

- SPECIFICATIONS and APPLICATION NOTES:**
- MATERIAL: ANODIZED ALUMINUM AND STEEL**
  - MAX PRESSURE 150 PSIG**
  - MAX TORQUE: ADJUSTABLE FROM 5 TO 55 FT-LB**
  - MAX WORKING (CLOSING) TORQUE: 50 FT-LBS (see note in table)**
  - 225 DEGREES ROTATIONAL TRAVEL.** Note that vise opening distance will depend on specific vise. *Most CNC vises will open about .050" with 180 degrees of rotation. This will be affected by vise lead screw pitch and backlash. Most applications should be set to utilize 170-180 degrees of actuator rotational travel.*
  - 1/4" PUSH TO CONNECT AIR LINE FITTINGS INCLUDED (1/8 PIPE)**
  - OPTIONAL VISE OPEN SENSOR (5-24V M8 3PIN PNP SWITCH WITH MALE CONNECTOR).**

COMPATIBILITY	NOTE
KURT® D688	STANDARD
KURT DX6®	STANDARD
KURT 3600V	STANDARD
KURT D675	STANDARD
KURT 3610V	STANDARD
KURT HD690	STANDARD
ORANGE VISES	REQUIRES HEX ADAPTER AND AN ADAPTER PLATE (\$195 KIT)
SELECT CHICK VISES	REQUIRES HEX ADAPTER & ANTI-ROTATION BLOCKS
OTHER BRANDS	SEND US YOUR VISE BRAND/MODEL & WE'LL VERIFY

**KURT® AND ASSOCIATED VISE MODEL NAMES ARE REGISTERED TRADEMARKS OF THE KURT MFG. COMPANY. RAPID DESIGN SOLUTIONS, LLC IS NOT AFFILIATED WITH THE KURT MFG. COMPANY IN ANY WAY**

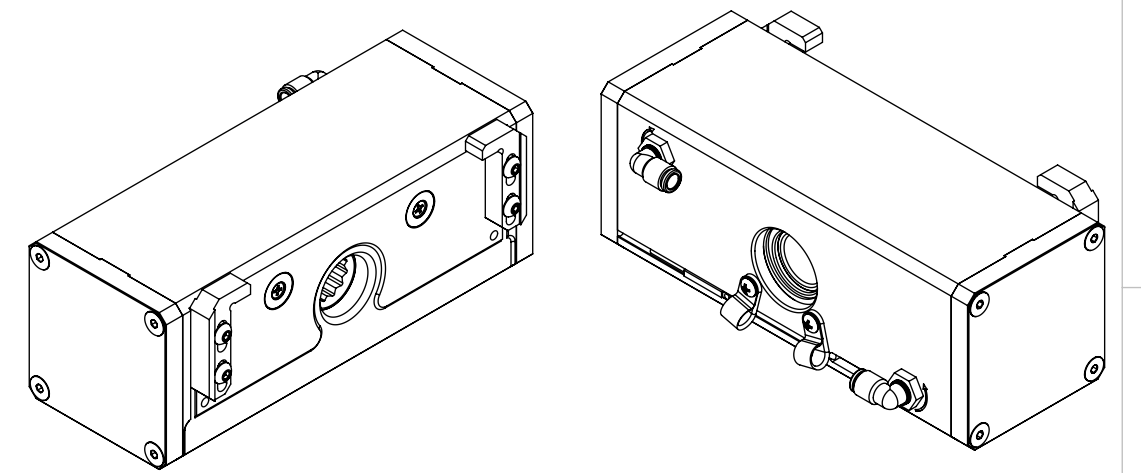
**sales@rapiddesignsolutions.com**  
**rapiddesignsolutions.com/cnc-vise-actuator**  
**425-249-9707**

REV.	DESCRIPTION	DATE	APPROVED
A	PRE-RELEASE	7/25/2019	T.OJALEHTO
B	UPDATED CONTACT AND NOTES	9/11/2019	T.OJALEHTO
C	UPDATED APPLICATIONS AND NOTES	11/20/2020	K.DAVISON
D	ADDED REPEATABILITY NOTES	12/3/2020	T.OJALEHTO

