



Parallel Opening/Closing Type Gripper

# *XRAY* Series

2 Finger

1250N, 2200N, 2500N, 4400N



## *XRAY* Series Includes

XRAY-1250

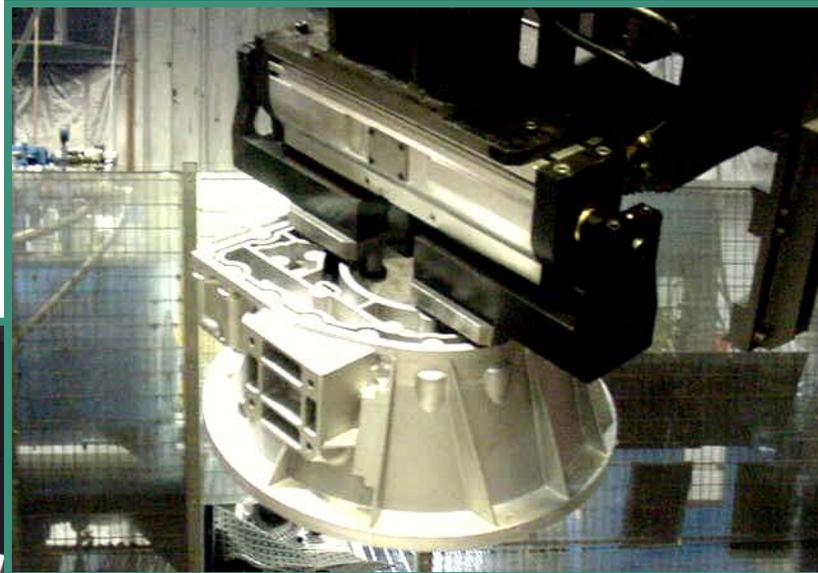
XRAY-1250-LBR

XRAY-S-2200

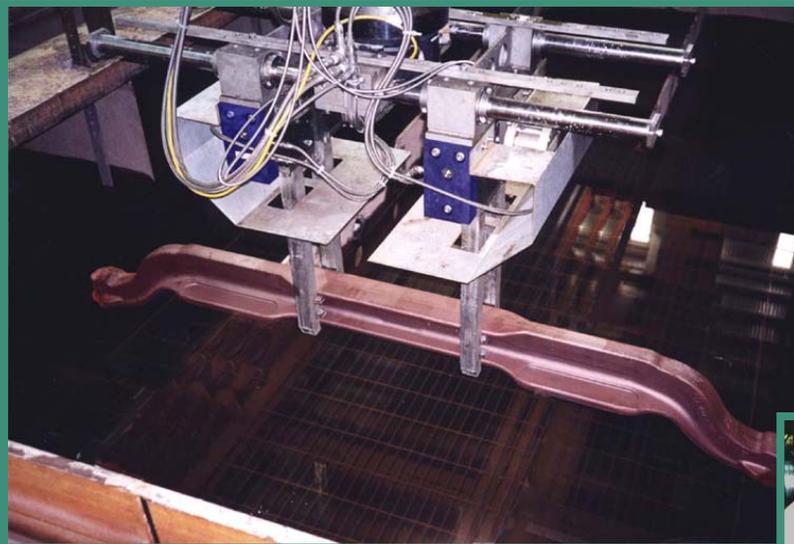
Tandem XRAY-1250

Tandem XRAY-S-2200

# XRAY Applications:



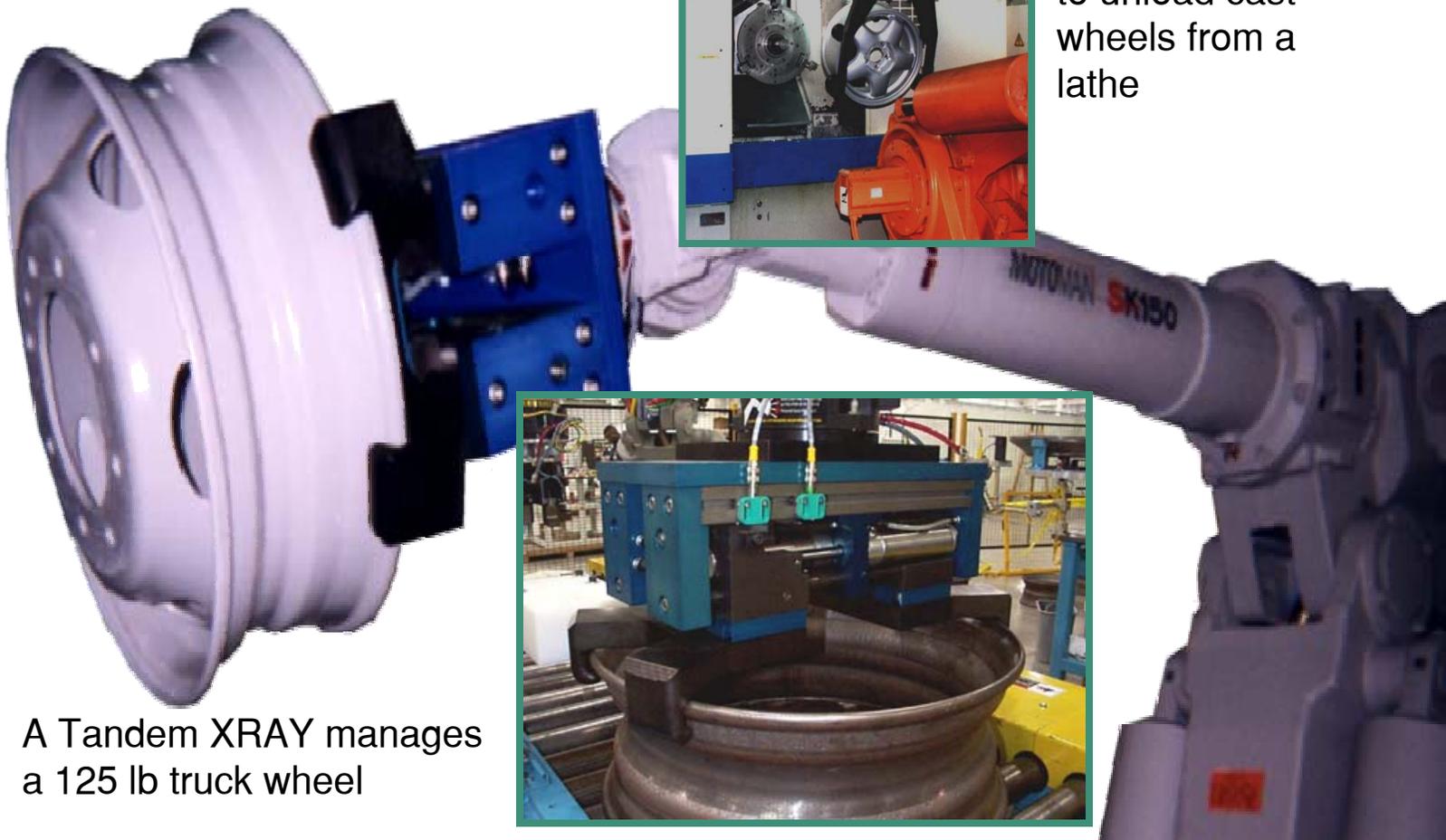
An XRAY-S is used to handle a transmission housing



