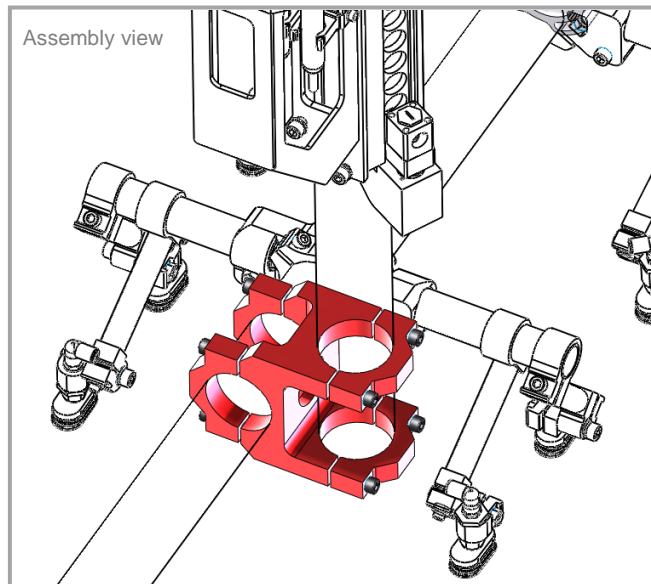


Angle Mount Ø76

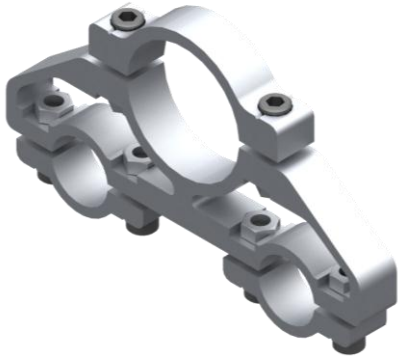


- Material: Aluminium
- Max torque for ØA = 440 Nm

Part No.	Ref.	Description	Mass (g)
91109563	AM - 76 - 76	Aluminium Angle Mount Ø76	2.500

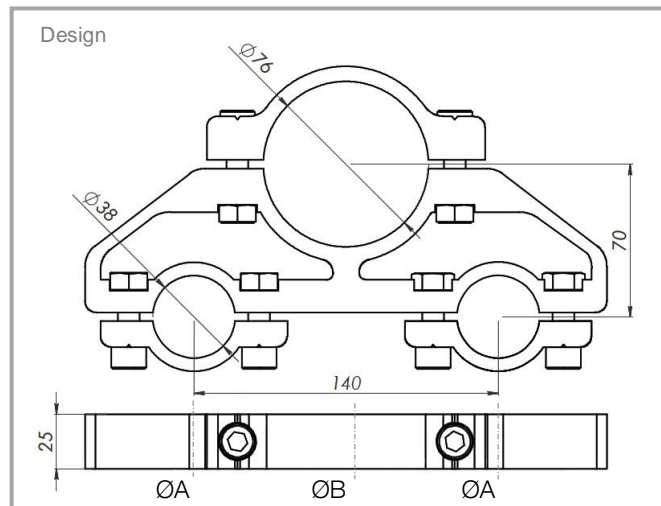


Support Bracket



- Material: Aluminium
- Support bracket (1xØ76 + 2xØ38)
- Useful to improve tooling performance for heavy duty loads (> 35 Kg)
- Reduces vibration and improves performance of the tooling
- Optimal configuration - 3 units per tube
- Max torque for:
 $\text{ØA} = 352 \text{ Nm}$, $\text{ØB} = 40 \text{ Nm}$

Part No.	Ref.	Description	Mass (g)
91111388	SB - 76 - 38	Support Bracket	832

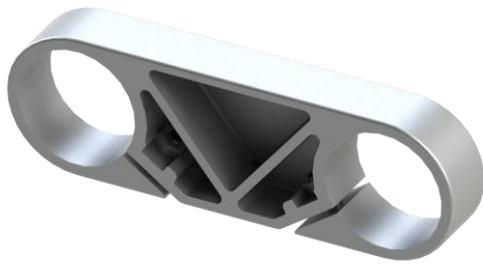


Deflection Chart. Cross Boom with 3 x Support Bracket



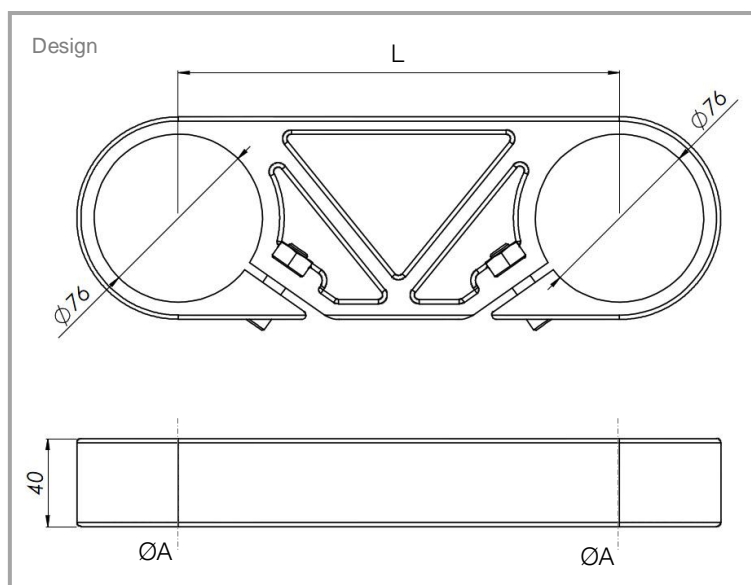
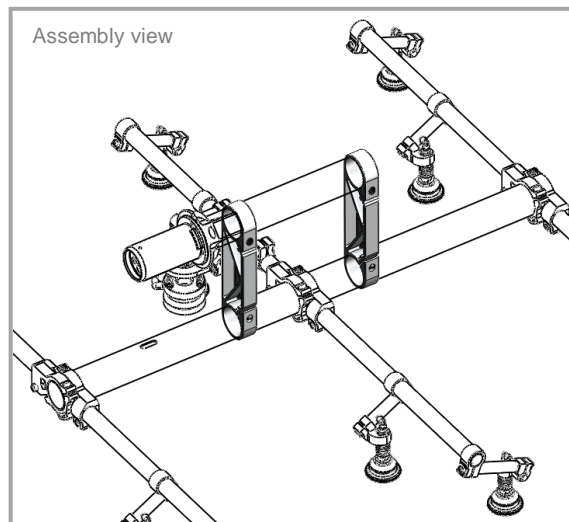
Length (mm)	Load (Kg)	Load (N)	Def. (mm)
1.000	50	490.5	3.3
	100	981	6.5
1.500	10	98.1	2.1
	20	196.2	3.8
	30	294.3	5.4
	40	392.4	7
	50	490.5	8.6
	70	686.7	12
	90	882.9	15
2.000	10	98.1	2.1
	20	196.2	8.5
	30	294.3	12
	40	392.4	16
	50	490.5	19
	70	686.7	26

