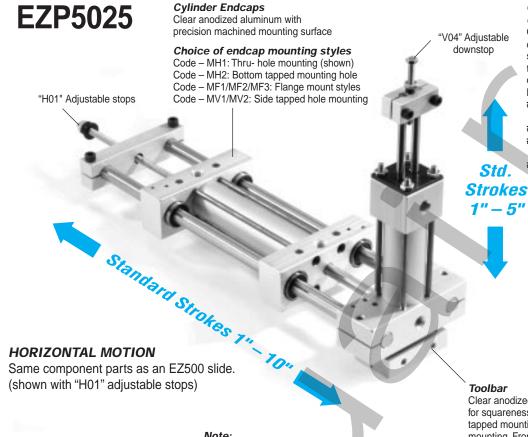


"EZP" Series Pick & Place Units



Optional Dowel Hole/Slot Code -D 🔲 🔲

Optional slip fit dowel holes and slip fit dowel slots allow for repeatably precise slide mounting and/or attachment of end tooling. Option may be specified at any of the four surface locations (1, 2, 4 or 6) listed here.

- #1 MH1/MH2 end cap mounting surface (bottom mounting surface)
- #2 Toolbar bottom
- MV1/MV2 end cap mounting surface (side mounting surface)
- MF1/MF2/MF3 end cap mounting surface (flange face)

VERTICAL MOTION

Compact "TS" Style slide (shown with "V04" adjustable downstop)

Clear anodized aluminum, machined bottom & front for squareness. Bottom mounting surface features 4 tapped mounting holes, plus c'bores at top for thru hole mounting. Front face has 2 tapped mounting holes. Optional slip fit dowel hole and slot (bottom surface only) assure repeatably precise tooling attachments. Code - T1: Optional blank toolbar (no mounting holes)

Engineering Data

EZP5025 Specifications						
	Horizontal	Vertical				
Guide Shaft Diameter	1/2"	1/4"				
Bore	1-1/8"	1-1/8"				
Power Factor Extend	.99	.90				
Power Factor Retract	.88	.90				
Standard Strokes	1" thru 10"	1" thru 5"				
(Specials available)	by 1" incr.	by 1" incr.				
Ship weight, lbs. Zero stroke	3.62					
Add per inch of stroke	.32	.12				

Each axis is designated horizontal or vertical

as shown. However, unit can be mounted in

any attitude required by your application

			S A	FE	ΞL	. 0	A D	S	(lb	s.)	
	5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
g g	4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
Vertical Stroke	3	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.0	1.8	1.4
St	2	8.7	8.7	8.7	8.7	8.0	6.0	4.0	3.0	1.8	1.4
	1	9.9	9.9	9.9	9.9	8.0	6.0	4.0	3.0	1.8	1.4
	1	2	3	4	5	6	7	8	9	10	
	Horizontal Stroke										

Max Operating Pressure: 150 psi

Output Force:

Pounds = Pressure x Power Factor

Speed: Speeds up to 24 inches per second are obtainable by utilizing an optional stop package in conjunction with urethane bumpers or hydraulic shocks. Moderate reciprocating loads can be safely cycled up to 12 inches per second by utilizing an adjustable stop option without bumpers or shocks. Except for light loads and moderate speeds, operating EZP Pick & Place units without an adjustable stop option is *not* recommended. Moderate to heavy loads should *not* be stopped by bottoming the piston against the end cap.

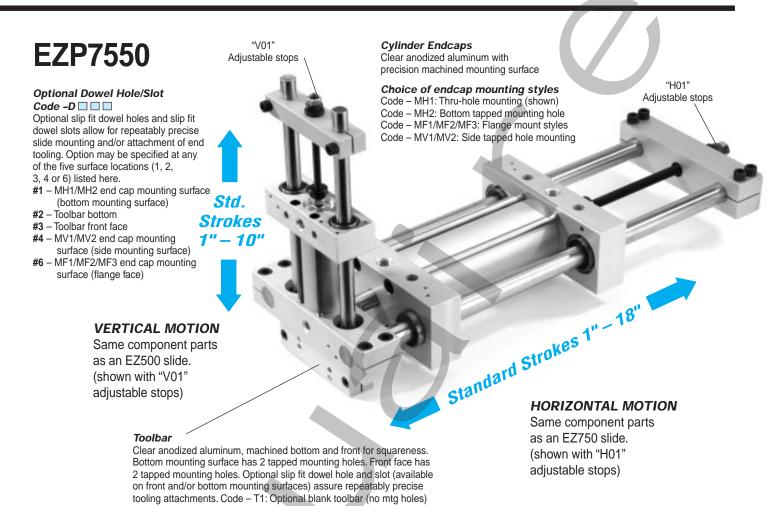
Important note: Most failures are caused by severe, damaging impact loads (which act like a



