



Gantry Robots



Designed for Today Engineered for Tomorrow



***Integrated Factory Automation Solutions
Enhancing Productivity and Capital Asset Performance***



Gantries Designed For:

- **Machine Tool Loading**
- **Material Handling**
- **Pick-N-Place**

Wes-Tech gantries have a demonstrated reputation since 1993 with hundreds of successful installations.



Practical, and economical solutions have been the number one Wes-Tech priority for 30 years.

The Wes-Tech TCL Gantry System is the World Class blend of modular parts handling, specialized gripper design, and standardized controls.

The standard machine tool interface simplifies integration of the loader to most lathes and machining centers and grinders.

In combination with other Wes-Tech products, such as Tech-Trak[®], the TCL can achieve completely integrated machine tool solutions.



Gantry Loaders: The Ideal Operators!



- ◆ Can Operate Two Machines
- ◆ Never Needs a Break or Lunch
- ◆ Provides Consistent Load Times
- ◆ Low Wage With No Overtime

All the Benefits You Would Expect From The Leading Gantry System



- ✓ Unattended loading of CNC lathes, mills, and grinders
- ✓ Small, medium or large lot sizes
- ✓ Integrated parts feeding and handling
- ✓ Three programmable servo axes
- ✓ Fast traverse speed up to 3 m/sec.
- ✓ Conversational programming simplicity
- ✓ Built-in diagnostics
- ✓ Handles 2 parts each weighing up to 35 Kg



Key Features



MODULAR MECHANICAL SYSTEM

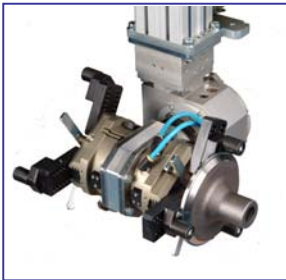
Modular multi-axis handling system comprised standard slides, arms, grippers, wrists and pallet magazines that can be configured to accommodate nearly all machine tool loading, material handling, and pick-n-place applications.

- ✓ Modular gripper system to handle two parts at weights up to 75 kg. each.
- ✓ Precision linear guideways reduce friction and provide smooth precise motion.
- ✓ Rugged rack and pinion drive system.
- ✓ No maintenance associated with belts or chains.

CONFIGURABLE PARTS FEEDING SYSTEM

Modular part magazines create simple work cell configurations. Combination with other Wes-Tech products can achieve completely integrated machine tool solutions.

- ✓ Modular grippers for prismatic parts
- ✓ Shaft grippers for turned parts.



CONTROLS SYSTEM

- ✓ Standard versatile CNC control system with menu-driven subroutines for part-stacking, blank-length measurement, and part re-grip.
- ✓ Menu-driven programming allows for manual, diagnostic, or automatic modes of operation.
- ✓ “Step Through” teach mode simplifies new part programming by requiring only new end points to be taught.
- ✓ Hand-held “Teach” Pendant makes it simple to “walk” the loader to the desired end points.
- ✓ RS-232 port provides for program download from external devices.
- ✓ Custom programming is available for interfacing with peripheral devices in the work cell.





Gantry Models: 3-Axis

Gantry Loader Specifications TCL Series

STANDARD

- Control: Siemens*
- Servo Drive: Siemens*
- Teach Method: Interactive Conversational Prompting

