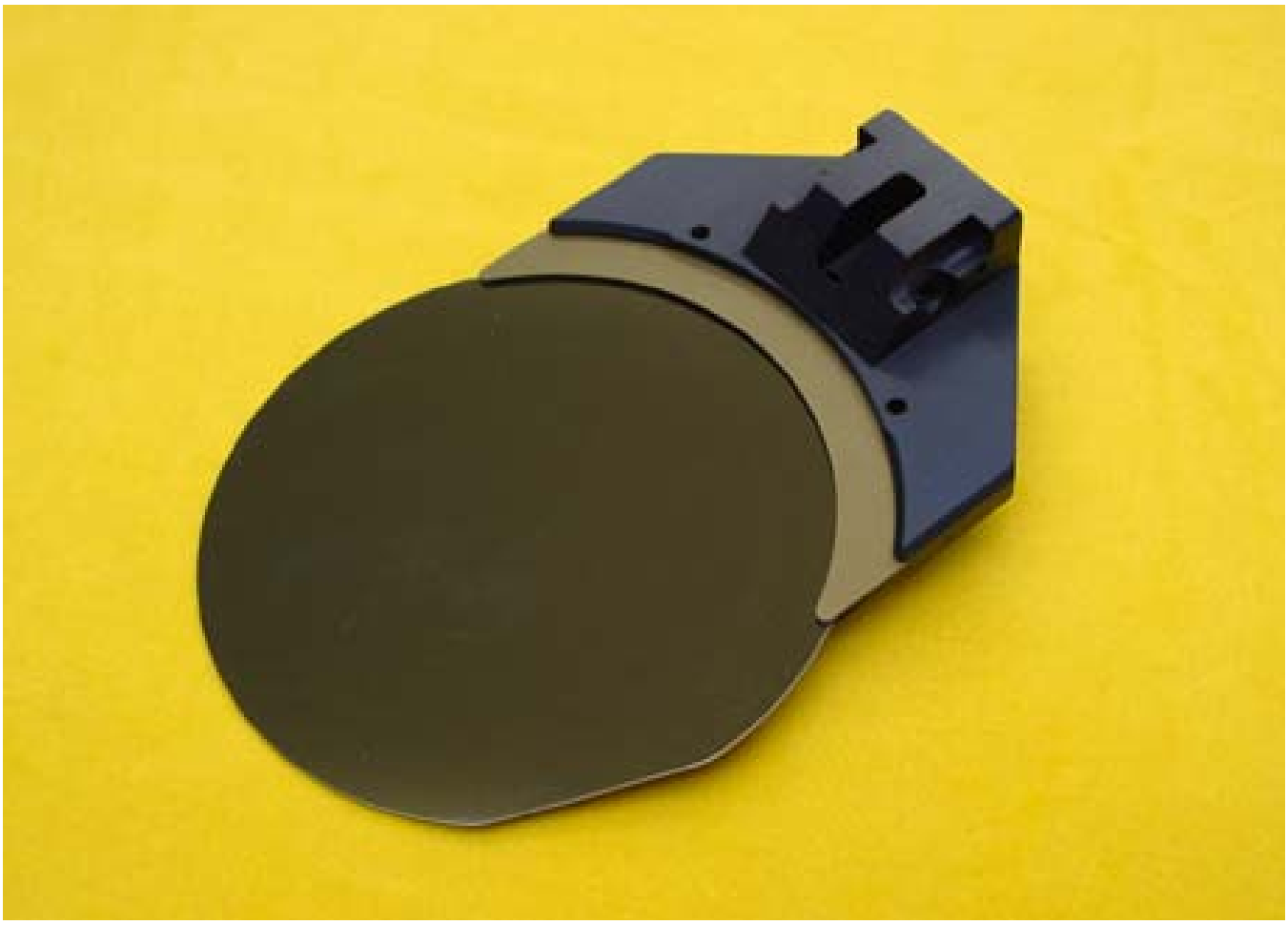


TALON® I FAIL-SAFE

TAL-I SERIES

WAFER EDGE-GRIPPING *SMART* END-EFFECTORS

FEATURES

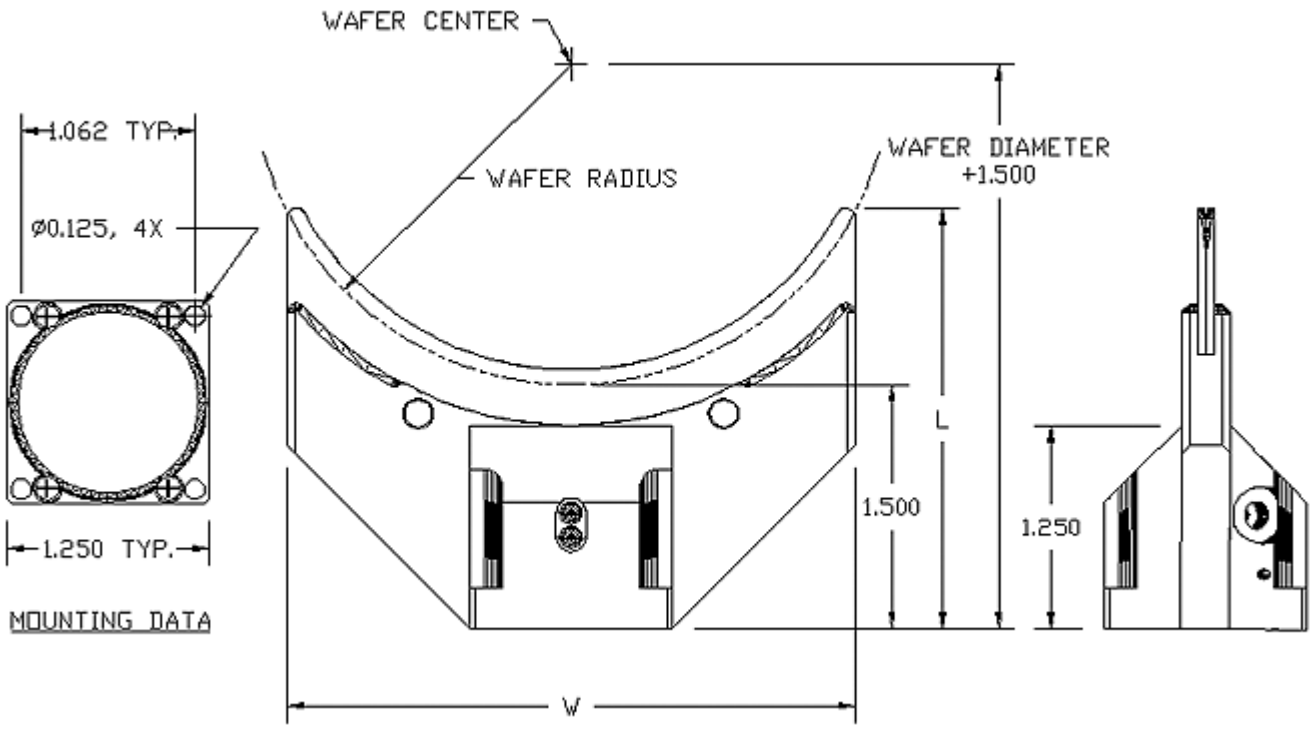
- Surpasses Semi® Specs
- Operates with vacuum or pressure
- 100% fail safe or conventional
- No backside contamination or damage
- Electro-static dissipating
- Optical wafer sense
- Holds flatted & non-flatted wafers
- Works with any wafer carrier
- Adaptable to any robot
- High holding forces - 5 Gs min.
- Light weight construction
- High speed operation
- Patents pending

The **TALON® I** series of 1mm edge gripping, vacuum or pressure driven end-effectors are supplied in configurations for 2 inch to 200 mm wafers. The TALON® I is designed as a *fail-safe* end-effector which surpasses Semi® specifications for non-intrusion, 1mm edge gripping, wafer handling and can also be supplied in a conventional (non-failsafe) configuration. The TALON® I operates on 25 inches of vacuum or 15 psi, permitting operation in *atmosphere or vacuum* and can be employed without any system modifications, except mounting. The fail-safe feature is standard on the TALON® I and will retain the wafer being transported in case of ***any*** catastrophic system failure. The TALON® I provides a minimum 5 "G" holding force which translates into faster operating speeds for robots. Positive holding, fast operating speeds, operation in atmosphere or vacuum and no back-side contamination all come standard with the TALON® I. The TALON® I can also negate failures from inadequate vacuum supplies and small system leaks when used in the pressure mode and can signal the robot when safe wafer positioning conditions exist; this is a standard supplied feature. Additionally the TALON® I can be supplied with photonic non-contact sensors to determine wafer presence and exact location as well as an ESD dissipation system which will discharge static electric charges to prevent damage to the device being handled.