Central Boom Spacer



- Material: Aluminium
- Max torque for $\varnothing A = 440 \text{ Nm}$

Part No.	Ref.	Description	L (mm)	Mass (g)
9934876	SP - 76 - 76 - 130	Central Boom Spacer L = 130 mm	130	824
9934877	SP - 76 - 76 - 200	Central Boom Spacer L = 200 mm	200	1.158
9934878	SP - 76 - 76 - 250	Central Boom Spacer L = 250 mm	250	1.310
9934879	SP - 76 - 76 - 300	Central Boom Spacer L = 300 mm	300	1.464

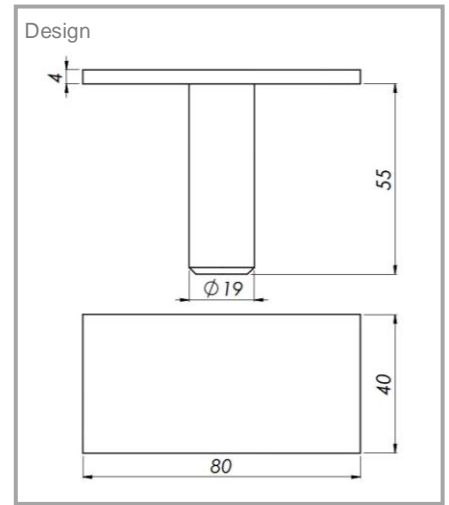


Part Supports for Nest

T - Type Support



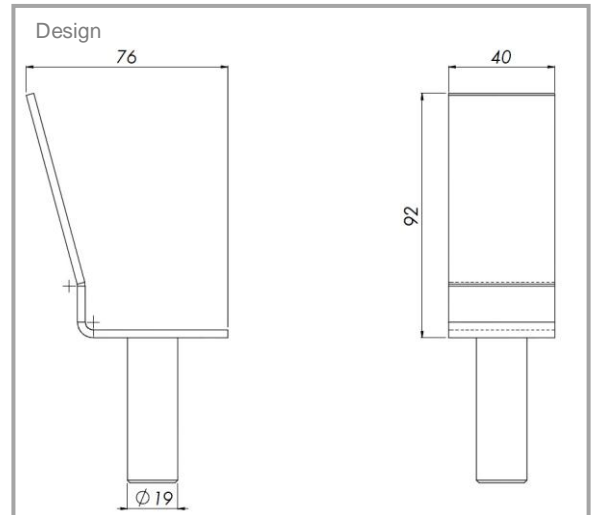
Part No.	Ref.	Material	Mass (g)
9937042	PS - T	Steel	162



L - Type Support



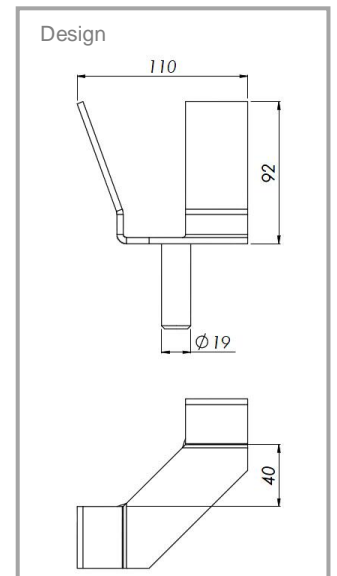
Part No.	Ref.	Material	Mass (g)
9937039	PS - L	Steel	234



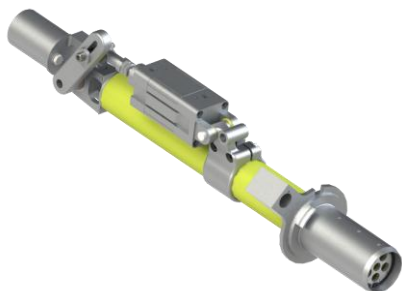
V - Type Support



Part No.	Ref.	Material	Mass (g)
39915120	PS - V	Steel	400

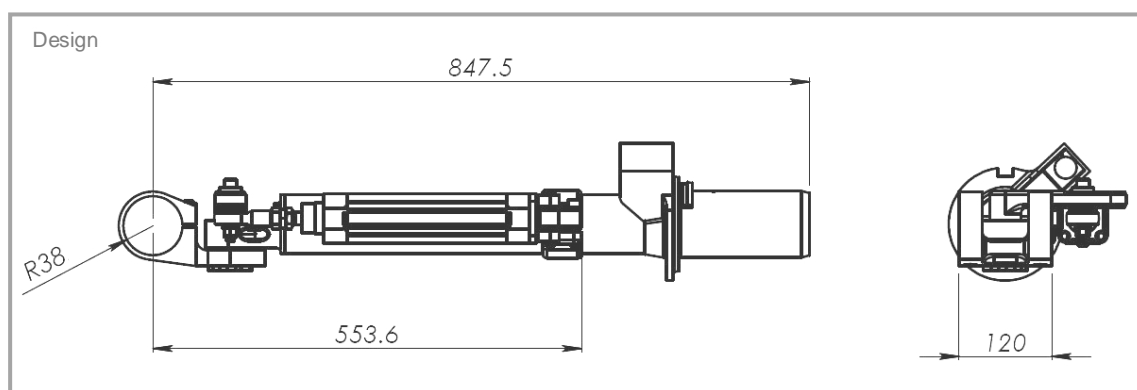


Special Operations Turning Units



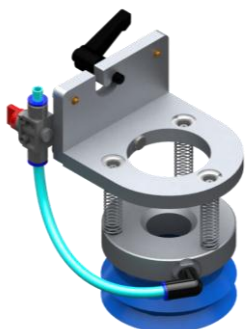
- Material: Mostly made of Aluminium
- Turning Unit Cylinder Ø50 mm, for mounting on Central Boom Ø76 mm and turning Central Boom Ø76 mm
- Variable Stroke of Pneumatic Cylinder
- Other special operations (side-shifting, turning, etc.) available on request