Two XRAY-1250s are used to quench a 1400° F casting into a saltwater bath



A pair of XRAY-1250s are used to unload cast wheels from a lathe



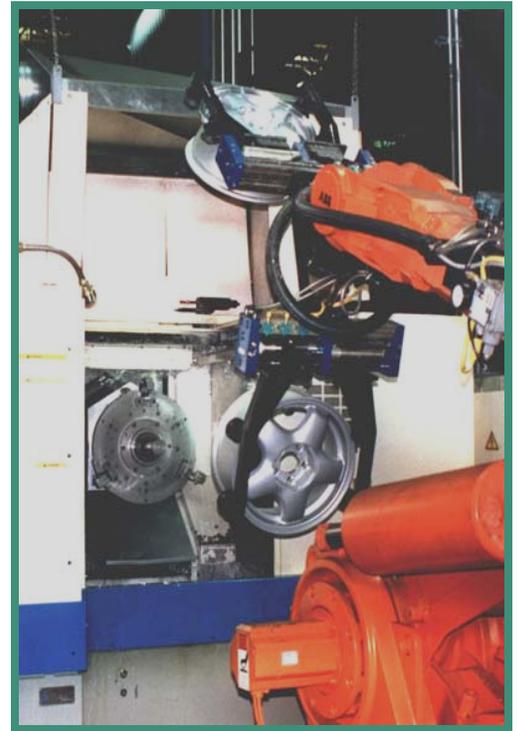
A Tandem XRAY manages a 125 lb truck wheel



# XRAY-1250

Parallel Opening/Closing Type Gripper  
2 Finger 1250N

- Innovative design allows for long strokes while minimizing overall length.
- Extruded aluminum backbone provides multiple sensing and mounting configurations.
- Proprietary ceramic bearing technology tolerates heavy loads.



The XRAY-1250 was developed for applications that impart high acceleration to heavy objects or require extremely long, precisely positioned jaws. These applications put extreme stress on the gripper. XRAY-1250 grippers use a ceramic bearing system to isolate the precision jaw positioning system from jaw torque and force. The ceramic bearing rail allows the grippers to be small and light-weight while delivering jaw force in excess of 1250N (280 pounds) and to tolerate jaw torque of 600NM (440 ft-lb).

Harsh environments like casting, welding and machining are tolerated due to seals on the helix and guide bar. The standard seals on the cylinders are supplemented with polyurethane rod wipers in the ZAYTRAN designed nuts that mount the cylinders to the center section. For welding environments specially plated aluminum covers are available to keep weld spatter from attaching to the cylinder rods.

In applications that require the part be held even when pneumatic power is lost, the Power-Off-Brake (POB) option provides an excellent solution. When pneumatic pressure is removed from the option a spring is allowed to rotate a collar that engages a collet brake system on the helix; thus, the jaws are braked in position.



# XRAY-1250

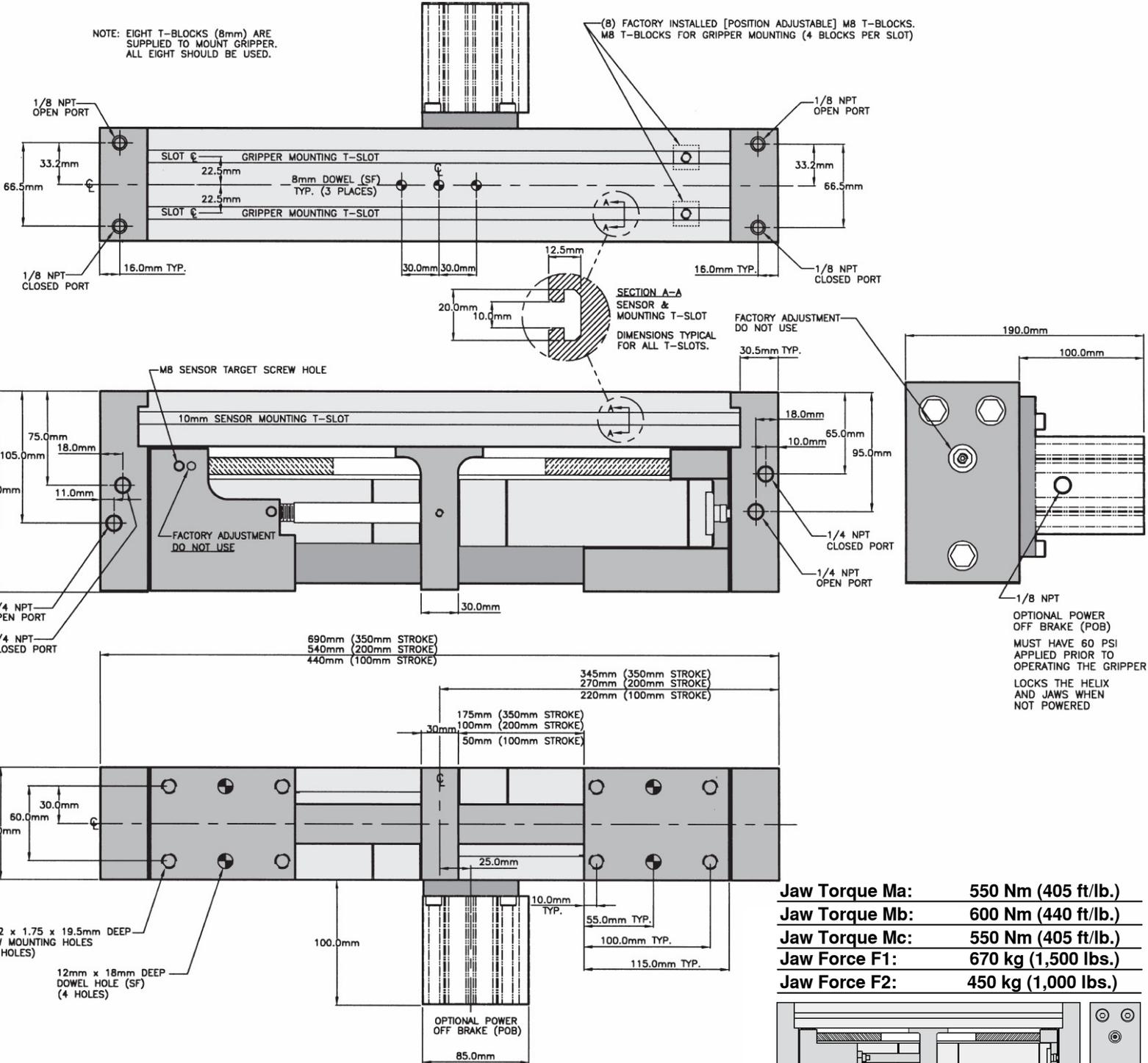
## Parallel Opening/Closing Type Gripper 2 Finger 1250N