* Other Available



FEATURES	TCL-206	TCL-210	TCL-220	TCL-240	TCL-270
Handling Capacity					
	2 X 6 lb. (2 X 3 kg.)	2 X 11 lb. (2 X 5 kg.)	2 X 22 lb. (2 X 10 kg.)	2 X 44 lb. (2 X 20 kg.)	2 X 77 lb. (2 X 35 kg.)
Horizontal Axis (Slide)					
Type	Servo 50	Servo 50	Servo 50	Servo 63	Servo 63
Std. Stroke (Servo)	114" (2884)	114" (2884)	114" (2884)	146" (3717)	146" (3717)
Speed (Max.)	124" (3140) / sec	124" (3140) / sec	124" (3140) / sec	70" (1778) / sec.	70" (1778) / sec.
Repeatability	± 0.004" (0.1)	± 0.004" (0.1)	± 0.004" (0.1)	± 0.004" (0.1)	± 0.008" (0.2)
Vertical Axis (Arm)					
Type	80S (80 X 80)	80S (80 X 80)	100S (100 X 100)	120S (120 X 120)	120S (120 X 120)
Std. Stroke (Servo)	47" (1187)	47" (1187)	51" (1287)	48" (1227)	48" (1227)
Speed (Max.)	125" (3168) / sec	125" (3168) / sec	111" (2826) / sec.	70" (1778) / sec.	70" (1778) / sec.
Repeatability	± 0.002" (0.05)	± 0.002" (0.05)	± 0.002" (0.05)	± 0.002" (0.05)	± 0.004" (0.1)
Rotary Axis (Wrist)					
Type	2 Position	50S	63S	63S	80S
Rotation (Servo)	Pneumatic Wrist	Unlimited	Unlimited	Unlimited	Unlimited
Speed (Max.)		220° / sec.	220° / sec.	220° / sec.	220° / sec.
Repeatability		± 0.05°	± 0.05°	± 0.05°	± 0.05°
Double-Sided Chucking Gripper					
Pneumatic 60-85 psi. (4-6 Bar)	Yes	Yes	Yes		
Type	3-Jaw Concentric	CG-10	CG-20	CG-40	CG-70
Capacity	Gripper	2 X 11 lb. (5 kg.)	2 X 22 lb. (10 kg.)	2 X 44 lb. (20 kg.)	2 X 77 lb. (35 kg.)
Max. Workpiece Dia.		6.7" (170)	8.3" (211)	13.4" (340)	14" (356)
Finger Stroke		0.6" (15)	0.8" (20)	1.4" (36)	1.4" (36)
Repeatability		± 0.002" (0.05)	± 0.002" (0.05)	± 0.002" (0.05)	± 0.002" (0.05)
Double-Sided Shaft Gripper					
Type	Custom 2-Jaw	SG-10	SG-20	Custom	Custom
Capacity	Parallel Gripper	2 X 11 lb. (5 kg.)	2 X 22 lb. (10 kg.)	Configurations	Configurations
Workpiece Diameters		0.787"-2.36" (20-60)	0.787"-3.13" (20-80) 1.57"-3.94" (40-100) 2.36"-4.72" (60-120)	Built to Specification	Built to Specification
Repeatability		± 0.002" (0.05)	± 0.002" (0.05)		

Dimensions in parenthesis are millimeters. Specifications provided for general information purpose only and are subject to change without notice. Machine tool model and part configuration determine actual specification. Special sizes and capacities are available. Consult your sales agent.



Gantry Models: 4-Axis

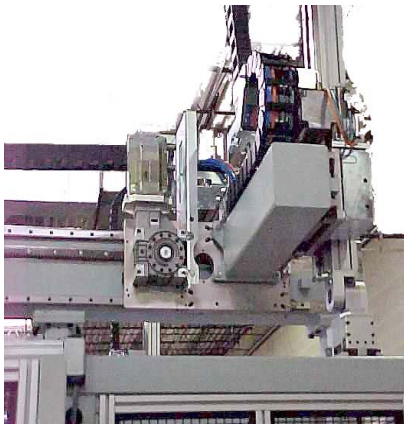
Gantry Loader Specifications

TCL Series



STANDARD

- Control: Siemens*
- Servo Drive: Siemens*
- Teach Method: Interactive Conversational Prompting



* Other Available

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FEATURES	TCL-210	TCL-220
Handling Capacity		
	2 X 11 lb. (2 X 5 kg.)	2 X 22 lb. (2 X 10 kg.)
Horizontal Axis (Slide) "X"		
Type	Servo 90	Servo 91
Std. Stroke (Servo)	113" (2880)	141" (3570)
Speed (Max.)	139" (3530) / sec	139" (3530) / sec
Repeatability	± 0.004" (0.1)	± 0.004" (0.1)
Horizontal Axis (Slide) "Y"		
Type	Servo 50	Servo 50
Std. Stroke (Servo)	8" (203)	8" (203)
Speed (Max.)	124" (3140) / sec	124" (3140) / sec
Repeatability	± 0.004" (0.1)	± 0.004" (0.1)
Vertical Axis (Arm)		
Type	80S (80 X 80)	100S (100 X 100)
Std. Stroke (Servo)	47" (1187)	51" (1287)
Speed (Max.)	125" (3168) / sec	111" (2826) / sec.
Repeatability	± 0.002" (0.05)	± 0.002" (0.05)
Rotary Axis (Wrist)		
Type	50S	63S
Rotation (Servo)	Unlimited	Unlimited
Speed (Max.)	220° / sec.	220° / sec.
Repeatability	± 0.05°	± 0.05°



Pallet Magazines

Pallet Magazines PM Series

Dimensions in parenthesis are millimeters. Specifications provided for general information purpose only and are subject to change without notice. Machine tool model and part configuration determine actual specification. Special sizes and capacities are available. Consult your sales agent.