Part No.	Ref.	Description	Stroke (mm)	Min (°)	Max (°)
9937125	SO - 50 - 76 - 21 - 38	Turning Unit Cyl. Ø50 - Ø76	50	21,5	38
9937961	SO - 50 - 76 - 34 - 57	Turning Unit Cyl. Ø50 - Ø76	80	34,5	57,5
9937962	SO - 50 - 76 - 42 - 69	Turning Unit Cyl. Ø50 - Ø76	100	42,5	69,5
9937963	SO - 50 - 76 - 55 - 85	Turning Unit Cyl. Ø50 - Ø76	125	55	85,5
9937964	SO - 50 - 76 - 72 - 112	Turning Unit Cyl. Ø50 - Ø76	160	72,5	112,5



NOTE: Central Boom and Bayonet not included

Double Blank Detector Support



- Material: Aluminium
- Suitable for Klaschka and Roland sensors (sensor NOT included)
- Attachment type A to be fitted on robot tooling
- Attachment type B to be mounted on robot wrist
- For sensors with M42 thread

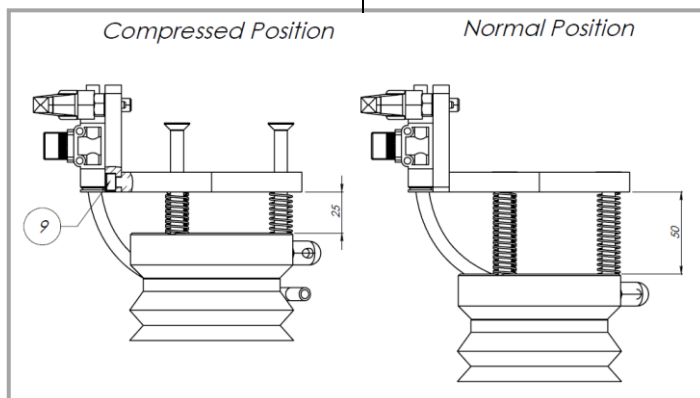
Part No.	Ref.	Description	Mass (g)
DBD - S	DBD - S	Double Blank Detector Support	1.150
DBD - A	DBD - SA	Double Blank Detector Attachment (Type A)*	2.087
DBD - B	DBD - SB	Double Blank Detector Attachment (Type B)*	4.650

* Double Blank Detector is NOT included

Attachment Type A



Attachment Type B



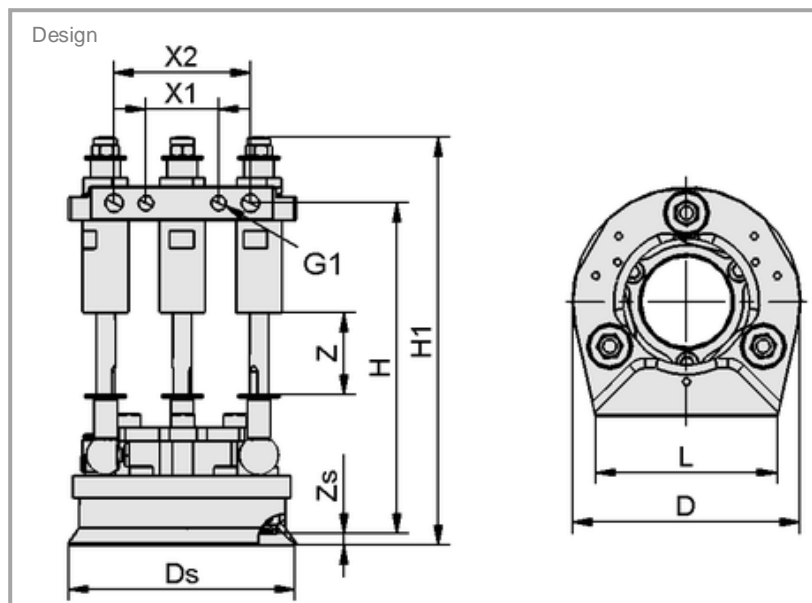
Double Blank Detector Support Ball Joint



- Material: Aluminium
- Suitable for Klaschka and Roland sensors (sensor NOT included)
- Jointed fixture of sensor attachment
- Special bell-shaped suction ring to separate the vacuum circuit from the sensor circuit
- Simple replacement of suction ring
- For sensors with M42 thread
- Quick-change coupling with 19 mm pin

Part No.	Ref.	Description	Mass (g)
DBD - C	DBD - SC	Double Blank Detector Support Ball Joint	3.500

* Double Blank Detector is NOT included



Key	Values (mm)
D = Ds	100
G1	M8-F
H	145
H1	145
L	80
Z	36
Zs	5

Air Connectors

Splicing Connector



Part No.	Tube (mm)
91207226	10

Y - Connector



Part No.	Tube (mm)
91204974	6
91204160	8
3049182	10

T - Connector



Part No.	Tube (mm)
91207328	8
3046065	10

Shut-off Valve



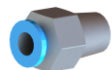
Part No.	Tube (mm)
3045897	8
91207234	10

Plug Splicing Connector



Part No.	Tube (mm)
3046068	6
3046069	8
3047019	10

Push-in fitting



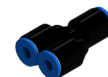
Part No.	Tube(mm)	Thread
91204069	6	1/8'
91207662	8	3/8'
91205003	10	3/8'

L - Connector



Part No.	Tube (mm)	Thread
3046066	6	1/4'
3045896	8	1/4'
3049183	8	1/8'
91200543	10	1/4'

Y - Connector



Part No.	Tube in (mm)	Tube out (mm)
3046064	8	6
91202392	10	8

Distributor



Part No.	Tube (mm)	Thread
3046070	6	1/4'

L - Connector Slip-in Sleeve



Part No.	Tube (mm)
3048077	10 - 10
3046071	10 - 8

Slip-in Sleeve



Part No.	Tube in (mm)	Tube out (mm)
91207227	6	8
91207228	8	10

Tubes for air pressure and vacuum

Part No.	Size (mm)
3046072	6 x 1
3045898	8 x 1,25
3045899	10 x 1,5
3045899-RE	
3045899-YE	
3045899-BL	
3045899-GR	
3045899-SI	



Different tube colours (Blue, red, yellow, black, green, silver)

