



PROMESS



Promess and Brighton High School

2022 DESIGN PROJECT

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Brighton High School Design Project

Sponsor: Promess Inc

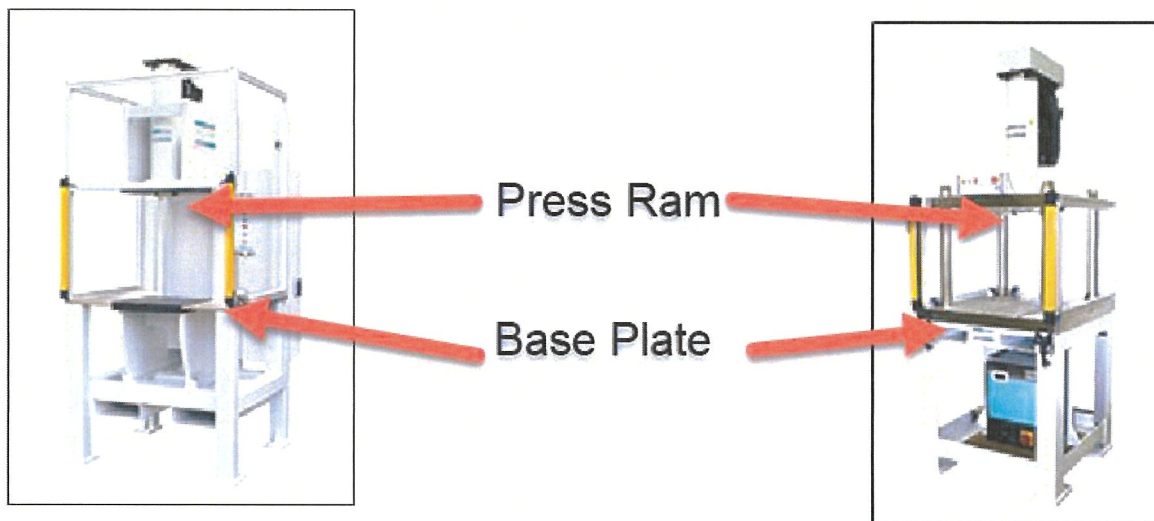
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Problem Statement:

Promess Inc offers two different style standard workstations that people can buy and use in their lab or right on the production floor to assemble components. A lot of times it is critical that the Promess press ram and lower base plate are centered to one another. However, due to variability in the workstations it has proven difficult to create a one size fits all solution that covers the entire product line of workstations. As an example, Promess standard size C-Frame Workstations include Size 1 Standard, Size 1 Extended, Size 2 Standard, Size 2 Extended, Size 3 Standard, Size 3 Extended, Size 4 Standard, Size 4 Extended, Size 5 Standard, and Size 5 Extended



