

SPECIFICATIONS and APPLICATION NOTES:

1. MATERIAL: ANODIZED ALUMINUM AND STEEL
2. MAX PRESSURE 150 PSIG
3. MAX TORQUE: ADJUSTABLE FROM 5 TO 55 FT-LB
4. MAX WORKING (CLOSING) TORQUE: 50 FT-LBS (see note in table)
5. 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.
6. 1/4" PUSH TO CONNECT AIR LINE FITTINGS INCLUDED (1/8 PIPE)
7. OPTIONAL VISE OPEN AND VISE CLOSED SENSORS (5-24V M8 3PIN NPN SWITCHES WITH MALE CONNECTOR). WITH VISE OPEN ONLY IS RECOMMENDED CONFIGURATION.

COMPATIBILITY	NOTE ⁵
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

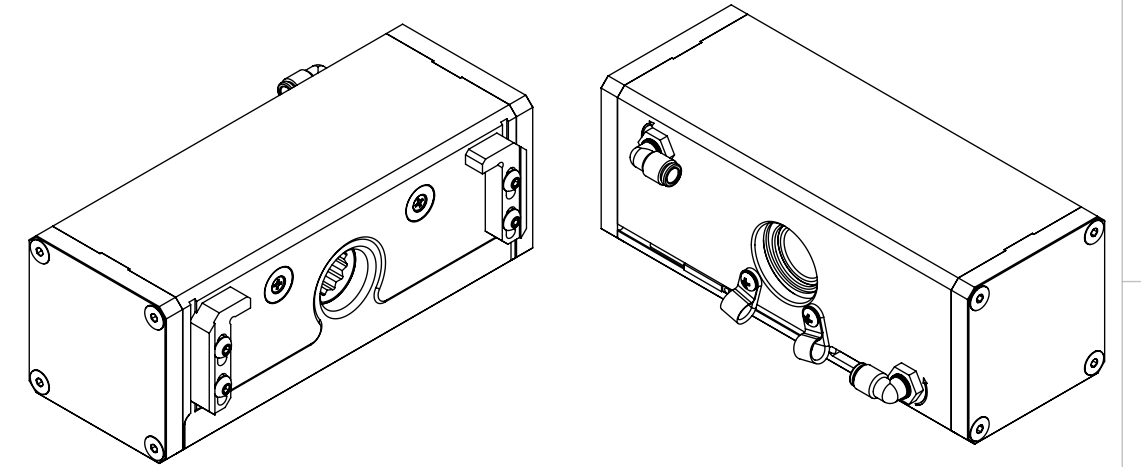
sales@rapiddesignsolutions.com
 rapiddesignsolutions.com/cnc-vise-actuator
 425-249-9707

REV.	DESCRIPTION	DATE	APPROVED
A	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

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

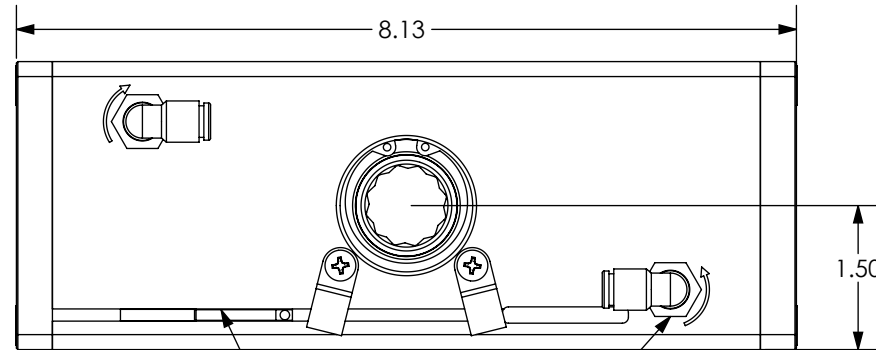
HIGH QUALITY VALVE KIT AND SOFTWARE AVAILABLE FOR PLUG-AND-PLAY OPERATION WITH UNIVERSAL ROBOTS

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 switches for a closed loop workholding system.



