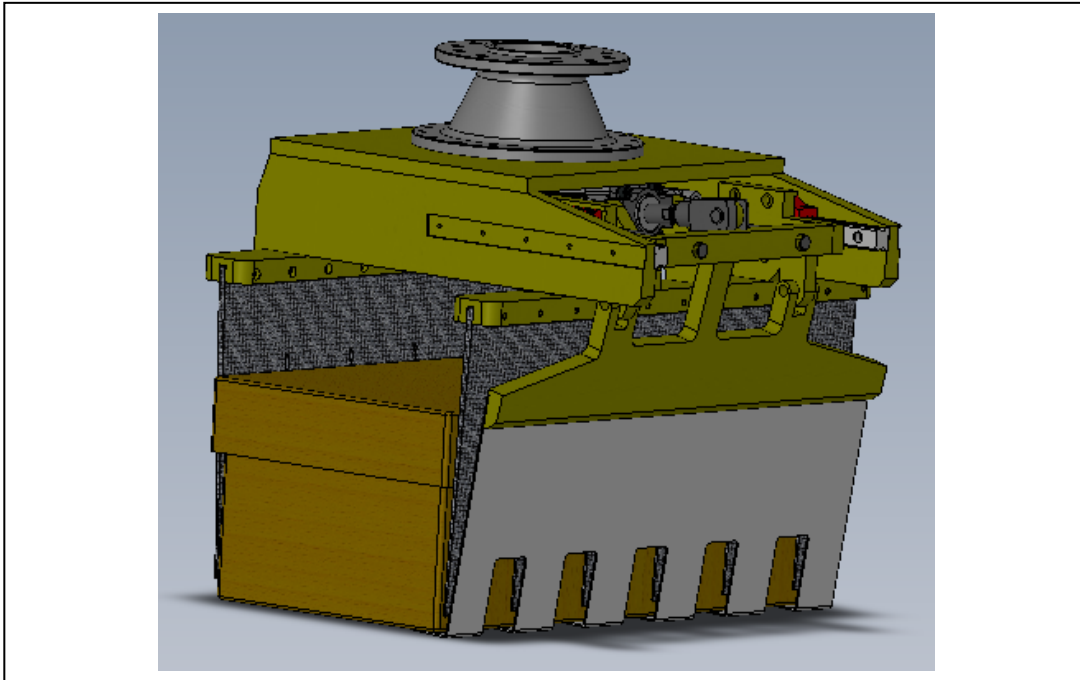


Proposal for Servo Side Clamp Palletising Gripper

Date 20-12-18**Reference** 18-1212 Rev 1**Attention** Allan Lüders**Trak Contact** Trevor Craven
T: +61418335896
E: trevor@trakautomation.com**Customer** PAT Industrial Solutions – Fish Box Palletising**Solution Description**

To manufacture a servo driven palletising robot tool to pick up tray & lid cardboard boxes and EPS boxes containing fish and place them on a pallet.

**Features:**

- Servo driven side clamp gripper mechanism – includes servo motor, gearbox, pulleys and timing belt
- Carbon fibre side plates with rubber coating on one side
- Clamp plate is mounted on linear bearings with one fixed side and one moving side
- Pivoting support ledge – Stainless steel approx 30mm
- Double solenoid valve- 5/2 for Pivoting Support
- Optional compliance shock sensor absorbs collision energy if out of spec products enter the system. Reduces system maintenance costs and line downtime

Project Assumptions:

Max and Min Box Size Data

- Minimum: 489 x 270 x 90
- Maximum: 1000 x 404 x 227

(Note the above are not actual box sizes but the max and min dimension in each axis)

Gripper Clamp Stroke is 250mm (to be confirmed):

- Minimum Position: 250mm
-
- Maximum Position: 500mm

Box weight:

- Maximum weight of fish box is 30 Kg
- Gripper handles one box per cycle –
- Maximum total weight to be handled by gripper is 33kg including fish and box weight.

Orientation:

- Gripper will clamp the boxes on the wide side.

No slip sheet or pallet handling is required

Tray & Lids and EPS boxes have enough structural strength to be handled by side clamping force.
The Tray & Lids are made from corrugated cardboard and are dry.

The Tray & Lids and EPS boxes are tightly taped or strapped closed.

The Tray & Lids & EPS boxes can be transferred with parts of the Tray & Lids & EPS boxes not being supported from below.

The bottom tray or bottom EPS box are held tightly by the strap or tape and can be held in place by the 30mm long gripper support ledge.

The Tray & Lids & EPS boxes are capable of handling forces transmitted by gripper and robot motion during normal palletising operations

All boxes are flat, square and made to consistent dimensions

No fish or bags are protruding from the boxes

Clean dry air supply is available.