ABB Carbon Fiber Tooling

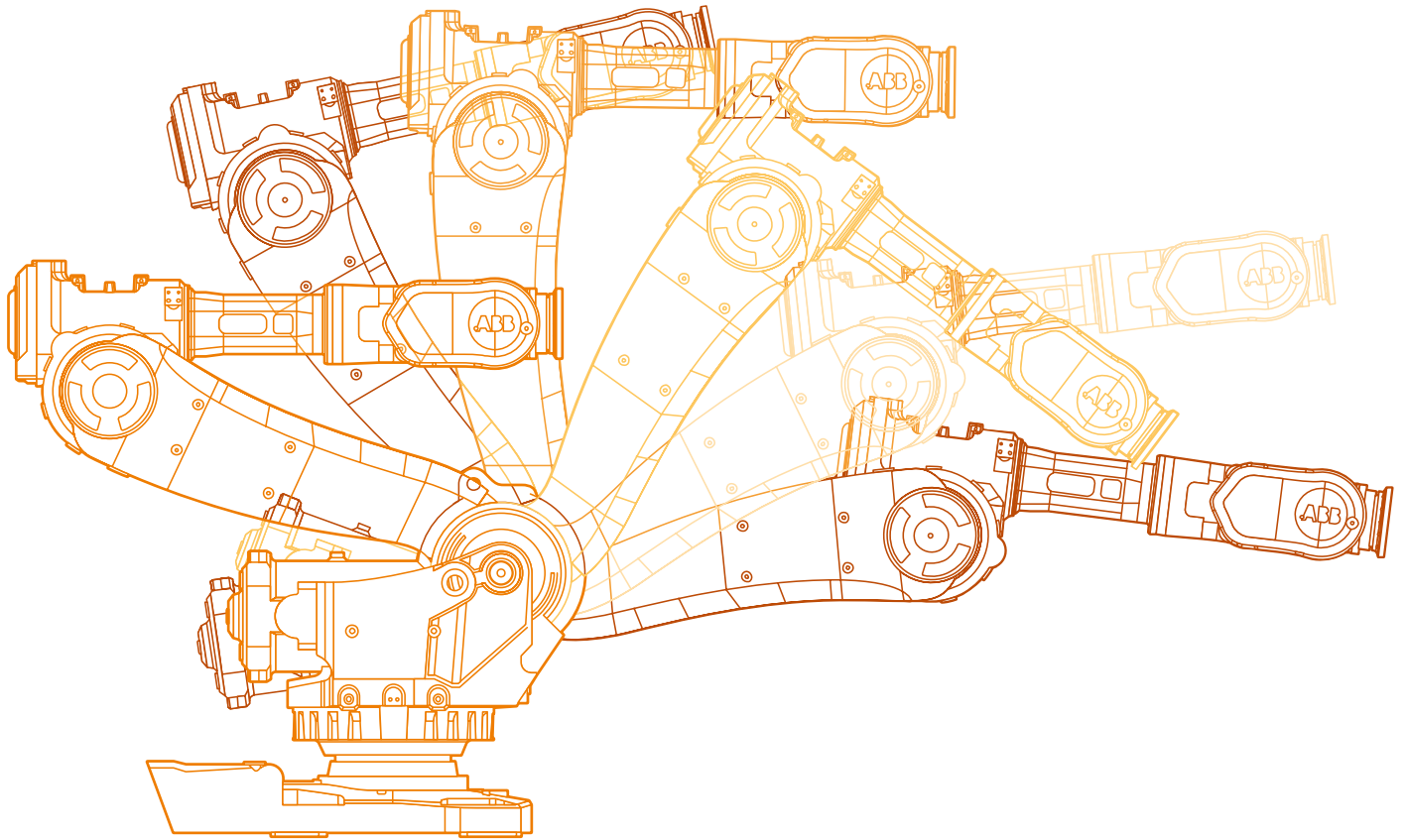


ABB Carbon Fiber Tooling

ABB has developed a completely new concept of tooling based on carbon fiber. Carbon fiber's highly rigid and lightweight properties make it perfect for robot applications.

Advantages:

- Slim profile, short die occupation time
- Optimum strength to weight ratio
- Compatibility with 6 and 7 axis applications
- Reduced deflection and vibration
- Enabled for automatic tool change (ATC)
- Up to 8 vacuum / air channels

ABB's Carbon Fiber (CF) tooling improves process performance due to a dramatic reduction of deflection vibrations and weight. Additionally the new ABB design features a slimmed down gripper (the height has been significantly reduced), which has a positive impact on cycle times.

ABB's CF Tooling family consists of two products: CF Boom and CF Gondola Arm.

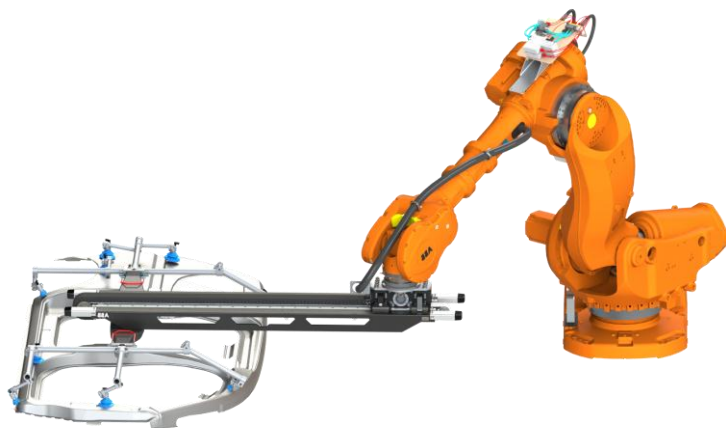
6 axis robot



7 axis robot

IRB 7600FX

ABB Robot with linear additional axis



IRB 6660RX

ABB Robot with rotational additional



CF Central Boom



- Material: Carbon Fiber reinforced with Epoxy
- Designed for IRB 66XX and IRB 76XX
- Maximum payload = 100 kg

Reference	Ref.	Description	Weight (g)
3HES310 - 0000	CF - CB	CF Central Boom with standard plate	12.000

The CF Boom is used in 6-axis robot applications. Since the boom remains attached to the robot during production changeover, only one CF Boom is needed per robot. And with a length of 1450 mm, it can handle parts weighing up to 100 kg. Vacuum pumps can be built in to reduce vacuum response time and facilitate the pump's set up.

