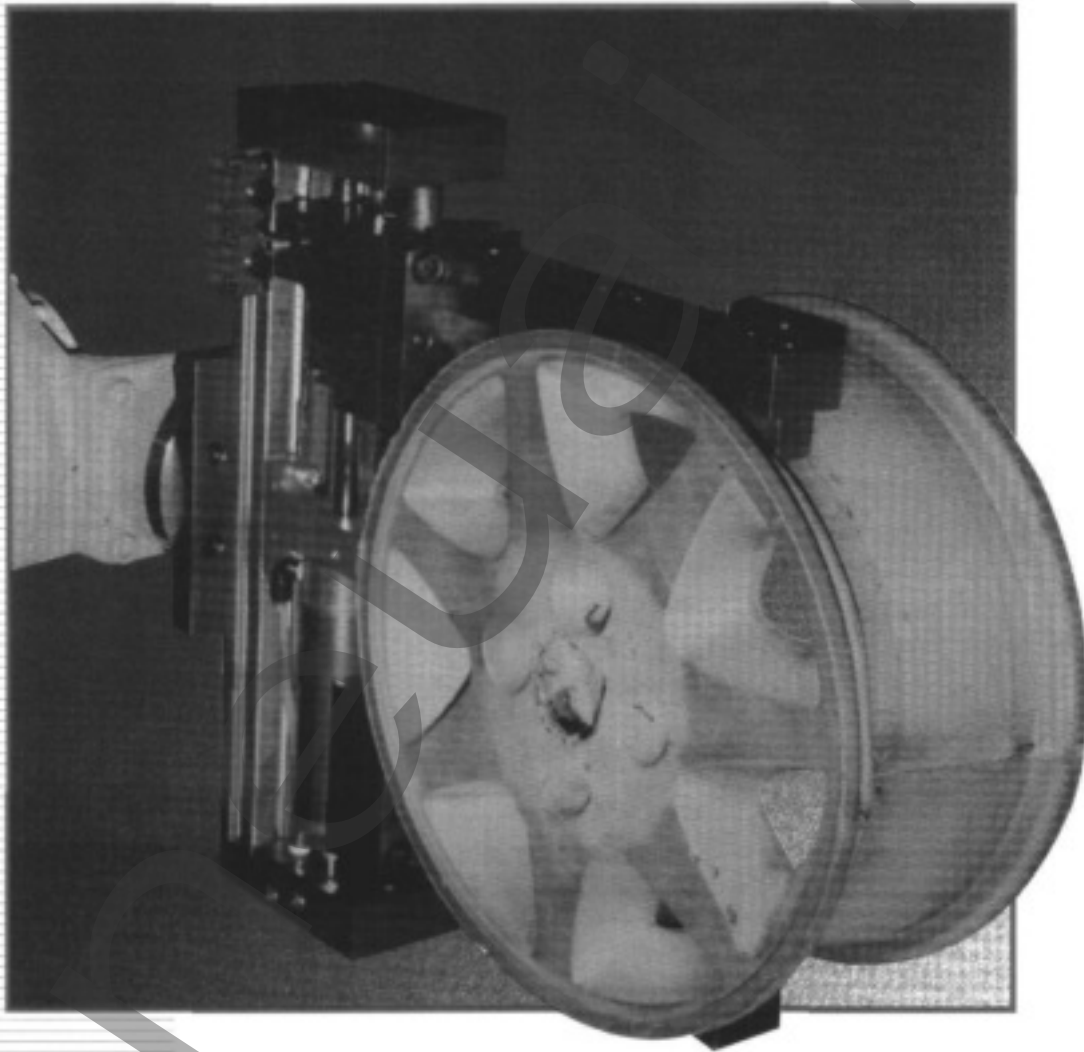


Parallel Opening/Closing Type Gripper

# *XRAY*<sup>®</sup> Series

2 Finger

450N, 1250N, 2500N



Compact gripper with double helix synchronization  
High load carrying ceramic bearings  
Ultra accurate centering  
Long strokes for a wide range of parts  
Auto switch ready

# XRAY

## XRAY Grippers - Extreme Force and Torque

The XRAY concept 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 grippers use a ceramic bearing system to isolate the precision jaw positioning system from jaw torque and force. The ceramic bearing rail allows