<b>Force, Each Jaw:</b>	<b>1250N (280 lb.)*</b>
<b>Stroke -100:</b>	<b>100mm (3.94")</b>
<b>Stroke -200:</b>	<b>200mm (7.87")</b>
<b>Stroke -350:</b>	<b>350mm (13.78")</b>
<b>Weight-100:</b>	<b>12.7kg (27.8 lb.)</b>
<b>Weight-200:</b>	<b>13.6kg (30 lb.)</b>
<b>Weight-350:</b>	<b>17.3kg (38 lb.)</b>
<b>Max Pressure:</b>	<b>1,700 kPa (250 psi)</b>

\* at 690 kPa (100 psi)

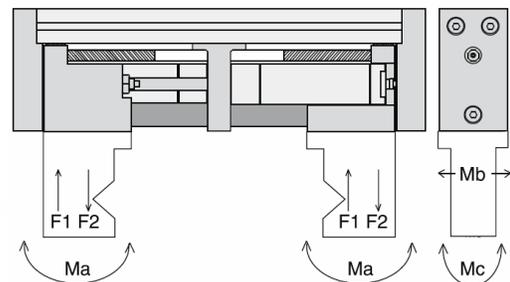
NOTE: EIGHT T-BLOCKS (8mm) ARE SUPPLIED TO MOUNT GRIPPER. ALL EIGHT SHOULD BE USED.

(B) FACTORY INSTALLED [POSITION ADJUSTABLE] M8 T-BLOCKS. M8 T-BLOCKS FOR GRIPPER MOUNTING (4 BLOCKS PER SLOT)



OPTIONAL POWER OFF BRAKE (POB) MUST HAVE 60 PSI APPLIED PRIOR TO OPERATING THE GRIPPER LOCKS THE HELIX AND JAWS WHEN NOT POWERED

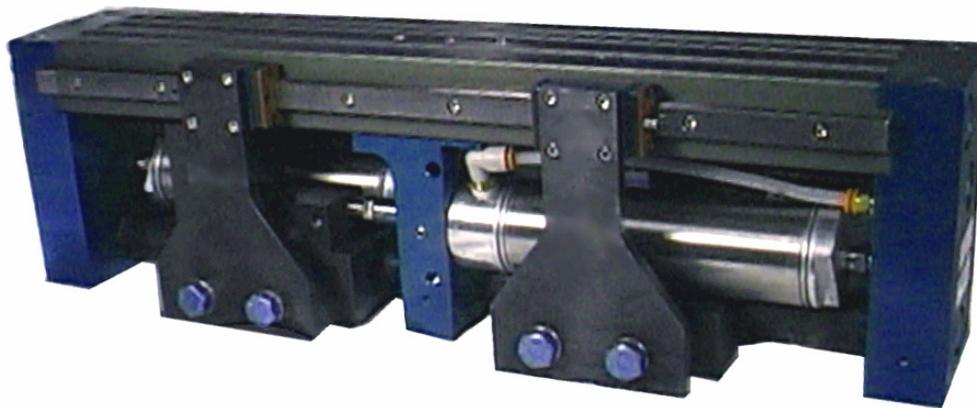
<b>Jaw Torque Ma:</b>	<b>550 Nm (405 ft/lb.)</b>
<b>Jaw Torque Mb:</b>	<b>600 Nm (440 ft/lb.)</b>
<b>Jaw Torque Mc:</b>	<b>550 Nm (405 ft/lb.)</b>
<b>Jaw Force F1:</b>	<b>670 kg (1,500 lbs.)</b>
<b>Jaw Force F2:</b>	<b>450 kg (1,000 lbs.)</b>



# XRAY-1250-LBR

Parallel Opening/Closing Type Gripper  
2 Finger 1250N

- Tolerates offset and shock loads.
- Linear bearing rail is triple sealed for ultra harsh environments.
- Heavy parts can be moved with high acceleration due to the increased rigidity.



The XRAY-1250-LBR continues the ZAYTRAN tradition of manufacturing the industries toughest grippers while maintaining a relatively light weight and compact size. The addition of the **L**inear **B**earing **R**ail increases the moment load capabilities of the XRAY-1250 up to 100%, while adding less than 10lbs of total weight.

The linear bearing rail system is placed on only one side of the gripper so that the other side is free for the mounting of sensors and/or a Power-Off-Brake. The LBR option can be added to any standard or custom stroke available for the XRAY-1250 series.

If your application requires protection from weld spatter, special weld shields are available for the XRAY-1250-LBR. Other harsh environments are not a problem since the linear bearing rail is triple sealed to keep out contaminants.