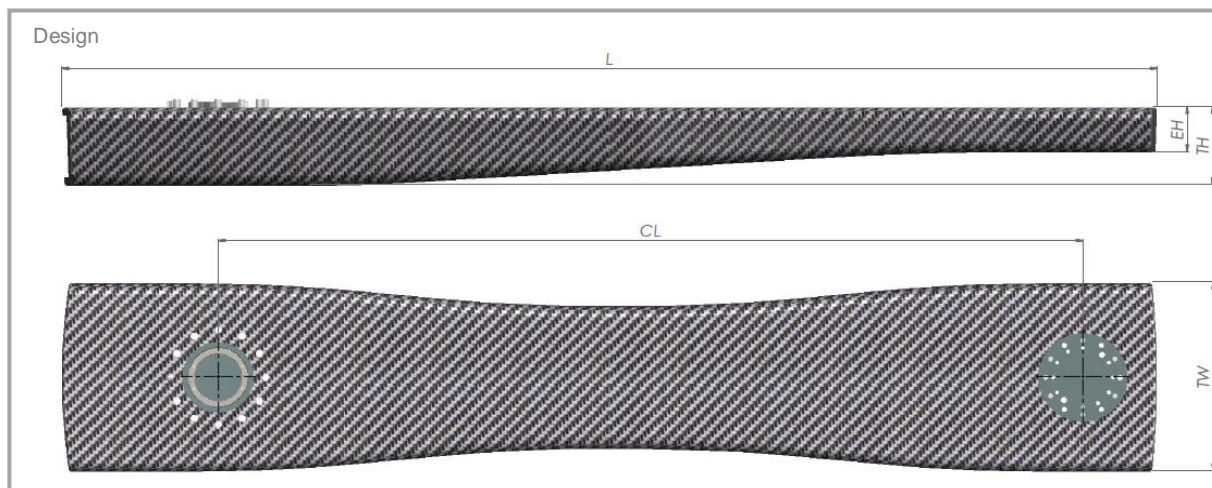


Standard plate

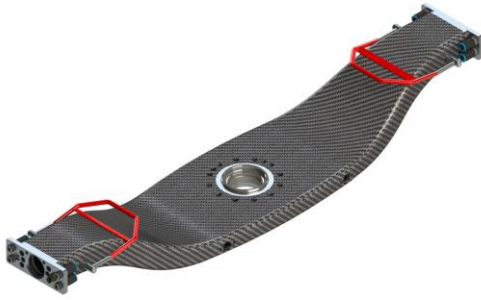


Optional vacuum pumps integration plate
(3HES310 - 1000)

Key	Description	Values (mm)
L	Length	1.838
CL	Center Length	1.450
EH	Ends height	76
TH	Total height	132
TW	Total width	318



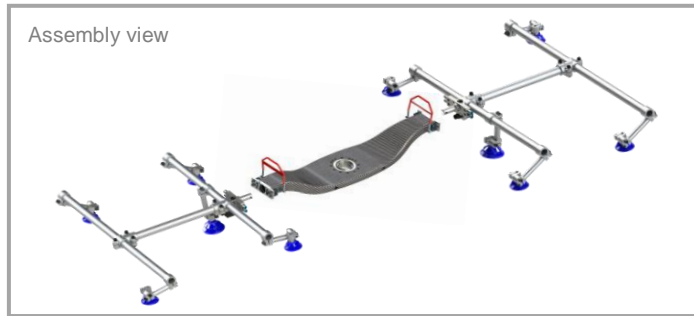
CF Gondola Arm 1.0



- Material: Carbon Fiber reinforced with Epoxy
- Suitable for 6- and 7-axis robots
- 2 x manual quick changes included
- Embedded magnet to block handle
- Poka - Yoke system integrated

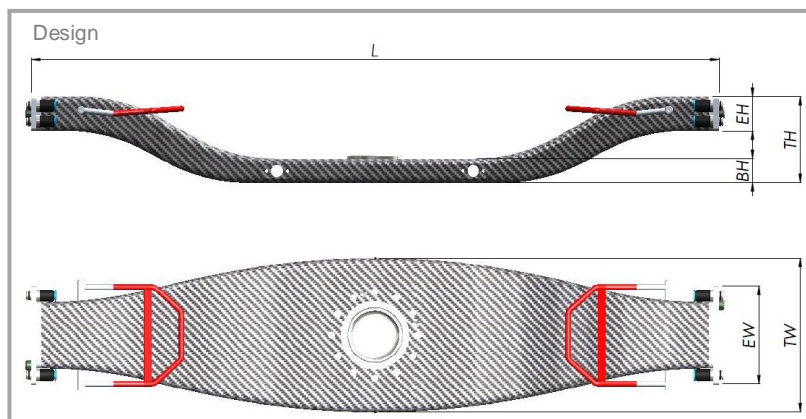
Reference	Ref.	Description	Weight (g)
3HES312 - 0000	CF - GA1.0	CF Gondola Arm 1.0	7.500

The CF Gondola Arm is used in 6-axis, 7-axis and Twin robot applications. Accordingly, production can be easily switched between different robotic solutions.



Tooling components to be sold separately

Key	Description	Values (mm)
L	Length	1.000
EH	Ends height	50
BH	Body height	35
TH	Total height	125
EW	Ends width	142
TW	Total width	223



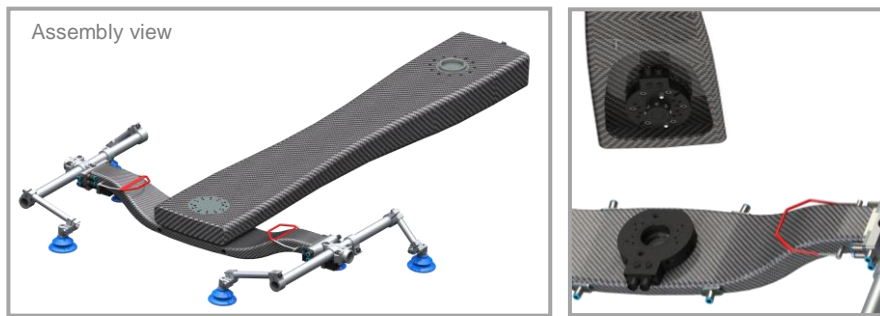
CF Gondola Arm 1.4



- Material: Carbon Fiber reinforced with Epoxy
- Suitable for 6- and 7-axis robots
- 2 x manual quick changes included
- Embedded magnet to block handle
- Poka-Yoke system integrated

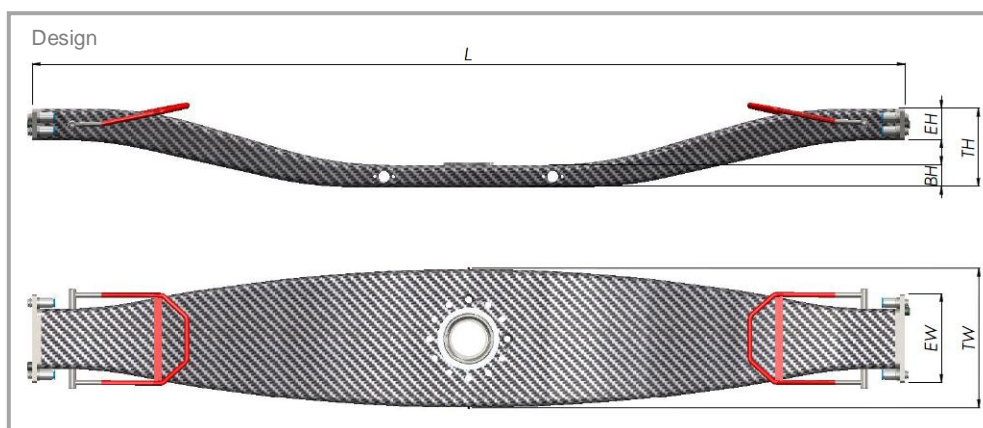
Reference	Ref.	Description	Weight (g)
3HES311 - 0000	CF - GA1.4	CF Gondola Arm 1.4	8.000

The CF Gondola Arm is enable for a female ATC unit matching to the CF Boom plus two manual tool changers to allow the attachment of part-specific tooling.