Load Sizing



built tough with the most advanced features and options



"slide hammer" on the piston rod). Proper model sizing, use of adjustable stops and/or shocks/bumpers, and operating the unit at the lowest possible air pressure will insure successful operation and long product life.

Accuracy: EZP Pick & Place units feature linear ball bearings for near play free operation. Each bearing has .0005" max "play" or less. The builtin air cylinder will stroke +.015" / -.000" of nominal stroke. Stroke repeatability is ±.001". Guide shaft straightness tolerance is .0015" per foot of shaft.

Bearings in the EZP Pick & Place units are housed in the cylinder end caps. As the stroke increases, the pairs of bearings become spaced further apart, increasing bearing load capacity.

_		_
Gи	in	29



EZP7550 Specifications						
	Horizontal	Vertical				
Guide Shaft Diameter	3/4"	1/2"				
Bore	2"	1-1/8"				
Power Factor Extend	3.14	.99				
Power Factor Retract	2.84	.88				
Standard Strokes	1" to 6" by 1"	1" thru 10"				
(Specials available)	8" to 18" by 2"	by 1" incr.				
Ship weight, lbs. Zero stroke	9.98					
Add per inch of stroke	.74	.32				

CAFF LOADE (Ibe.)

				3 A	16.		_	AL	,	(ID	s. <i>)</i>		
	10	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
4	9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
ske	8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.2	1.8
Stroke	7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.2	1.8
_	6	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	4.0	2.2	1.8
ca	5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	5.0	4.0	2.2	1.8
Vertica	4	12.0	12.0	12.0	12.0	12.0	12.0	12.0	8.0	5.0	4.0	2.2	1.8
Š	3	24.0	24.0	24.0	24.0	24.0	20.0	12.0	8.0	5.0	4.0	2.2	1.8
	2	44.0	44.0	44.0	44.0	28.0	20.0	12.0	8.0	5.0	4.0	2.2	1.8
	1	84.0	84.0	60.0	56.0	28.0	20.0	12.0	8.0	5.0	4.0	2.2	1.8
		1	2	3	4	5	6	8	10	12	14	16	18
	Horizontal Stroke												



"EZP" Series Pick & Place Units Order Guide

Select a pick-and-place model size, horizontal & vertical stroke lengths, horizontal endcap mounting style, plus any optional toolbar, mounting bar (B1) or integral option (such as Viton seals, etc.) Helpful hint: The first two digits in the part number = the guide shaft diameter of the horizontal motion to two places; the second pair = the guide shaft diameter of the vertical motion to two places.

Step 1: Basic Pick & Place Model

EZP7550 - 5H

2V Vert. Stroke (OPTIONAL TANDEM)

– MH2

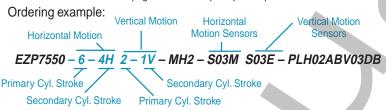
Mounting Style

Model	Motion	Guide Shaft Diameter	Bore	Standard Stroke Length
E705005	Horizontal	1/2"	1-1/8"	1" to 10" by 1" increments
EZP5025	Vertical	1/4"	1-1/8"	1" to 5" by 1" increments
	l la vi-a atal	3/4"	2"	1" to 6" by 1" increments
EZP7550	Horizontal			8" to 18" by 2" increments
	Vertical	1/2"	1-1/8"	1" to 10" by 1" increments

Horiz. Stroke

3-Position Tandem Cylinder Pick & Place Units

(Tandem cylinder NOT available on vertical motion of EZP5025) Note: See pages 34 & 35 for principle of operation



Sensor locations— use "M" in the Box (□) if mid-position sensor is required (3 sensors). - Note: "M" (mid-position) is **not** available with "S50, S51, S60" sensors. All sensors are located on the primary cylinder, which also contains the magnetic piston band for "E" & "J" options. Mid-position "M" prox sensor is not available on vertical motion of EZP5025 models with prox options (consider using "E" or "J" style sensors if mid-position sensing is required.