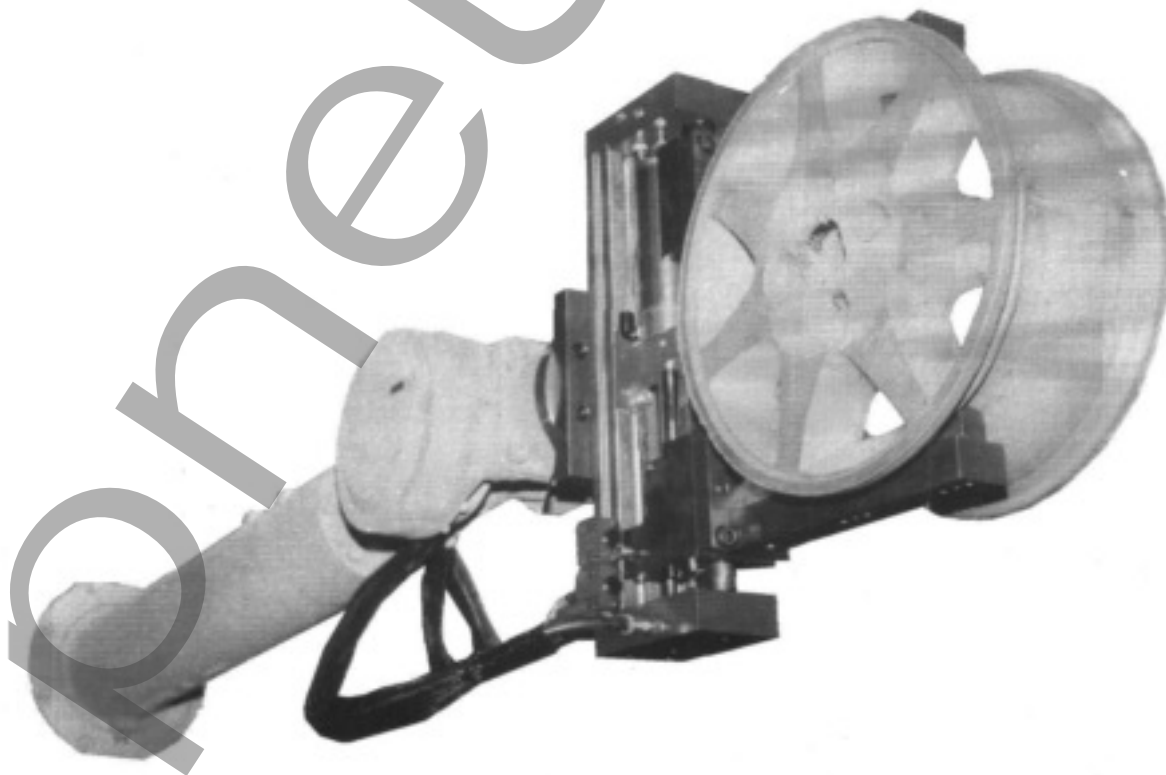
the grippers to be small and light weight while delivering jaw force in excess of 2500N (560 pounds) and to tolerate jaw torque of 1200NM (880 ft-lb). Multiple unit arrays and special strokes are facilitated by the XRAY's flexible architecture. XRAY's truly deliver:

***"TWICE THE FORCE...HALF THE SIZE".***

## Patented Synchronous Technology - Extended Life

The synchronous XRAY utilizes US patent number 4,591,199 and 5,657,973. The force and synchronizing double helix are independent systems. The double helix works only to center the part to .025mm ( $\pm 0.001$  inches).

All of the gripping force is provided by two pistons that are driven pneumatically. The independence of the force and synchronization systems provides precision over the typical 10,000,000+ cycle life of the unit.