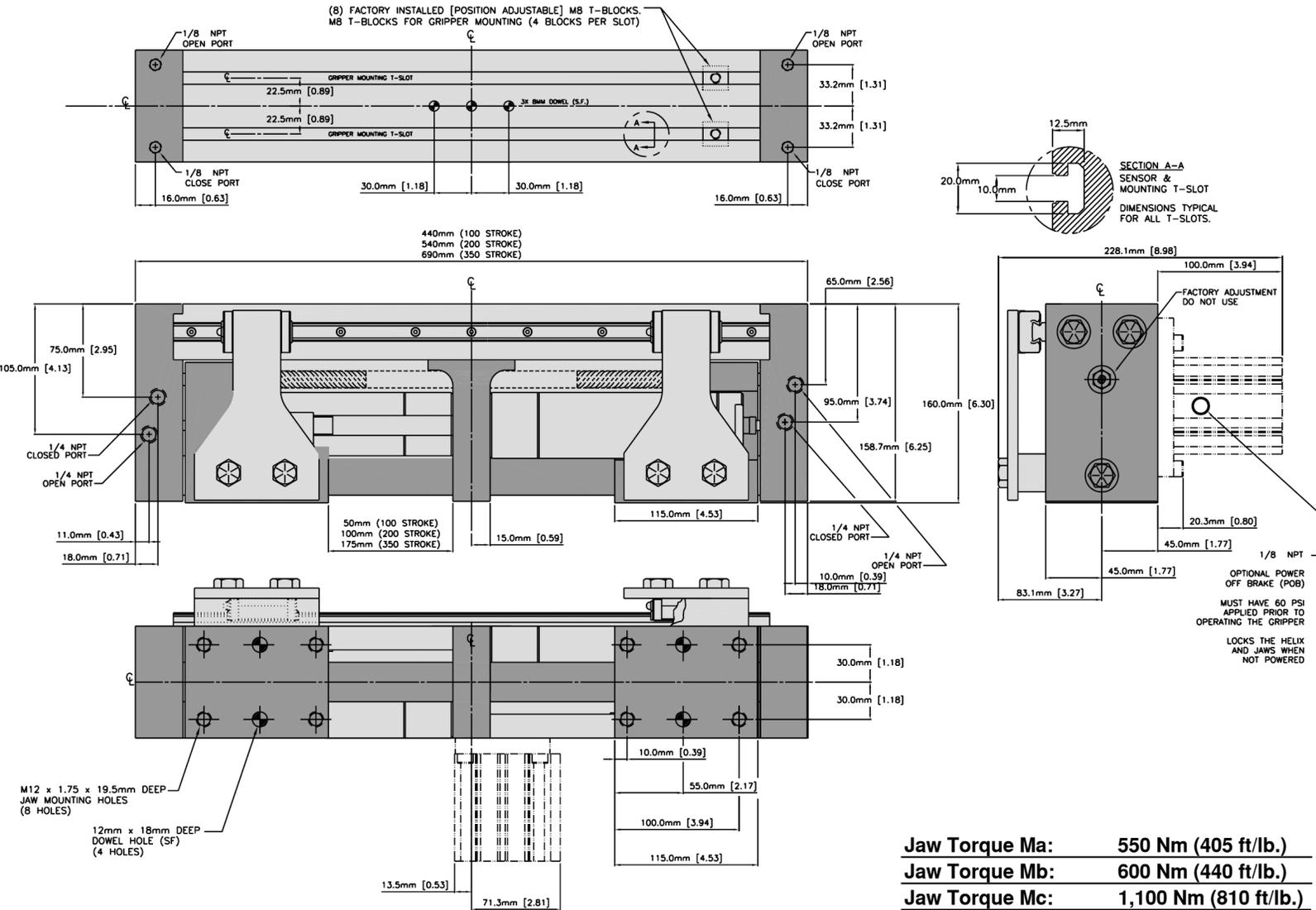


# XRAY-1250-LBR

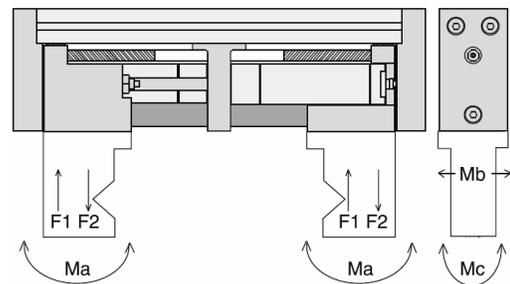
Parallel Opening/Closing Type Gripper  
2 Finger 1250N

<b>Force, Each Jaw:</b>	<b>1250N (280 lb.)*</b>
<b>Stroke -100:</b>	<b>100mm (3.94")</b>
<b>Stroke -200:</b>	<b>200mm (7.87")</b>
<b>Stroke -350:</b>	<b>350mm (13.78")</b>
<b>Weight-100:</b>	<b>17.2kg (37.8 lb.)</b>
<b>Weight-200:</b>	<b>18.2kg (40 lb.)</b>
<b>Weight-350:</b>	<b>21.8kg (48 lb.)</b>
<b>Max Pressure:</b>	<b>1,700 kPa (250 psi)</b>

\* at 690 kPa (100 psi)



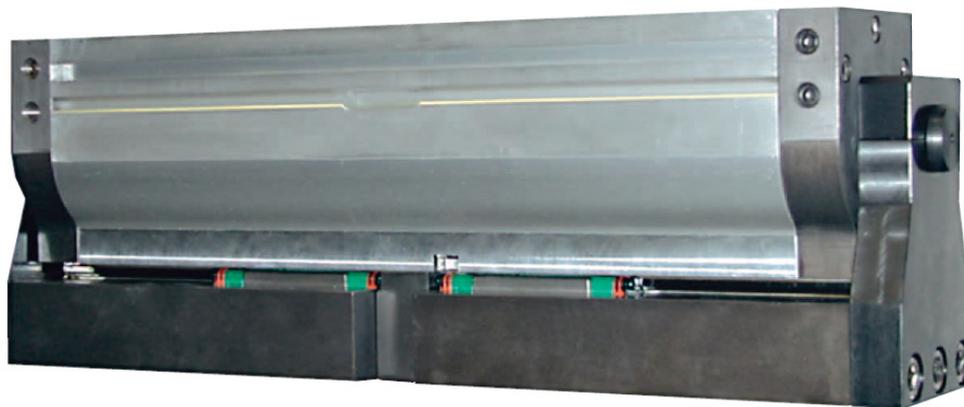
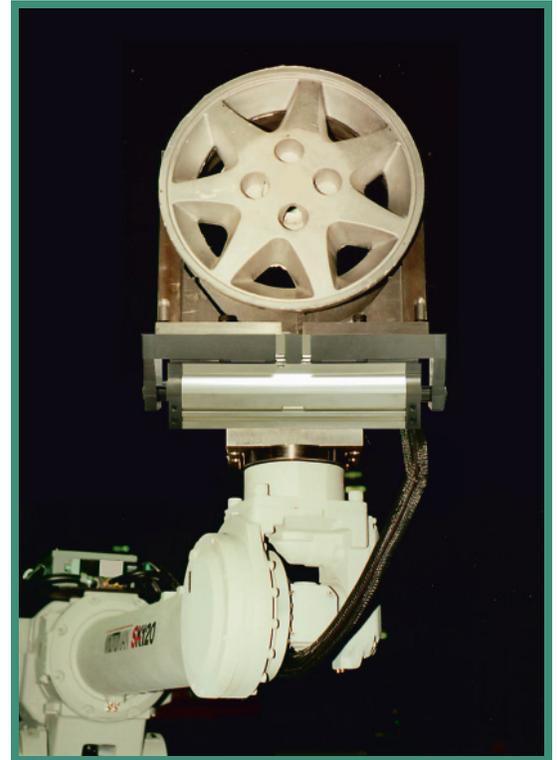
<b>Jaw Torque Ma:</b>	<b>550 Nm (405 ft/lb.)</b>
<b>Jaw Torque Mb:</b>	<b>600 Nm (440 ft/lb.)</b>
<b>Jaw Torque Mc:</b>	<b>1,100 Nm (810 ft/lb.)</b>
<b>Jaw Force F1:</b>	<b>670 kg (1,500 lbs.)</b>
<b>Jaw Force F2:</b>	<b>450 kg (1,000 lbs.)</b>