FEATURES	PM-5	PM-7
Length & Width		
	93" X 38" (2362 X 965)	143" X 38" (3632 X 965)
Maximum Weight Capacity		
Standard:	800 lbs. (363 kg.)	800 lbs. (363 kg.)
Optional:	1200 lbs. (545 kg.)	1201 lbs. (545 kg.)
Maximum Pallet Quantity		
Pallet Model 155	32	48
Pallet Model 245	20	30
Pallet Model 300	16	24

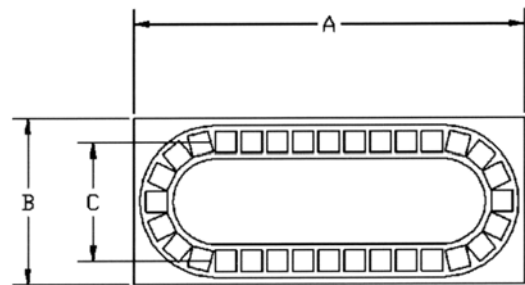
PALLETS	155	245	300
Dimensions			
	5.12" X 5.12" (130 X 130)	7.76" X 7.76" (197 X 197)	10.24" X 10.24" (260 X 260)
Spacing			
	6.25" (158.75)	10" (254)	12.5" (317.5)
Index Time			
	3 seconds	4.6 seconds	6 seconds



Pallet Magazines

Technical Data

A carousel parts magazine is available in a range of lengths and pallet sizes. Interchangeable standard tooling is designed for quick, efficient changeovers. Castings, shafts, and sawed blanks can all be fed on this versatile system.



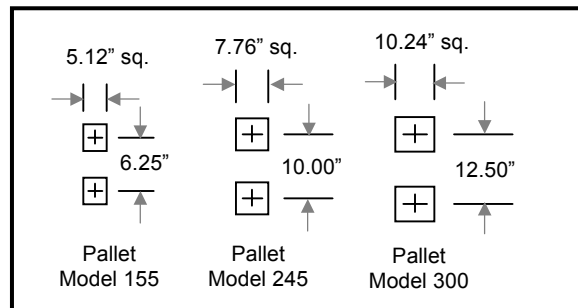
WORK PIECE SIZE

Diameter vs Pallet Size	
Pallet Type	Maximum Workpiece Diameter
155	6.1" (155)
245	8.3" (210)
300	11.8" (300)

Dimensions in parenthesis are millimeters. Maximum chucking part diameter is determined by gripper opening or pallet spacing. Dependent on pallet magazine use.

Pallet Magazine Models

	PM 5	PM 7
A	93" (2362)	143" (3632)
B	38" (965)	38" (965)
C	28.5" (724)	28.5" (724)



Maximum Pallet Quantities

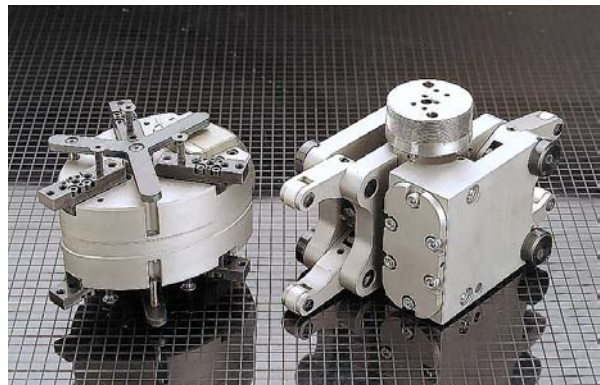
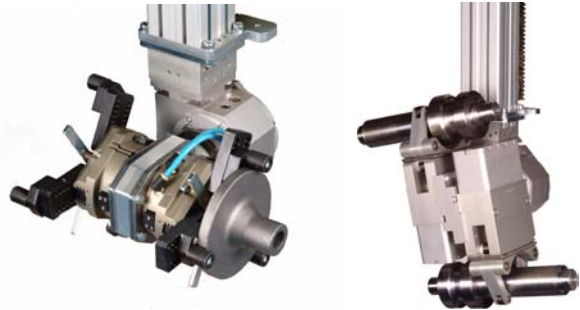
Pallet Model	PM-5	PM-7
155	32	48
245	20	30
300	16	24