Room environment is suitable for the operation of standard pneumatic cylinders

Gripper will not be washed down. Gripper will be cleaned by using sanitary wipes.

Robot is ABB 660 with 185kg capacity

Gripper weight is estimated as 75kg

Item	Description	Qty.	Price
A	Palletising Side Clamp Gripper - <ul style="list-style-type: none"> Servo driven clamp One single side acting clamp zone Carbon fibre blades Stainless Steel pivoting support ledge 	1	\$22,730
B	Wiring of valve and switches to central industrial I/O block	1	\$820
C	Cable Tray & mounting brackets to manage pneumatic hose, servo and I/O cables connection from gripper to ABB IRB660 robot	1	\$1,885
	Special package price for two of item A,B & C ordered & manufactured simultaneously		\$48,960
	Optional Tooling Items:		
D	SEW Servo Electronic Drive & Cables to suit Item A <ul style="list-style-type: none"> To be mounted in ABB robot controller Includes custom cables & Devicenet comms Excludes electrical labour to wire & run robot loom 	1	\$2,815 To be confirmed
E	Compliance Shock Sensor <i>(if required)</i>	1	\$3,300
F	Export Packing- ISPN Crate with Plastic Shrink & Desicant- Estimate to be confirmed – two grippers packed in one crate	1	\$800
G	Onsite Installation / Commissioning / Support per day <i>(if required)</i> Excludes travel & accommodation	1	\$1,500
Proposal in Australian Dollars excluding GST			

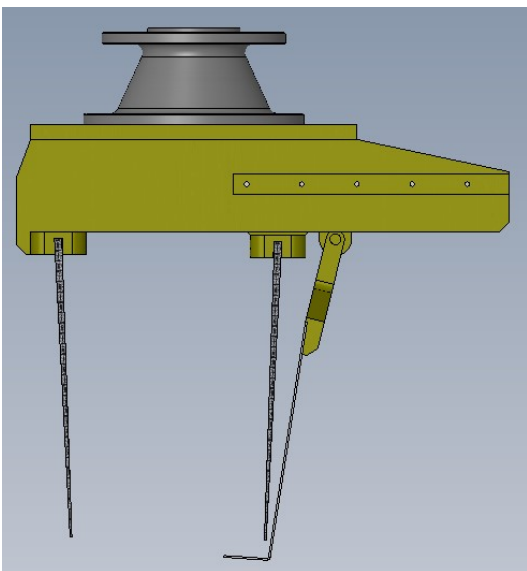
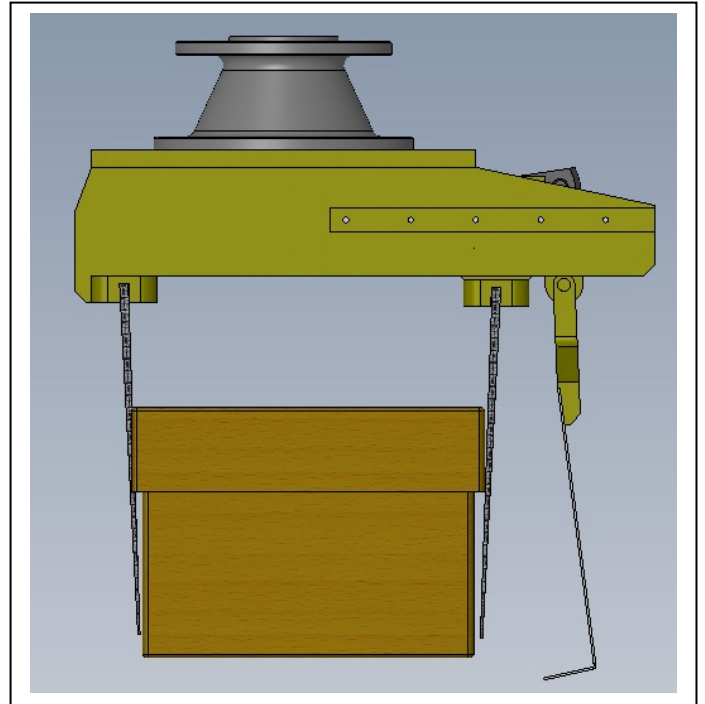
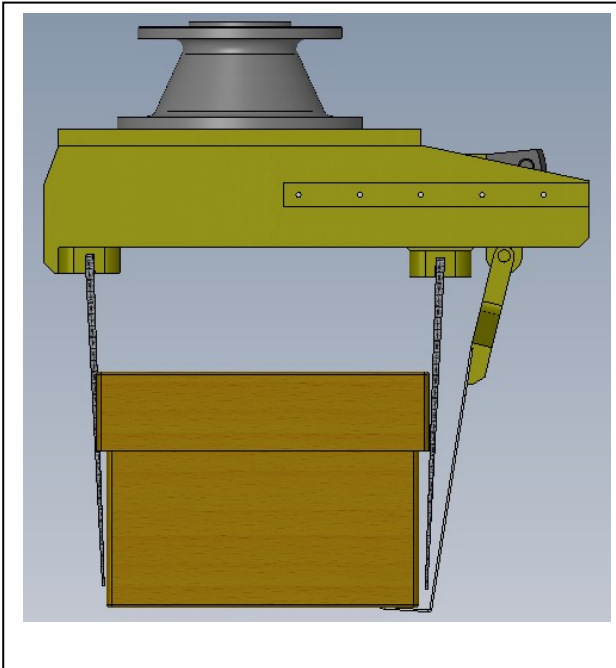
Notes:

- Includes
 - SMC pneumatic components (Cylinders, Reed Switches, Valves,)
 - Proximity overtravel switches
 - SEW servo motor
 - Plumbing of gripper components
 - 12 months warranty on Trak manufactured parts. This warranty assumes that the gripper will be returned to our workshop for warranty repair. If the client prefers the warranty work to be completed onsite then there will be charges for the flight, travel time, meals, hotel & car hire incurred for our mechanical specialist to complete the warranty repairs
 - OEM warranty on purchased components
 - All switches and valves are 24v DC
 - Wiring of valves & reed/proximity switches to central point on gripper - all leads will have M8 plugs and will be connected to an industrial I/O block. The industrial I/O block will have an M12 plug for connecting to the robot loom cable.
- Excludes
 - Robot looms
 - Electric wiring & plugs required to connect robot plug to I/O block
 - Electric wiring & plugs required to connect robot plug to gripperservo motor
 - Pneumatic connection from robot plug to gripper plug
 - Photo eyes
 - Safety Guarding - This tool should be used in a robot cell environment that is fenced off from operators while running. Guarding should meet ISO / AS4024.1
- Installation / Commissioning / Support Services (if required) will be charged at Trak Automation charge out rates as actual time incurred plus travel and accommodation costs
- Prices are ex works

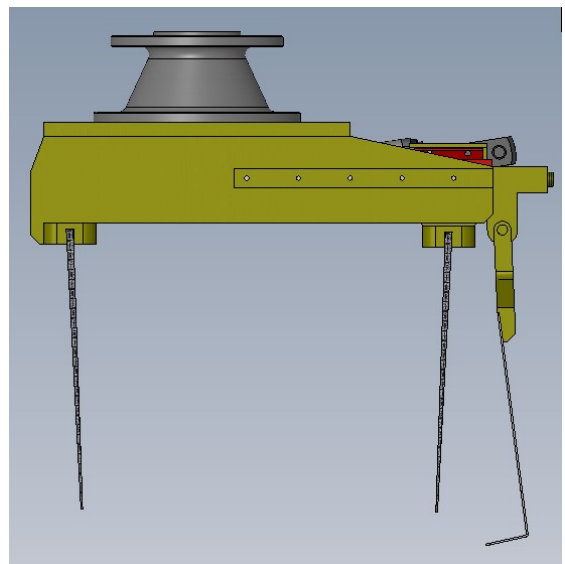
This quote is valid for 30 days from the above date

Requirements to proceed	Purchase order & deposit,
Approximate lead time	6-10 weeks from date of order & receipt of deposit. To be confirmed based on workshop loading
Payment Terms	50% deposit with order, 40% on factory acceptance test prior to dispatch ex works, 10% four weeks after dispatch.
Terms and conditions	Our standard terms and conditions are available on requests

Palletising Side Clamp Gripper



Clamp Closed



Clamp Open

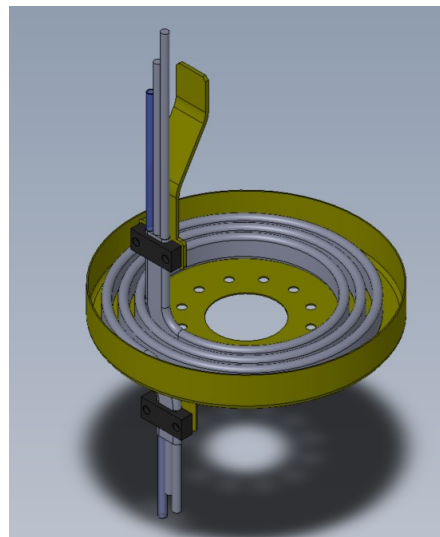
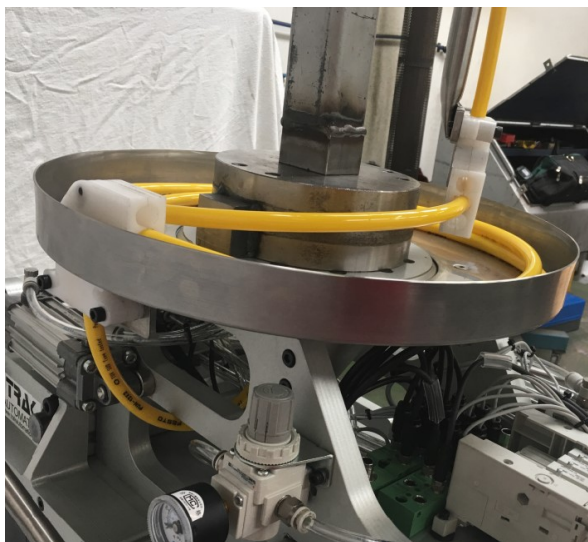
Palletising Side Clamp Gripper



