

MODULAR MATERIAL HANDLING SYSTEM





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ABOUT US



"Service Disabled Veteran Owned Small Business"



ASTUBE is a system of resin coated steel tubing, steel bolt-together connectors, conveyors, casters, fasteners, and various accessories that allow our customers to design, build and implement modular material handling devices and operator assist devices.

Successful implementation of the **FASTUBE** system can result in increased productivity, improved ergonomics, and quality/safety gains, leading to increased profitability.

By utilizing the **FASTUBE** system as a tool, many companies have progressed toward their internal goals of practicing Lean Manufacturing Principles, eliminating waste in their process, and creating an environment that promotes continuous process improvement.

FASTUBE provides on-site recommendations and shop floor concept development to assist you in achieving your goals in process improvement through the implementation of the **FASTUBE** system.

Visit us on:



http://www.linkedin.com/company/fastube-llc



http://www.youtube.com/user/FastubeUSA



https://twitter.com/Fastube





FASTUBE products and services can be purchased in six primary ways:



Bulk Components

♦ Allows you to design, build, and modify structures as needed. Stock items ship within 24 hours after receiving order.



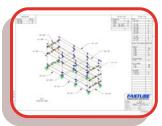
Kitted Structures

 Predetermined designs shipped to you with all the parts pre-cut and packaged in a kit for you to build.



Assembled Structures

• We assemble the structures at our facility and ship them complete and ready for use upon delivery.



CAD Designs / Services

• Engineering support in the form of AutoCAD 3D structure design, complete with bill of materials.



Starter Kits

Standard and Custom Kits are available to help you when starting with the **FASTUBE** product. Ask a sales rep for details.



Custom Prototyping

• You send us the part or parts and we can design an application for you.

STANDARD TUBING

Our tubing is comprised of 20 Gauge 1.00" O.D. high strength steel, coated with an extruded plastic to bring our total O.D. to a nominal 1.080-1.090".

• Stock Lengths - 10' & 20'



10' Stock colors include: Part

IU	Stock Colors Include.	ι αι ι π
•	Black	(TB - BK)
♦	Blue	(TB - BL)
•	Brown	(TB - BN)
•	Green	(TB - GN)
•	Gray	(TB - GY)
♦	Ivory	(TB - IV)
•	Light Green	(TB - LGN)
•	Orange	(TB - OR)
•	Red	(TB - RD)
•	White	(TB - WH)
•	Yellow	(TB - YL)

20' Stock colors include: Part

~0	Stock colors melade.	I di C "
•	Black	(TB - BK-20)
•	Blue	(TB - BL-20)
•	Brown	(TB - BN-20)
•	Green	(TB - GN-20)
•	Gray	(TB - GY-20)
•	Ivory	(TB - IV-20)
•	Light Green	(TB - LGN-20)
•	Orange	(TB - OR-20)
•	Red	(TB - RD-20)
•	White	(TB - WH-20)
•	Yellow	(TB - YL-20)

DEFLECTION FORMULA

To determine the amount of deflection of a piece of **FASTUBE** tubing with a load in the center use the following formula:

 $d = W \times L^3 \times .000000055$

Where:

d = deflection (in inches)

W = weight (in pounds)

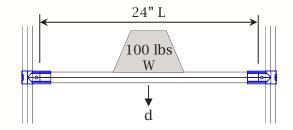
L = length of tube (in inches)

Example:

A 100 lb. weight is placed on a 24" piece of Fastube tubing. The deflection would be:

$$d = 100$$
 lbs. $x (24")^3 x .000000055$

$$d = .076$$
"



3-Point Bend Test Parameters

"x" Dimension	Force Of Permanent	 ♦ Force applied with 1" load applicator at a speed of 50 mm/min ♦ Force applied until permanent deflection occurs 			
1' 5"	610 lb.				
2' 11"	350 lb.	deflection occurs			
3' 3"	319 lb.				
3' 7"	282 lb.	Y V			
4' 3"	242 lb.	Λ			
4' 11"	227 lb.				
5' 10"	182 lb.				

