WMH Transmissions Limited

DEXIS A Member of Dexis Europe

COBOTS & GRIPPERS

STOCK CATALOGUE

EDITION 02

kassow robots

strong · fast · simple

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Cobots ?

Here at WMH we provide the latest cutting-edge technology in the world of collaborative robots and automation.

Strong, Fast, Simple: The Kassow 7 Axis cobot brings a revolutionary new dimension to factory automation. Payloads of up to 10 kg, reaches up to 1.8 metres, simple programming and 225 degrees per second joint speeds make Kassow stand above conventional 6 axis robots.

The story behind the seventh axis: When manipulating robot arms into confined spaces (CNC machine loading for example), the path taken often proves to be long & difficult with conventional 6 axis cobots.

Our 7th axis gives an extra degree of freedom allowing for point to point linear movement even in close proximity to the cobot base. This also allows the arm to rotate about it's self keeping the tool plate stationary allowing operation in much closer proximity to machinery framework, leaner movements, decreased cycle time & less programming headaches !

Why Collaborative? Our plug-and-play cobot and gripper solutions provide much greater ease of installation, programming and operation without the need for time consuming and expensive programme writing such as with industrial robots. Drag-and-drop programming tree control the movement of the robot arm and actuation of gripper via a simple teach pendant.

Rapid Deployment: Collaborative robot arms and grippers lend themselves to the ever-changing production requirements of industry. Our Onrobot grippers can be changed at the click of a button and doubled up, even using finger and vacuum type at the same time, on the same arm! Our fully programmable two finger grippers allow for a wide range of different size and shape workpieces without changing anything on our program.

With the ever-changing needs of production and handling, collaborative solutions are essential in all industries to stay ahead of the competition and to maximise profitability.

Here at WMH we provide you with the tools to help you do so!

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Welcome

Here at WMH, we are dedicated to quality customer service, high quality products and fast delivery. We pride ourselves on next day delivery on stock items and an unbeatable service at competitive prices.

With years of commercial experience, ISO 9001/2008 accreditation and a highly skilled workforce from the shop floor through to management, you can be confident in choosing WMH for all your collaborative robot needs.

WMH robotics department specialise in the handling, design and supply of high quality collaborative robots and plug-and-play gripper solutions.

- Kassow 7 axis collaborative robots -

- OnRobot quick change end effectors -

- Robotiq finger and vacuum grippers -

- Design support for automation applications -

- In house build of framework and supporting assemblies -

- On-site installation and training at customers' facility -

Our in-house, fully equipped CNC machine shop combined with years of industry experience gives us the capability to tailor products to suit specific customer requirements – contact our professional sales team today.

WMH - Part of your drive !

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Kassow Robotic Arms

7 Axis Collaborative Robot

kassow robots
strong · fast · simple

Family 1 – 850mm / 10 kg – 1200mm / 5 kg

Family 2 – 1400mm / 10 kg – 1800mm / 5 kg

ANY COLLABORATIVE ROBOT INSTALLATION MUST ALWAYS BE EVALUATED ON AN INDIVIDUAL BASIS TO DETERMINE THE SUITABILITY FOR WORKING WITHOUT GUARDING

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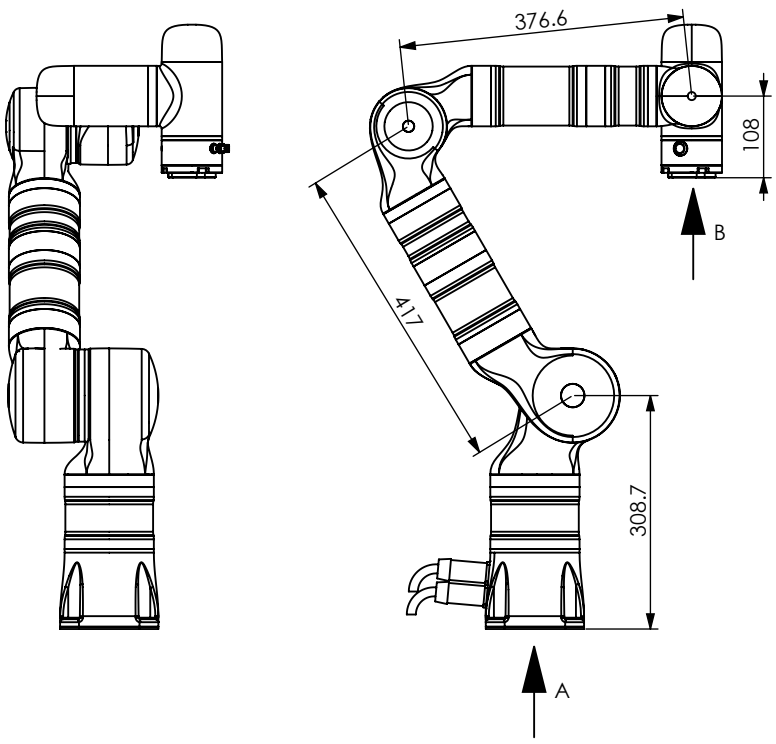
KR810 – 850mm / 10kg

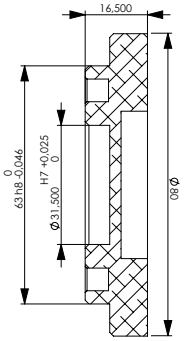
7 Axis Cobot – 850mm Reach – 10 kg Payload

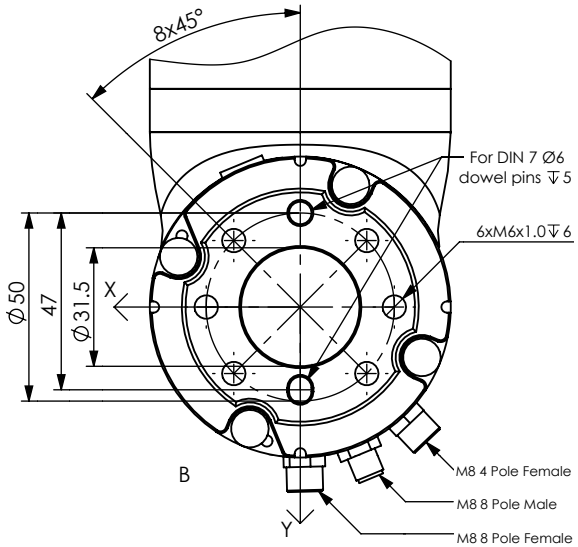


Design Parameter	Value
Reach In All Directions (mm)	850
Maximum Payload (kg)	10
Robot Arm Mass (kg)	24
Number Of Joints (D.O.F)	7
Max. Joint Speed (deg/s)	225
Joint Range J1 J3 J5 J6 J7 (°)	- 360 / + 360
Joint Range J2 J4 (°)	- 70 / + 180
Max. Linear Speed (mm/s)	2500
Repeatability (mm)	± 0.1
Max. Tool Flange Torque (Nm)	25
Min. Base Flatness (mm/m)	0.5
Max. Noise Level (dB.A)	≤ 70
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	- 0 / + 45
Non-Condense Humidity (%RH)	30 ~ 85
Max. Operating Altitude (m)	3000
Power Supply (Phase CEE)	Single
Supply Voltage (V AC)	200 ~ 240
Supply Current Pre-Fuse (A)	16
Supply Frequency (Hz)	50 / 60
Power @ Max Payload (W)	400 ~ 600
Controller Cable Length (m)	5

TOOL FLANGE

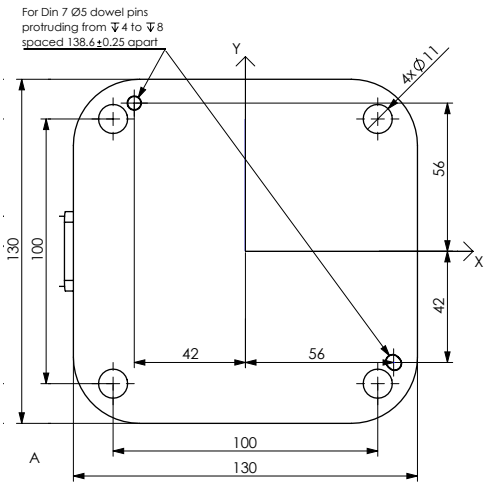
ISO 9409-1-50-4-M6





BASE PLATE

FAMILY 1 SIZE



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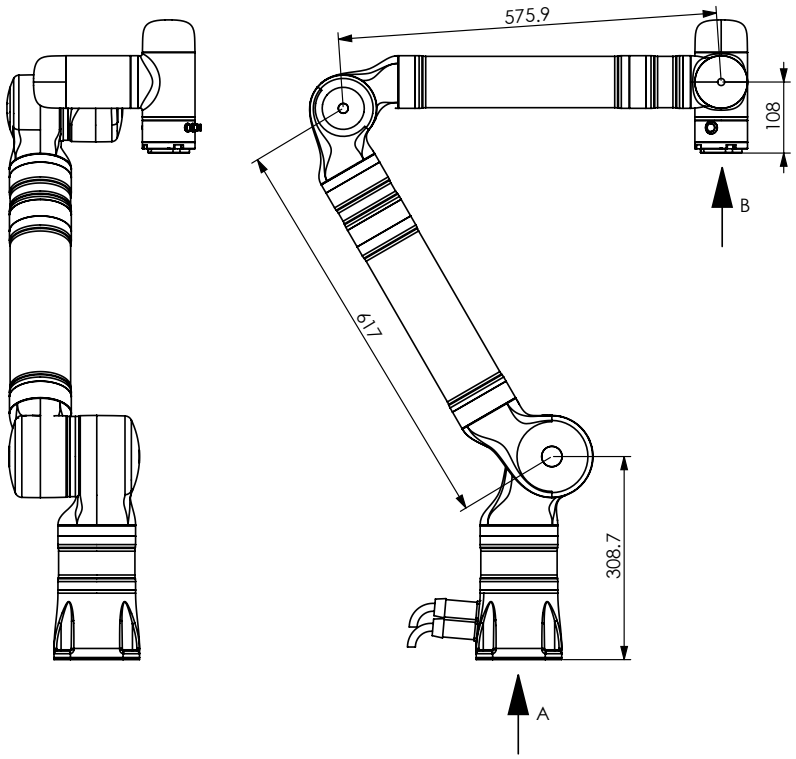
KR1205 – 1200mm / 5kg

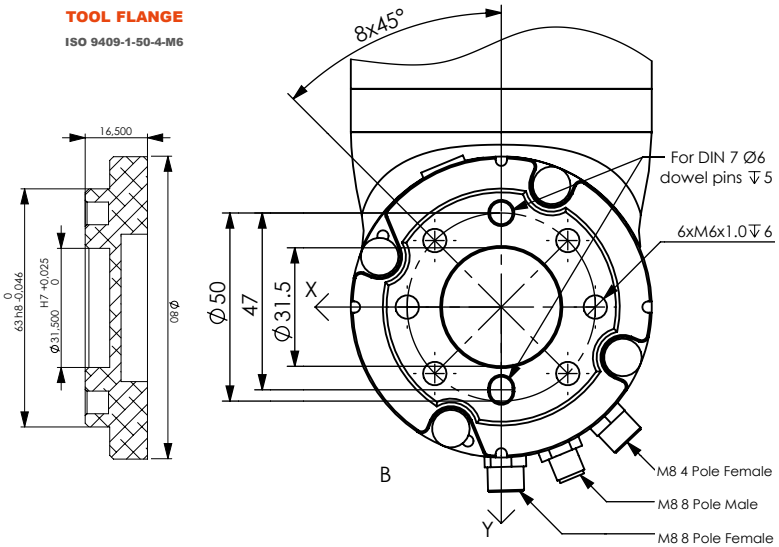
7 Axis Cobot – 1200mm Reach – 5 kg Payload



Design Parameter	Value
Reach In All Directions (mm)	1200
Maximum Payload (kg)	5
Robot Arm Mass (kg)	25
Number Of Joints (D.O.F)	7
Max. Joint Speed (deg/s)	225
Joint Range J1 J3 J5 J6 J7 (°)	- 360 / + 360
Joint Range J2 J4 (°)	- 70 / + 180
Max. Linear Speed (mm/s)	2500
Repeatability (mm)	± 0.1
Max. Tool Flange Torque (Nm)	25
Min. Base Flatness (mm/m)	0.5
Max. Noise Level (dB.A)	≤ 70
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	- 0 / + 45
Non-Condense Humidity (%RH)	30 ~ 85
Max. Operating Altitude (m)	3000
Power Supply (Phase CEE)	Single
Supply Voltage (V AC)	200 ~ 240
Supply Current Pre-Fuse (A)	16
Supply Frequency (Hz)	50 / 60
Power @ Max Payload (W)	400 ~ 600
Controller Cable Length (m)	5

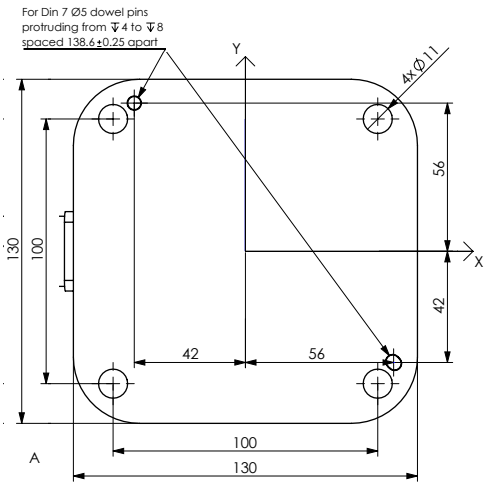
TOOL FLANGE

ISO 9409-1-50-4-M6



BASE PLATE

FAMILY 1 SIZE



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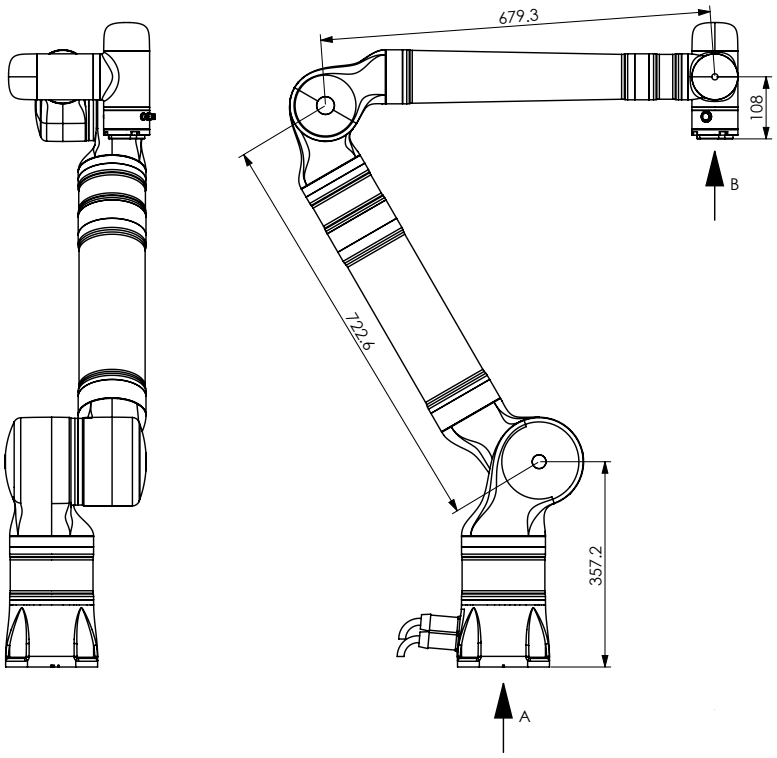
KR1410 – 1400mm / 10kg

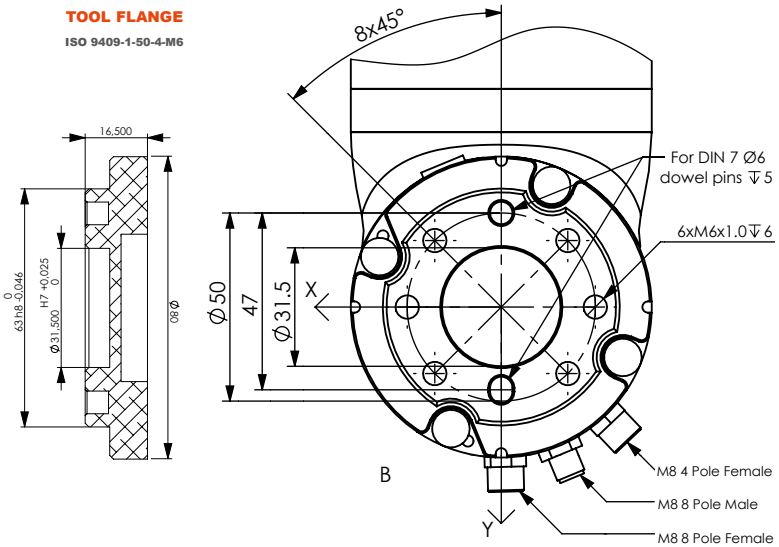
7 Axis Cobot – 1400mm Reach – 10 kg Payload



Design Parameter	Value
Reach In All Directions (mm)	1400
Maximum Payload (kg)	10
Robot Arm Mass (kg)	35
Number Of Joints (D.O.F)	7
Max. Joint Speed (deg/s)	225
Joint Range J1 J3 J5 J6 J7 (°)	- 360 / + 360
Joint Range J2 J4 (°)	- 70 / + 180
Max. Linear Speed (mm/s)	2500
Repeatability (mm)	± 0.1
Max. Tool Flange Torque (Nm)	25
Min. Base Flatness (mm/m)	0.5
Max. Noise Level (dB.A)	≤ 70
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	- 0 / + 45
Non-Condense Humidity (%RH)	30 ~ 85
Max. Operating Altitude (m)	3000
Power Supply (Phase CEE)	Single
Supply Voltage (V AC)	200 ~ 240
Supply Current Pre-Fuse (A)	16
Supply Frequency (Hz)	50 / 60
Power @ Max Payload (W)	400 ~ 1200
Controller Cable Length (m)	5