# XRAY-S-2200

Parallel Opening/Closing Type Gripper  
2 Finger 2200N

- Handles big jobs with tremendous torque and force capability.
- Long jaws are no problem with the incorporated linear bearing rail.
- Sealed for years of trouble-free use in tough environments.
- Patented double helix for the ultimate precision over the life of the gripper.



The latest member of the XRAY family offers mounting patterns identical to the XRAY-1250 but with almost twice the force. Drawing on the tradition of the SIGMA series, the XRAY-S incorporates a high-torque linear bearing rail for rigidity and a patented double helix for the ultimate level of precision available in a robotic gripper.

A uni-body extrusion increases rigidity as well as providing mounting and sensing T-slots. The XRAY-S accommodates D-Z73, D-Z76 and D-Z80 SMC sensors for “below surface” mounting and the highest reliability.

Tough environments are not a problem with this sealed unit. The linear bearing blocks are fitted with wipers and industrial scrapers. The piston shafts are hardened and fitted with double bronze scrapers. This combined with lube-for-life helix technology assures years of trouble-free operation.

For applications that require power loss protection, an optional Power-Off-Brake (POB) aggressively locks the helix and thus the jaws in case of an accidental loss of pneumatic pressure.

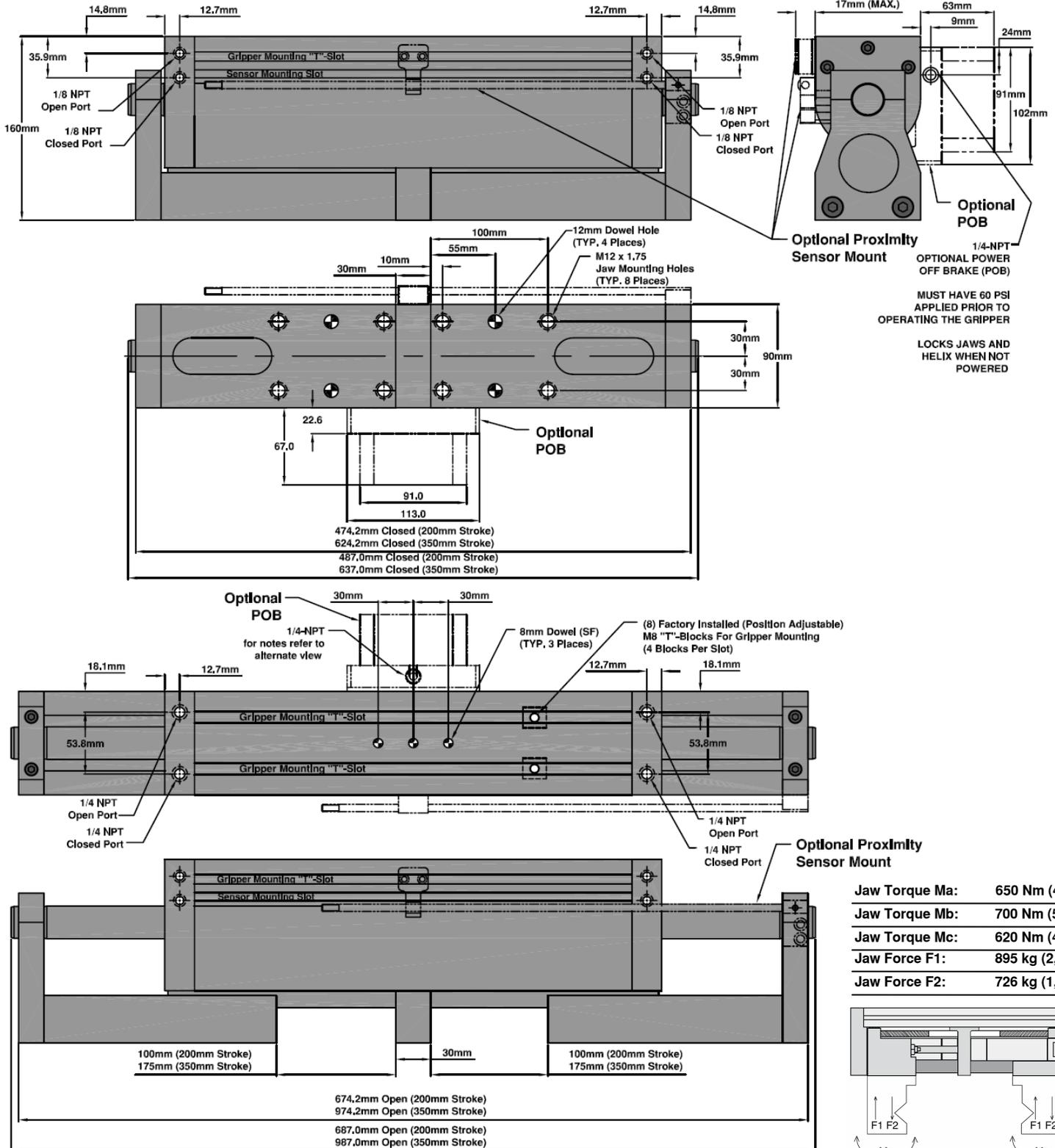
**ZAYTRAN**

# XRAY-S-2200

Parallel Opening/Closing Type Gripper  
2 Finger 2200N

<b>Force, Each Jaw:</b>	<b>2200N (495 lb.)*</b>
<b>Stroke -200:</b>	<b>200mm (7.87")</b>
<b>Stroke -350:</b>	<b>350mm (13.78")</b>
<b>Weight-200:</b>	<b>15kg (33 lb.)</b>
<b>Weight-350:</b>	<b>26kg (57 lb.)</b>
<b>Max Pressure:</b>	<b>1,700 kPa (250 psi)</b>