SPECIALTY TUBING

♦ Stock Lengths - 4 Meter

Part #

♦ Slide Pipe

(TB-SP)

Stock Lengths - 4 Meter

♦ ESD - Black

Part # (TB-ESD)

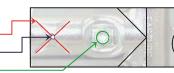




CONNECTORS

Connector Details

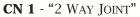
- Connector Plating: Zinc Chromate Silver
- Stamped X for anti-rotation & anti-pull out —
- Pilot hole for optional self drilling screws —
- Connectors bolt together with a FS1 & FS2



Top View: CN1

Connectors







CN 2 - "4 WAY JOINT"



CN 3 - "3 WAY JOINT"



CN 4 - "3 WAY JOINT"



CN 5 - "MULTI ANGLE"



CN 6 - "MULTI ANGLE"



CN 7 - "90° JOINT"



CN 8 - "PARALLEL JOINT"





CONNECTOR COMBO SETS



CJ 1 - "Two Way Joint"

JOINT COMBO INCLUDES:
(2) CN1
(1) FS1

(1) FS2



CJ 2 - "CORNER JOINT"

JOINT COMBO INCLUDES:
(1) CN2
(1) CN3
(2) FS1

(2) FS2



CJ 3 - "FOUR WAY JOINT"

JOINT COMBO INCLUDES:
(2) CN2
(1) CN4
(3) FS1
(3) FS2



CJ 4 - "THREE WAY JOINT"

JOINT COMBO INCLUDES:
(2) CN4
(2) FS1
(2) FS2



CJ 5 - "FIVE WAY JOINT"

JOINT COMBO INCLUDES:
(4) CN2
(4) FS1
(4) FS2



CJ 6 - "90 DEGREE JOINT"

JOINT COMBO INCLUDES:
(2) CN7
(1) FS1
(1) FS2



CJ 7 - "MULTI ANGLE JOINT"

JOINT COMBO INCLUDES:
(2) CN5
(2) CN6
(2) FS1
(2) FS2



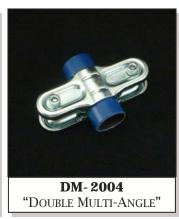
CJ 11 - "PARALLEL JOINT"

JOINT COMBO INCLUDES:
(2) CN8
(1) FS1
(1) FS2

SPECIALTY CONNECTOR SETS









*Specialty connectors include both joints and required plastic inserts, does <u>not</u> include fasteners

CONVEYOR

CONVEYOR TRACK MOUNTS

- Track Mount Plating: Zinc Chromate Silver
- For use with CA1 or CA2
- Track Mounts secured by pressing onto tube



CN 9 CONVEYOR TRACK MOUNT NO STOP



CN 10 CONVEYOR TRACK MOUNT W/ TAB STOP



CN 10L CONVEYOR TRACK MOUNT W/ LONG TAB STOP



CN 11 CONVEYOR TRACK MOUNT W/ RECESSED STOP



CN 11L CONVEYOR TRACK MOUNT W/ DEEP RECESSED STOP



CN 12 CONVEYOR TRACK/TUBE MOUNT



CN 14CONVEYOR TRACK
CENTER SUPPORT



CN 15 Tube Mount



CN 15L TUBE MOUNT W/STOP



TUBE MOUNT
W/ RECESSED STOP



CN 22FLEXIBLE CONVEYOR-TOCONVEYOR TRACK MOUNT



CN 25STIFF CONVEYOR-TOCONVEYOR TRACK MOUNT









Individual Conveyor Components

• Ready-To-Ship Aluminum Conveyor Track sold in 10' lengths





CN 18
1.3/4" CONVEYOR WE

CN 19

CONVEYOR TRACK

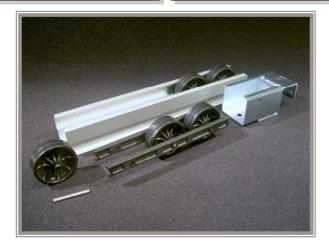
CN 17 1 1/4" CONVEYOR WHEEL (SMALL WHEEL)

CN 18 1 3/4" Conveyor Wheel (Large Wheel)

6" SLIDE FOR CN 17 (HOLDS 4 WHEELS)



(HOLDS 3 WHEELS)