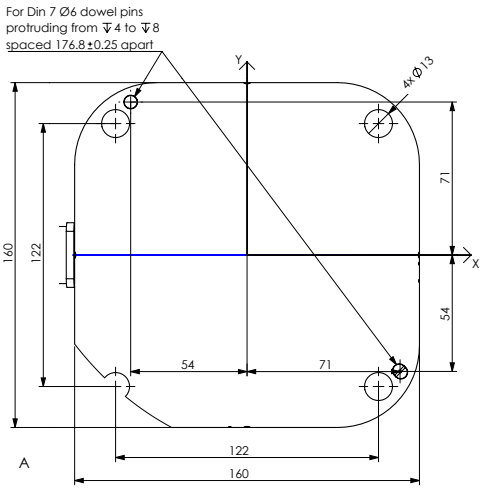
TOOL FLANGE

ISO 9409-1-50-4-M6



BASE PLATE

FAMILY 2 SIZE



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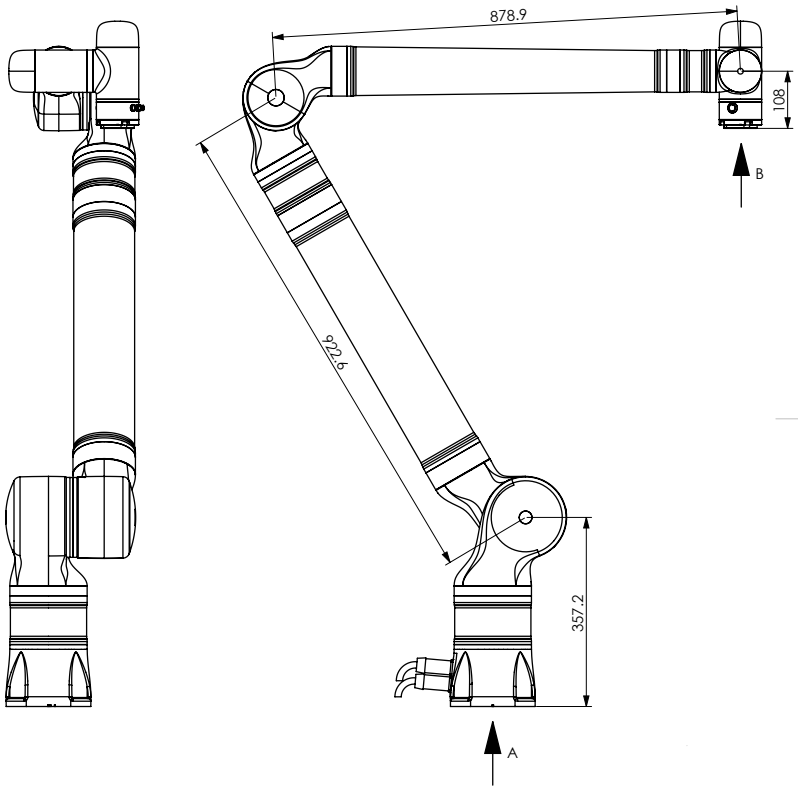
KR1805 – 1800mm / 5kg

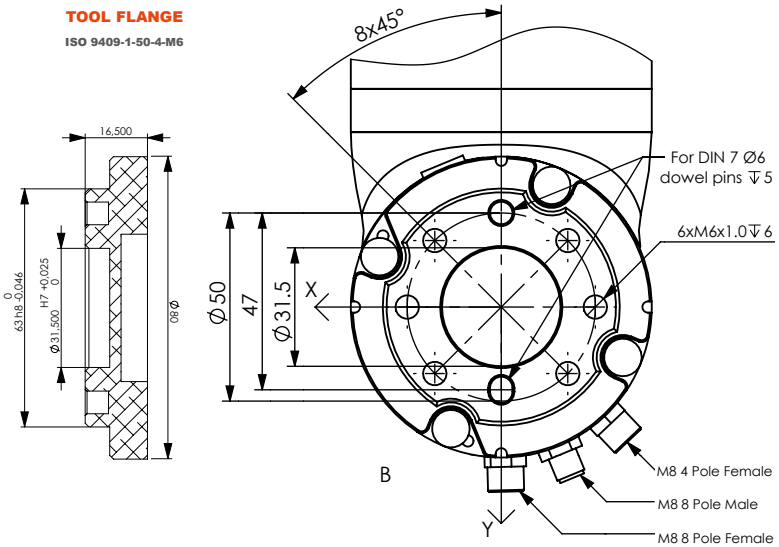
7 Axis Cobot – 1800mm Reach – 5 kg Payload



Design Parameter	Value
Reach In All Directions (mm)	1800
Maximum Payload (kg)	5
Robot Arm Mass (kg)	39
Number Of Joints (D.O.F)	7
Max. Joint Speed (deg/s)	225
Joint Range J1 J3 J5 J6 J7 (°)	- 360 / + 360
Joint Range J2 J4 (°)	- 70 / + 180
Max. Linear Speed (mm/s)	2500
Repeatability (mm)	± 0.1
Max. Tool Flange Torque (Nm)	25
Min. Base Flatness (mm/m)	0.5
Max. Noise Level (dB.A)	≤ 70
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	- 0 / + 45
Non-Condense Humidity (%RH)	30 ~ 85
Max. Operating Altitude (m)	3000
Power Supply (Phase CEE)	Single
Supply Voltage (V AC)	200 ~ 240
Supply Current Pre-Fuse (A)	16
Supply Frequency (Hz)	50 / 60
Power @ Max Payload (W)	400 ~ 1200
Controller Cable Length (m)	5

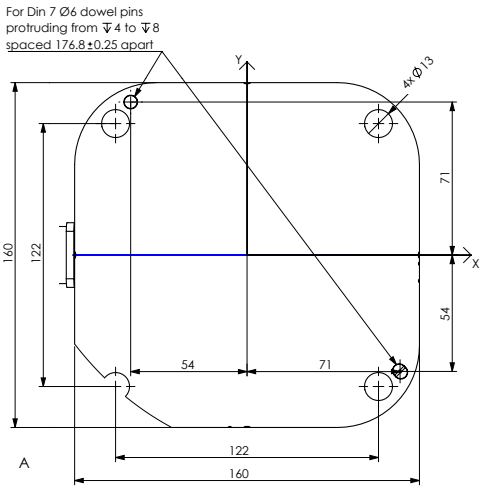
TOOL FLANGE

ISO 9409-1-50-4-M6



BASE PLATE

FAMILY 2 SIZE



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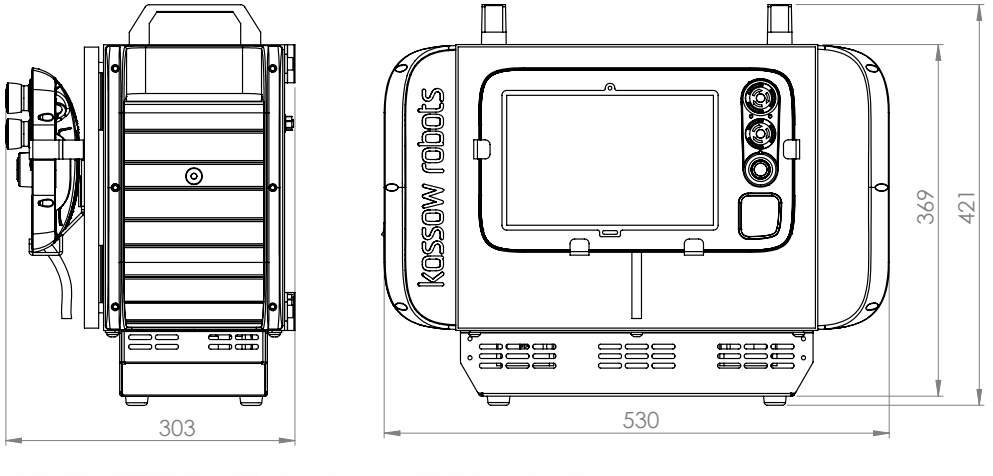
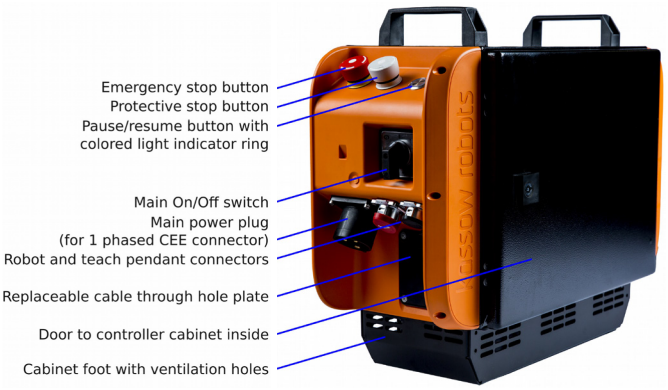
Controller

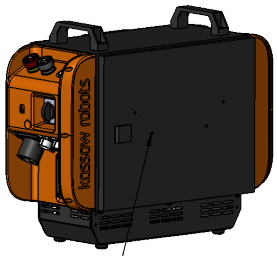
For All Kassow KR Robots



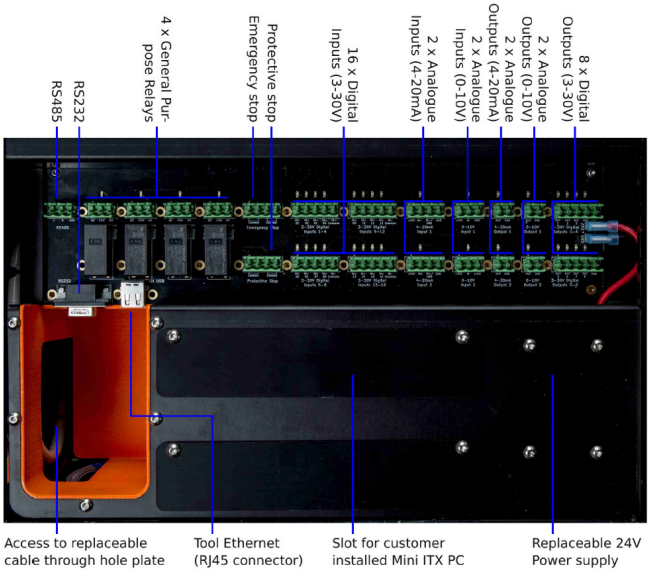


Controller w/ Teach Pendant

Controller w/out Teach Pendant



Teach Pendant mount can be removed by unscrewing 4x M4 bolts



Design Parameter	Value
Power Supply Type (CEE)	1 Phase 3 pin
Supply Voltage (V AC 530)	200 ~ 240
Max. Current Load (A)	16
No. Digital Inputs	16 x 3~30 V
No. Digital Outputs	8 x 24 V (4A Max.)
No. Relay Outputs	4
No. Analogue I/O	2 x 0~10 V
No. Analogue I/O	2 x 4~20 mA
E-Stop On Controller ?	Yes
Protected Stop On Controller ?	Yes
Controller Mass (kg)	17
Ingress Protection (IP)	IP54
Cable To Robot Length (m)	5
Cable To Pendant Length (m)	4.5

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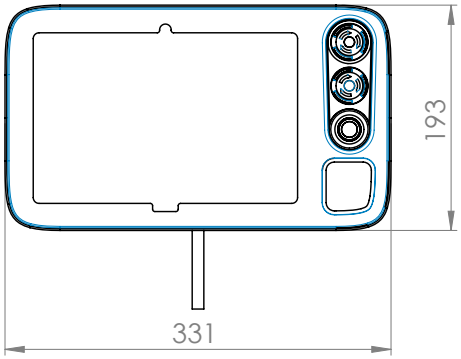
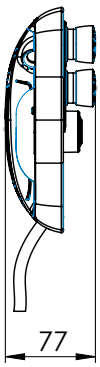
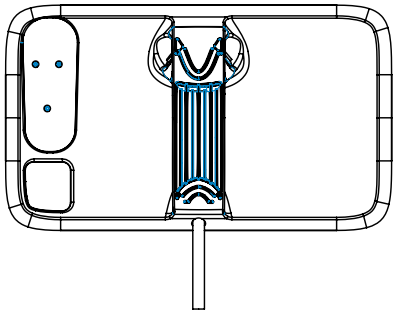
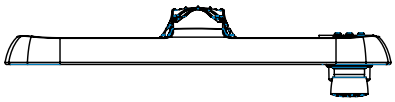
Teach Pendant

For All Kassow KR Robots









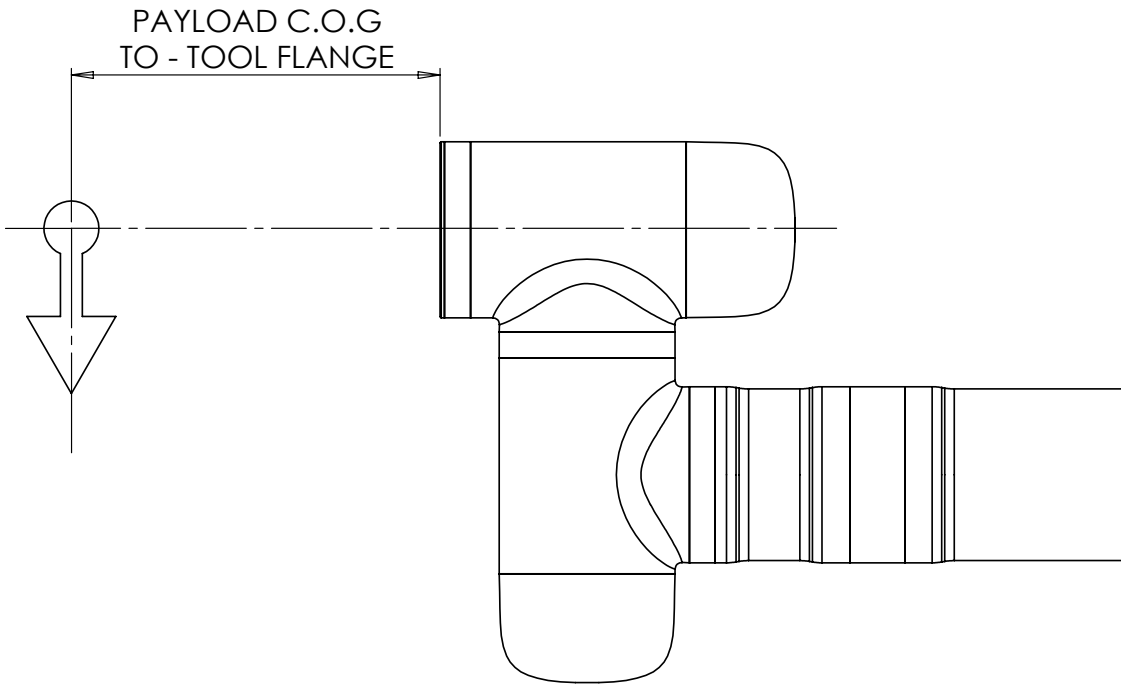
A button on the teach pendant show shows different states of the robot.

- **Green:** Robot is operating normally
- **Blinking green:** Robot is holding its position/is paused, program can be resumed
- **Red:** Emergency stop / Protective stop is activated
- **Yellow:** RC detected a unnormal situation
- **Blue:** Resets robot after emergency stop

Design Parameter	Value
Programming Interface	Touch Screen
Programming Style	Drag & Drop
E-Stop On Teach Pendant ?	Yes
Protect Stop On Teach Pendant ?	Yes
Teach Mode On Teach Pendant ?	Yes
Teach Pendant Mass (kg)	5
Ingress Protection (IP)	IP54
Controller Cable Length (m)	4.5

ANY COLLABORATIVE ROBOT INSTALLATION MUST ALWAYS BE EVALUATED ON AN INDIVIDUAL BASIS TO DETERMINE THE SUITABILITY FOR WORKING WITHOUT GUARDING

Load & Tooling Offset



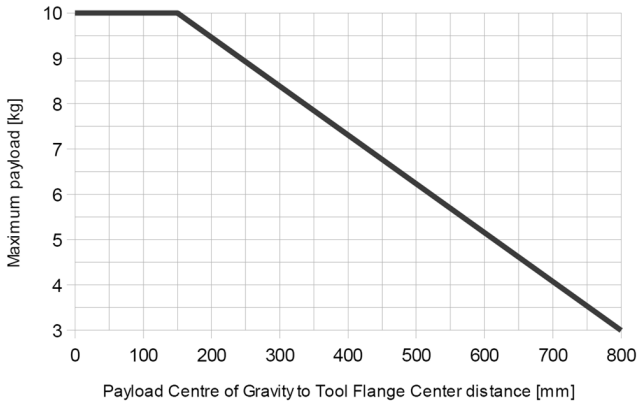
WHEN SELECTING COLLABORATIVE ROBOTIC ARMS, IT IS IMPORTANT TO CONSIDER THE FORCES INDUCED AT EACH JOINT.

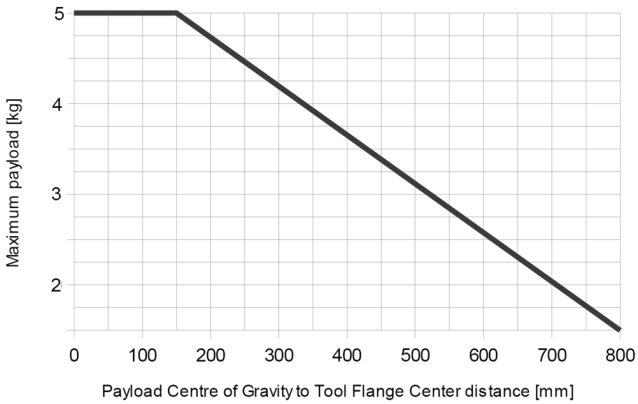
AS WITH ALL COLLABORATIVE AND INDUSTRIAL ROBOTS, THE MAXIMUM PAYLOAD CAPACITY OF THE ARM IS QUOTED AT THE CENTRE OF THE TOOL FLANGE AT THE END OF THE ROBOTIC ARM.

DUE TO THE STATIC TORQUE LIMITS ABOUT THE WRIST JOINTS, THE ALLOWED PAYLOAD IS REDUCED IF THE DISTANCE BETWEEN THE PAYLOAD CENTRE OF GRAVITY (C.O.G) AND THE TOOL FLANGE CENTRE IS GREATER THAN 150MM.

THE PAYLOAD VS OFFSET DIAGRAMS BELOW SHOW THE ALLOWED MAXIMUM PAYLOAD FOR BOTH KR810 AND KR1205 MODELS AS A FUNCTION OF THIS OFFSET DISTANCE BEYOND 150MM.

PLEASE NOTE THAT IT IS IMPORTANT TO CONSIDER THE MASS AND ALSO THE ADDED THICKNESS OF ANY GRIPPERS, ADAPTER PLATES AND ANY OTHER END EFFECT DEVICES USED WHEN CALCULATING THE PAYLOAD C.O.G DISTANCE.