## HIGH TORQUE PNEUMATIC VISE ACTUATOR FOR MACHINE TENDING ROBOTIC WORK CELLS!

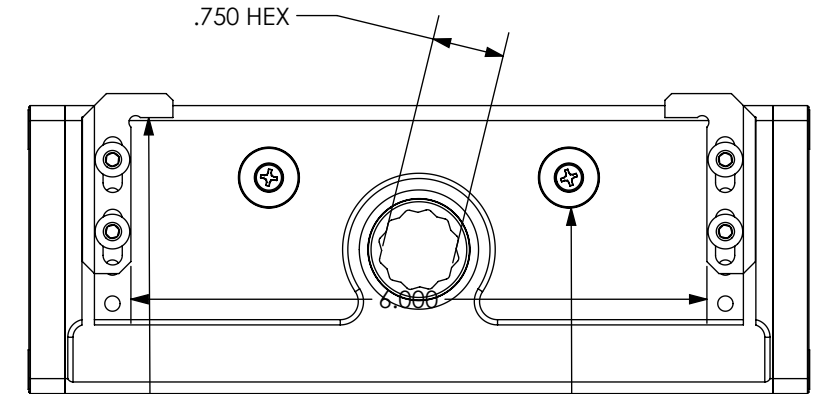
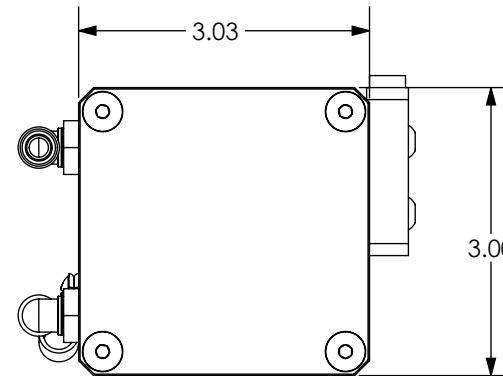
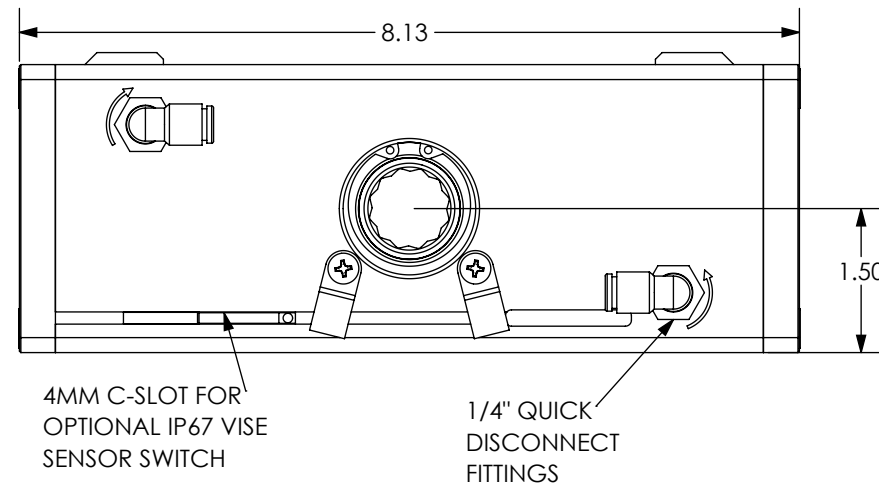
**\*HIGH QUALITY VALVE KIT AND SOFTWARE AVAILABLE FOR PLUG-AND-PLAY OPERATION WITH UNIVERSAL ROBOTS\***

This high precision vise actuator/closer helps you automate your CNC by allowing a Robot to load and unload the workpiece without a human operator. Operates most precision 6" milling machine vises saving you the high cost of new hydraulic vises and pump systems when you need to quickly automate your existing setups! Order with optional IP67 feedback switch for a closed loop workholding system.



Repeatability	
40psi	<.0002"
80psi	<.0002"
120psi	<.0002"

\*Y & Z part location repeatability test performed with Kurt DX6 vise, measuring max variance over 100 cycles. Other vises may vary. See repeatability info on website for more details.



ADJUSTABLE ANTI-ROTATION BLOCKS SECURE THE VISE ACTUATOR AGAINST ROTATIONAL TORQUE FORCES. STANDARD BLOCKS WORK WITH MOST PRECISION 6" MACHINE VISES!