Assembled Conveyor

- Ready-To-Ship Assembled Conveyor Track sold in 10' lengths
- Also available in pre-cut lengths up to 20'



CA1 SMALL WHEEL CONVEYOR TRACK



CA2LARGE WHEEL CONVEYOR
TRACK



Accessories

LEVELING FEET



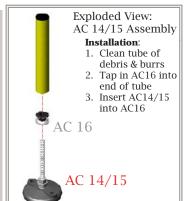
AC 14 3" DIA. FOOT (REQUIRES AC 16)



2" DIA. FOOT (REQUIRES AC 16)



AC 15 ESD 2" DIA. FOOT (REQUIRES AC 16)

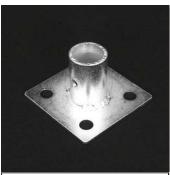


Accessories

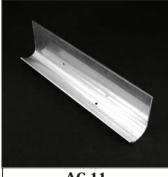
• Accessories Plating: Zinc Chromate - Silver



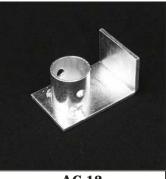
AC 3PIPE CLAMP



AC 9 Stanchion Mount



AC 11
J-CHANNEL - 6' LENGTH
(USED FOR AKRO BINS)



AC 12 Tube Hanger



AC 13 FORK TUBE REST



AC 16
THREADED INSERT



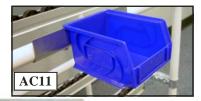
FLAT TOP PVC CLIP

AC 21B

BEVELED EDGE PVC CLIP



AC 28
FLAT SCREEN COMPUTER
MONITOR MOUNT





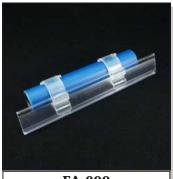












FA 600 1.25" x 6" Label Holder (INCLUDES CLIPS FOR MOUNTING)



JC1-A JOINT COVER FOR CN1 COMBO (TOP)



JC1-B JOINT COVER FOR CN1 COMBO (MIDDLE)



JC2 JOINT COVER FOR CN2/CN3 COMBO



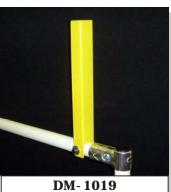
SMALL STANCHION MOUNT



POLYURETHANE TOOL HOLDER



BIN SPEED REDUCER FOR CA1



EMPTY CONVEYOR SIGNAL - 10"



CORNER SHELF SUPPORT





TUBE CONNECTOR



STEM CASTERS

STEM CASTER DETAILS

- AVAILABLE CASTER WHEEL MATERIAL -
 - 3" STEM CASTERS RUBBER, POLYURETHANE
 - 4" STEM CASTERS RUBBER, POLYURETHANE, ESD
- SPECIAL CASTERS AVAILABLE UPON CUSTOMER REQUEST
- CASTER PLATING: ZINC CHROMATE SILVER



STEM CASTERS



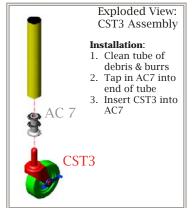
CST3 L 3" LOCKING STEM CASTER (REQUIRES AC7)



3" SWIVEL STEM CASTER (REQUIRES AC7)



AC 7 GRIP RING CASTER INSERT





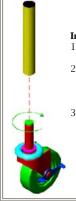
CST4 L 4" LOCKING STEM CASTER



CST4 S 4" SWIVEL STEM CASTER



4" RIGID STEM CASTER



Exploded View: CST4 S/L Assembly

Installation:

- 1. Clean tube of debris & burrs
- 2. Tighten Nut to expand rubber until CST4 inserts into tube snug
- 3. Use 12mm wrench to tighten nut located on the underside of the **Truck** until caster cannot be pulled out from tube



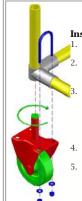
4" LOCKING POLY STEM CASTER



4" SWIVEL POLY STEM CASTER



4" RIGID POLY STEM CASTER



Exploded View: CST4 R Assembly

Installation:

- Clean tube of debris & burrs
- Tighten Nut to expand rubber until CST4 inserts into tube snug Use 1/2" wrench to tighten nut located on the underside of the Truck until caster cannot be pulled out from tube
- Install **U-Bolt** over joint and through the Truck.
- Install Washer & Nut on both sides of U-Bolt and

MWW.FASTUBE.CON

STRAP CASTER DETAILS

- AVAILABLE CASTER WHEEL MATERIAL -
 - 4" STRAP CASTERS RUBBER, POLYURETHANE, ESD
 - 6" Strap Casters Rubber, Polyurethane, ESD
 - 8" Strap Casters Rubber, Polyurethane, ESD
- SPECIAL CASTERS AVAILABLE UPON CUSTOMER REQUEST
- CASTER PLATING: ZINC CHROMATE SILVER



TRAP CASTER ACCESSORIES





LOWER CASTER STRAP



FS3 CASTER BOLT W/ LOCK WASHER

Remember

STRAP CASTER ASSEMBLY REQUIRES:

- (2) CS1's
- (2) CS2'S
- (2) FS3's
- *PER WHEEL

rap Casters



4" LOCKING STRAP CASTER



CS4 S 4" SWIVEL STRAP CASTER



4" RIGID STRAP CASTER

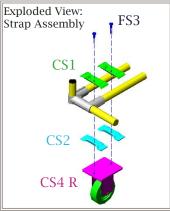


4" FLOOR LOCK



CS4 S P 4" LOCKING POLY STRAP CASTER 4" SWIVEL POLY STRAP CASTER





STRAP CASTERS

STRAP CASTERS



CS6 L B 6" LOCKING BALLOON STRAP CASTER



CS6 S B 6" SWIVEL BALLOON STRAP CASTER



CS6 R B 6" RIGID BALLOON STRAP CASTER



6" FLOOR LOCK



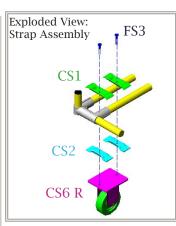
CS6 L P 6" LOCKING POLY STRAP CASTER



6" SWIVEL POLY STRAP CASTER



CS6 R P 6" RIGID POLY STRAP CASTER



RAP CASTERS



CS8 L B 8" LOCKING BALLOON STRAP CASTER



8" SWIVEL BALLOON STRAP CASTER



CS8 R B 8" RIGID BALLOON STRAP CASTER



8" FLOOR LOCK



FS1-E (BOLT) & FS2-E (NUT)

COMBO PART # FS-CE FASTENER (ENGLISH)



FS1-M (BOLT) & FS2-M (NUT)

COMBO PART # FS-CM FASTENER (METRIC)



FS1-EP-E

FASTENER (ENGLISH) W/ MICROSPHERES EPOXY

FS1-EP-M

FASTENER (METRIC) W/ MICROSPHERES EPOXY



FS1 TL

FASTENER (ENGLISH) TOOL LESS BOLT



5/16" x 18 x 1 1/2" CASTER BOLT W/ LOCK WASHER

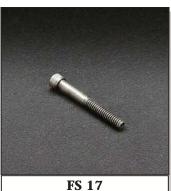


FS5

5/16" x 18 x 2" HITCH BOLT W/ LOCK WASHER



SELF TAP SCREW 1 1/4" BUGLE HEAD



2" HITCH BOLT



TL1

T-HANDLE ALLEN WRENCH 3/16" DRIVE

TL1-M

T-HANDLE ALLEN WRENCH 5_{MM} Drive



TL2

L-SHAPE ALLEN WRENCH 3/16" DRIVE

TL2-M

L-SHAPE ALLEN WRENCH 5_{MM} Drive



DT1

INNER/OUTER PIPE DEBURING TOOL



MT1

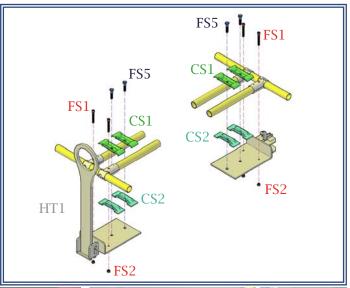
12' MEASURING TAPE

HITCHES



HT1 SET ASSEMBLY REQUIRES:

- ♦ (1) HT 1
- ♦ (4) CS1
- ♦ (4) CS2
- ♦ (4) FS2
- ♦ (4) FS5
- ♦ (4) FS17





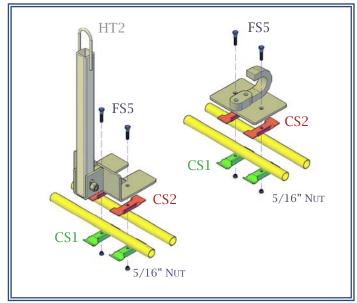






HT2 SET ASSEMBLY REQUIRES:

- ♦ (1) HT 2
- ♦ (4) CS1
- (4) CS2
- ♦ (4) FS5*
- ♦ (4) 5/16" NUT*
- ♦ (8) 5/16" WASHER*
- * INCLUDED WITH HT 2









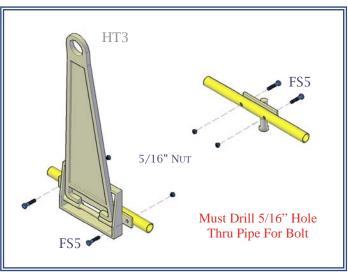


HITCHES



HT3 SET ASSEMBLY REQUIRES:

- ♦ (1) HT 3
- ♦ (4) FS5*
- ♦ (4) 5/16" NUT*
- ♦ (8) 5/16" WASHER*
- * INCLUDED WITH HT 3









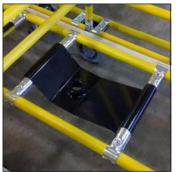


CS-SHIM 3/8" CASTER SPACER





AGC 1 AGC HITCH BRACKET



CUSTOM STEEL STRUCTURES

CONTACT SALES REP FOR DETAILS





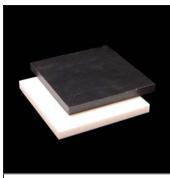




SHELF MATERIALS & TUBE COVERS

- PVC, PEG BOARD, HDPE, Ex-Cel, and MDF are available in 4' x 8' sheets
- POLYPRO is available in a 80" x 144" sheet
- MOTION MAT is available in a 24" x 96", custom sizes can be made to order
- FLOCK TAPE is sold per linear foot from a 54" x 180' roll. One linear foot = 12" x 54" piece

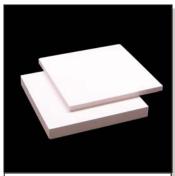
• All materials can be cut to a specific size if required



HDPE 38 / HDPE 38-B
WHITE OR BLACK
3/8" THICKNESS



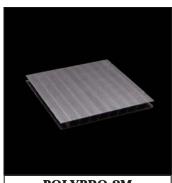
HDPE 12 / HDPE 34
WHITE
1/2" OR 3/4" THICKNESS



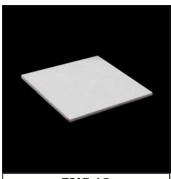
EX- CEL 6M / EX- CEL 12M WHITE (OTHER COLORS AVAIL) 6MM OR 12MM THICKNESS



MDF 12 / MDF 34 LIGHT BROWN 1/2" OR 3/4" THICKNESS



POLYPRO 8M
BLACK PLASTIC CORRUGATED
8MM THICKNESS



PVC 18 GRAY 1/8" THICKNESS



PEG BOARDWHITE FACE - ONE SIDE ONLY 5/16" THICKNESS



VINYL TUBE
UP TO 50' LENGTH
1/8" THICKNESS



FOAM6' LENGTH
SEMI-SLIT
1/2" THICKNESS



FOAM- A6' LENGTH
SLIT W/ADHESIVE STRIP
1/2" THICKNESS



MOTION MAT 1/8" THICKNESS (FLOWS ON 96" DIRECTION)