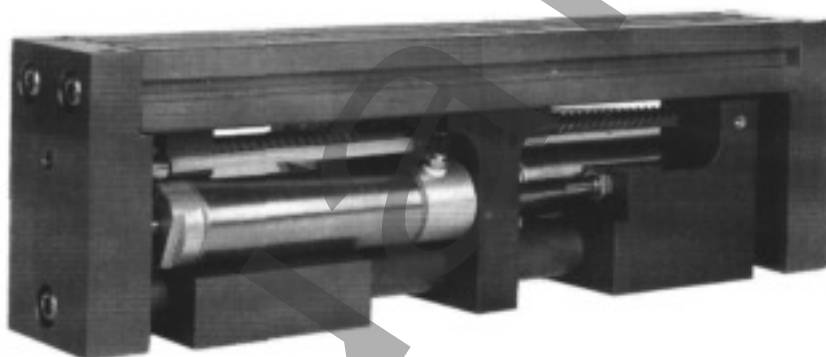


## RUGGED CONSTRUCTION-LOW COST OF OWNERSHIP

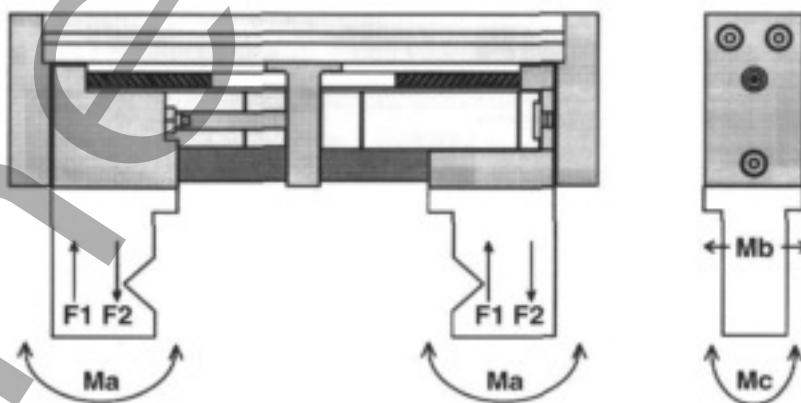
XRAY takes advantage of dynamic developments in both material science and automation technology to offer new horizons of toughness and cost efficiency. The cost of ownership of the XRAY is minimized by the use of off-the-shelf stainless steel cylinders. These cylinders include magnetic sensing rings for enhanced flexibility in sensing.

Unparalleled rigidity is achieved by combining a 32mm ground rod and ZAYTRAN's proprietary ceramic bearing technology. Anti-rotation of the jaw mounting system is achieved with polyamide imide bearings running in guides that are precision machined in the extruded backbone of the system. All of these moving members are lubricated for the life of the XRAY.

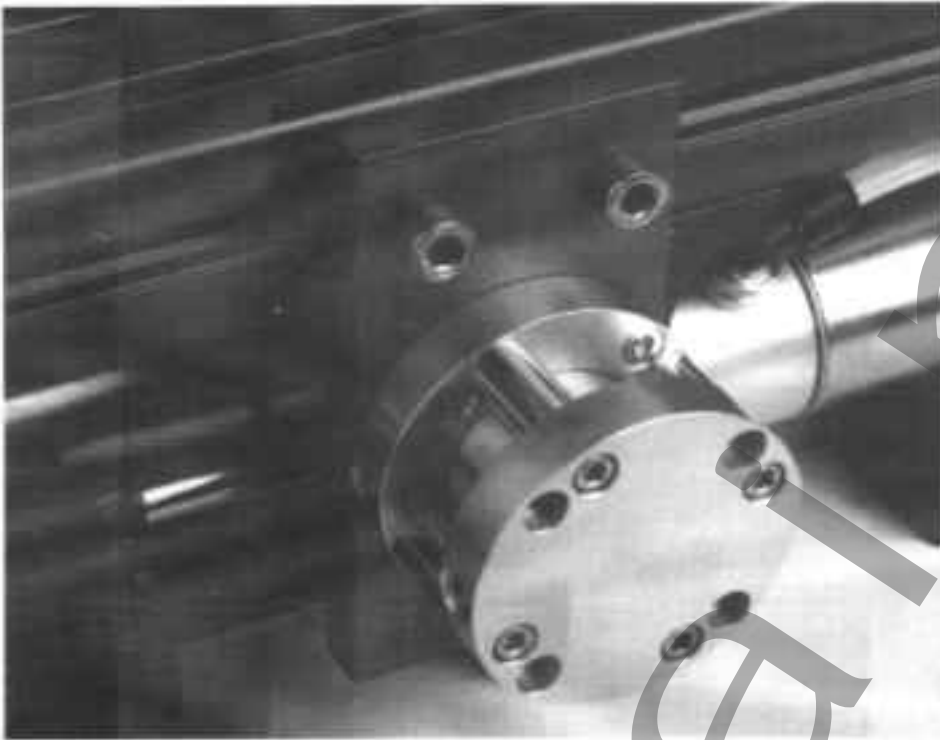
The application flexibility of the XRAY is extended by the use of an extruded aluminum backbone that provides multiple options for mounting the gripper and mounting sensors to the gripper as well as reducing the weight of the gripper.