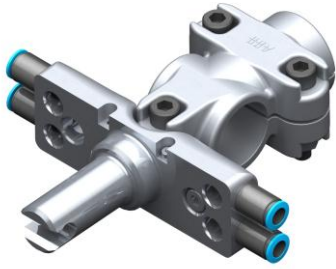


ATC not included

Key	Description	Values (mm)
L	Length	1.400
EH	Ends height	50
BH	Body height	35
TH	Total height	125
EW	Ends width	142
TW	Total width	223



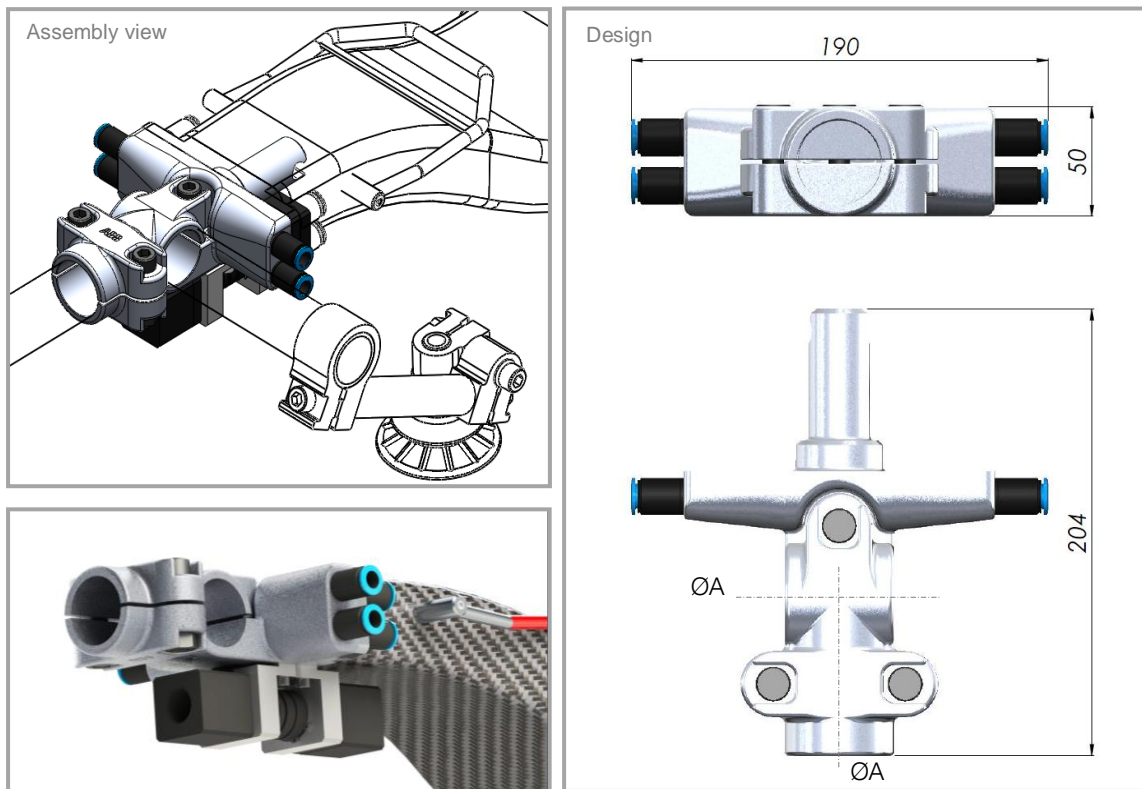
CF Bayonet



- Up to 4 vacuum/air channels per side
- Made of die cast Aluminium
- Optional electrical module available, same as QCA
- Specific tooling based on standard tooling components
- Max torque for $\text{ØA} = 250 \text{ Nm}$

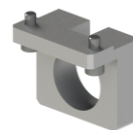
Reference	Ref.	Description	Weight (g)
3HES314 - 1000	BAY - CF - 38	CF Bayonet for $\text{Ø}38$ cross tubes	1.100
3HES314 - 2000	BAY - CF - 40	CF Bayonet for $\text{Ø}40$ cross tubes	1.100

The locking handle integrated in the CF Gondola body allows, through a smooth movement, the attachment of the CF Bayonet with its different tooling arm configurations.



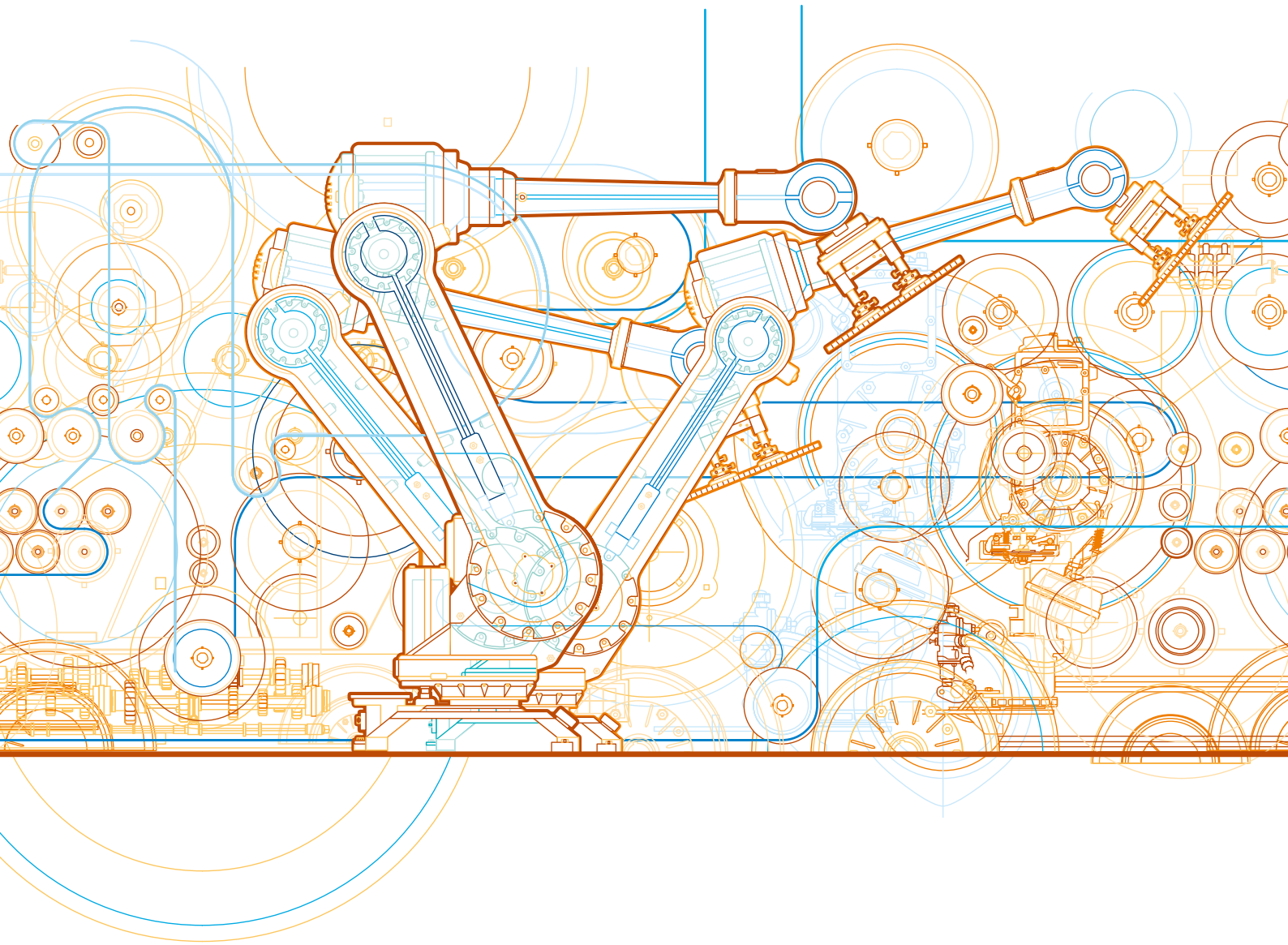
Optional electric female connectors 6 or 18 pins