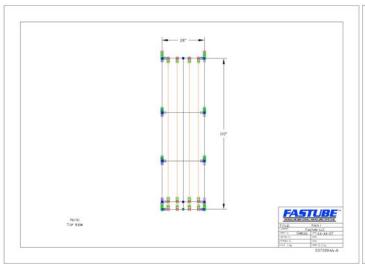
FLOCK TAPE Adhesive Backed Felt

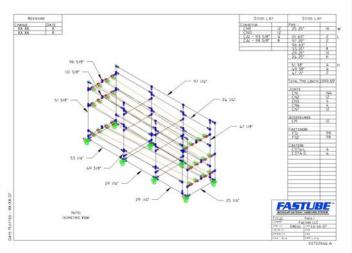
DESIGN

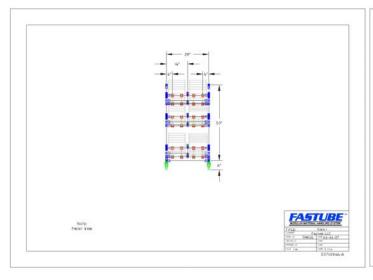


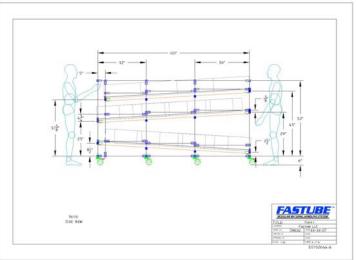
- AutoCAD 3D Wireframe drawings are used to create customer design requests.
- ◆ Drawings can be also be drawn in AutoCAD 3D Solids, or converted to STEP files if requested.
- ◆ Design files can be exchanged electronically via e-mail between *Fastube* and our customers as AutoCAD, STEP, JPEG, or PDF files.