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Onrobot End Effectors

Grippers For Collaborative Robots

onrobot

VG10
VACUUM GRIPPER

GECKO
CONTACT GRIPPER

GECKO
SINGLE CONTACT PAD

VGC10
COMPACT VACUUM GRIPPER

RG2 & RG6
TWO FINGER GRIPPERS

3FG15
THREE FINGER GRIPPER

RG2-FT
FORCE TORQUE GRIPPER

QUICK CHANGE
SINGLE GRIPPER

QUICK CHANGE
DUAL GRIPPERS

HEX-FT 6 AXIS
FORCE TORQUE SENSOR

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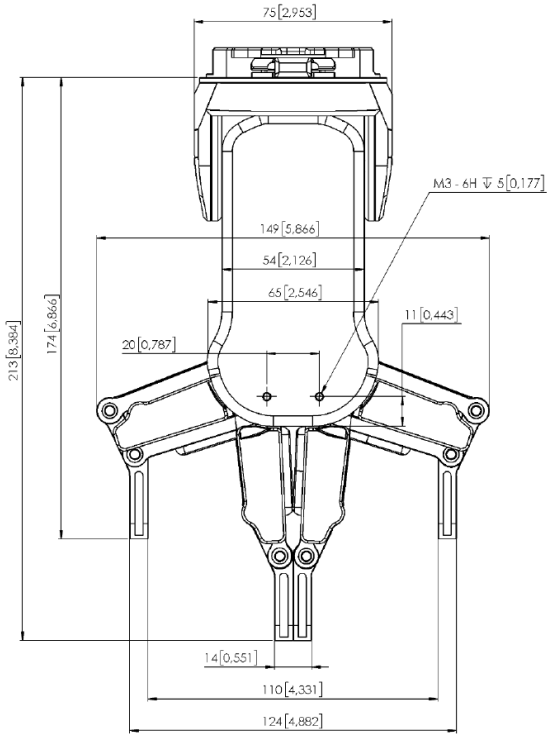
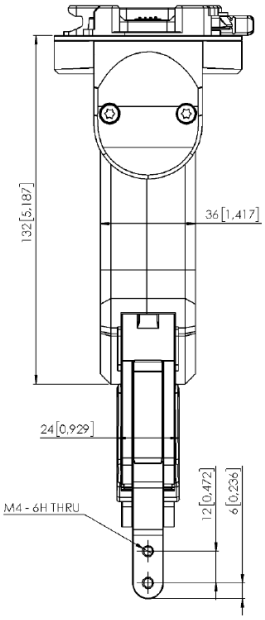
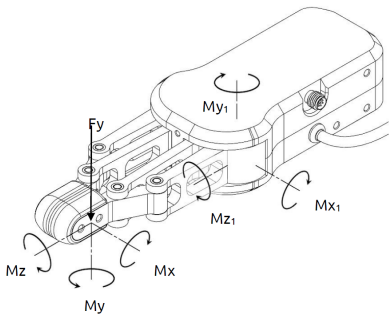
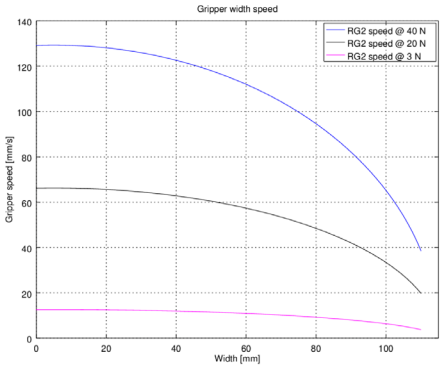
RG2 – 110mm / 2kg

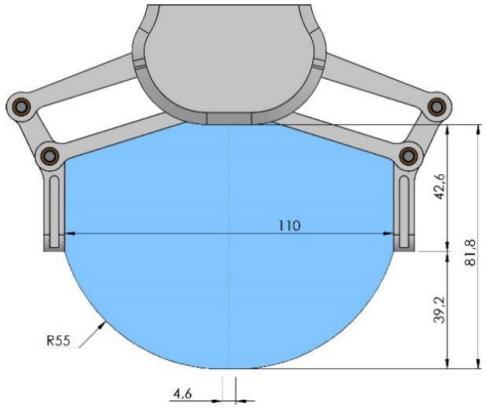
2 Finger Gripper – 110mm Jaw





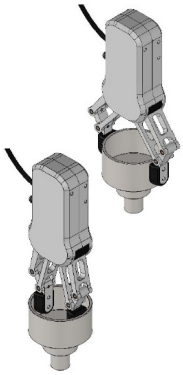






POLYMER FINGERTIPS

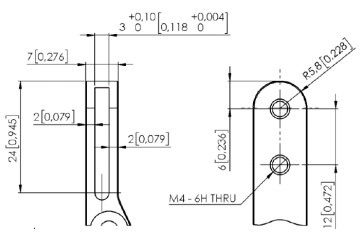
INCLUDED WITH EVERY GRIPPER

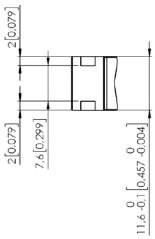


Design Parameter	Value
Max. Gripper Opening (mm)	110
Maximum Payload (kg)	2
Gripper Mass (g)	780
Min. Grasp Force (N)	3
Max. Grasp Force (N)	40
Max. Shear Force Fy (N)	362
Max. Moment Mx / Mx1 (Nm)	7.55 / 22
Max. Moment My / My1 (Nm)	4.10 / 11
Max. Moment Mz / Mz1 (Nm)	6.92 / 22
Min. Finger Speed (mm/s)	38
Max. Finger Speed (mm/s)	127
Grip Force Repeatability (%)	± 25
Positional Repeatability (mm)	0.1
Positional Resolution (mm)	0.1
Supply Voltage (V DC)	20 ~ 25
Reversing Backlash (mm)	0.1 ~ 0.3
Current Draw (mA)	70 ~ 600
Power Consumption (W)	1.9 ~ 14.4
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	+ 5 / + 50

STANDARD FINGER TIPS

TIP MOUNTING DETAILS





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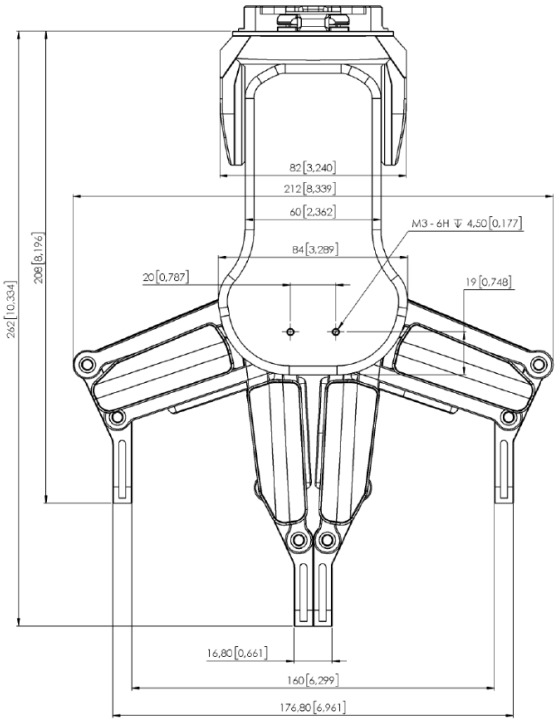
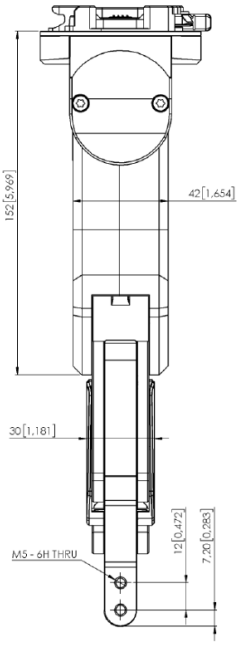
WMH Transmissions Limited

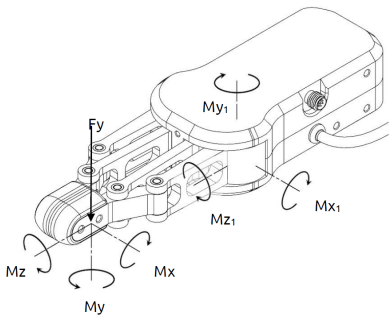
WMH Transmissions Limited

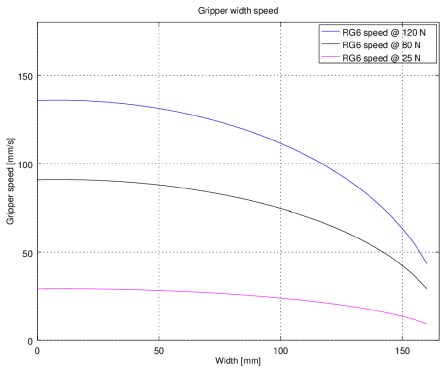
RG6 – 160mm / 6kg

2 Finger Gripper – 160mm Jaw



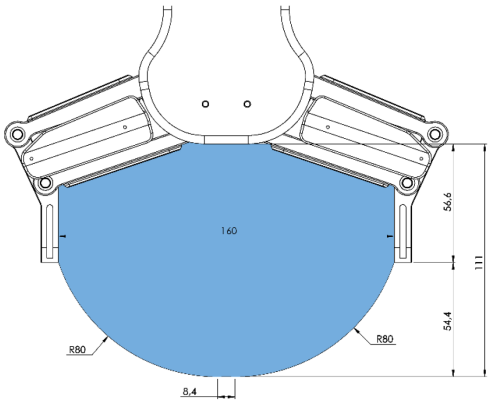


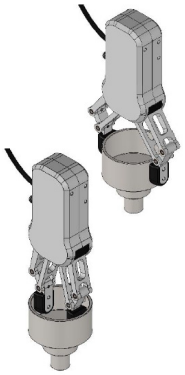




POLYMER FINGERTIPS

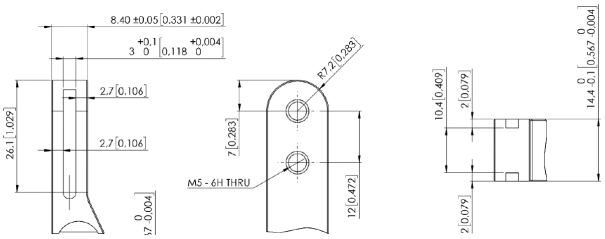
INCLUDED WITH EVERY GRIPPER





STANDARD FINGER TIPS

TIP MOUNTING DETAILS

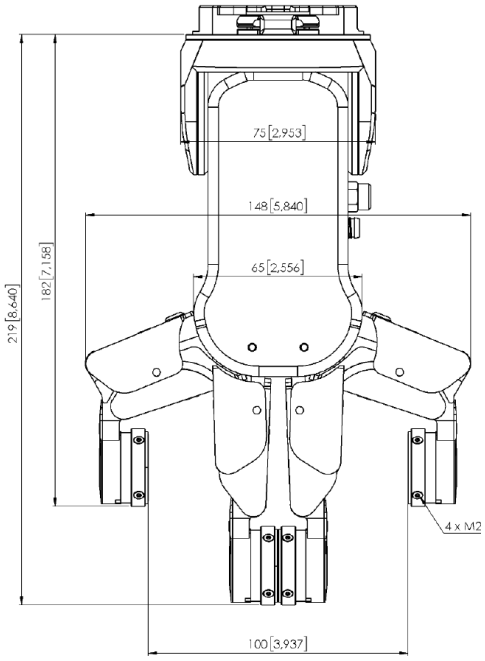


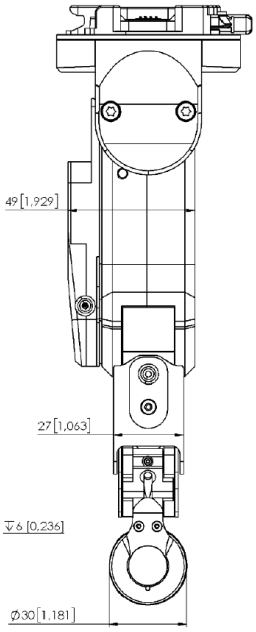
Design Parameter	Value
Max. Gripper Opening (mm)	160
Maximum Payload (kg)	6
Gripper Mass (g)	1250
Min. Grasp Force (N)	25
Max. Grasp Force (N)	120
Max. Shear Force Fy (N)	1890
Max. Moment Mx / Mx1 (Nm)	38 / 120
Max. Moment My / My1 (Nm)	20 / 56
Max. Moment Mz / Mz1 (Nm)	35 / 120
Min. Finger Speed (mm/s)	51
Max. Finger Speed (mm/s)	160
Grip Force Repeatability (%)	± 25
Positional Repeatability (mm)	0.15
Positional Resolution (mm)	0.15
Supply Voltage (V DC)	20 ~ 25
Reversing Backlash (mm)	0.1 ~ 0.3
Current Draw (mA)	70 ~ 600
Power Consumption (W)	1.9 ~ 14.4
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	+ 5 / + 50

ANY COLLABORATIVE ROBOT INSTALLATION MUST ALWAYS BE EVALUATED ON AN INDIVIDUAL BASIS TO DETERMINE THE SUITABILITY FOR WORKING WITHOUT GUARDING

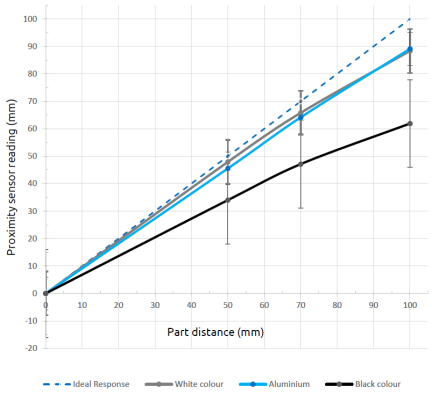
RG2-FT – 100mm / 2kg

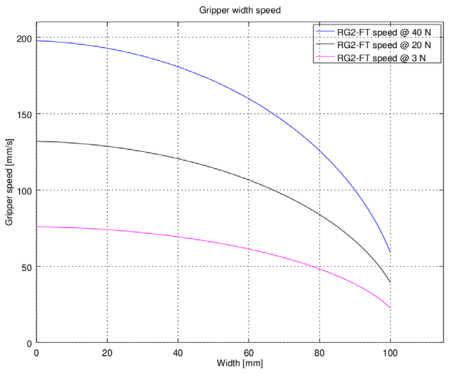
2 Finger Gripper – 100mm Jaw – Force Torque

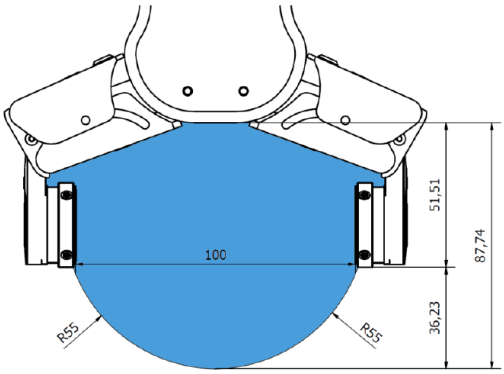




Proximity sensor typical accuracy



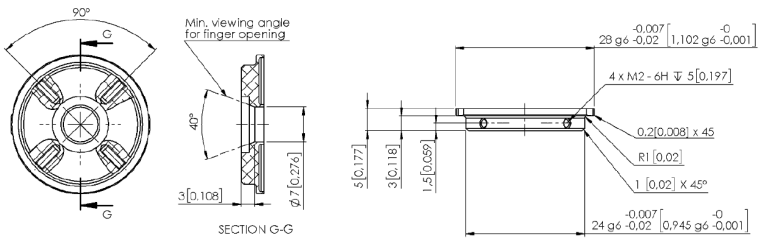




Design Parameter	Value
Max. Gripper Opening (mm)	100
Maximum Payload (kg)	2
Gripper Mass (g)	980
Min. Grasp Force (N)	3
Max. Grasp Force (N)	40
Max. Shear Force Fy (N)	362
Max. Moment Mx / Mx1 (Nm)	7.55 / 22
Max. Moment My / My1 (Nm)	4.10 / 11
Max. Moment Mz / Mz1 (Nm)	6.92 / 22
Min. Finger Speed (mm/s)	55
Max. Finger Speed (mm/s)	184
Grip Force Repeatability (%)	± 25
Positional Repeatability (mm)	0.1
Positional Resolution (mm)	0.1
Supply Voltage (V DC)	24
Proximity Sensor Precision (mm)	2
Current Draw (mA)	85 ~ 900
Power Consumption (W)	6.5 ~ 22.0
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	+ 5 / + 50