Reference	Description
3HES315 - 0010	Electrical Connector Support

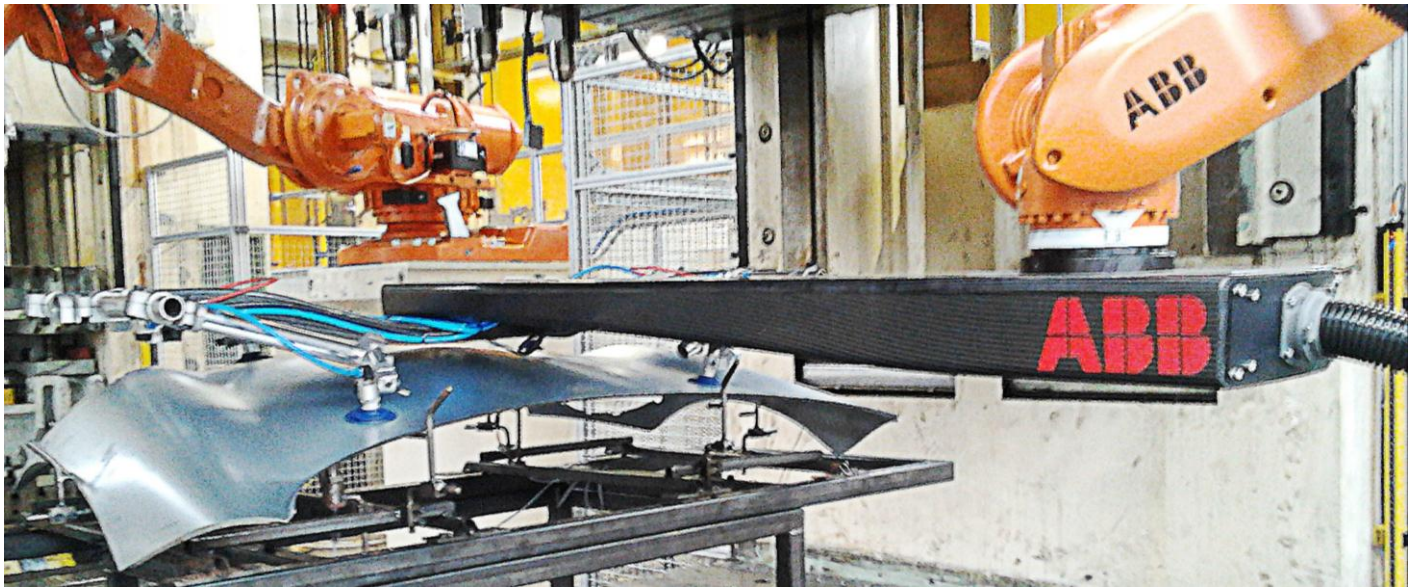


NOTE: Support ready for MULTICONTACT electrical connector (see pages 13 and 18)

Applications and Pictures



Applications and Pictures



- Tooling for general industries applications such as white goods, plastic applications, wood panels and others.