SAMPLE AUTOCAD DRAWING









IMPLEMENTED STRUCTURES

DISPLAY BOARDS



5 SIDED ROTATING DISPLAY



4 SIDED ROTATING DISPLAY



4' x 8' DRY ERASE MESSAGE BOARD



30" x 30" Velcro Message Board



4' x 8' VELCRO MESSAGE BOARD



2 SIDED DISPLAY STAND



5 Sided Message Board w/ Lexan



CUSTOM SAFETY BOARD



DISPLAY RACK W/ 4 INDEPENDENT SWIVEL SIDES



4' x 6' Message Board w/ Peg Board Swing Out



Double Sided Message Board



5 SIDED VELCRO MESSAGE BOARD



INFORMATION STAND



DISPLAY STAND W/ PULL OUT DRAWER



INFORMATION DESK



SHADOW BOARD CART W/ DRAWER

STANDS & WORKTABLES







PORTABLE PARTS STAND



MULTI-LEVEL PARTS STAND



EASY PICK TOTE STAND



2 SIDED SMALL PARTS STAND



PASS THROUGH STORAGE RACK



6 LEVEL PASS THROUGH PARTS STAND



MULTI-LEVEL FLOW RACK



STORAGE RACK



CUSTOM PART TREE STAND



PORTABLE PARTS STAND



 $4 \ Level \ Storage \ Rack$



WORKTABLE



PORTABLE WORKTABLE



PORTABLE WORKTABLE

IMPLEMENTED STRUCTURES

WORKSTATIONS & CARTS



ANGLED WORKSTATION W/ CASTERS



PACKING & SHIPPING STATION



WORKSTATION W/ TOOL RAIL



WORKSTATION W/ PULLOUT DRAWERS



INFORMATION CENTER DESK



L-Shape Workstation



WORKSTATION W/ LIGHT AND TOOL RAIL



WORKSTATION W/ MOTION MAT



HEIGHT ADJUSTABLE WORKSTATION



L-Shape Workstation w/Height Adjusters and Tool Bar



HEIGHT ADJUSTABLE WORKTABLE



CUSTOM INVENTORY PICK CART



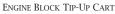
CUSTOM LINE SIDE CART



CART WITH CABINENTS

CARTS







PANEL TRANSPORT CART



HANGING PARTS CART



TUB COVER CART ON STEEL BASE



FOAM TRIM TRANSPORT CART W/ AGC COMPATIBILITY



CLAM SHELL TRANSPORT CART



CUSTOM BAG CART



INTERLOCKING TUGGABLE CARTS



WIRE HARNESS TRANSPORT CART



STORAGE CART ON STEEL BASE



CART-2-FLOW RACK ON STEEL BASE



MULTI-LEVEL CART W/ DRAWER SLIDES



CARDBOARD DUNNAGE CART

IMPLEMENTED STRUCTURES

CARTS







HANGING MANIFOLD CART



CRANKSHAFT TRANSPORT CART



CYLINDER HEAD SEQUENCE CART



CART W/ SHOCK LIFT TILT SHELF



PANEL SEPARATOR CART



ENGINE BLOCK TRANSPORT CART



LOW PROFILE TUGGER TRANSPORT CART



LIMO KIT CART



CUSTOM SMALL PARTS CART



PALLET TRANSPORT CART



TUGGABLE PALLET CART



CART W/ FOAM & PVC TUBING SLOTS



FLOW RACK W/ GAS SHOCK ASSISTED ACCESS DOOR



HANGING BAG SEQUENCE CART



FLOW RACK W/ FLAT PULL OUT AREA



ANGLED PRESENTATION FLOW RACK



VERTICAL STORAGE RACKS W/ BAGS



FOOD SERVICE PRODUCTION LINE



FLOW RACK PACKING STATION W/ WORKTABLE



STAINLESS STEEL CHUTE RACK



FLOW RACK W/ LIGHT CURTAINS AND ALUMINUM WORKTABLE



LINE SIDE FLOW RACK W/ RETURN



WAREHOUSE FLOW RACKS

IMPLEMENTED STRUCTURES

FLOW RACKS



FLOW RACK W/ PNUEMATIC LIFT ASSIST FOR LOAD END



PNUEMATIC LIFT ASSIST FOR LOAD END



PNUEMATIC TILT ASSIST FOR OPERATOR END



FLOW RACK W/ STEEL ROLLERS AND METER



FLOW RACK W/ STEEL ROLLERS AND METER



PACKING STATION FLOW RACK W/ WORKSURFACE



FLOW RACK W/ PICK-TO-LIGHT SYSTEM



PACKING RACK W/ REMOVABLE DIVIDERS



BUMPER FASCIA FLOW RACK



FLOW RACK W/ QUICK RETURN



MULTI-LEVEL FLOW RACK W/ WORKTABLE



OVER-THE-LINE FLOW RACK

Got a design you want us to start on? Copy, fill out, and fax this request form and we'll be happy to begin.

Fastube Design Request Form

NAME:		Tin	LE:		DATE:	
COMPANY:		PHONE:_()	FAX:_()	
EMAIL:						
NOTE: ALL DIMENSIO	ONS GIVEN ARE CONSIDER	RED CENTER OF	PIPE TO CENTER OF P	PIPE, AND ARE IN INC	CHES.	
NUMBER OF STRUCTUR	RES REQUIRED:					
PLEASE CIRCLE A DES	SIGN THAT MOST CLOSEL	Y RESEMBLES `	OUR REQUEST:			
FLOW RACK No Offset	FLOW RACK FL OFFSET	ow Rack Tilted	CART	Worktable	STAND	MESSAGE
THO OTTOE						BOARD
FOOTPRINT OF STRUC	TURE: WX L_	x H_				
IF MESSAGE BOARD, E	IF MESSAGE BOARD, BOARD SIZE: W H					
WILL YOU REQUIRE:	WILL YOU REQUIRE: CASTERS LEVELING FEET OTHER					
# OF INCOMING LEVELS:, RETURN LEVEL REQUIRED? (Unless otherwise noted, levels will be flat for cart, table, and stand designs)						
	ROM FLOOR: IST		, 3rd	, 4TH	, 5тн_	
•	TOTE HEIGHT FOR MIN. (ŕ				
# OF TOTES AND BOX	(ES PER LEVEL: ST	, 2ND	, 3RD	, 4тн	, 5тн	
Total weight struc	CTURE WILL BE HOLDING:		LBS; MAX WEIGHT PE	ER LEVEL:	LBS.	
Special Requiremen	TS (IF ANY):					
	TAKE A MOMENT TO SKE	ETCH YOUR DES	IGN BELOW:	SIDE VI	'EW	

MATERIAL HANDLING SOLUTIONS THAT WORK FOR YOUR BUSINESS