EEI END-EFFECTORS, INC.

1230 Coleman Avenue, Santa Clara, California 95050-4338
408/727-0100 FAX 408/727-2100 www.fjaind.com

"Giving Robotics A Hand"



PART NUMBER FORMAT: TAL - I - *TYPE - DRIVE - VERSION - OPTIONS*
EXAMPLE: TAL - I - F - 300 - ES - PS

TYPE: C — CONVENTIONAL: This configuration permits the use of the Talon I without any changes to the robotic logic system or vacuum supply. It is provided as a directly replaceable and 100% compatible substitute for vacuum gripping end-effectors. Note: This is not fail-safe.

F — FAIL-SAFE: The fail safe configuration assures that the product being handled is always held securely even though the drive system may fail. This configuration requires a custom vacuum/pressure application routine which is essentially the inverse of a standard vacuum clamping end-effector routine.

DRIVE: 1 — Pressure Driven; 2 — Vacuum Driven

VERSION:

DASH NO.	D	L	W
-020	2.00in./50mm	1.755	1.50in./38.1mm
-025	2.50in./63mm	1.893	2.00in./50.8mm
-030	3.00in./76mm	2.051	2.50in./63.5mm
-100	4.00in./100mm	2.407	
3.50in./88.9mm			
-125	5.00in./125mm	2.411	
4.00in./101.6mm			
-150	6.00in./150mm	2.745	

OPTIONS: ES — The ES option designation signifies an Electro-Static-Discharge (ESD) System which is built into the Talon end-effector; This system permits the slow discharge of static electricity by contacting the wafer's edge and routing the charge through a dissipation resistor to ground.

PS — The PS option designation signifies a Photon Sense System which is built into the Talon end-effector. This system permits the visual interrogation of the wafer storage or holding device for wafer presence and location. The sensor is located on the Talon's clamping center-line and can also be used for positioning.