STANDARD FINGER TIPS

WITH PROXIMITY SENSOR OPENING



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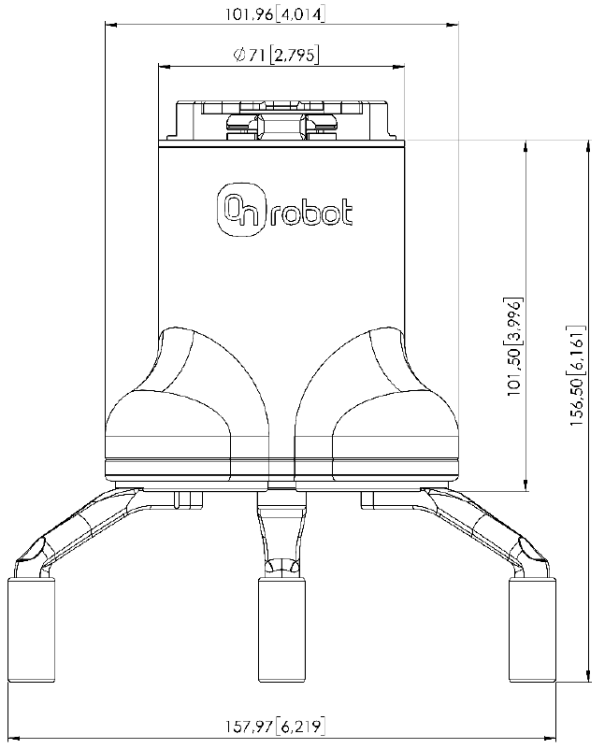
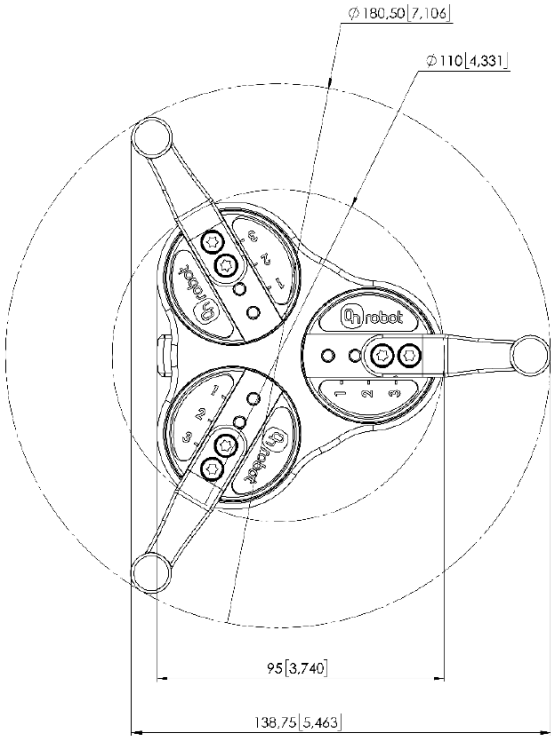
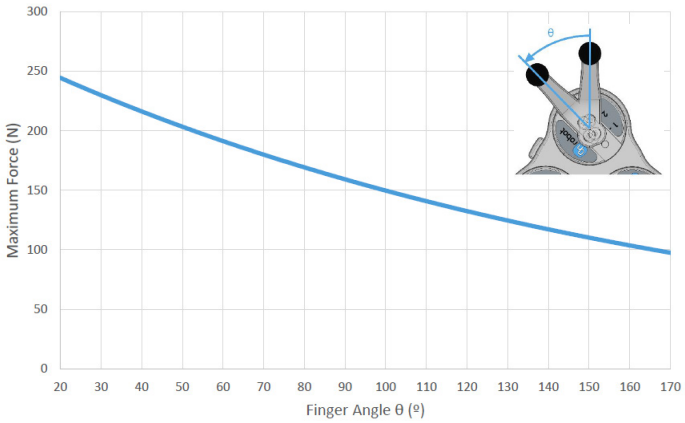
WMH Transmissions Limited

3FG15 – 150mm / 15kg

3 Finger Gripper – 150mm Jaw







Design Parameter	Value
Maximum Payload Force Fit (kg)	10
Maximum Payload Form Fit (kg)	15
Gripper Mass (g)	1150
Min. Grasp Force (N)	10
Max. Grasp Force (N)	240
Positional Repeatability (mm)	0.1
Positional Resolution (mm)	0.1
Supply Voltage (V DC)	20 ~ 25
Reversing Backlash (mm)	0.1 ~ 0.3
Current Draw (mA)	43 ~ 1500
Ingress Protection (IP)	IP67
Operating Temp Range (°C)	+ 5 / + 50

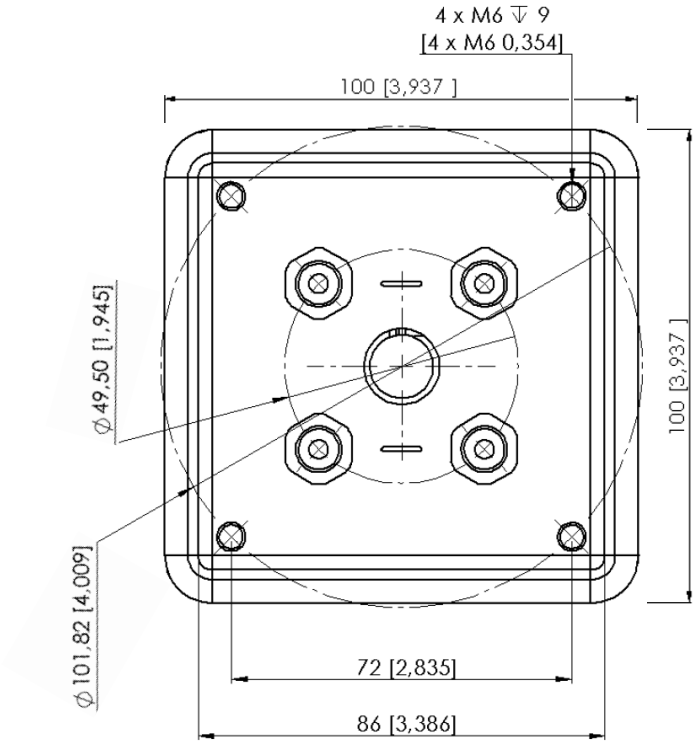
Finger Position	Finger Tip Ø (mm)	External Grip Range (mm)	Internal Grip Range (mm)
1	10	10 ~ 117	35 ~ 135
	13	7 ~ 114	38 ~ 138
	16	4 ~ 111	41 ~ 140
2	10	26 ~ 134	49 ~ 153
	13	23 ~ 131	52 ~ 156
	16	20 ~ 128	55 ~ 158
3	10	44 ~ 152	65 ~ 172
	13	41 ~ 149	68 ~ 174
	16	38 ~ 146	71 ~ 176

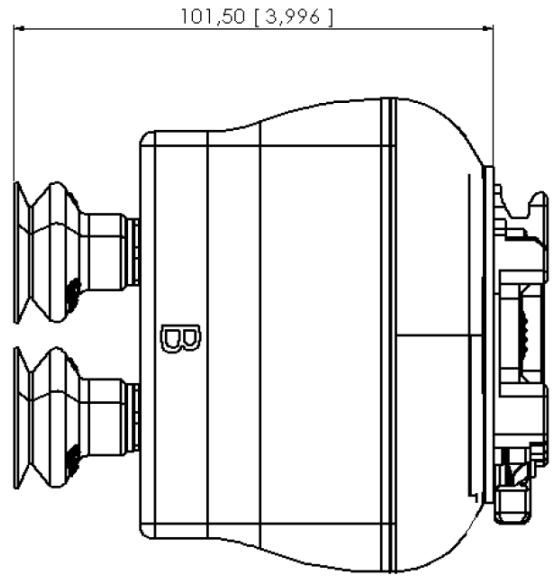
ANY COLLABORATIVE ROBOT INSTALLATION MUST ALWAYS BE EVALUATED ON AN INDIVIDUAL BASIS TO DETERMINE THE SUITABILITY FOR WORKING WITHOUT GUARDING

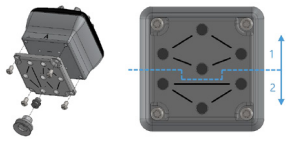
WMH Transmissions Limited

VGC10 – 10kg

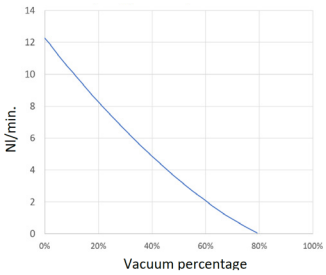
Vacuum Gripper – Internal Supply







VACUUM CIRCUIT
USING INCLUDED
ADAPTER PLATE



Ø15 x Ø6 mm CUP
110mm² GRIPPING AREA

Ø30 x Ø8 mm CUP
200mm² GRIPPING AREA

Ø40 x Ø12 mm CUP
450mm² GRIPPING AREA

Payload (kg)	Vacuum % vs Cup No				Vacuum % vs Cup No				Vacuum % vs Cup No			
	20	40	60	75	20	40	60	75	20	40	60	75
1	7	4	3	2	4	2	2	1	2	1	1	1
2	14	7	5	4	8	4	3	2	4	2	2	1
3	-	11	7	6	12	6	4	3	5	3	2	2
4	-	14	9	8	15	8	5	4	7	4	3	2
5	-	-	12	9	-	10	7	5	9	5	3	3
6	-	-	14	11	-	12	8	6	10	5	4	3
7	-	-	16	13	-	13	9	7	12	6	4	4
8	-	-	-	15	-	15	10	8	14	7	5	4
9	-	-	-	-	-	-	12	9	15	8	5	4
10	-	-	-	-	-	-	13	10	-	9	6	5
11	-	-	-	-	-	-	14	11	-	9	6	5
12	-	-	-	-	-	-	15	12	-	10	7	6
13	-	-	-	-	-	-	16	13	-	11	8	6
14	-	-	-	-	-	-	-	14	-	12	8	7
15	-	-	-	-	-	-	-	15	-	13	9	7

Design Parameter	Value
Maximum Payload (kg)	10
Electricity Source Required ?	Yes
Comp'd. Air Source required ?	No
Mass Including Cups (g)	820
Maximum Vacuum (%)	80
Gripping Time (ms)	350
Release Times (ms)	200
Number Of Vacuum Circuits	2
Number Of Vacuum Cups	1 ~ 7
Supply Voltage (V DC)	20.4 ~ 28.8
Current Draw (mA)	50 ~ 1500
Typical Current Draw (mA)	600
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	0 / + 50

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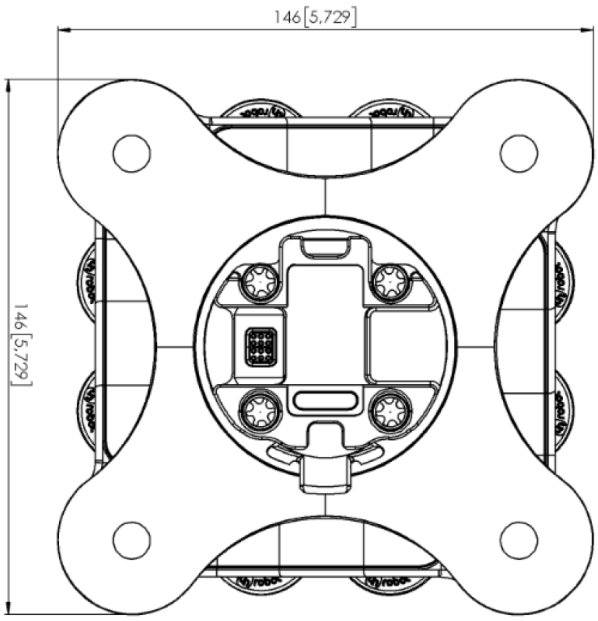
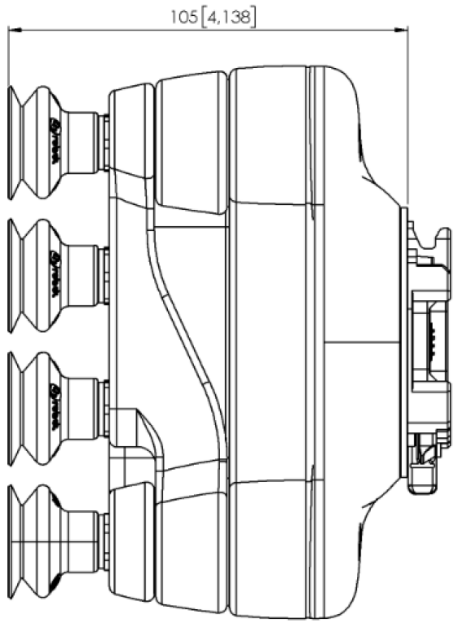
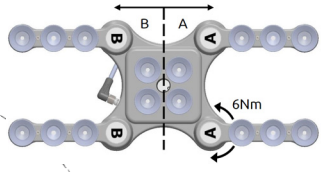
VG10 – 10kg

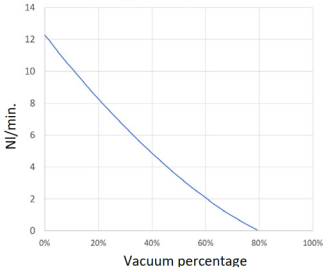
Vacuum Gripper – Internal Supply

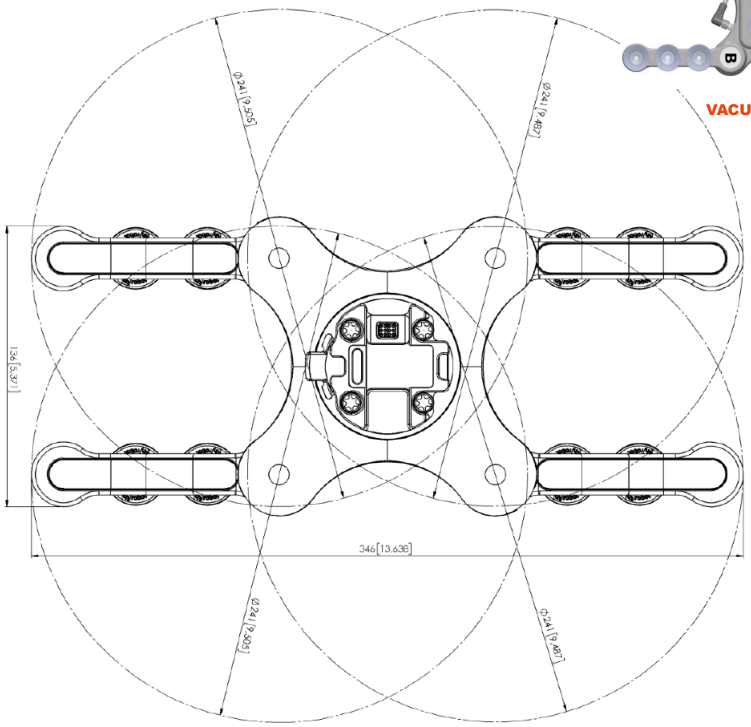






VACUUM CIRCUIT





Design Parameter	Value
Maximum Payload (kg)	10
Arm Holding Torque (Nm)	6
Electricity Source Required ?	Yes
Comp'd. Air Source required ?	No
Mass Including Cups (g)	1620
Maximum Vacuum (%)	80
Gripping Time (ms)	350
Release Times (ms)	200
Number Of Cup Arms	4
Number Of Vacuum Circuits	2
Number Of Vacuum Cups	1 ~ 16
Supply Voltage (V DC)	20.4 ~ 28.8
Current Draw (mA)	50 ~ 1500
Typical Current Draw (mA)	600
Ingress Protection (IP)	IP54
Operating Temp Range (°C)	0 / + 50

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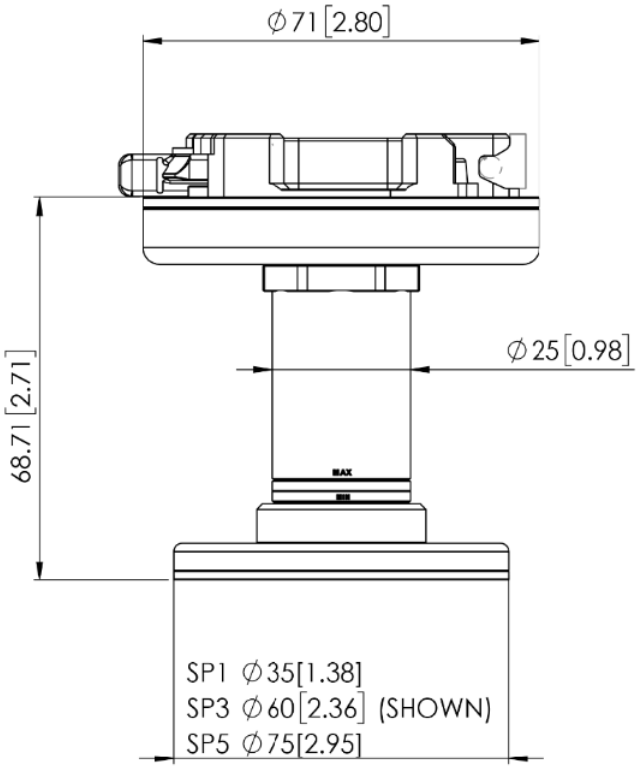
WMH Transmissions Limited

Gecko SP – 1 / 3 / 5kg

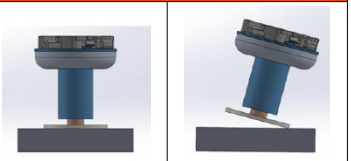
Adhesive Gripper – Non Marking – Single Pad



Grip Method

Position	Preload	Lift

Release Method 1



Place	Tilt Release

Release Method 2

It is also possible for users to craft their own custom fixture to assist in peeling off an object if the above method is not desirable. For example, the Gecko SP1/3/5 could grip a panel and then visit a forked tool to slide between, move up and release the object. The fixture design is completely at the user's discretion.