## XRAY JAW TORQUE & FORCE



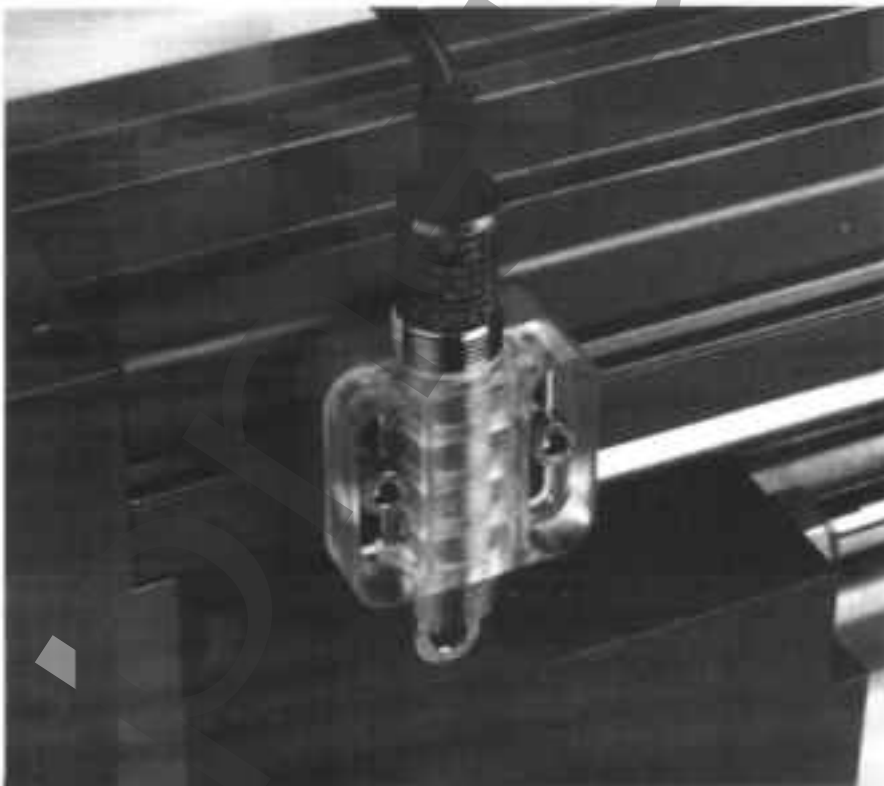
MODEL	Ma : Nm (ft-lbs)	Mb : Nm (ft-lbs)	Mc : Nm (ft-lbs)	F1 : kg (lbs)	F2 : kg (lbs)
XRAY-450	225 (165)	225 (165)	160 (117)	224 (492)	136 (305)
XRAY-1250	550 (405)	600 (440)	550 (405)	670 (1500)	450 (1,000)
Tandem XRAY-1250	1100 (810)	1200 (880)	1100 (810)	1340 (3000)	900 (2,000)



### OPTIONAL POWER-OFF BRAKE

In applications that require the part be held even when pneumatic power is lost, the Power-Off Brake 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.

Either an encompassing jaw system or jaws with compliance must be used with this option. Jarring can cause some jaw movement.