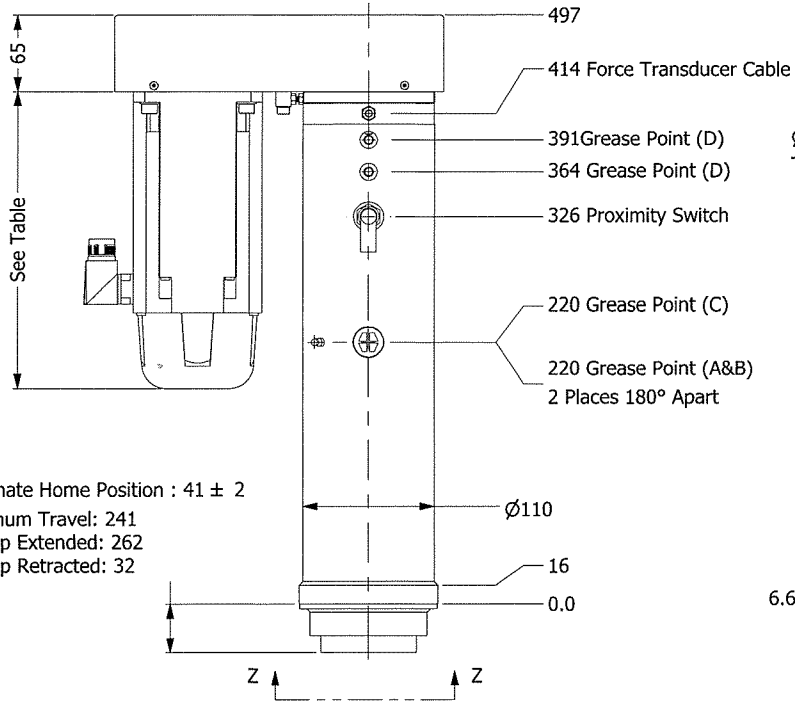
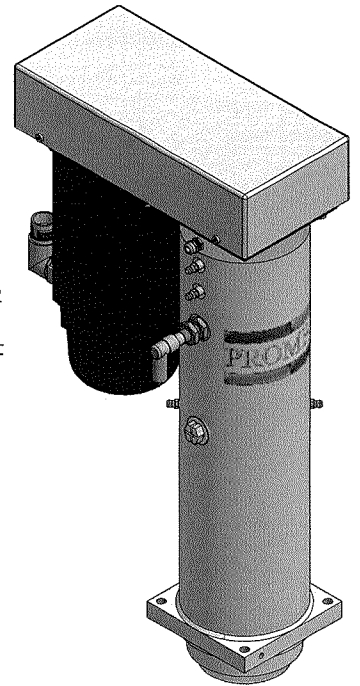
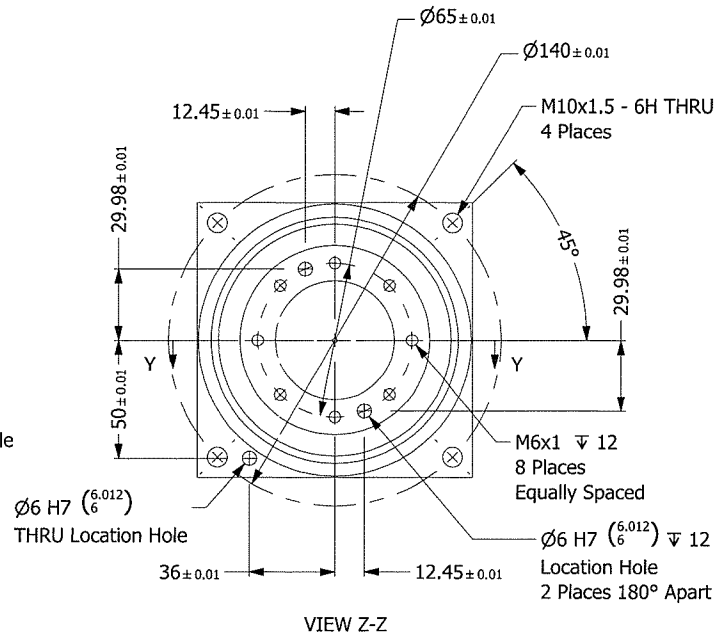
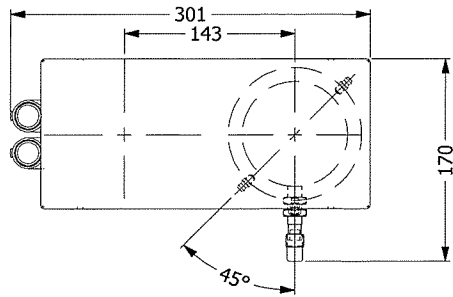
Equipment Provided: Size 1 C-Frame, Base Plate, Upper Plate, EMAP 12kN

Project Requirements,

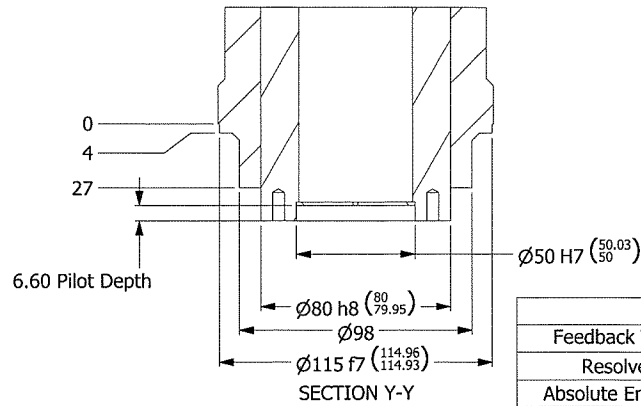
- Needs to be adaptable to entire Promess product line
- Needs to be durable
- Light weight
- Should utilize existing mounting provisions between the press rams and base plates
- Alignment between the center of the ram and base plate should be  $<0.5$  thou ( $<12$  microns) both X and Y direction
- Needs to work with or without the press mounted to the frame