\* at 690 kPa (100 psi)

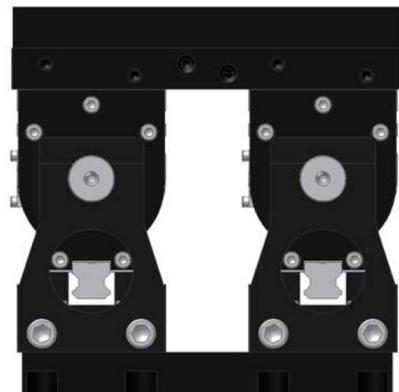


# Tandem Grippers

Parallel Opening/Closing Type Gripper

2 Finger 2500N, 4400N

- Very heavy parts can be moved with high acceleration.
- Custom gripper size at a standard gripper price.
- Included custom transition plate mounts directly to your robot.



ZAYTRAN Tandem Grippers deliver custom gripper size and performance at a standard gripper price. Advances in manufacturing consistency have enabled ZAYTRAN to combine two off-the-shelf grippers to form one large Tandem gripping system. Utilizing two off-the-shelf grippers instead of designing and building one custom gripper delivers a much more cost effective package. In addition to cost savings, the use of off-the-shelf parts lowers the lead time on new units and shortens down time associated with repair and maintenance in the field.

The tandem gripping systems are two units that function as one. The grippers jaws are mechanically linked via common jaw mounting plates, this enables synchronization as well as provides mounting for tooling. Both grippers are mounted on a common mounting plate creating a very robust assembly. The grippers are also tied together pneumatically so that only one set of ports needs to be plumbed. The entire assembly mounts directly to your robot with the supplied transition plate, no other customer mounting brackets are required.

Tandem gripping systems are available in either the XRAY-1250 or the XRAY-S-2200 format. Standard sensing kits available for either format can be used on the Tandem systems for application flexibility.

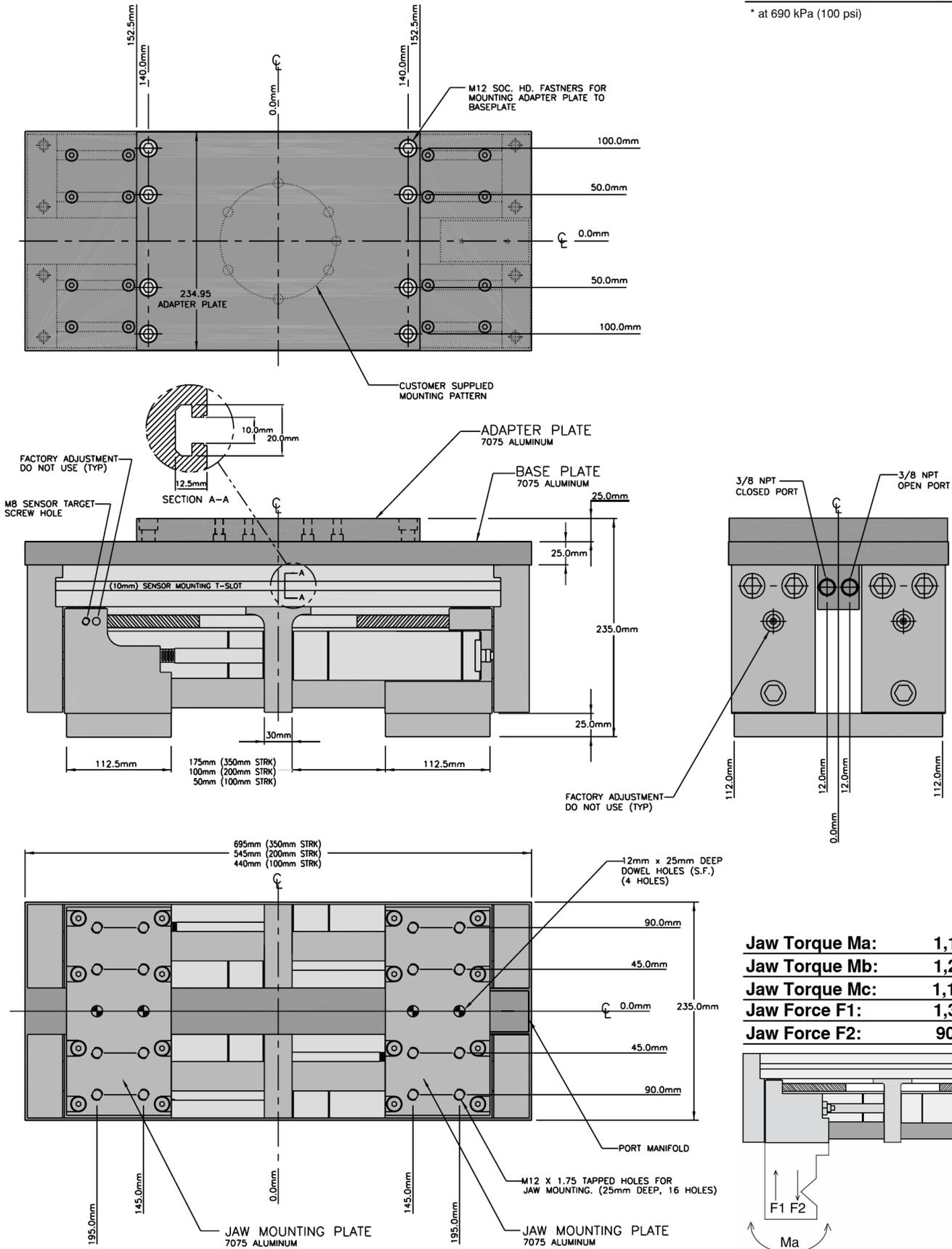


# Tandem-XRAY-1250

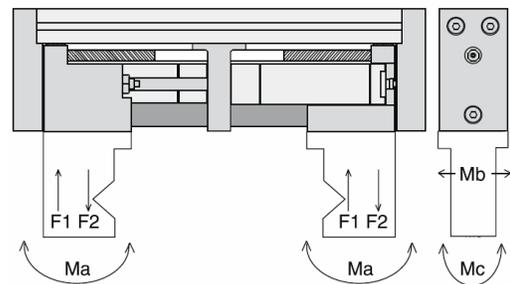
Parallel Opening/Closing Type Gripper  
2 Finger 2500N