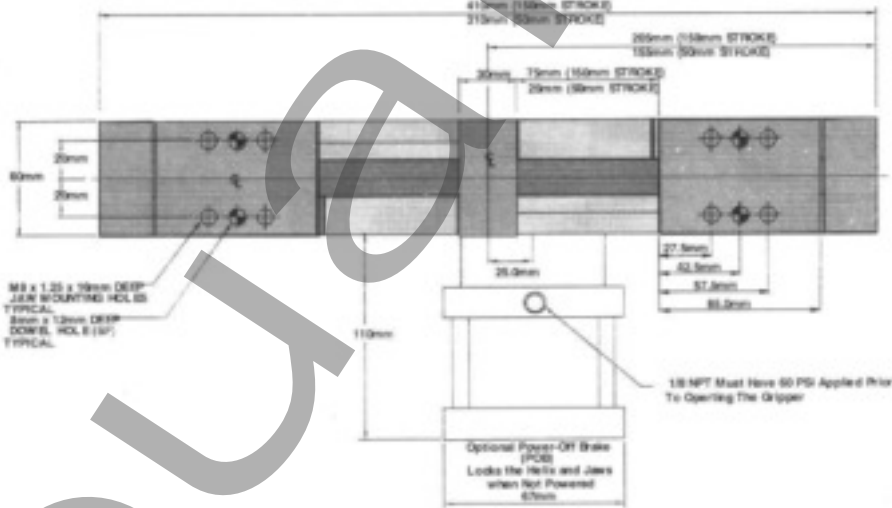
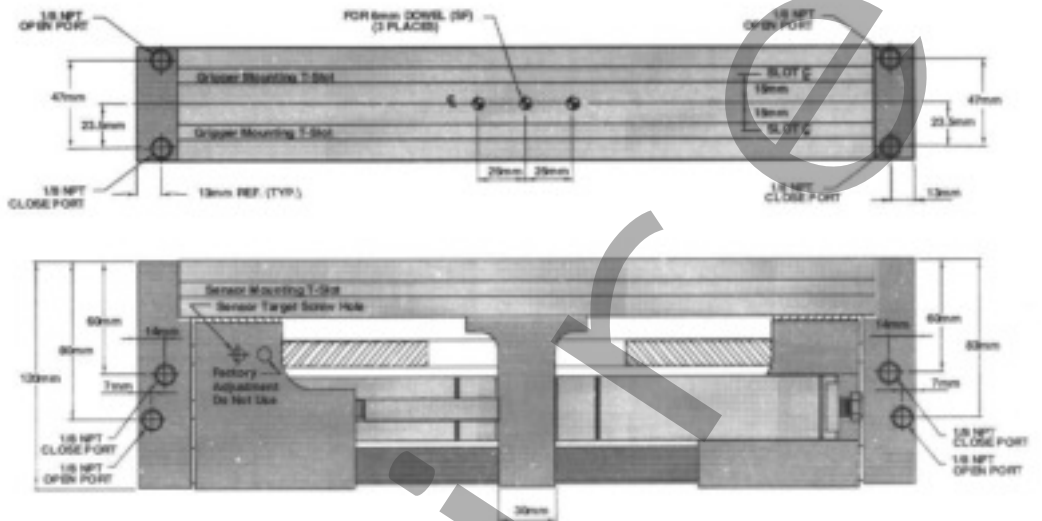
### OPTIONAL SWITCH KITS

The switch mounting rail permits a broad range of switch configurations to be used. Kits are available to mount 6.5mm, 12mm, and 18mm standard, tubular proximity switches.

**XRAY-450-50/150**

Gripping Force, Open & Close Each Jaw  
 @ 690 kPa (100 psi): 450N (100lb)  
 With X-In-2:1 Option: 900N (200lb)  
 Stroke -50: 50mm (1.97")  
 Stroke -150: 150mm (5.905")  
 Weight -50: 4.6kg (10.2lb)  
 Weight -150: 5.2kg (11.3lb)  
 Max Pressure: 1,700kPa (250 psi)

Note: Eight T-Nuts (8mm) are supplied to mount gripper. All eight should be used.



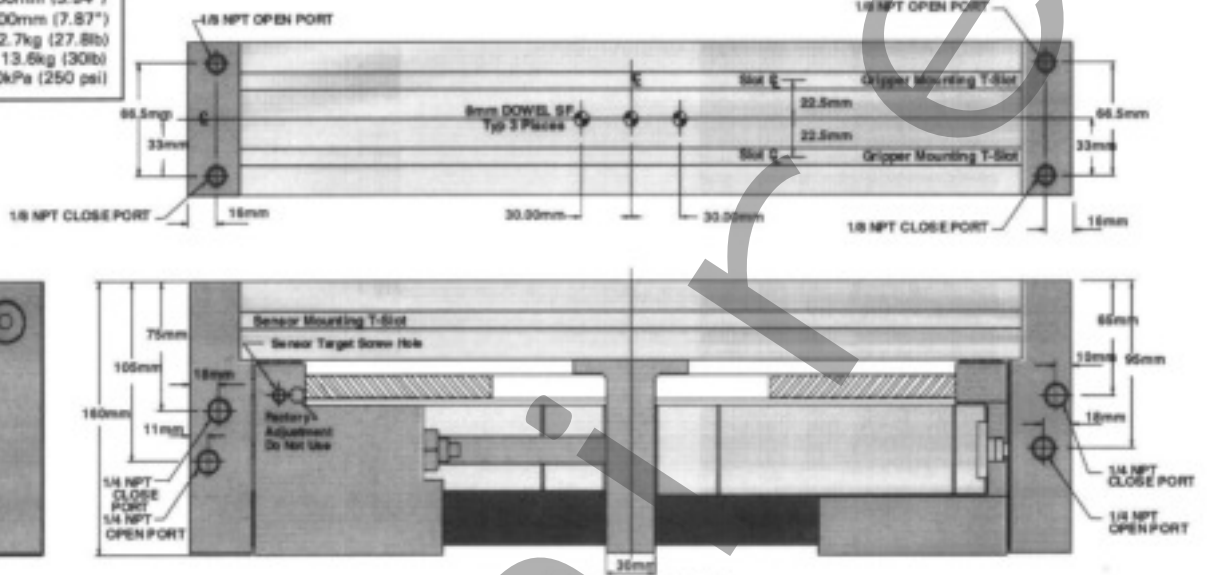
Order Number	Grippers	Brake	Force, Each Jaw	Stroke
XRAY-450-50		No	450N (100lbs)	50mm (1.97")
XRAY-450-50-POB		Yes	450N (100lbs)	50mm (1.97")
XRAY-450-150		No	450N (100lbs)	150mm (5.905")
XRAY-450-150-POB		Yes	450N (100lbs)	150mm (5.905")