Nice to have


- A way to capture a value for offset between center points
- A way to package and store the equipment when not in use

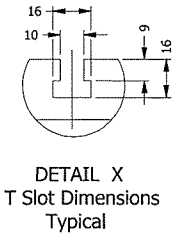
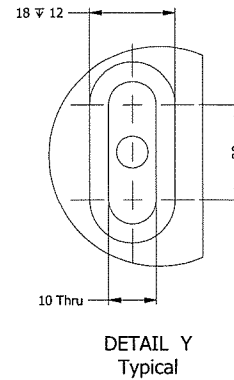
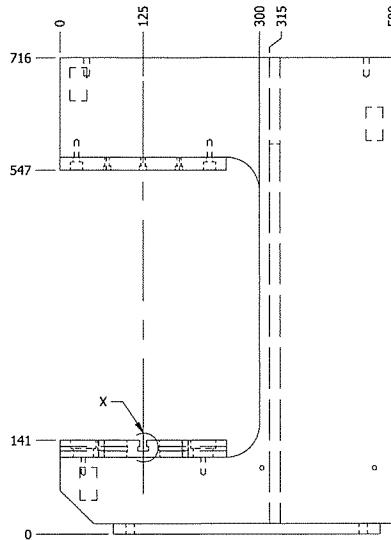
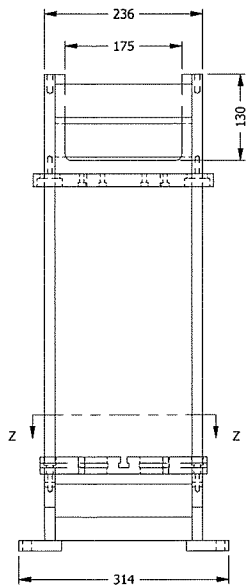
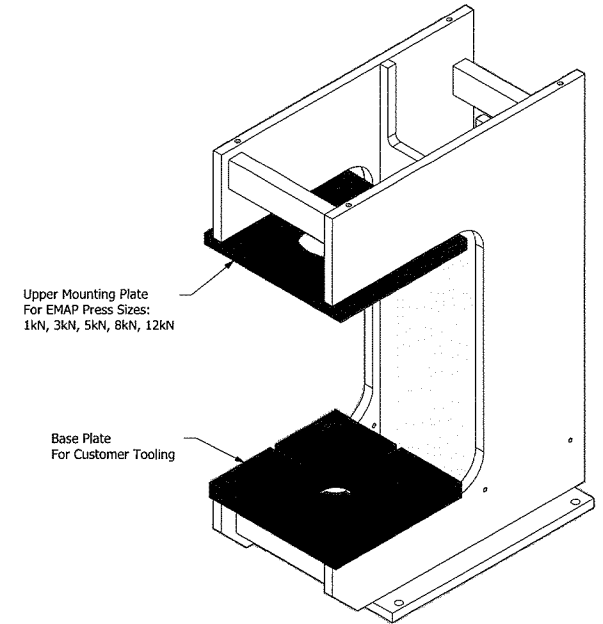
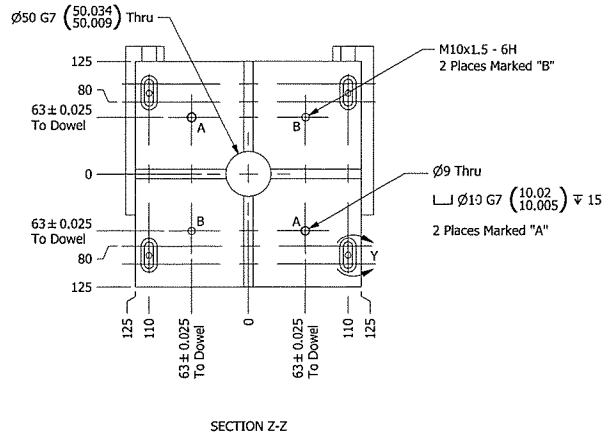
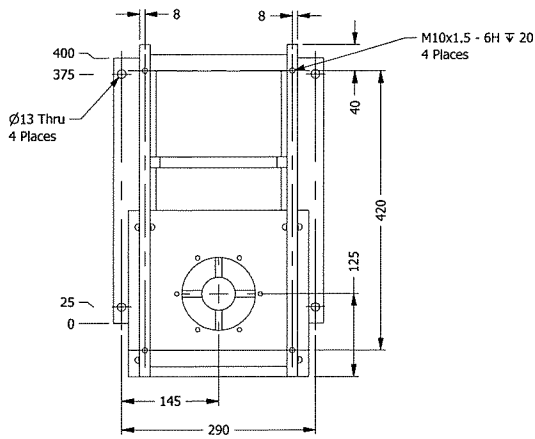