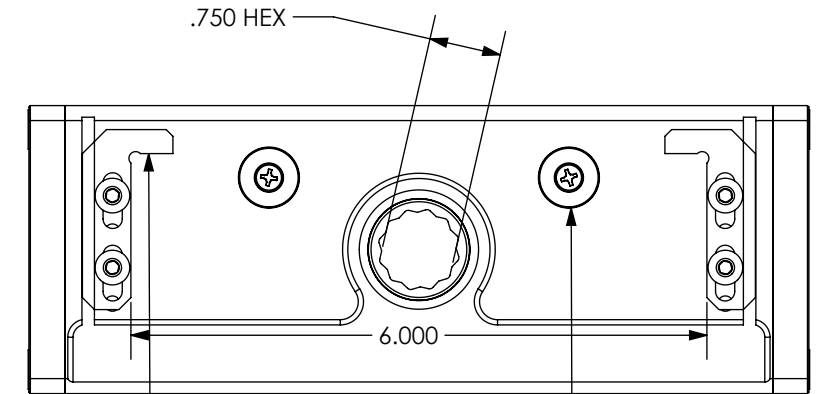
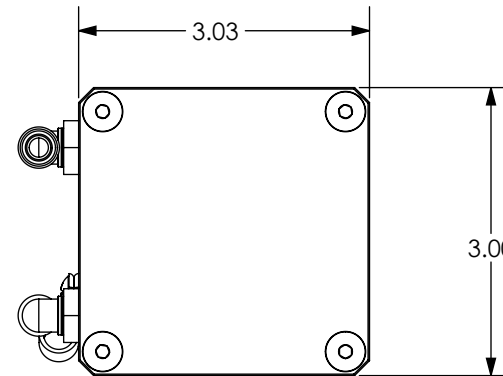
Repeatability	
40psi	<.0002"
80psi	<.0002"
120psi	<.0002"

*Test performed with CNC Vise Actuator and Kurt DX6 Crossover Vise, other vises may vary



4MM C-SLOT FOR OPTIONAL IP67 VISE OPEN AND CLOSE SENSOR SWITCHES

1/4" QUICK DISCONNECT FITTINGS



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!

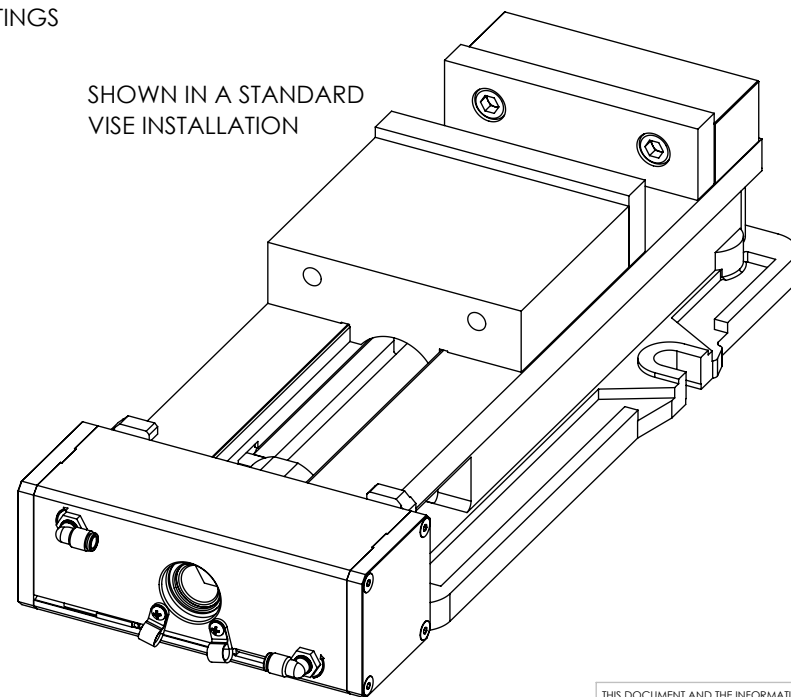
PRESSURE INPUT VS. TORQUE
 FOR EACH PSI OF PRESSURE INPUT AN OUTPUT OF APPROXIMATELY .37 FT-LBS OF TORQUE IS GENERATED. TORQUE IS ADJUSTED BY REGULATING INPUT PRESSURE WITH A STANDARD INLINE REGULATOR.

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 PENDING

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	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN TOLERANCES ARE: .X=±.030 .XX=±.010 .XXX=±.005 .XXXX=±.0010 ANGLE=±1/2° DO NOT SCALE DRAWING	SIZE B	THIRD ANGLE PROJECTION	
ENGINEER	DATE		LEGEND:	SCALE	SHEET 1 OF 1
COG ENGR	DATE		■ CRITICAL DIM. ● TOOLING DIM. ▲ PROCESS DIM. XX DIMENSION ID.		
MFG ENGR	DATE				
TOOLING	DATE				
QUALITY	DATE				
RELEASED	DATE				

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