Gripper Accessories & Options			Applicable Models
X-COV-450-50	Factory Option	Weld Spatter Covers	XRAY-450-50
X-COV-450-150	Factory Option	Weld Spatter Covers	XRAY-450-150
X-KIT-450-6.5MM	Holder Only	To Mount 6.5mm Prox.	All Models
X-KIT-450-12MM	Holder Only	To Mount 12mm Prox.	All Models
X-KIT-450-18MM	Holder Only	To Mount 18mm Prox.	All Models

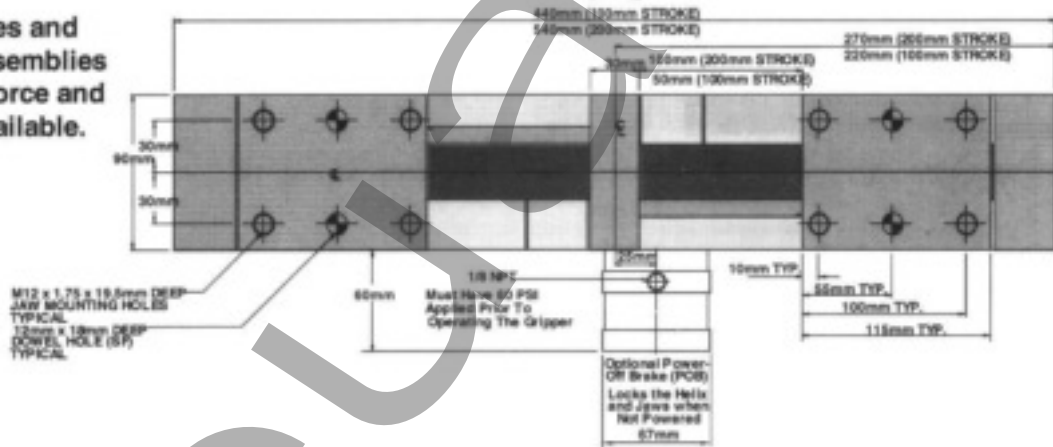
**XRAY-1250-100/200**

Gripping Force, Open & Close Each Jaw  
 @ 890 kPa (100 psi): 1250N (280lb)  
 With X-Int-2:1 Option: 2500N (560lb)  
 Stroke -100: 100mm (3.94")  
 Stroke -200: 200mm (7.87")  
 Weight -100: 12.7kg (27.8lb)  
 Weight -200: 13.6kg (30lb)  
 Max Pressure: 1700kPa (250 psi)

Note: Eight T-Nuts (8mm) are supplied to mount gripper. All eight should be used.



Special strokes and Multiple unit assemblies (for increased force and torque) are available.



Order Number	Grippers	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")
Tandem XRAY-1250-200		No	2500N (560lbs)	200mm (7.87")

Gripper Accessories & Options	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-1250-6.5MM	Holder Only To Mount 6.5mm Prox. All Models
X-KIT-1250-12MM	Holder Only To Mount 12mm Prox. All Models
X-KIT-1250-18MM	Holder Only To Mount 18mm Prox. All Models