Port Locations: Top ports are standard on the horizontal motion on all tandem models. The horizontal motion of the EZP5025 Pick & Place is available with a top and bottom port combination as a "special" order at no additional charge. Consult factory.

Endcap Mounting Styles

MH1 Thru Mtg Holes

MH2
Tapped
Mtg Holes

MF1

Front Flange Mtg Holes

MF2

Rear Flange Mtg Holes

MF3

Front & Rear Flange Mtg

MV1

Side Tapped Mtg Holes

MV2

Side Tapped w/Ports on Opp. Side

Optional "B1" Mounting Bars

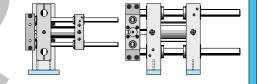
For use with MV1 or MV2 Mounting style

To Order with EZP Unit:

Add "B1" to mounting style of horizontal motion.

Example:

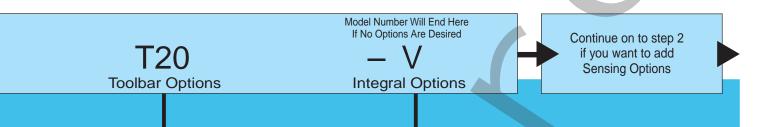
EZP7550 - 5H 2V - MV1B1





Building the Model Number in 3 Easy Steps

Step 2 Please turn the page



Toolbar Options

Blank toolbar (no holes) is available as a no cost substitution.

Code

T1 Blank toolbar
Ordering example:
EZP7550-5H2V-MH2T1

Grippers

EZP5025 and EZP7550 model pick & place units are available with transition plate or toolbar that will directly mount a Fabco-Air "SPG" Series parallel gripper (see catalog #GR-7 for gripper details). Mounting details are shown on page 77 of this catalog. Specify toolbar code here; order gripper separately.

Model EZP5025

Code

T10 Transition plate for "SPG 100" gripper
T20 Transition plate for "SPG 200" gripper
T30 Transition plate for "SPG 300" gripper

Model EZP7550

Code

T20 Toolbar to mount "SPG 200" gripper **T30** Toolbar to mount "SPG 300" gripper

Integral Options



Dowel Hole & Slot Code & Location(s)
Available on any of the mounting surfaces shown on page 66 & 67. *Example: D12 specifies dowel holes/slots on bottom surface of bearing block and on bottom surface of toolbar.*

H-Hydraulic Cylinder Seals (150 psi max.)

V- Viton Cylinder Seals

Bearing Options Sleeve Bearings can be substituted for standard linear ball bearings.

W- Rulon[®] Shaft Bearings

X - Duralon® Shaft Bearings

Guide Shaft Options

Y- Hollow Guide Shafts
Case hardened & ground #52100 tubular steel
available on EZP7550 horizontal motion.

Z- Stainless Steel Guide Shafts: shaft material compatible with bearing type will be provided.

Bearing Type
Shaft Material

Std. linear ball brgs.
Option "W" Rulon® sleeve
Option "X" Duralon® sleeve
Hard chrome plated SS*
Hard chrome plated SS*

*Note: Except EZP5025 vertical motion will be 440C material

<u>To order a combination</u> of these options, use multiple letters. <u>Example: -D2XVZ</u> specifies that a dowel hole, Duralon® shaft bearings, Viton seals and stainless steel guide shafts are built into the basic pick & place unit.



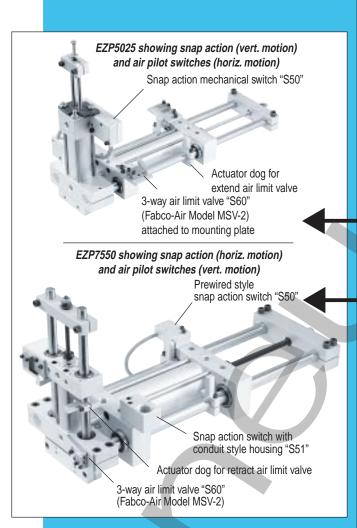
"EZP" Series Pick & Place Units Order Guide

Step 2 air pilot switches, magnetically operated electronic sensors and reed switches. Available complete with sensors - or mounting brackets only if you are furnishing the sensors.