Surface Fin.	Stiffness	Material Example (++ = Good, + = Okay, - = Poor)	Payload (kg) vs Material Type & Suitability																	
			GECKO SP1						GECKO SP3						GECKO SP5					
			0.02	0.05	0.10	0.25	0.50	1.00	0.10	0.20	0.30	0.75	1.50	3.00	0.10	0.25	0.50	1.00	2.50	5.00
Good	-	Loose Mylar	+	+	-	-	-	-	+	+	-	-	-	-	+	+	-	-	-	-
	+	Transparent Sheet	++	++	+	+	+	-	++	++	+	+	+	-	++	++	+	+	+	-
	++	Polished Surface	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
Okay	-	Plastic Film or Bag	+	-	-	-	-	-	+	-	-	-	-	-	+	-	-	-	-	-
	+	Glossy Cardboard	++	++	+	+	+	-	++	++	+	+	+	-	++	++	+	+	+	-
	++	Printed Circuit Board	++	++	++	+	-	-	++	++	++	+	-	-	++	++	++	+	-	-
Poor	-	Laminating Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	+	Corrugated Cardboard	+	-	-	-	-	-	+	-	-	-	-	-	+	-	-	-	-	-
	++	Sandblasted Aluminium	+	+	-	-	-	-	+	+	-	-	-	-	+	+	-	-	-	-

Design Parameter		Value
SP1	Gripper Mass (g)	267
	Max. Payload (g)	100
	Min. Pad Preload Force (N)	3
	Max. Pad Preload Force (N)	11
SP3	Gripper Mass (g)	297
	Max. Payload (g)	300
	Min. Pad Preload Force (N)	8
	Max. Pad Preload Force (N)	32
SP5	Gripper Mass (g)	318
	Max. Payload (g)	500
	Min. Pad Preload Force (N)	12
	Max. Pad Preload Force (N)	46
Gecko Pad Material Base		Non Marking Silicone
Manual Cleaning Method		Tac Cloth & Alcohol
Robotic Cleaning Method		Cleaning Station
Pad Replacement (No. Cycles)		150k ~ 250k
Load Held On Power Loss ?		Yes
Min. Pad Detach Times (s)		0.1
Ingress Protection (IP)		IP42
Operating Temp Range (°C)		0 / + 50

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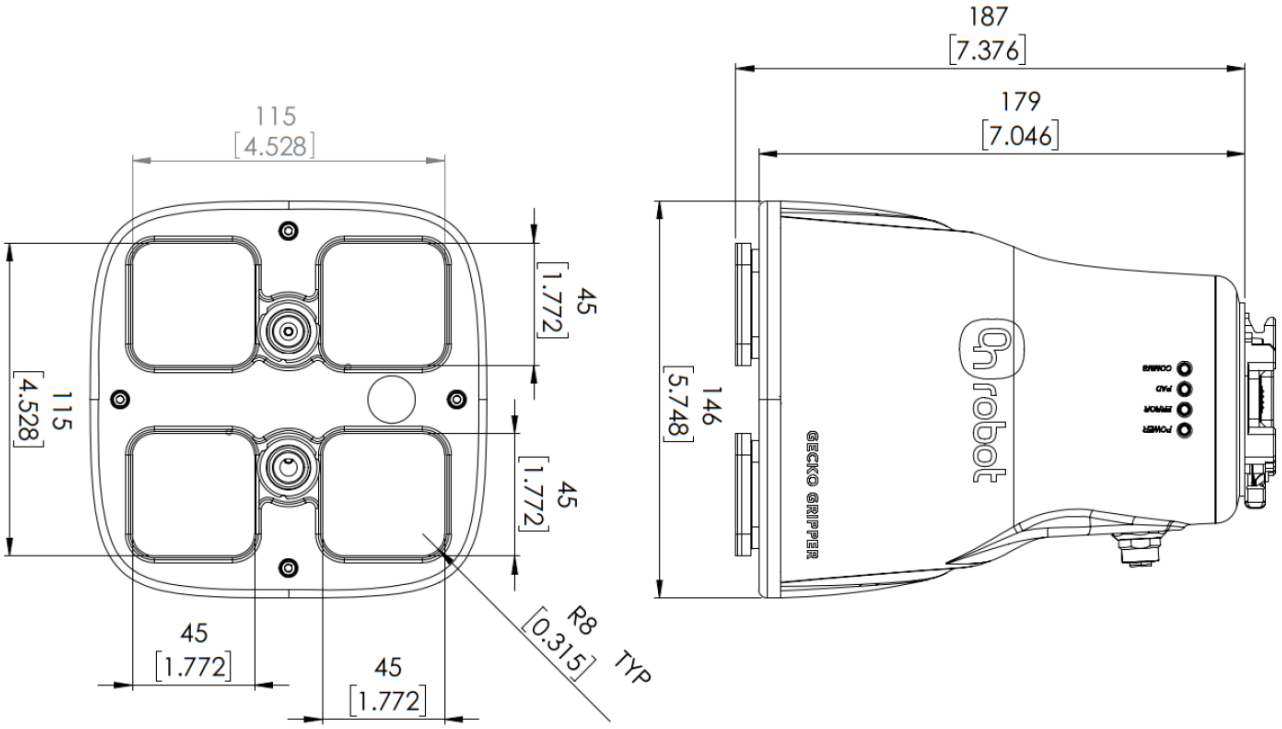
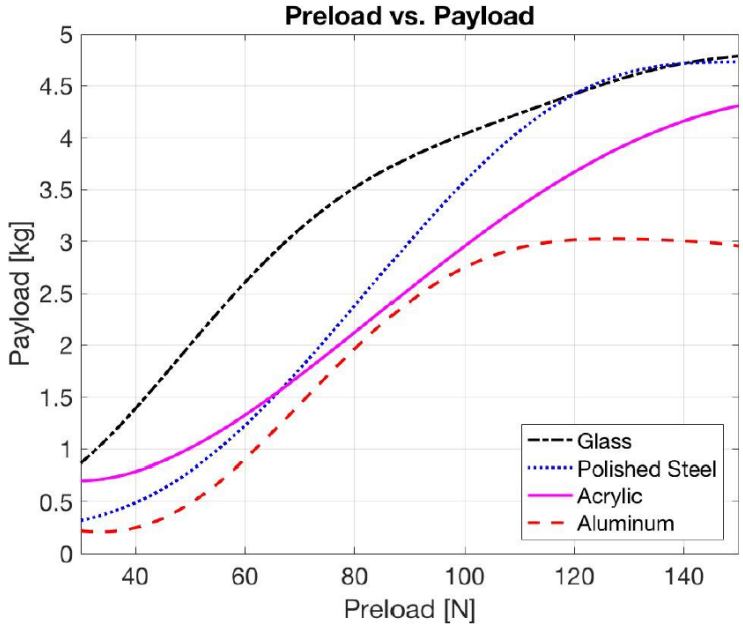
Gecko – 6.5kg

Adhesive Gripper – Non Marking – Quad Pad





4 Payload force for a given preload force is dependent on the smoothness or roughness of the substrate.

Design Parameter	Value
Gripper Mass (g)	2850
Max. load (Polished Steel) (kg)	6.5
Max. load (Acrylic Sheet) (kg)	6.5
Max. load (Glass Pane) (kg)	5.5
Max. load (Sheet Metal) (kg)	5.5
Min. Pad Preload Force (N)	45
Max. Pad Preload Force (N)	140
Preload Sensor Error (%)	7
Proximity Sensor Range (mm)	< 260
Proximity Sensor Error (%)	2
Gecko Pad Material Base	Non Marking Silicone
Manual Cleaning Method	Tac Cloth & Alcohol
Robotic Cleaning Method	Cleaning Station
Pad Replacement (No. Cycles)	150k ~ 250k
Load Held On Power Loss ?	Yes
Pad Detach Times (s)	0.3
Supply Voltage (V DC)	24
Current Draw (A)	0.5 ~ 0.8
Ingress Protection (IP)	IP42
Operating Temp Range (°C)	0 / + 50

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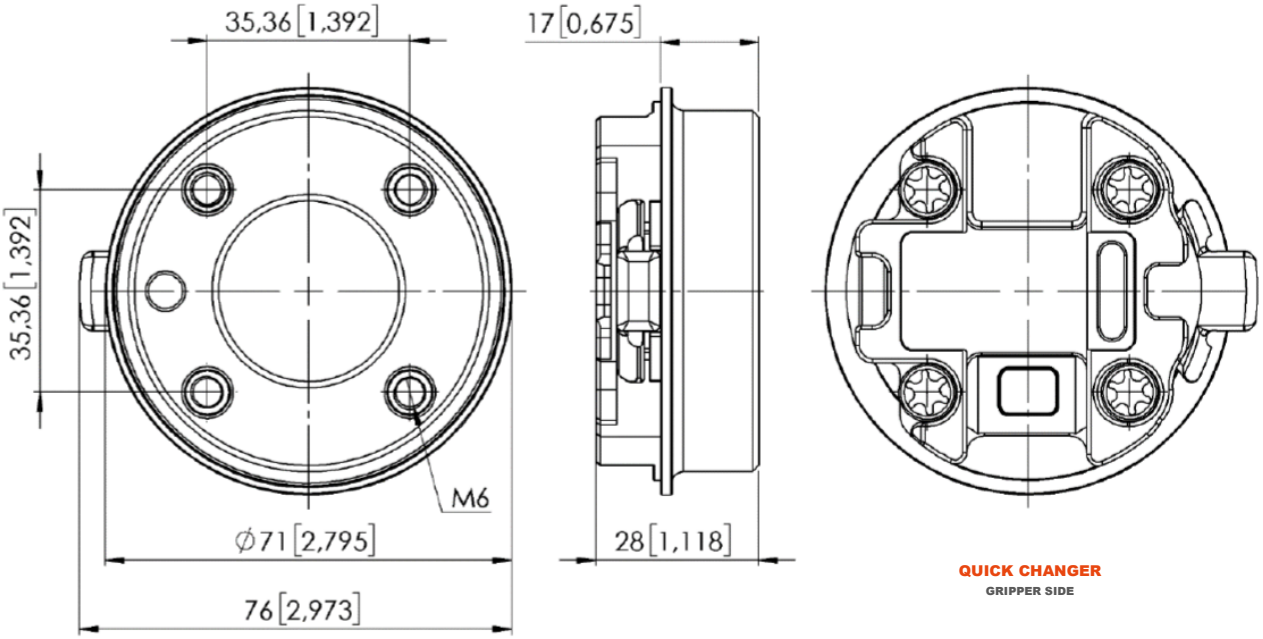
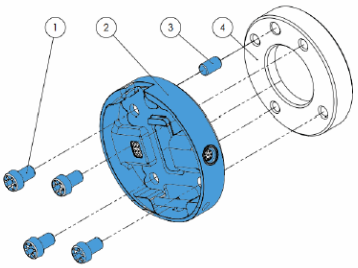
WMH Transmissions Limited

Single Quick Changer

For All Onrobot Grippers



QUICK CHANGER
GRIPPER SIDE

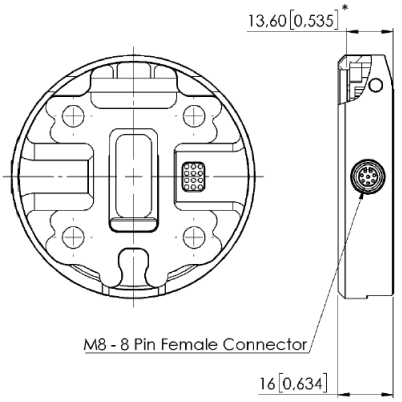


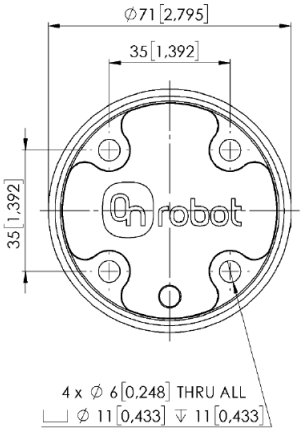
Quick Changer - Robot Side

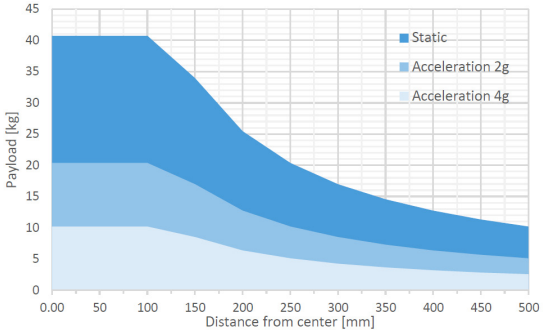
1 M6x8mm (ISO14580 8.8)
2 Quick Changer (ISO 9409-1-50-4-M6)
3 Dowel pin Ø6x10 (ISO2338 h8)
4 Adapter/ Robot tool flange (ISO 9409-1-50-4-M6)

Use 10 Nm tightening torque.

Design Parameter	Value
Mass (g)	200
Max. Permissible Force (N)	400
Max. Permissible Torque (Nm)	50
Max. Rated Payload (kg)	20
Positional Repeatability (mm)	± 0.02
Max. Acceleration (m/s²)	40
Ingress Protection (IP)	IP64
Life (Number Of Changes)	5000







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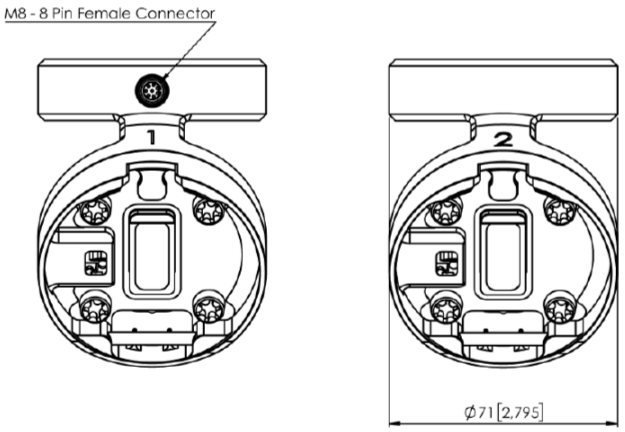
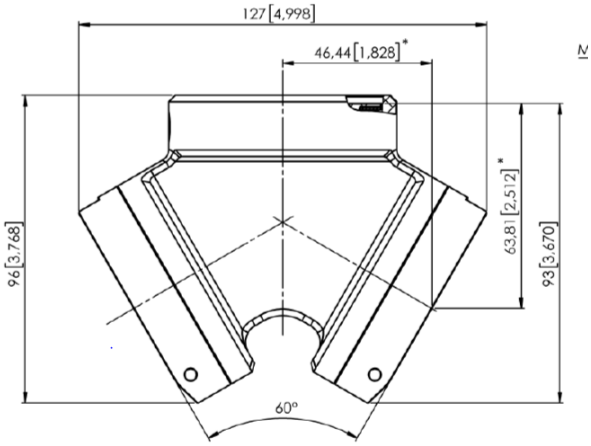
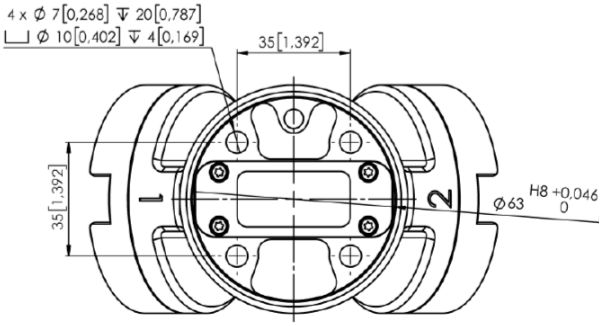
Dual Quick Changer

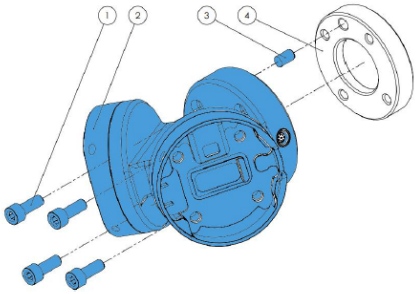
For All Onrobot Grippers



QUICK CHANGER
GRIPPER SIDE





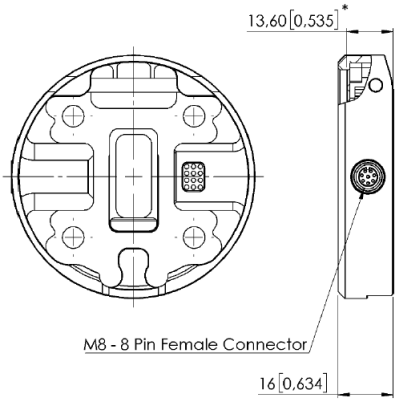


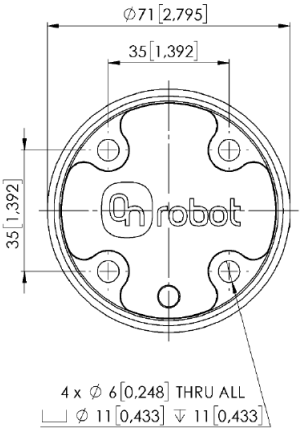
Dual Quick Changer

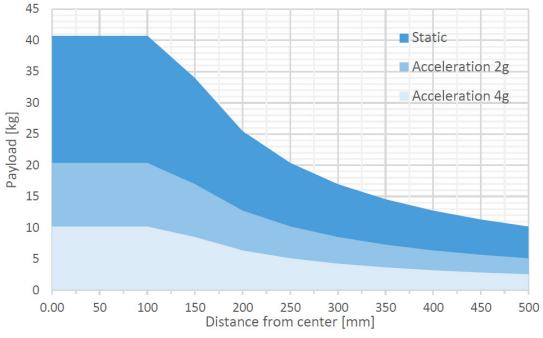
1 M6x20mm (ISO14580 8.8)
2 Dual Quick Changer
3 Dowel pin Ø6x10 (ISO2338 h8)
4 Adapter/ Robot tool flange (ISO 9409-1-50-4-M6)

Use 10 Nm tightening torque.

Design Parameter	Value
Mass (g)	500
Max. Permissible Force (N)	400
Max. Permissible Torque (Nm)	50
Max. Rated Payload (kg)	20
Positional Repeatability (mm)	± 0.02
Max. Acceleration (m/s²)	40
Ingress Protection (IP)	IP64
Life (Number Of Changes)	5000







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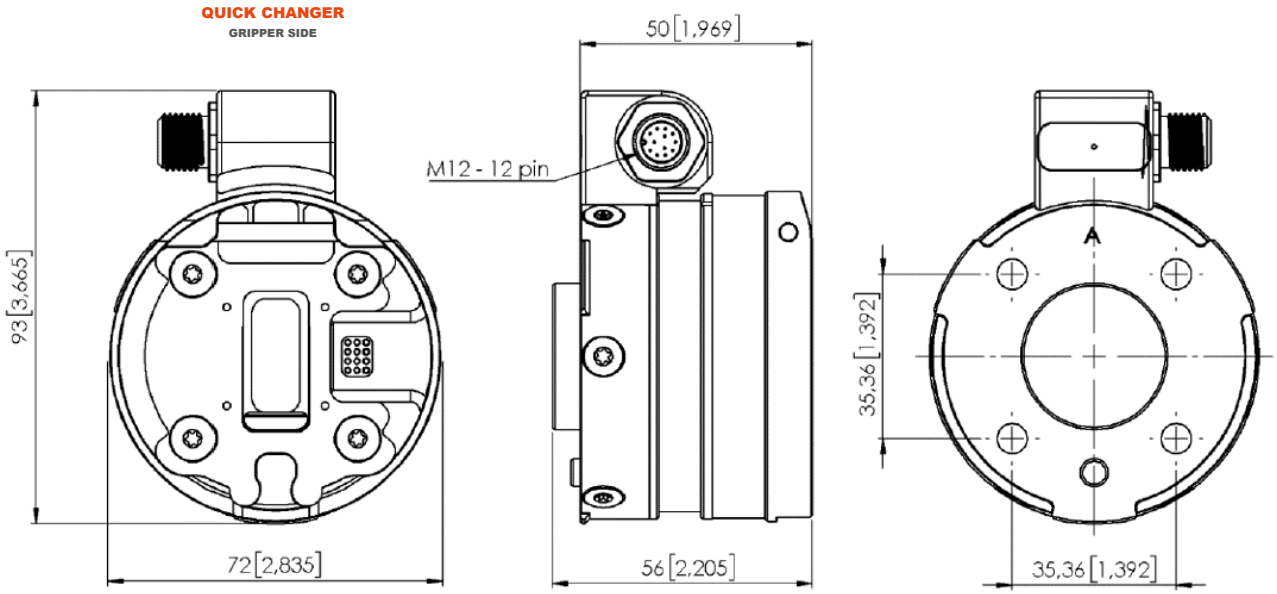
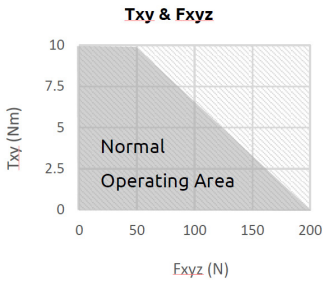
HEX Force / Torque Sensor

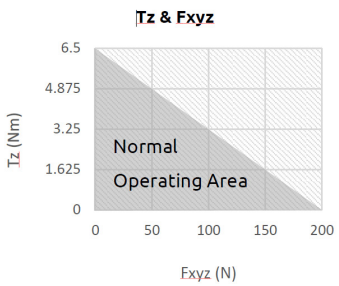
For All Onrobot Grippers



HEX-E

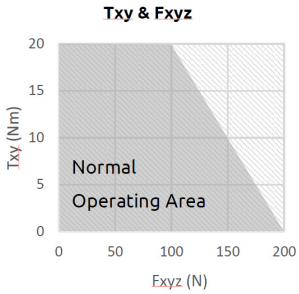
The sensor cannot be operated outside of the Normal Operating Area.