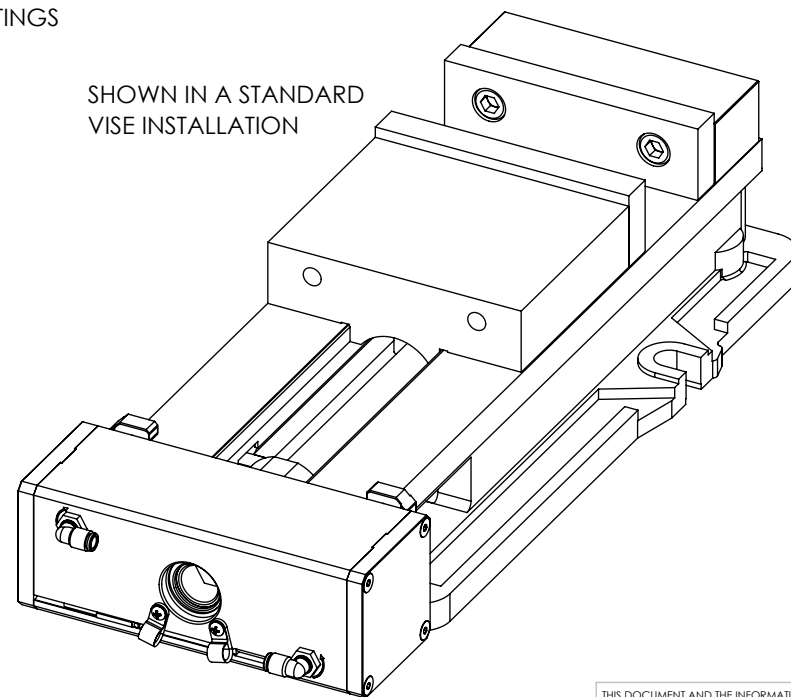
MAGNETIC MOUNTS SNAP THE VISE CLOSER SECURELY IN PLACE WHILE ALLOWING QUICK TOOL-LESS REMOVAL AND ADJUSTMENT: MOVE BETWEEN VISE SETUPS FAST!

PRESSURE INPUT VS. TORQUE		
FOR EACH PSI OF PRESSURE INPUT AN OUTPUT OF APPROXIMATELY .37 FT-LBS OF TORQUE IS GENERATED. TORQUE IS ADJUSTED BY REGULATING INPUT PRESSURE WITH A STANDARD INLINE REGULATOR.		
INPUT PRESSURE PSI [BAR]	OUTPUT TORQUE FT-LB [NM]	APPROX. CLAMPING FORCE W/COMMON 6" MACHINE VISES* LB [kN]
25 [1.7]	9 [12]	500-900 [2.2-4]
100 [6.9]	37 [50]	2700-3100 [12-13.8]
135 [9.3]	50 [68]	3500-4400 [15.5-19.5]
**150 [10.3]	55 [75]	4000-5000 [18-22.2]

\*\*50 FT-LBS (135 PSI) is the max recommended closing torque since some vises require equal or greater torque to open so overhead pressure/torque must be available for this.

\*Approx. force values are provided for general reference only. Actual force will vary depending on the vise type used.

SHOWN IN A STANDARD VISE INSTALLATION



# PATENT NO. 11253973

DRAWN TROY OJALEHTO	DATE 7/24/2019		RAPID DESIGN SOLUTIONS, LLC	
CHECKED	DATE		TITLE HIGH TORQUE CNC VISE ACTUATOR DATASHEET	PART NUMBER RD10070
ENGINEER	DATE	<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN TOLERANCES ARE:</small> .X=±.030 .XX=±.010 .XXX=±.005 .XXXX=±.0010 ANGLE=±1/2° DO NOT SCALE DRAWING	SIZE B	THIRD ANGLE PROJECTION
ENGINEER	DATE		LEGEND:	SCALE
COG ENGR	DATE		■ CRITICAL DIM. ● TOOLING DIM. ▲ PROCESS DIM. XX DIMENSION ID.	SHEET 1 OF 1
MFG ENGR	DATE		THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE PROPRIETARY TO RAPID DESIGN SOLUTIONS, LLC AND SHALL NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF RAPID DESIGN SOLUTIONS, LLC. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE. © 2019 Rapid Design Solutions, LLC	