Step 2: Sensing Options | Model Number Ends Here If No Other Options Desired

Horiz, Motion

Vert. Motion



Codes "S45, S46 & S47" available on horizontal motion of EZP5025 and vertical motion of EZP7550 only

Not available on horizontal motion of EZP5025 with "MV1" or "MV1B1" mounting style

Sensor Codes (Use "S000" if NO Sensors are desired)

Select a code for sensor type and indicate position

E = Extend position only

R = Retract position only **B** = Both extend & retract positions

Example: SO3 B M = 3 sensors (See note 1)

• Sensors beginning with the letter "S" (Prox, Snap Action, Air Pilot) are actuated by "dogs" clamped to the guideshafts. • Sensors beginning with the letter "J" or "E" (Electronic sensors and reed switches) are actuated by a magnetic band on the piston.

Note 1: Mid position "M" not available on vert. motion of EZP5025 with prox options.

"M" not available on any model with S50, S51, or S60.

Proximity Switch w/Brackets & Actuators

Prewired v	v/ Quick Disconnect	Quick Disconnect	Thread	Electrical Characteristics
6' Leadwi	re w/2 M cordset	without cordset	Size	Electrical Guaracteristics
S01 [S02	S12 🔲	12mm	110v AC, 2-wire, w/LED
S03	■ S04 ■	S14	12mm	24v DC, 2-wire, w/LED (NPN/PNP)
S05	□ S06 □	S16	12mm	24v DC, 3-wire, w/LED (PNP) Sourcing
S07	S08 🔲	S18	12mm	24v DC, 3-wire, w/LED (NPN) Sinking
D		"I - I- D		-1-0 1-1 -1 0-1

Proximity Switch Brackets & Actuators Univ

		12mm	Customer supplies the switches
S41 🔲	S46 See note 2	8mm	Customer supplies the switches
S42 🔲	S47 See note 2	5mm	Customer supplies the switches

Snap Action Mechanical Switches

Prewired w/ 6' Leadwire	Conduit Fitting Style Housing	Electrical Characteristics
S50	S51 🔲	SPDT 10 amp. capacity (See note 3)

Air Pilot Switch

Miniature 3-way air valve (See note 3)

Magnetic Piston & Clamp-On Sensors ("J")

Single sensor –1" stroke min; Dual sensors –2" stroke min.

9 Ft. Prewired	Quick Disconnect w/5M cordset	Sensor Type	LED	Electrical Characteristics
J70 🔲	J71 🔲	Reed	Yes	5-120 VDC/VAC, 0.5 Amp Max, 10 Watt Max, SPST N.O., 3.5 Voltage Drop
J72 🔲	J73 🔲	Electronic		Sourcing PNP 6-24 VDC, 0.50 Amp Max, 1.0 Voltage Drop
J74 🔲	J75 🔲	Electronic	Yes	Sinking NPN 6-24 VDC, 0.50 Amp Max, 1.0 Voltage Drop

Magnetic Piston & Dovetail Style Sensors ("E")

For 1 Stroke & longer on all bores.

9 Ft. Prewired	Quick Disconnect w/5M cordset	Sensor Type	LED	Electrical Characteristics
E70	E71 🔲	Reed	Yes	5-120 VDC/VAC, 0.03 Amp Max, 4 Watt Max, 2.0 Voltage Drop
E72 🔲	E73 🔲	Electronic	Yes	Sourcing PNP 6-24 VDC, 0.20 Amp Max, 0.5 Voltage Drop
E74 🔲	E75 🔲	Electronic	Yes	Sinking NPN 6-24 VDC, 0.20 Amp Max, 0.5 Voltage Drop
E76 🔲	E77 🔲	Reed	No	0-120 VDC/VAC, 0.5 Amp Max, 10 Watt Max, 0 Voltage Drop

Magnetic Piston

J800	Customer supplies the sensors and mounting clamps
E800	Includes Dovetail Mounting Rail; customer supplies the sensors