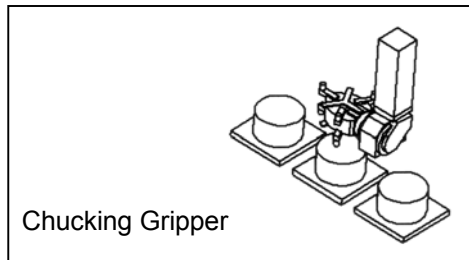
Grippers

Technical Data

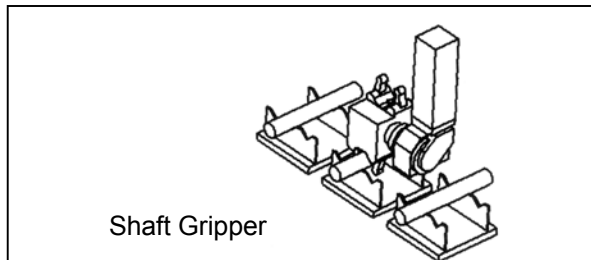
The highly engineered features of the standard grippers enhance the flexibility of the loading system. Compact size, long stroke and a broad range of grip sizes provide cost effective solutions on the plant floor. For chucked parts, the built-in pusher ensures positive registration in the chuck. The shaft grippers provide constant centerline gripping and reduce the requirements for re-teaching. The Quick Change Gripper System ensures fast setups with no hoses or wires.



Standard Chucking or Shaft Gripper



Chucking Gripper



Shaft Gripper

Gripper Type vs Diameter	
Chucking Gripper	Maximum Workpiece Diameter
CG-10	6.7" (170)
CG-20	8.3" (210)
CG-40	13.4" (340)

Maximum chucking part diameter is determined by gripper opening or pallet spacing. Dependent on pallet magazine use.

Gripper Type vs Diameter		
Shaft Gripper	1 Part/Pallet Max. Gripping Dia.	2 Part/Pallet Max. Gripping Dia.
SG-10	0.79"-2.36"	0.78"-1.57" Pallet 155
SG-20	0.79"-3.15" 1.57"-3.94" 2.36"-4.72"	0.78"-1.57" Pallet 245
SG-40	1.96"-4.72" 3.15"-5.90"	1.96"-3.15" Pallet 300



Parts & Accessories



Part Reversing Station



Shaft Reversing Table

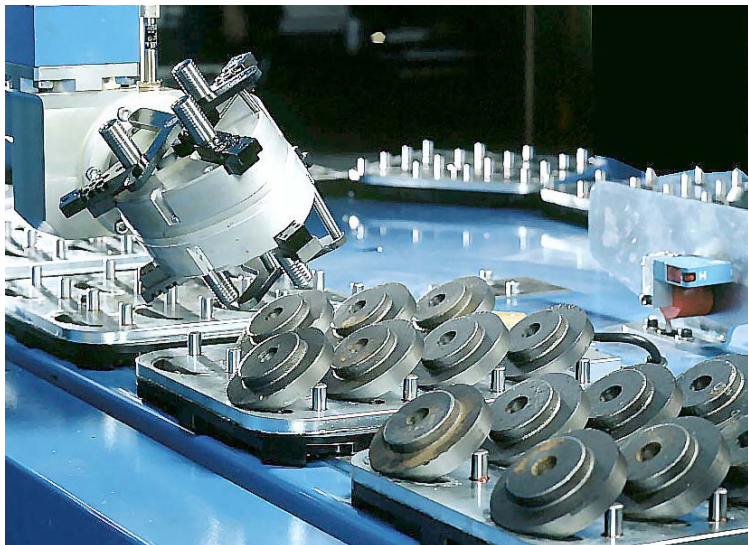


Robotic Loading Fixture

Regardless of how unique your needs are, Wes-Tech will provide you with all custom fixturing and accessories you need for a totally integrated application solution.



Custom Pallet Fixturing





Hundreds of totally integrated applications since 1993