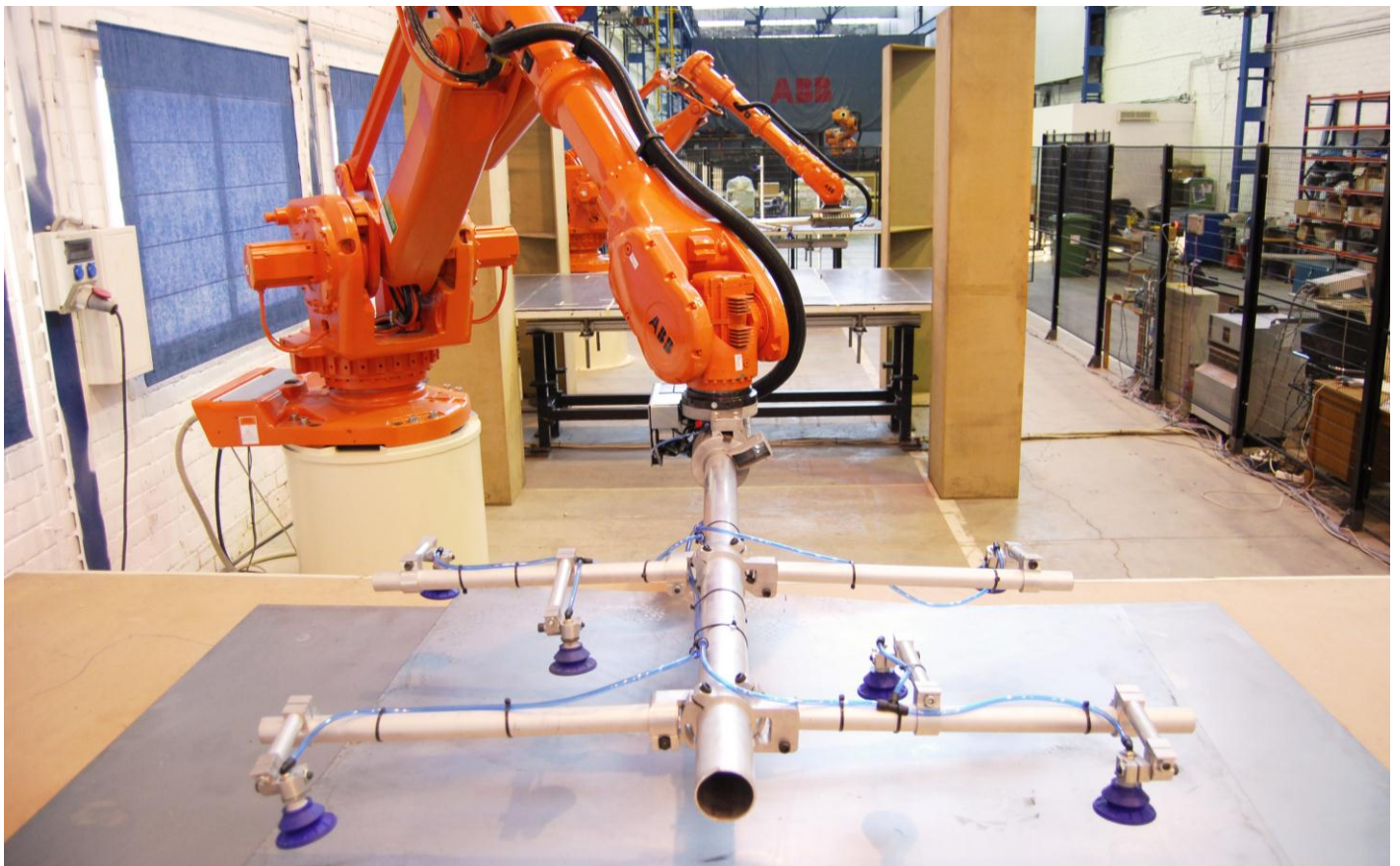
- Interpress tooling with detachable arms to reduce the setup time and to improve the operator's ergonomics.



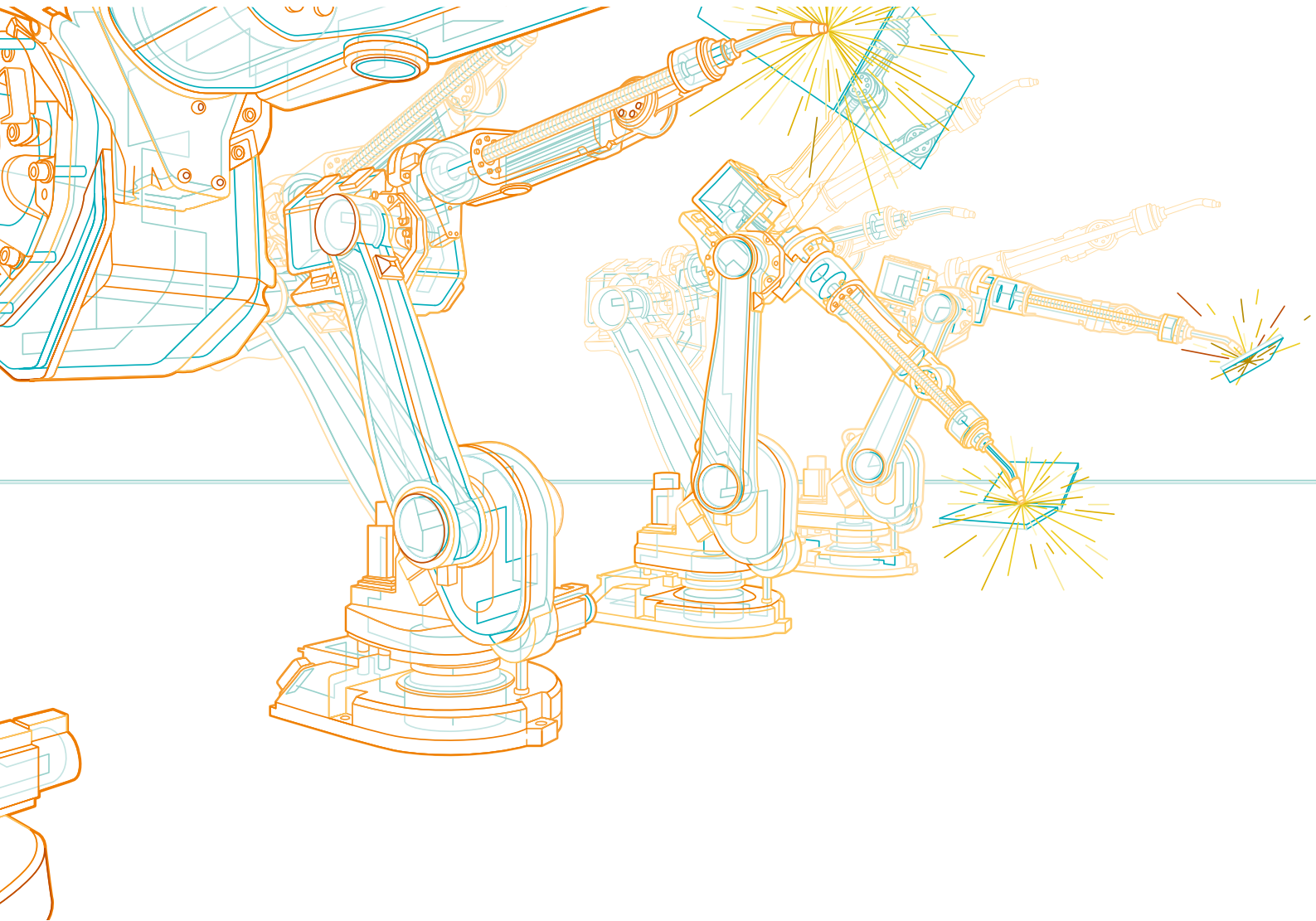
- Heavy duty tooling for extra-large and extra-heavy parts. The picture below shows an application with multi-move robots handling a large steel panel.



- ABB tooling tests are done in the Press Automation Systems labs simulating the work conditions.



Tooling Catalogue 2013 Edition



Contact us

ABB S.A.

DMRO Robotics

C/ de L'illa de Buda, 55
08192 Sant Quirze del Vallès, Barcelona
ES

Tel: +34 93 728 8700

Fax: +34 93 728 8682

E-Mail: pas.support@es.abb.com

www.abb.com/robotics

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