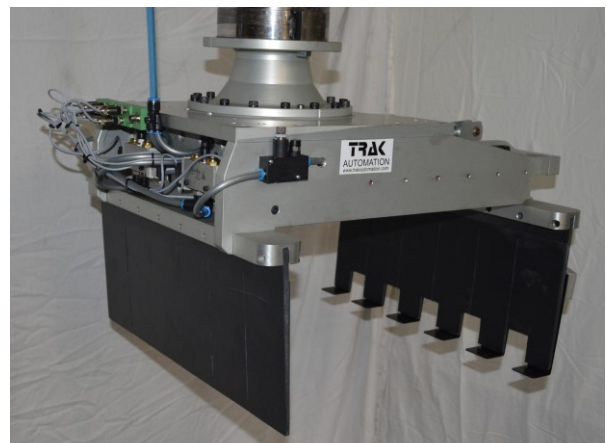
Item D - Compliance Shock Sensor

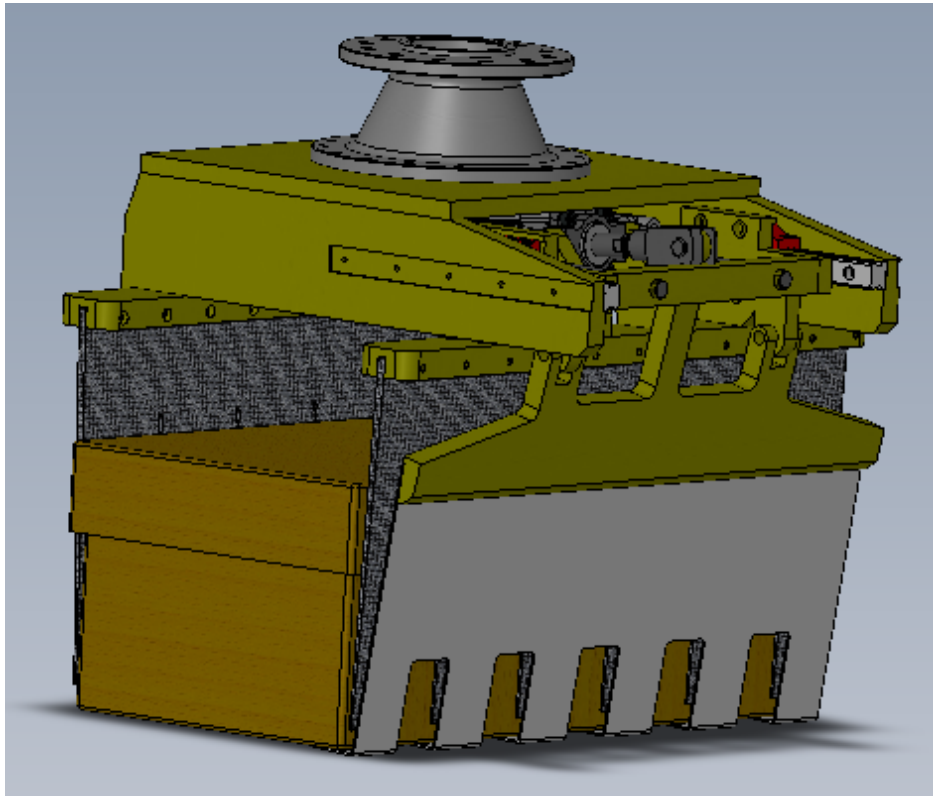


Item B- Wiring of all valves and switches to central industrial I/O block



Item C - Cable dish lined with Teflon and cable and pneumatic hose mounting brackets to suit IRB660





Construction:

- Anodized aluminium construction
- SMC Pneumatic Components
- SEW Servo
- Mounting flange to suit robot -IRB660
- Carbon Fibre Blades