Approximate Home Position :  $41 \pm 2$   
 At Maximum Travel: 241  
 Hard Stop Extended: 262  
 Hard Stop Retracted: 32



Motor Length		
Feedback Type	With Brake	Without Brake
Resolver	235	190
Absolute Encoder	251	208

TITLE		MAX FORCE	MAX STROKE	LINEAR SPEED	MAX TORQUE	ANGULAR SPEED	WEIGHT	Tolerance Unless Otherwise Specified		 11429 Grand River Road Brighton, MI 48116 P.O. Box 748 Phone: 810-229-9334 Fax: 810-229-8125 www.promessinc.com
EMAP 13/200/200 - Standard Drawing		12 kN	200 mm	200 mm/s	N/A	N/A	Approx. 96 lbf	X - 0 Place ± 0.50 mm ±0.02"		
DATE	PROMESS GREASE MAINTENANCE	A & B. KEYWAYS	C. SPINDLE NUT	D. BEARING	INTERVAL	GREASE TYPE	3rd Angle Projection		This information is proprietary. Copyright laws apply. This material is the property of PROMESS, INC. and is not allowed to be copied or passed to a third party without written permission from PROMESS, INC.	
10/1/2019		1.0 cm <sup>3</sup>	0.6 cm <sup>3</sup>	0.8 cm <sup>3</sup>	Every 250k Cycles, or Every 3 Months. Whichever Comes First.	Kluber - ISOFLEX NCA 15	Do Not Scale Drawing Unless Otherwise Specified All Dimensions Are In Millimeters.			



<b>TITLE</b> Size 1 Workstation - Standard C Frame C Frame Only - Standard Drawing		<b>MAX FORCE</b> 12kN	<b>MAX STROKE</b> N/A	<b>LINEAR SPEED</b> N/A	<b>MAX TORQUE</b> N/A	<b>ANGULAR SPEED</b> N/A	<b>WEIGHT</b> 230 lbs	 3rd Angle Projection	Tolerance Unless Otherwise Specified .X 0 Place ± 0.50 mm ±0.02" .X 1 Place ± 0.25 mm ±0.01" .XX 2 Place ± 0.125 mm ±0.005" .XXX 3 Place ± 0.025 mm ±0.001" .XXXX 4 Place ± 0.0025 mm ±0.0001"	 11429 Grand River Road Brighton, MI 48116 P.O. Box 748 Phone: 810-229-9334 Fax: 810-229-8125 www.promessinc.com
<b>DATE</b> 09/07/2018	<b>PROMESS GREASE MAINTENANCE</b>	<b>A &amp; B. KEYWAYS</b> N/A	<b>C. SPINDLE NUT</b> N/A	<b>D. BEARING</b> 10/17/2017	<b>INTERVAL</b> Every 250k Cycles, or Every 3 Months, Whichever Comes First.	<b>GREASE TYPE</b> N/A	Do Not Scale Drawing Unless Otherwise Specified All Dimensions Are In Millimeters.			