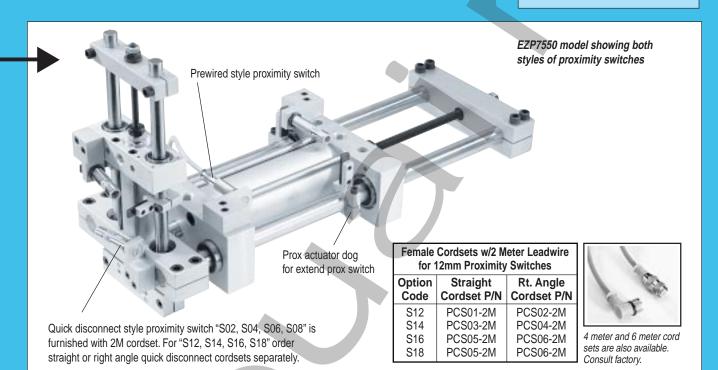
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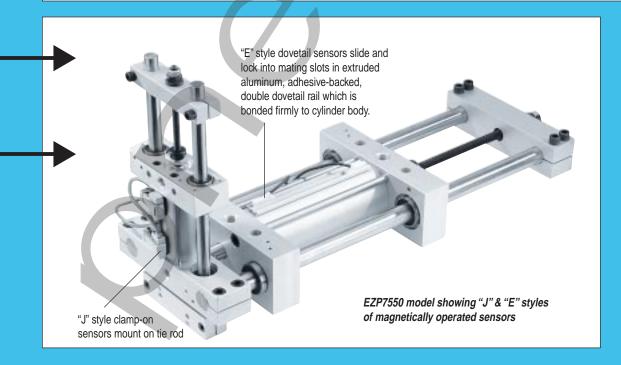
Building the Model Number in 3 Easy Steps

Step 3

Please turn the page

Continue on to step 3 if you want to add Tooling, Stop, or Hydraulic Shock Options.







"EZP" Series Pick & Place Units Order Guide

Step 3 Select a tooling option to adapt the pick & place unit to the application. Is stroke adjustability required? Select from four adjustable stop options. Are hydraulic shock absorbers needed? Standard mounting brackets are available for both Ace and Enidine. You can order complete shock assemblies - or brackets only if you are furnishing the shocks.

Step 3:Tooling, Stop, & Shock Options All 12 positions in this section must be filled with a character to be a valid model number. A tooling option must be selected before a stop and/or shock option can be specified.

(Tooling Option)

H02

(Horiz. Stop)

(Horiz, Shock)

(Vert. Stop)

(Vert. Shock)

Select a Tooling Option				
	Horiz. Stop	Horiz. Shock	Vert. Stop	Vert. Shock
Code – RC Rear Clampbar For Model EZP5025 Includes clampbar on horizontal & vertical motions.	H00 = None desired	NO = None desired	V00 = None desired	NO = None desired
	H01 HU1 H02	A B C	V04 Downstop only	A B C
Code – RC Rear Clampbar For Model EZP7550 Includes clampbar on horizontal & vertical motions.	H00 = None desired	NO = None desired	V00 = None desired	NO = None desired
	H01 HU1 H02	A B C	V01 VU1 V02	A B C
Code – BL Tall Blocks For Model EZP7550 Vertical Motion Includes clampbar on horizontal motion.	HOO = None desired	NO = None desired	V00 = None desired	NO = None desired
	H01 HU1 H02	A 🔲 B 🔲 C 🔲	V01 VU1 V02 V03	A D D B E C F D
Code – PL Toolplate For Model EZP7550 Vertical Motion Includes clampbar on horizontal motion.	HOO = None desired	NO = None desired	V00 = None desired	NO = None desired
	H01 HU1 H02	A B C	V01 VU1 V02 V03	A D D B E C F D



Completing Step 3 of the Model Number

Completed model number | EZP7550-5H2V-MH2T20-V-SO3BS03E-RCH02ABV02CE

EZP7550 = EZP7550 P&P model

5H = Horizontal stroke

2V = Vertical stroke

MH2 = Tapped mounting holes Horizontal motion

T20 = Toolbar for SPG200

V = Viton seals

SO3BSO3E = 12mm prox switches 24 VDC, 2-wire 6 ft. prewired leads. Horiz. motion

= extend & retract positions. Vert. motion = extend only.

RC = Rear clampbar on horiz. & vert. motion

H02 = Horizontal stop package

= Ace shocks, standard location (horizontal motion, extend & retract)

= Vertical stop package

CE = Shock brackets only, standard location (vertical motion, extend only)

Adjustable Stop Option Details

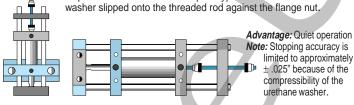
The Step 3 chart on the opposite page indicates what stops are available for each tooling option. *Indicate H or V in the box (*).