<b>Force, Each Jaw:</b>	<b>2500N (560 lb.)*</b>
<b>Stroke -100:</b>	<b>100mm (3.94")</b>
<b>Stroke -200:</b>	<b>200mm (7.87")</b>
<b>Stroke -350:</b>	<b>350mm (13.78")</b>
<b>Weight-100:</b>	<b>39.9kg (88 lb.)</b>
<b>Weight-200:</b>	<b>44.4kg (98 lb.)</b>
<b>Weight-350:</b>	<b>55.8kg (123 lb.)</b>
<b>Max Pressure:</b>	<b>1,700 kPa (250 psi)</b>

\* at 690 kPa (100 psi)



<b>Jaw Torque Ma:</b>	<b>1,100 Nm (810 ft./lb.)</b>
<b>Jaw Torque Mb:</b>	<b>1,200 Nm (880 ft./lb.)</b>
<b>Jaw Torque Mc:</b>	<b>1,100 Nm (810 ft./lb.)</b>
<b>Jaw Force F1:</b>	<b>1,340 kg (3,000 lbs.)</b>
<b>Jaw Force F2:</b>	<b>900 kg (2,000 lbs.)</b>



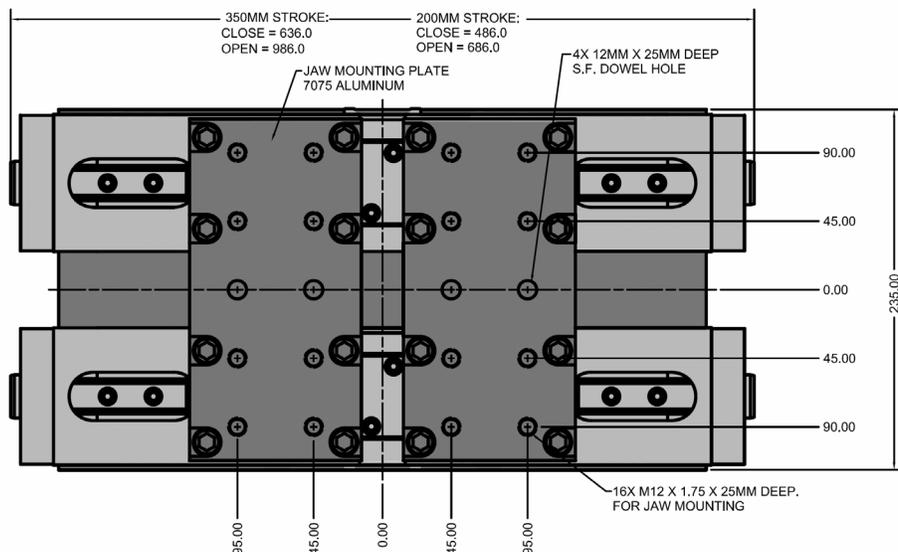
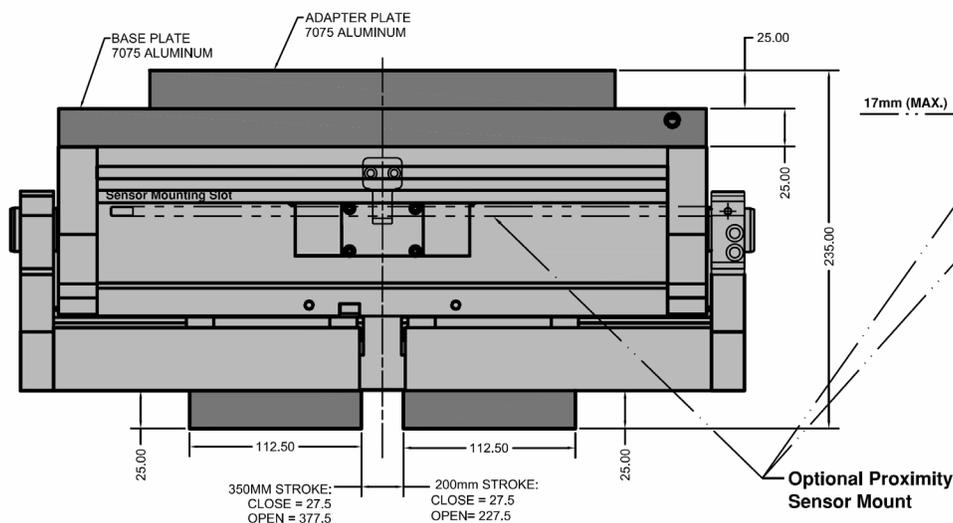
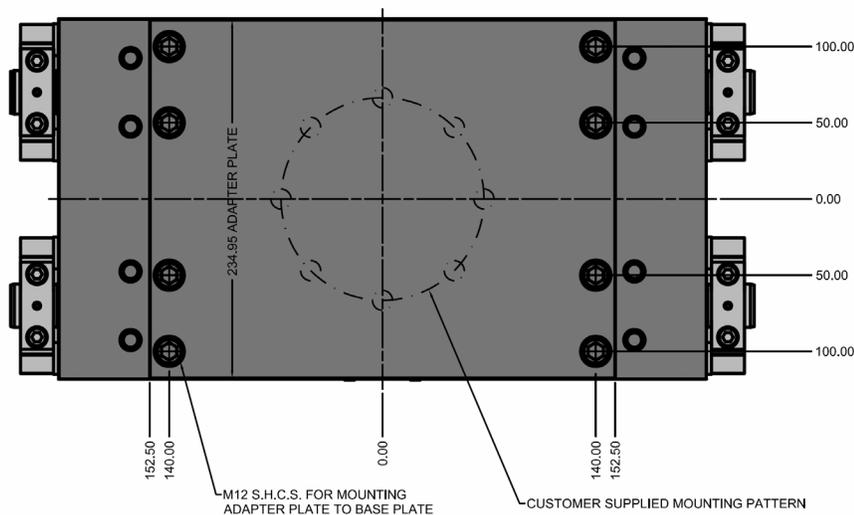
# Tandem-XRAY-S-2200