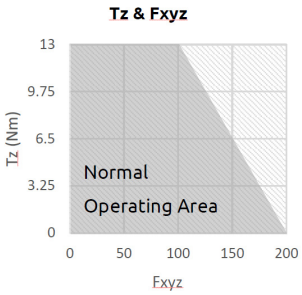




HEX-H

The sensor cannot be operated outside of the Normal Operating Area.





Design Parameter		Value			
		Fxy	Fz	Txy	Tz
HEX-E	Nom. Capacity NC (N / Nm)	200	200	10	6.5
	Deformation @ NC (mm / °)	1.7	0.3	2.5	5.0
	Single Axis Overload (%)	500	500	500	500
	Signal Noise In 1s (N / Nm)	0.035	0.150	0.002	0.001
	Noise Free Resol. (N / Nm)	0.200	0.800	0.010	0.002
HEX-H	Nom. Capacity NC (N / Nm)	200	200	20	13
	Deformation @ NC (mm / °)	0.6	0.25	2.0	3.5
	Single Axis Overload (%)	500	400	300	300
	Signal Noise In 1s (N / Nm)	0.100	0.200	0.006	0.002
	Noise Free Resol. (N / Nm)	0.500	1.000	0.036	0.008
Mass (g)		350			
Full Scale Non-linearity (%)		< 2			
Typical Hysteresis (%) *		< 2			
Typical Crosstalk (%)		< 5			
Supply Voltage (V DC)		7 ~ 24			
Power Consumption (W)		< 0.8			
Ingress Protection (IP)		IP67			
Operating Temp Range (°C)		0 / + 50			

* Measured on the Fz axis

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Robotiq End Effectors

Grippers For Collaborative Robots

ROBOTIQ

ADAPTIVE GRIPPERS

HAND-E

2F-85

WRIST CAMERA

2F-140

VACUUM GRIPPERS

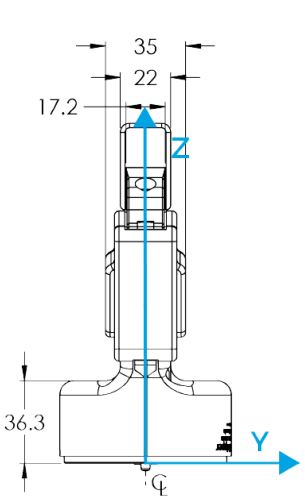
AIR PICK

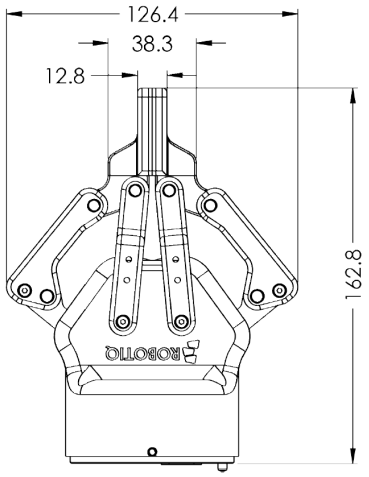
E PICK

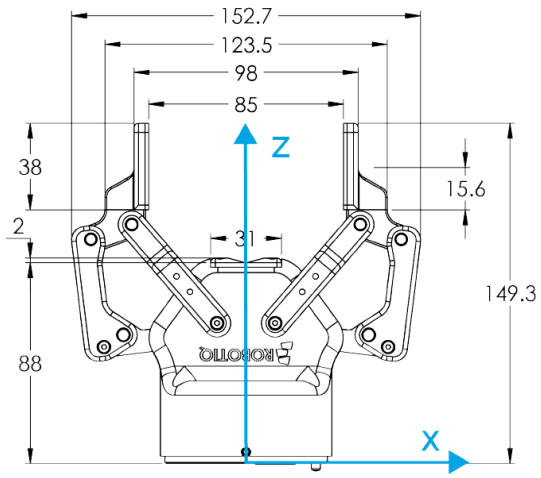
ANY COLLABORATIVE ROBOT INSTALLATION MUST ALWAYS BE EVALUATED ON AN INDIVIDUAL BASIS TO DETERMINE THE SUITABILITY FOR WORKING WITHOUT GUARDING

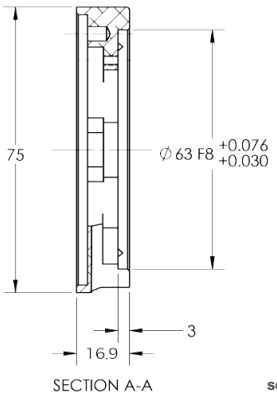
2F85 – 85mm / 5kg

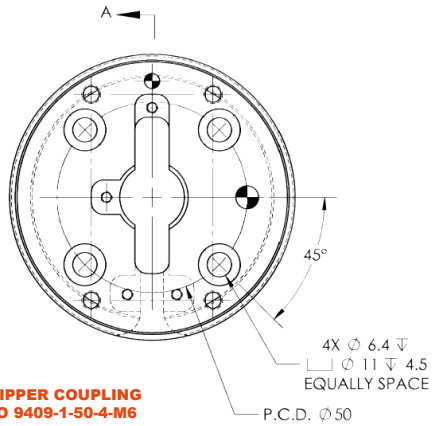
2 Finger Adaptive Gripper – 85mm Jaw



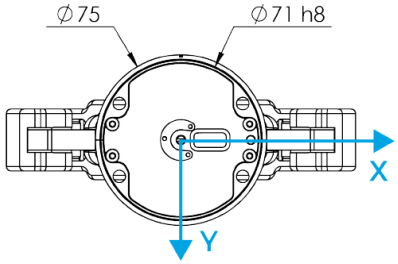




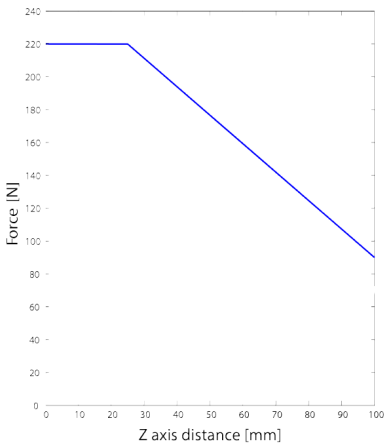


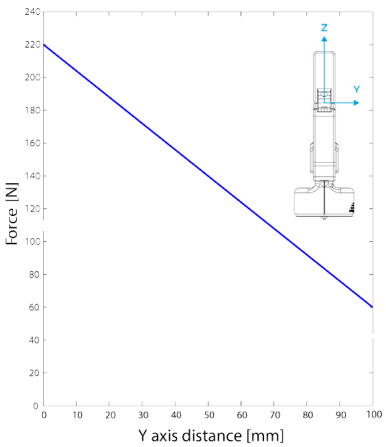


GRIPPER COUPLING
ISO 9409-1-50-4-M6
SOLD SEPERATLEY TO GRIPPER



Design Parameter	Value
Max. Gripper Opening (mm)	85
Maximum Payload (kg)	5
Gripper Mass Inc. Coupling (g)	925
Min. Grasp Force (N)	20
Max. Grasp Force (N)	235
Max. Shear Force Fx Fy Fz (N)**	50
Max. Finger Moment Mx My (Nm)*	5
Max. Finger Moment Mz (Nm)**	3
Min. Finger Speed (mm/s)	20
Max. Finger Speed (mm/s)	150
Min. Load Encompassing (mm)	Ø 43
Force Repeatability (%)	± 10
Positional Repeatability (mm)	0.05
Positional Resolution (mm)	0.4
Supply Voltage (V DC)	24 ± 10%
Abs. Max. Supply Voltage (V DC)	28
Peak Current (A)	1
Min. Power Consumption (W)	< 1
Ingress Protection (IP)	IP40
Operating Temp Range (°C)	- 10 / + 50





* About base of fingers ** About base of gripper

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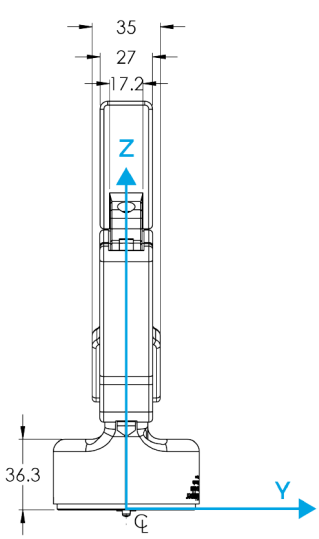
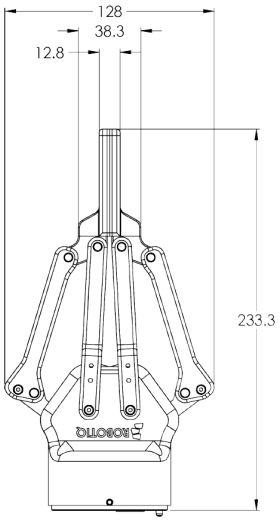
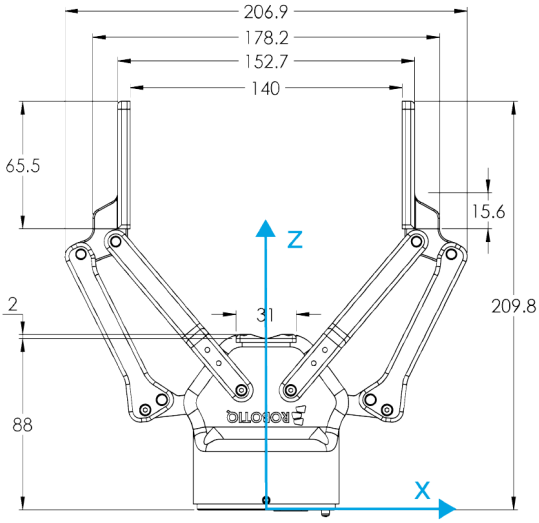
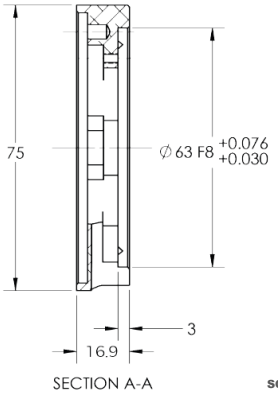
2F140 – 140mm / 2.5kg

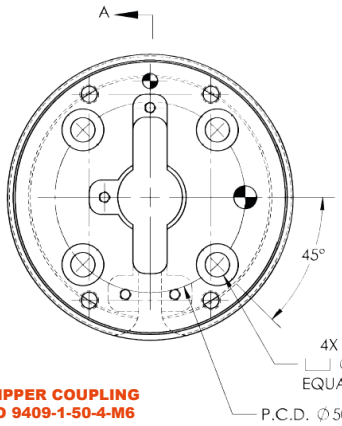
2 Finger Adaptive Gripper – 140mm Jaw



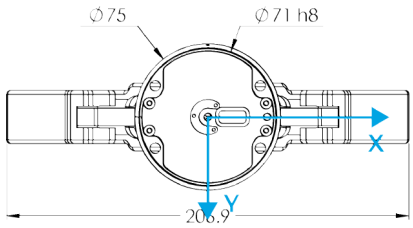






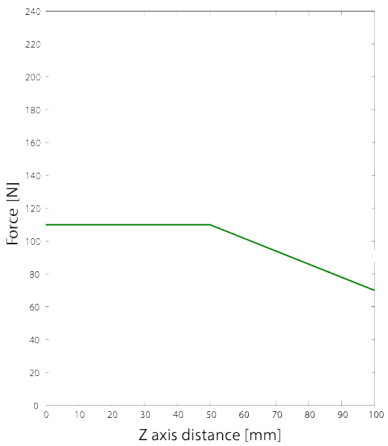


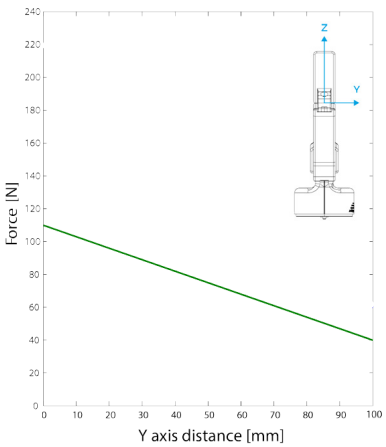
GRIPPER COUPLING
ISO 9409-1-50-4-M6
SOLD SEPERATLEY TO GRIPPER



Design Parameter	Value
Max. Gripper Opening (mm)	140
Maximum Payload (kg)	2.5
Gripper Mass Inc. Coupling (g)	1025
Min. Grasp Force (N)	10
Max. Grasp Force (N)	125
Max. Shear Force Fx Fy Fz (N)**	25
Max. Finger Moment Mx My (Nm)*	5
Max. Finger Moment Mz (Nm)**	3
Min. Finger Speed (mm/s)	30
Max. Finger Speed (mm/s)	250
Min. Load Encompassing (mm)	Ø 90
Force Repeatability (%)	± 10
Positional Repeatability (mm)	0.08
Positional Resolution (mm)	0.6
Supply Voltage (V DC)	24 ± 10%
Abs. Max. Supply Voltage (V DC)	28
Peak Current (A)	1
Min. Power Consumption (W)	< 1
Ingress Protection (IP)	IP40
Operating Temp Range (°C)	- 10 / + 50

* About base of fingers ** About base of gripper





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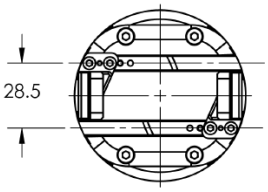
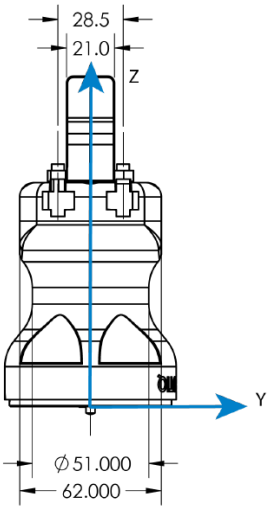
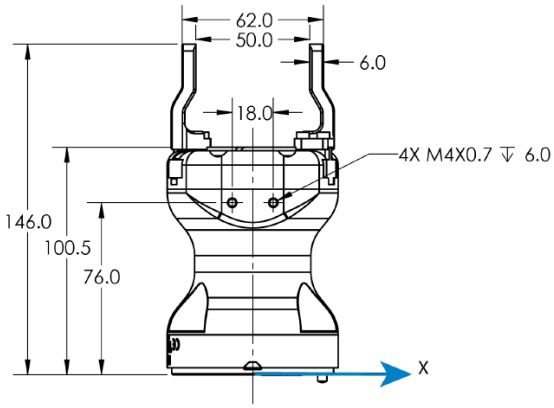
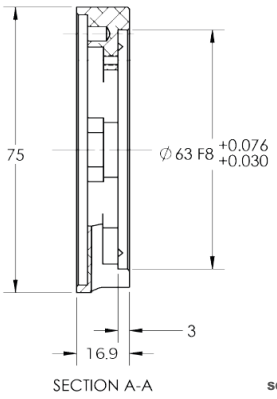
HAND E – 50mm / 5kg

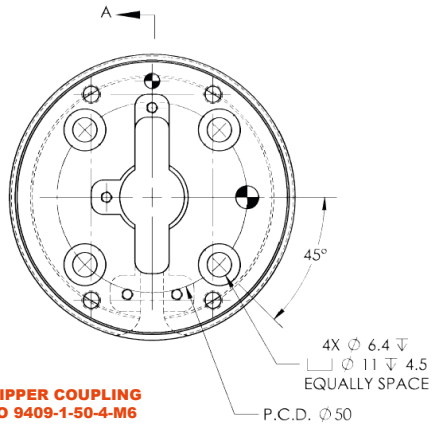
2 Finger Rack Drive Gripper – 50mm Jaw



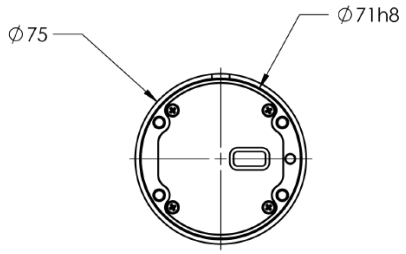








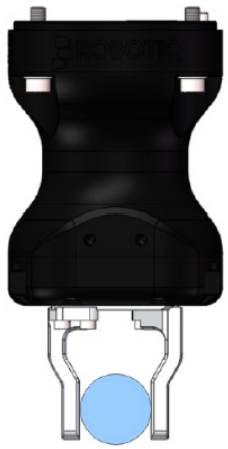
GRIPPER COUPLING
ISO 9409-1-50-4-M6
SOLD SEPERATLEY TO GRIPPER



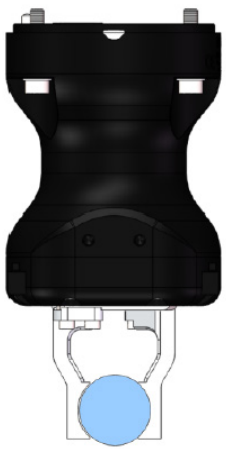
Design Parameter	Value
Max. Gripper Opening (mm)	50
Max. Load Friction / Form-Fit (kg)	3 / 5
Gripper Mass Inc. Coupling (g)	1070
Min. Grasp Force (N)	20
Max. Grasp Force (N)	130
Max. Shear Force Fx Fy Fz (N)**	100
Max. Finger Moment Mx (Nm)*	2.65
MAx/. Finger Moment My (Nm)*	3.74
Max. Finger Moment Mz (Nm)**	2
Min. Finger Speed (mm/s)	20
Max. Finger Speed (mm/s)	150
Force Repeatability (%)	± 10
Positional Repeatability (mm)	0.05
Supply Voltage (V DC)	24 ± 10%
Peak Current (A)	1.1
Min. Power Consumption (W)	< 1
Ingress Protection (IP)	IP67
Operating Temp Range (°C)	- 10 / + 50

