

IDC Ergoloader PGV (Single)



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Overview

IDC's 300mm "single" Person Guided Vehicle, the Ergoloader, is designed to facilitate the manual intrabay transfer of 300mm FOUPs between stockers and process tools within a bay. It is an ergonomically correct device that allows operators to safely handle 300mm FOUPs that typically weigh up to 8 Kg each. The PGV can easily interface with any process tool that conforms to the SEMI E15.1 loadport standard, and is equipped with a SEMI E83 compatible PGV docking flange. Typically applications for PGV loading within a fab include: Metrology Steps, Engineering/Hot Lots, Intrabay AMHS back-up (Hoist Fail-over), and Low Throughput Manual Bays.

Features:

"Single" Design for one FOUP Held at 900mm Height Minimizes Operator Work Exertion

Ergonomic Loading Device with Cam Actuated and Dampened Z Motion for Efficient and Safe FOUP Transfer

Easy to Maneuver Push Vehicle with FOUP facing forward

Easy Nose-In Docking to right and left with Self-Aligning and Latching Docking Mechanism

Vibration Absorbing Suspension with Free Castor Wheels and "Zero" Turning Radius for Easy and Safe Transport

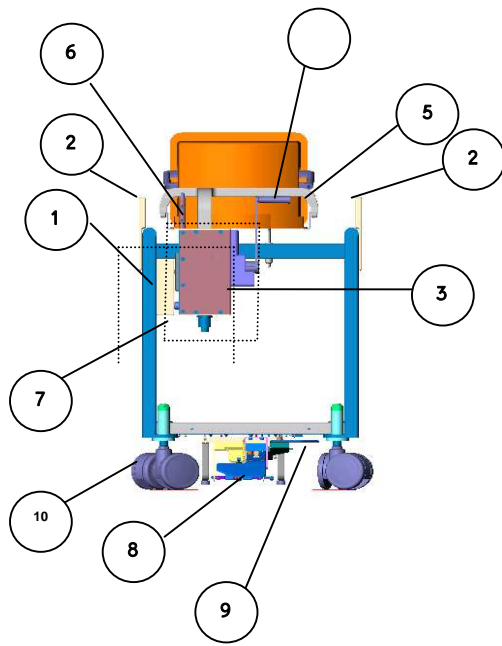
Class 1 Cleanroom Compatible Design with Electro-Polished Stainless Steel Surfaces Provide Easy Cleaning

I.D.C. INDUSTRIES DEVELOPMENT CORPORATION (1996) LTD.

New Industrial Park, Hamada St. P.O.B. 252, Yokneam 20692, ISRAEL

Tel: 972-4-959-9898 Fax: 972-4-959-9899

Web: www.idc-rd.com E-mail: idc@idc-rd.com



DESCRIPTION	ITEM #
CART	1
PUSH HANDLES	2
Z-BOX	3
Z-LEVER	4
TRANSFER GRIPPER	5
X- HANDLE	6
TRANSFER MECHANISMS	7
DOCKING PEDAL	8
RELEASE PEDAL	9
WHEELS/CASTORS	10

System Specifications

Vehicle Configuration

Vehicle type:	Single FOUN Docking and Transfer Mechanisms
Vehicle Weight:	65Kg
Length:	0.610m
Depth:	0.610m
Height:	1.260m
Gripper type:	Passive, Conveyor Rail Gripper
Safety Systems:	Designed to meet S2/CE

Performance

Payload:	300mm FOUN
Docking Cycle Time:	5 sec
Transfer Cycle Time:	8 sec
UnDock Cycle Time:	2 sec

Facility Requirements

Electrical Power:	None
Floor Loading:	Vehicle 65 Kg
Loadports:	SEMI E15.1-0999/ E64-0698
Docking Flange:	SEMI E83-0699

PGV Operation:

1. Push PGV Along Bay, Stopping Close to Process Tool Loadport
2. Perform Dock and Loading Operations:
 - 2.1 Depress Foot Pedal To Extend Docking Mechanism
 - 2.2 Push Vehicle toward Loadport, Aided by Alignment Marks Until Docking Mechanisms Latches onto the Docking Bar
 - 2.3 Swing Cam Arm Through 90° to Lift FOUN
 - 2.4 Push FOUN Carriage, Extending FOUN Over Loadport KC
 - 2.5 Release Cam Arm 90° Lowering FOUN Onto Loadport KC
 - 2.6 Pull FOUN Carriage Back Over PGV Platform
3. Depress Release Foot Pedal to Undock From Loadport