Parallel Opening/Closing Type Gripper

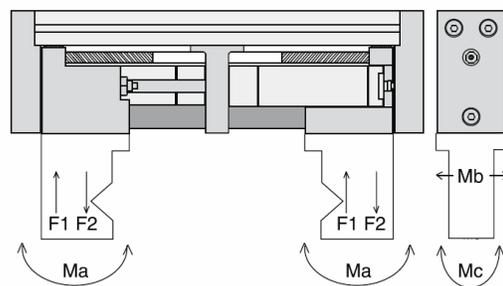
2 Finger 4400N

<b>Force, Each Jaw:</b>	<b>4400N (990 lb.)*</b>
<b>Stroke -200:</b>	<b>200mm (7.87")</b>
<b>Stroke -350:</b>	<b>350mm (13.78")</b>
<b>Weight-200:</b>	<b>50kg (110 lb.)</b>
<b>Weight-350:</b>	<b>73kg (161 lb.)</b>
<b>Max Pressure:</b>	<b>1,700 kPa (250 psi)</b>

\* at 690 kPa (100 psi)



<b>Jaw Torque Ma:</b>	<b>1,300 Nm (952 ft./lb.)</b>
<b>Jaw Torque Mb:</b>	<b>1,400 Nm (1,030 ft./lb.)</b>
<b>Jaw Torque Mc:</b>	<b>1,240 Nm (912 ft./lb.)</b>
<b>Jaw Force F1:</b>	<b>1,790 kg (4,000 lbs.)</b>
<b>Jaw Force F2:</b>	<b>1,452 kg (3,200 lbs.)</b>



# Ordering Information XRAY-1250:

Grippers			
Order Number	Brake	Force, Each Jaw	Stroke
XRAY-1250-100	No	1250N (280lbs.)	100mm (3.94")
XRAY-1250-100-POB	Yes	1250N (280lbs.)	100mm (3.94")
XRAY-1250-200	No	1250N (280lbs.)	200mm (7.87")
XRAY-1250-200-POB	Yes	1250N (280lbs.)	200mm (7.87")
XRAY-1250-350	No	1250N (280lbs.)	350mm (13.78")
XRAY-1250-350-POB	Yes	1250N (280lbs.)	350mm (13.78")

Accessories		
Order Number	Description	Applicable Models
X-KIT-1250-100-COV	Weld Spatter Covers	XRAY-1250-100
X-KIT-1250-200-COV	Weld Spatter Covers	XRAY-1250-200
X-KIT-1250-350-COV	Weld Spatter Covers	XRAY-1250-350
X-KIT-1250-100-POB-COV	Weld Spatter Covers	XRAY-1250-100-POB
X-KIT-1250-200-POB-COV	Weld Spatter Covers	XRAY-1250-200-POB
X-KIT-1250-350-POB-COV	Weld Spatter Covers	XRAY-1250-350-POB
X-KIT-1250-6.5MM	6.5MM Prox. Holder Only	All 1250 Models
X-KIT-1250-12MM	12MM Prox. Holder Only	All 1250 Models
X-KIT-1250-18MM	18MM Prox. Holder Only	All 1250 Models

# Ordering Information XRAY-1250-LBR:

Grippers			
Order Number	Brake	Force, Each Jaw	Stroke
XRAY-1250-100-LBR	No	1250N (280lbs.)	100mm (3.94")
XRAY-1250-100-POB-LBR	Yes	1250N (280lbs.)	100mm (3.94")
XRAY-1250-200-LBR	No	1250N (280lbs.)	200mm (7.87")
XRAY-1250-200-POB-LBR	Yes	1250N (280lbs.)	200mm (7.87")
XRAY-1250-350-LBR	No	1250N (280lbs.)	350mm (13.78")
XRAY-1250-350-POB-LBR	Yes	1250N (280lbs.)	350mm (13.78")

Accessories		
Order Number	Description	Applicable Models
X-KIT-1250-100-LBR-COV	Weld Spatter Covers	XRAY-1250-100
X-KIT-1250-200-LBR-COV	Weld Spatter Covers	XRAY-1250-200
X-KIT-1250-350-LBR-COV	Weld Spatter Covers	XRAY-1250-350
X-KIT-1250-100-POB-LBR-COV	Weld Spatter Covers	XRAY-1250-100-POB
X-KIT-1250-200-POB-LBR-COV	Weld Spatter Covers	XRAY-1250-200-POB
X-KIT-1250-350-POB-LBR-COV	Weld Spatter Covers	XRAY-1250-350-POB

## Ordering Information XRAY-S-2200:

Grippers			
Order Number	Brake	Force, Each Jaw	Stroke
XRAY-S-2200-200	No	2200N (495lbs.)	200mm (7.87")
XRAY-S-2200-200-POB	Yes	2200N (495lbs.)	200mm (7.87")
XRAY-S-2200-350	No	2200N (495lbs.)	350mm (13.78")
XRAY-S-2200-350-POB	Yes	2200N (495lbs.)	350mm (13.78")

Accessories		
Order Number	Description	Applicable Models
XS-KIT-POB	Field Installable Fail Safe	All XRAY-S-2200 Models
XS-KIT-200-12MM	12MM Prox. Holder Only	XRAY-S-2200-200
XS-KIT-350-12MM	12MM Prox. Holder Only	XRAY-S-2200-350

## Ordering Information Tandem Grippers:

Grippers		
Order Number	Force, Each Jaw	Stroke
Tandem-XRAY-1250-100	2500N (560lbs)	100mm (3.94")
Tandem-XRAY-1250-200	2500N (560lbs)	200mm (7.87")
Tandem-XRAY-1250-350	2500N (560lbs)	350mm (13.78")
Tandem-XRAY-S-2200-200	4400N (990lbs.)	200mm (7.87")
Tandem-XRAY-S-2200-350	4400N (990lbs.)	350mm (13.78")

Accessories		
Order Number	Description	Applicable Models
X-KIT-1250-6.5MM	6.5MM Prox. Holder Only	All Tandem-1250 Models
X-KIT-1250-12MM	12MM Prox. Holder Only	All 1250 Models
X-KIT-1250-18MM	18MM Prox. Holder Only	All 1250 Models
XS-KIT-200-12MM	12MM Prox. Holder Only	Tandem-XRAY-S-2200-200
XS-KIT-350-12MM	12MM Prox. Holder Only	Tandem-XRAY-S-2200-350



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### **Warranty And Disclaimer**

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Written permission must be obtained from Zaytran Inc., prior to returning any goods for warranty inspection purposes.

Zaytran Inc. reserves the right to change designs and specifications without notice. All data and dimensions in the catalog have been thoroughly checked for accuracy, however we cannot assume responsibility for possible errors or omissions.