* About base of fingers ** About base of gripper

FRICTION GRASP = 3KG MAX



FORM FIT GRASP = 5KG MAX



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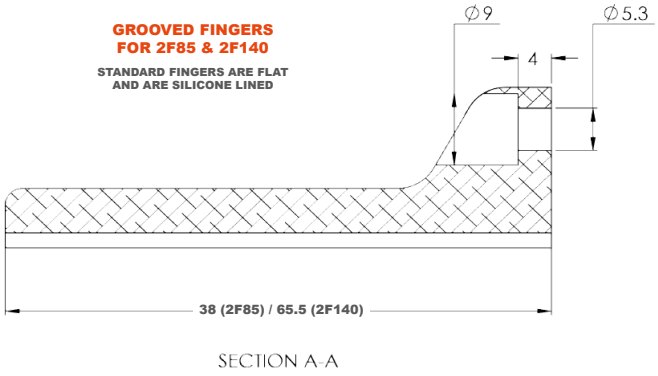
Finger Options

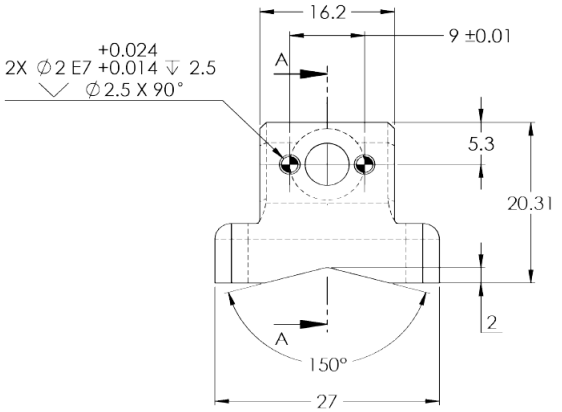
For All Robotiq 2 Finger Grippers

GROOVED FINGERS FOR 2F85 & 2F140

STANDARD FINGERS ARE FLAT AND ARE SILICONE LINED

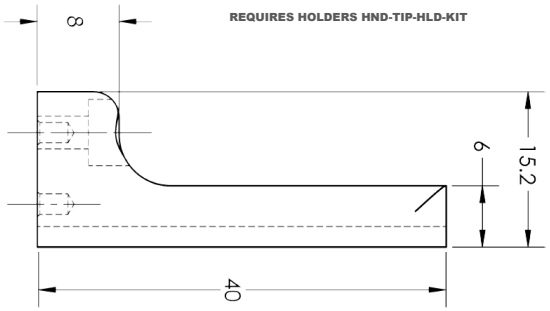


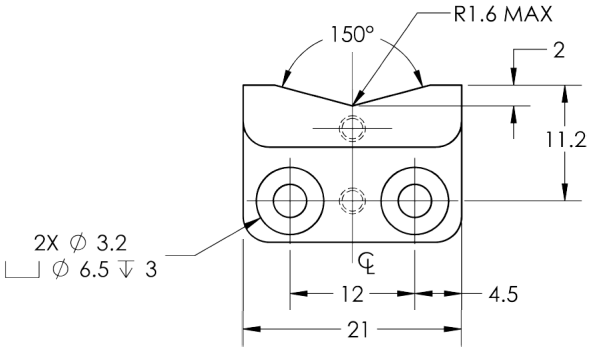
SECTION A-A



GROOVED FINGERS FOR HAND E

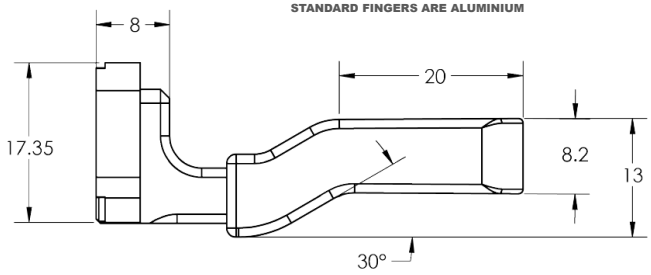
REQUIRES HOLDERS HND-TIP-HLD-KIT

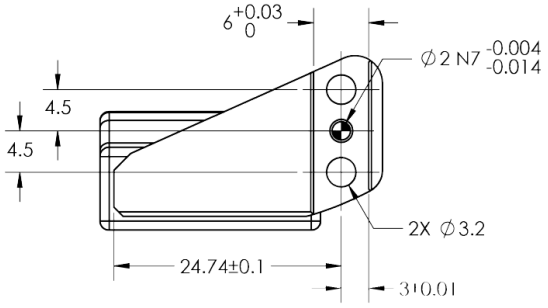




FLAT OVERMOLDED RUBBER FINGERS FOR HAND E

STANDARD FINGERS ARE ALUMINIUM





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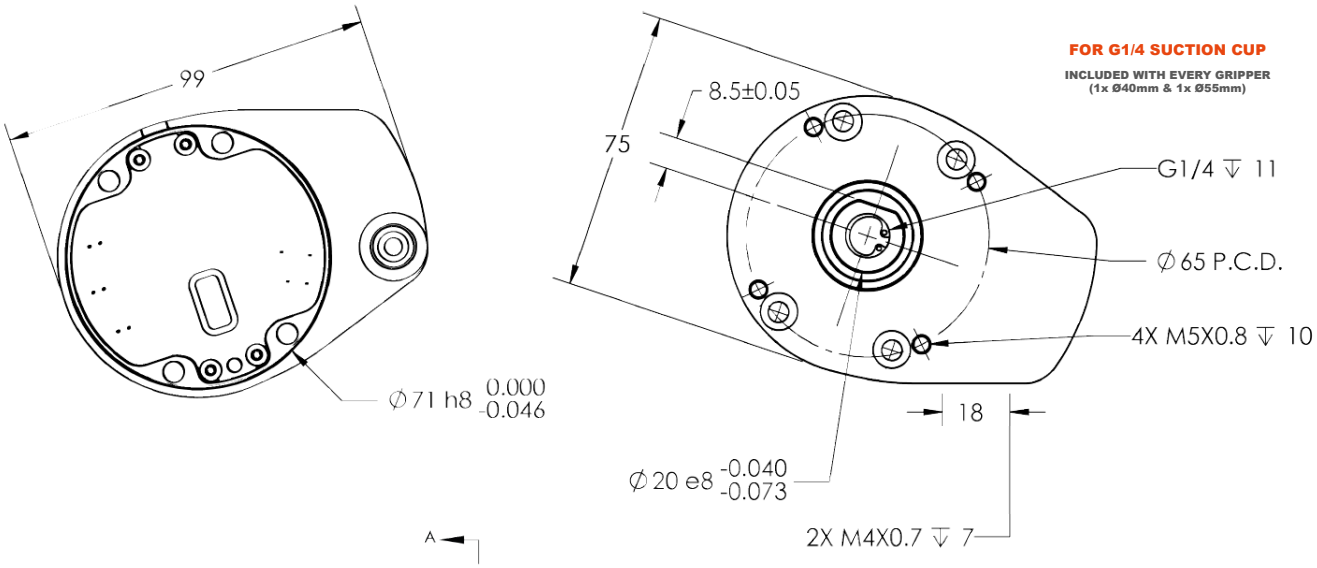
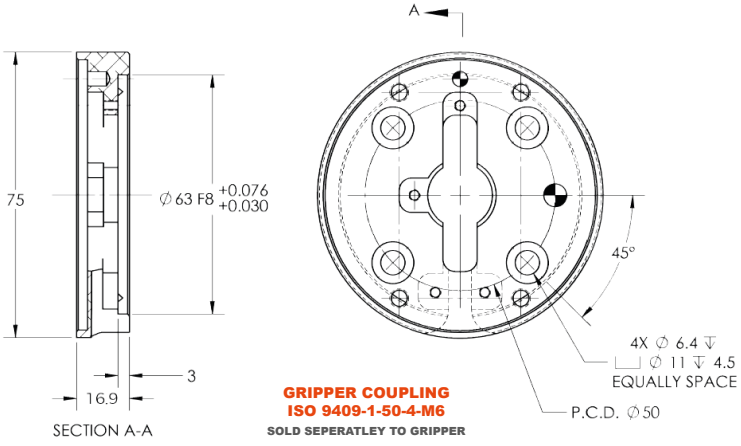
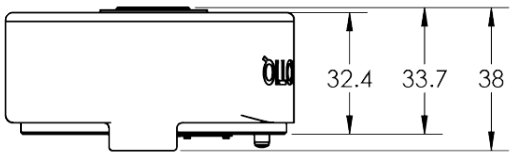
WMH Transmissions Limited

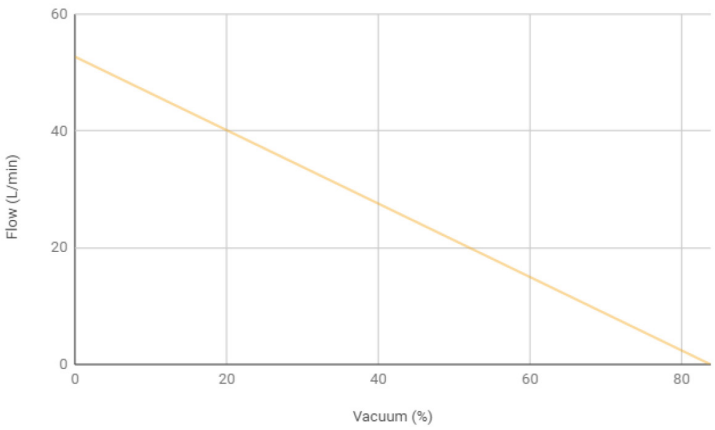
Air Pick – 10kg

Vacuum Gripper – External Supply









Design Parameter	Value
Maximum Payload (kg) *	10
Maximum Torque @ Cup (Nm)	150
Electricity Source Required ?	Yes
Comp'd. Air Source required ?	Yes
Mass Inc. Coupling / Inc. Cup (g)	481 / 515
Min. Feed Pressure (Bar)	3
Max. Feed Pressure (Bar)	7
Consumption @ Optimal pressure	135.9 SLPM
Max. Vacuum @ Opt. pressure (%)	85
Gripping Time (ms) **	40
Release Times (ms) **	10
Max. Gripper Acceleration (m/s²)	19.6
Operating Noise Level (dBA)	70.5
Supply Media Requirement	ISO 8573-1 3.4.3
Supply Voltage (V DC)	24 ± 10%
Abs. Max. Supply Voltage (V DC)	28
Peak Current (mA)	150
Min. Power Consumption (W)	1.2
Ingress Protection (IP)	IP40
Operating Temp Range (°C)	0 / + 50

* On non-porous surface ** For one Ø40mm suction cup

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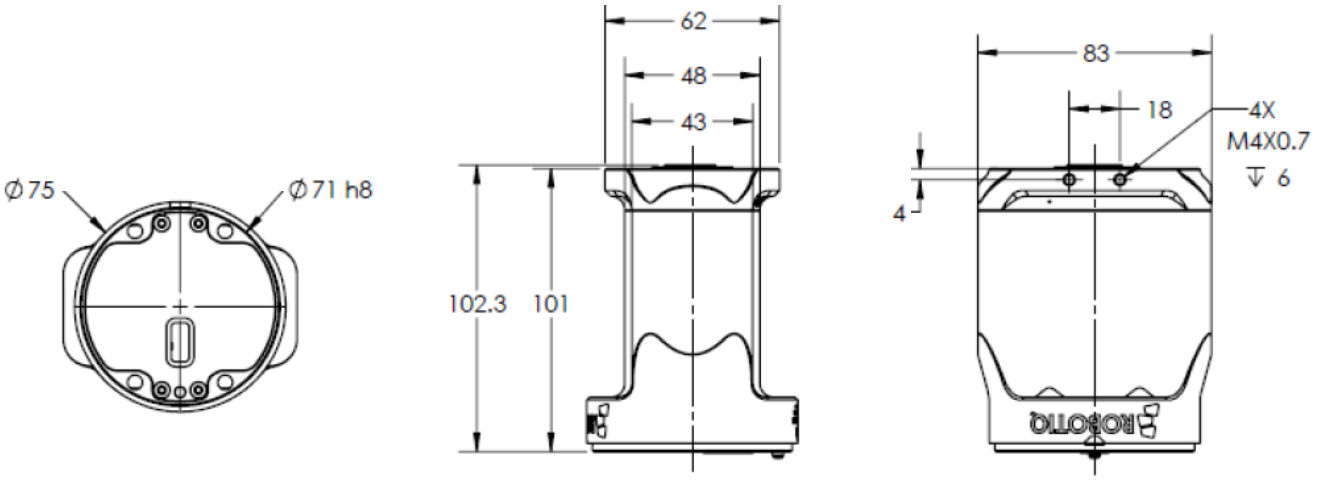
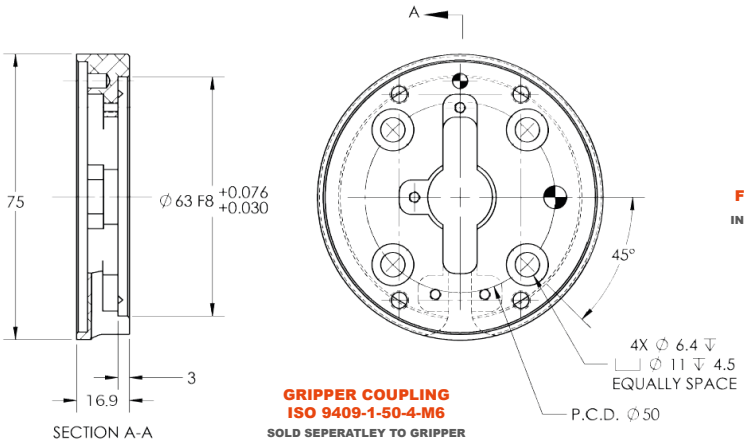
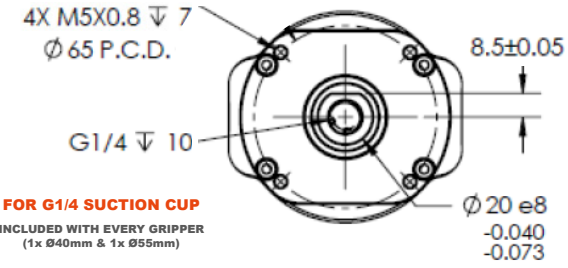
E Pick – 10kg

Vacuum Gripper – Internal Supply





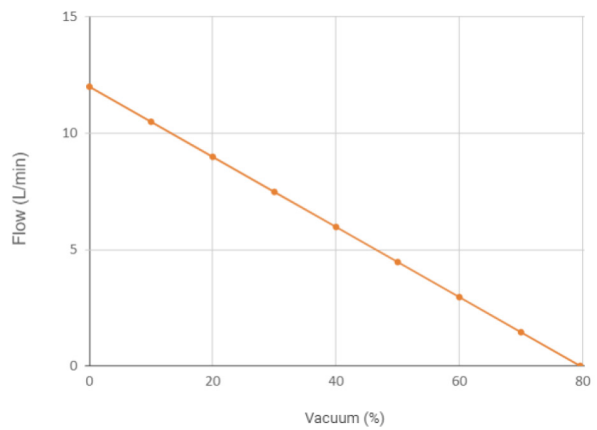
GRIPPER COUPLING
ISO 9409-1-50-4-M6
SOLD SEPERATLEY TO GRIPPER



FOR G1/4 SUCTION CUP
INCLUDED WITH EVERY GRIPPER
(1x Ø40mm & 1x Ø55mm)

Design Parameter	Value
Maximum Payload (kg) *	10
Maximum Torque @ Cup (Nm)	150
Electricity Source Required ?	Yes
Comp'd. Air Source required ?	No
Mass Inc. Coupling / Inc. Cup (g)	710 / 745
Maximum Vacuum (%)	80
Gripping Time (ms) **	150
Release Times (ms) **	180
Max. Gripper Acceleration (m/s²)	19.6
Operating Noise Level (dBA)	64
Supply Voltage (V DC)	24 ± 10%
Abs. Max. Supply Voltage (V DC)	28
Peak Current (A)	1.8
Min. Power Consumption (W)	1
Ingress Protection (IP)	IP40
Operating Temp Range (°C)	+ 5 / + 40

* On non-porous surface ** For one Ø40mm suction cup



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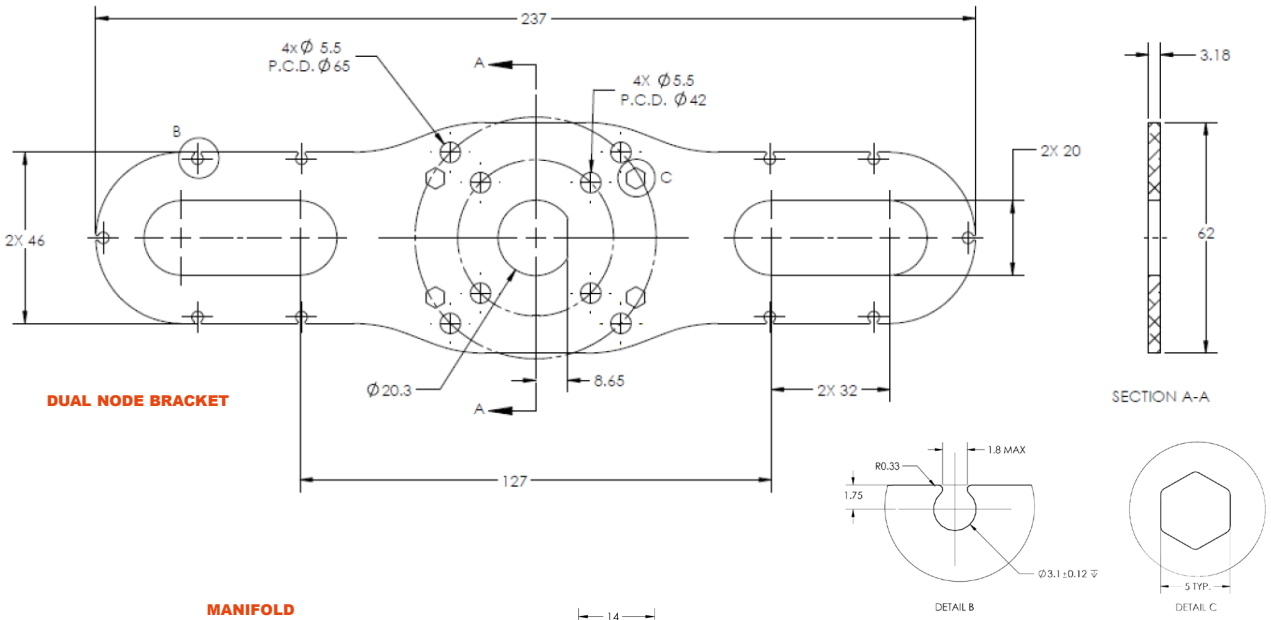
WMH Transmissions Limited