Code ■ 00 - This code indicates no stops desired.

Code ■ 01 — Allows complete adjustment over the entire stroke length from full to zero stroke. Threaded rod (with two flange

nuts serving as the stops) is fastened to cylinder endcap. Flange nuts provide the adjustments. Stroke repeatability within .001"

Code U1 - Reduces noise and provides an impact absorbing stop cushion. It is the same stop as Type "01" with a urethane



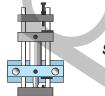
Code 02 - Is a modification of Type "01" where a stop bolt is added

for the extend stop. It positions both extend and retract adjustments next to each other at the back of the motion. Provides easier, more accessible adjustment in cases where a "PL" or "BL" tooling option would cover the extend flange nut in a Type "01" stop.



Code **2** 03 -

For use with "BL" or "PL" tooling options on Model EZP7550.



Stroke repeatability within .001"



Code V04 -

Stop bolt at one end - Downstop only. For use with EZP5025

General shock notes:

1) EZP5025 uses 1/2"-20 thread shocks/brackets on horizontal and vertical motions. 2) EZP7550 uses 1/2" -20 thread shocks/brackets on vertical motion, and 1"-12 thread on horizontal motion. 3) EZP5025 vertical motion shock option is only available with 2" or longer vertical strokes.

Shock Option Details

The **Step 3 chart** on the opposite page indicates what shocks are available for each tooling option.

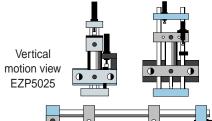
Indicate shock quantity/location in the box ()

as follows: E = Extend only:

R = Retract only:

B = Both extend and retract.

Code N0 - Indicates no shocks Standard Shock Location



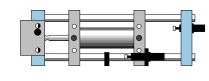
Horizontal motion view

Standard Location	Alternate Location			
A Ace Shocks	D			
B Enidine Shocks E				
C Brackets & Actuators only F				
(Customer supplies the shocks)				
Insert E, R or B	in box			