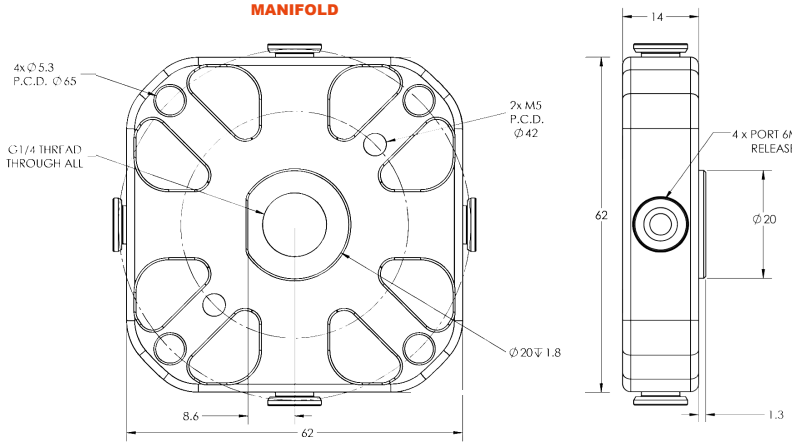
Dual Suction Cup Kit

For Air Pick & E Pick Vacuum Grippers

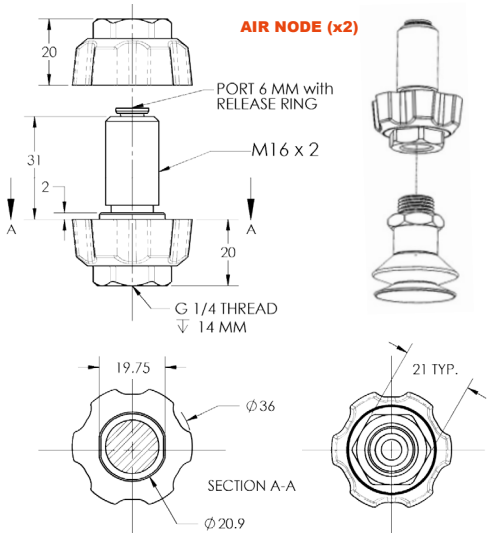


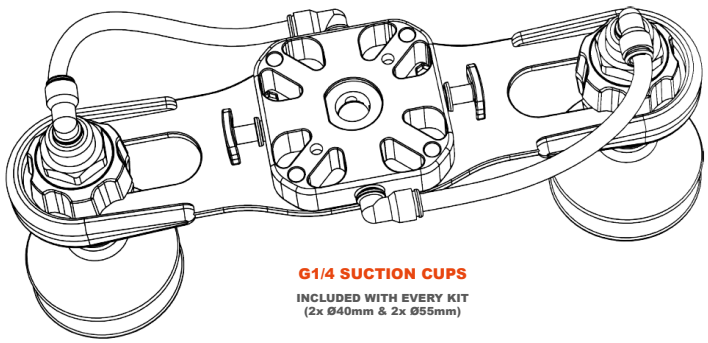
DUAL NODE BRACKET

MANIFOLD



AIR NODE (x2)





G1/4 SUCTION CUPS

INCLUDED WITH EVERY KIT
(2x Ø40mm & 2x Ø55mm)

Design Parameter	Value
Material	Aluminium & Plastic
Complete Dual Cup Kit Mass (g)	410
Min. Cup Centre Distance (mm)	127
Max. Cup Centre Distance (mm)	191

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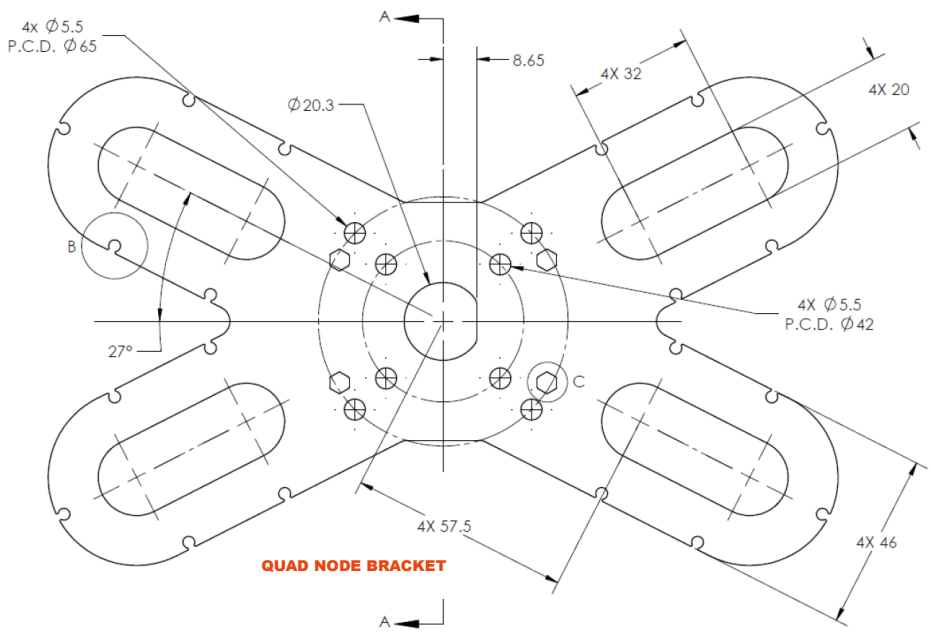
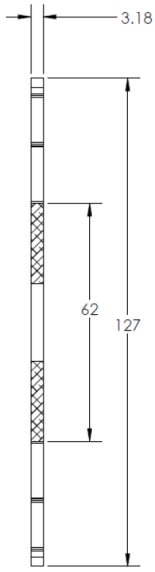
Quad Suction Cup Kit

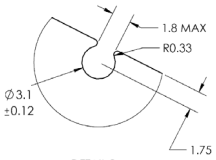
For Air Pick & E Pick Vacuum Grippers



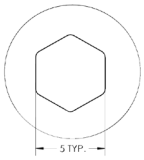
QUAD NODE BRACKET



SECTION A-A

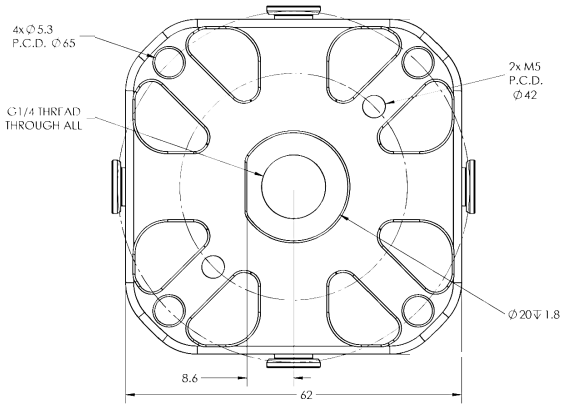


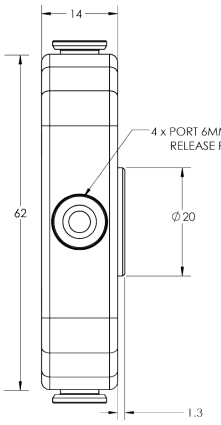
DETAIL B



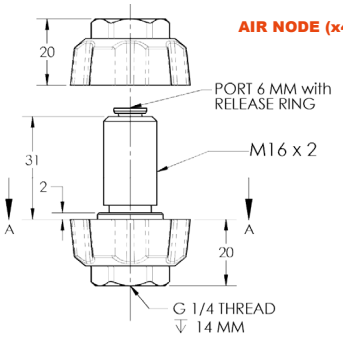
DETAIL C

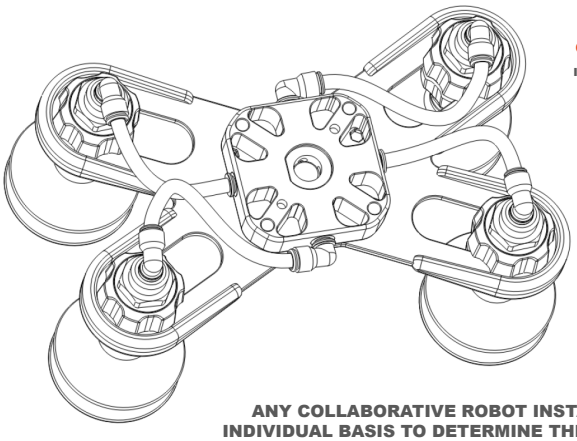
MANIFOLD





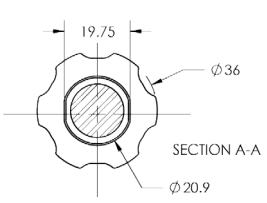
AIR NODE (x4)

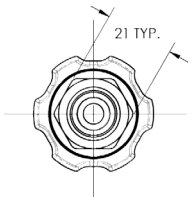




G1/4 SUCTION CUPS

INCLUDED WITH EVERY KIT
(4x Ø40mm & 4x Ø55mm)





Design Parameter	Value
Material	Aluminium & Plastic
Complete Quad Cup Kit Mass (g)	635
Min. Cup Centre Distance (mm)	102.5 x 52.2
Max. Cup Centre Distance (mm)	159.5 x 81.3

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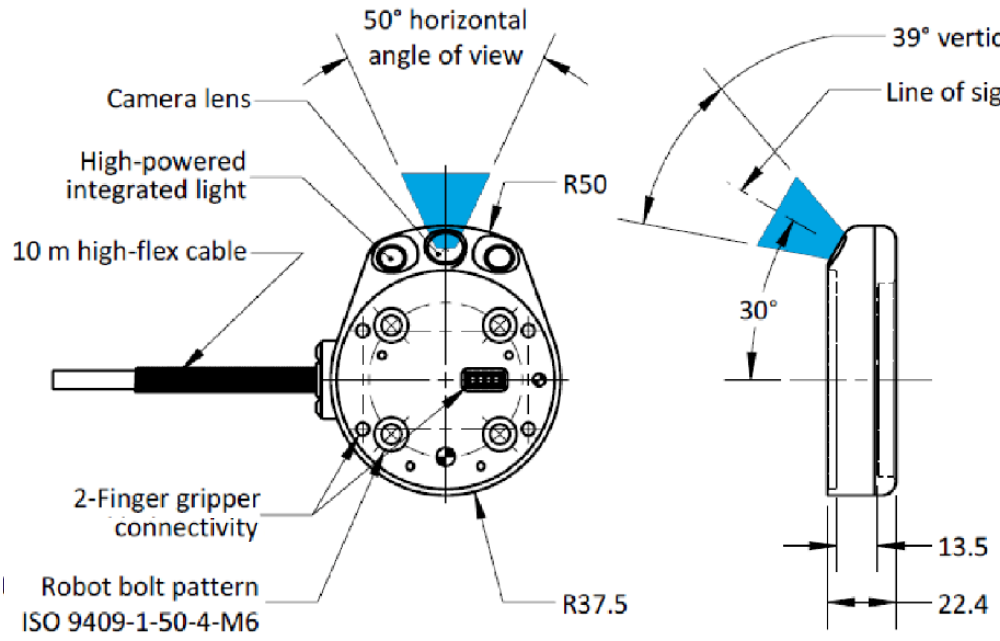
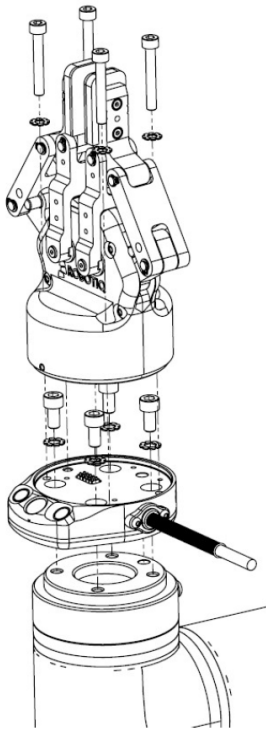
WMH Transmissions Limited

Wrist Camera

For All Robotiq Finger & Vacuum Grippers

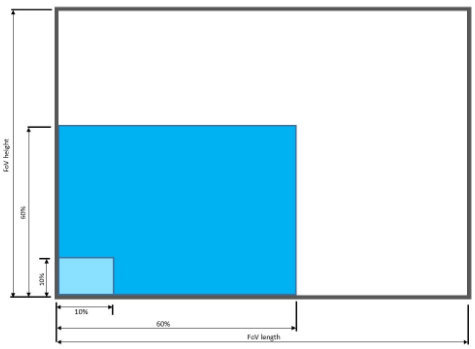




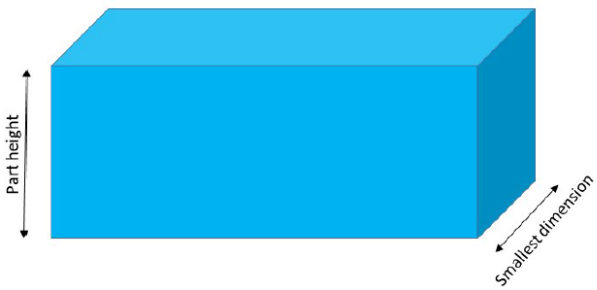
DIRECT COUPLING
TO ISO 9409-1-50-4-M6 FLANGE

Part dimensions

The maximum part size that can be detected by the Wrist Camera is 60% field of view's dimension. The minimum is 10%, no matter the robot or the field of view size.



The part must not be higher than its smallest dimension (width or length) : maximum of 1:1 ratio.



Design Parameter	Value
Communication Interface	USB 2.0
Integrated Lighting	6 LED White
Wrist Camera Mass (g)	160
Maximum Resolution	5 Mpx @ 2 fps
Max. Resolution (Pixels)	2560 x 1920
Maximum Frame Rate	30 fps @ 0.3 Mpx
Max. Frame Rate (Pixels)	640 x 480
Active Array Size (Pixels)	2592 x 1944
Focus Range (mm)	70 to Infin.
Lense type	Liquid
Supply Voltage (V DC)	24 ± 20%
Peak Current (A)	1
Min. Power Consumption (W)	1
Max. Power Consumption (W)	22
Ingress Protection (IP)	IP67
Operating Temp Range (°C)	0 / + 50

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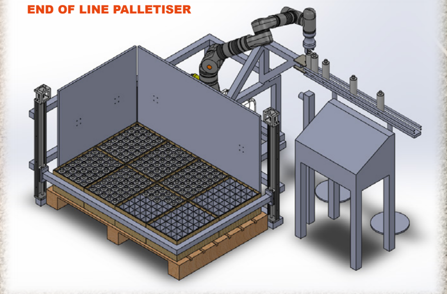
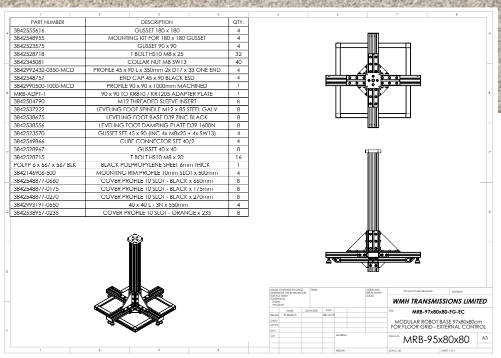
System Design & Build

In-House Concept Design, Proofing & Testing



END OF LINE PALLETISER



PART NUMBER	DESCRIPTION	QTY.
3842555616	GUSSET 180 x 180	4
3842548955	MOUNTING KIT FOR 180 x 180 GUSSET	4
3842523575	GUSSET 90 x 90	4
3842528718	T BOLT HS10 M8 x 25	32
3842345081	COLLAR NUT M8 SW13	40
3842992432-0350-MCD	PROFILE 45 x 90 L x 350mm 2x D17 x 33 ONE END	4
3842548757	END CAP 45 x 90 BLACK ESD	4
3842990500-1000-MCD	PROFILE 90 x 90 x 1000mm MACHINED	1
MRB-ADPT-1	90 x 90 TO KR810 / KR1205 ADAPTER PLATE	1
3842504790	M12 THREADED SLEEVE INSERT	8
3842537222	LEVELING FOOT SPINDLE M12 x 85 STEEL GALV	8
3842538675	LEVELING FOOT BASE D39 ZINC BLACK	8
3842538556	LEVELING FOOT DAMPING PLATE D39 1600N	8
3842523570	GUSSET SET 45 x 90 (INC 4x M8x25 + 4x SW13)	4
3842549866	CUBE CONNECTOR SET 40/2	4
3842528967	GUSSET 40 x 40	8
3842528715	T BOLT HS10 M8 x 20	16
POLYP 6 x 567 x 567 BLK	BLACK POLPROPYLENE SHEET 6mm THICK	1
3842146906-500	MOUNTING RIM PROFILE 10mm SLOT x 500mm	4
3842548877-0660	COVER PROFILE 10 SLOT - BLACK x 660mm	8
3842548877-0175	COVER PROFILE 10 SLOT - BLACK x 175mm	8
3842548877-0270	COVER PROFILE 10 SLOT - BLACK x 270mm	8
3842993191-0550	40 x 40 L - 3N x 550mm	4
3842538957-0235	COVER PROFILE 10 SLOT - ORANGE x 235	8

STANDARD PLINTHS

Here at WMH, we understand that buying a robot is only half of the story !

As such, we offer system design consultation and work closely with our customers to get a deep understating of the application in order for us to put together CAD design proposals for small systems and plinths.

We can also build and test these systems in house to prove the concept will work with your product and identify any issue prior to delivery.

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WMH Transmissions Limited

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