Alternate Shock Location for Vertical Motion of EZP7550



Recommended when using "BL" or "PL" Tooling



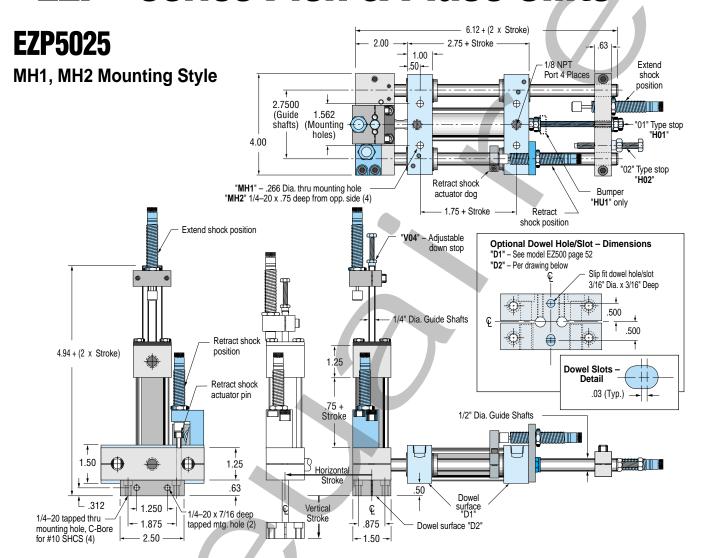
Vertical

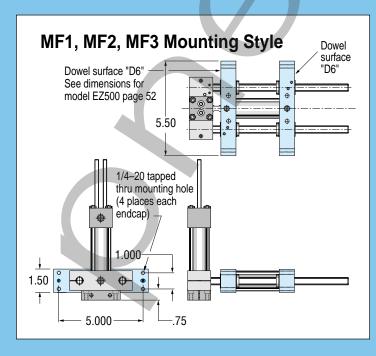
motion view

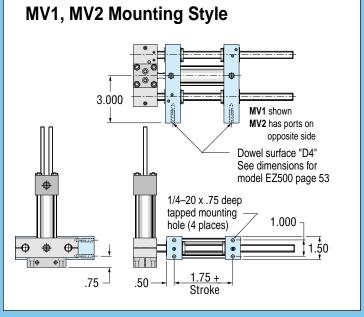
EZP7550



"EZP" Series Pick & Place Units

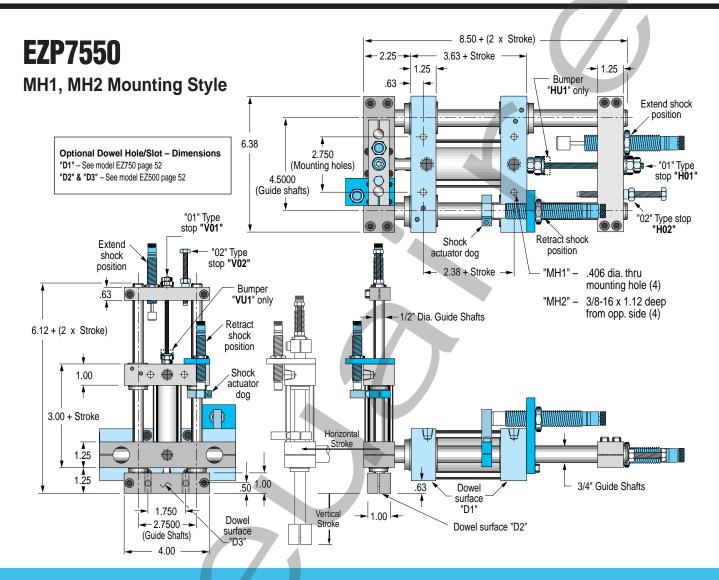


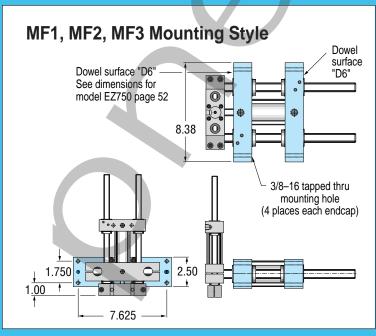


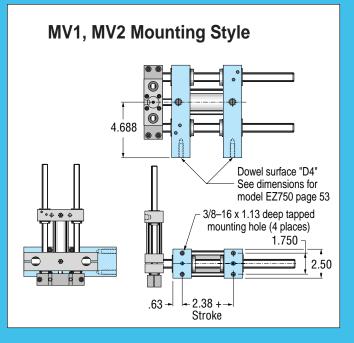




Dimension drawings

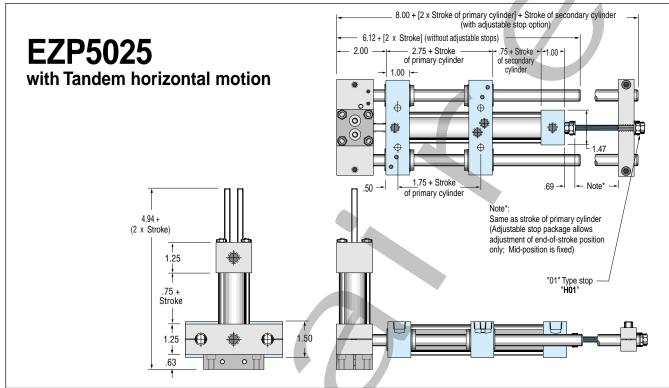


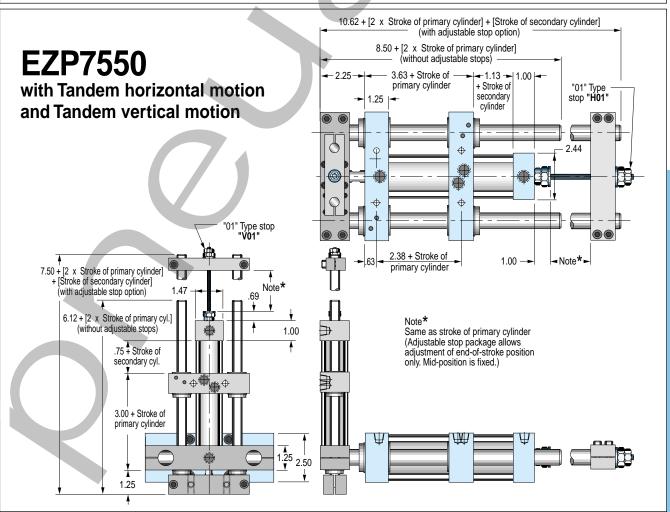






"EZP" Series Pick & Place Units







Tandem cylinder models & units with "SPG" Grippers

