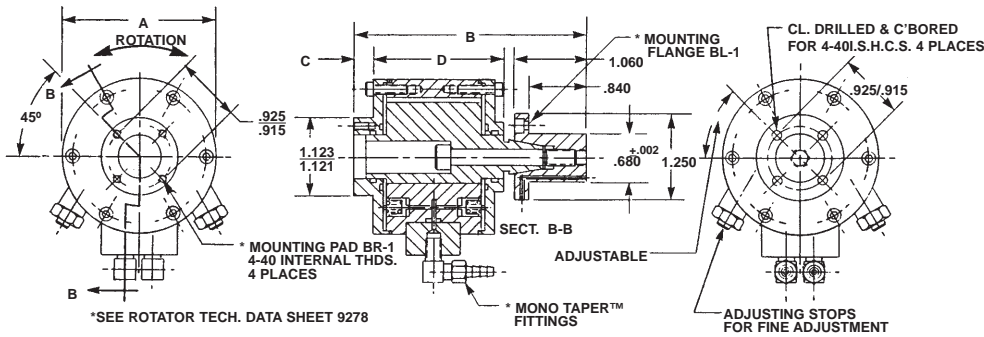
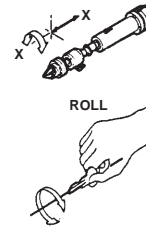


B•A•S•E® ROLL ROTATOR - SER. 2



GRAPHICALLY



MODEL NO.	ANGULAR ROTATION (DEGREES)	TORQUE @ 80 PSI (IN. LB.)	±.015 A DIA.	NOM. B	±.010 C	NOM. D	APPROX. WT. (OZ.)
3045	90°	4	1.740	2.960	.100	1.700	9
3046	180°						
3047	90°	8	2.240	3.320	.160	2.000	13
3048	180°						
3049	90°	12	2.490	3.380	.220	2.000	17
3050	180°						

APPLICATION

ROLL ROTATORS may be used as simple rotation devices or mounted between B•A•S•E® GRIPPERS and B•A•S•E® TRANSPORTERS to provide rotation of a part in a simple robotic application. A full six-axis, non-servo robot with gripper may be assembled with appropriate combination of B•A•S•E® ROBOTIC COMPONENTS.

SPICIFICATIONS

MATERIALS: ALUMINUM ALLOY, STAINLESS STEEL, & BEATING BRONZE
 FLUID MEDIUM: PNEUMATICS (SHOP AIR)
 MAXIMUM OPERATING PRESSURE: 150 PSI
 MAXIMUM OPERATING TEMPERATURE: 250° F.
 INTERNAL LUBRICATION: LO-PRO® LUBE
 ROTATIONAL RANGE: 90° AND 180° (NON-SERVO MODE)
 ANGULAR ADJUSTMENT: PRECISION MECHANICAL STOPS
 LOW TORQUE DAMPING: INCORPORATED WITHIN THE UNIT
 HIGH TORQUE DAMPING: EXTERNAL DAMPING MAY BE REQUIRED
 CYCLE RATE: ONE CYCLE PER SECOND

DESCRIPTION

B•A•S•E® ROLL ROTATORS are part of an integrated product line of BASIC AUTOMATION SYSTEMS ELEMENTS for a "Start Simple Approach" to practical robotics and programmed automation.

Essentially a ROLL ROTATOR is a precision vane-driven mechanism operated by pneumatic pressure for rotating small loads through angles of 90° and 180°.

The ROLL nomenclature is assigned in order to differentiate between this product and "PITCH / YAW ROTATORS" offered under the same trademark.

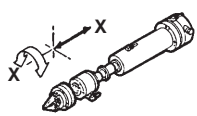
Mounting can be to any convenient structure and in any position. Mounting between a B•A•S•E® GRIPPER and a TRANSPORTER provides rotation for a simple robotic motion.

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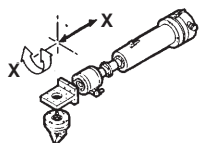
Operation is positive with pressure in both clockwise and counter-clockwise rotations. Maximum operating pressure is 150 PSI. Torque is approximately proportional to inlet pressure. Most applications operate directly on plant air at 80 PSI using regular solenoid-operated four-way valves.

An electromechanical timer may be used for elementary sequence control, a programmable controller for intermediate levels of control and a computer may be used when these units are incorporated into sophisticated robot systems.

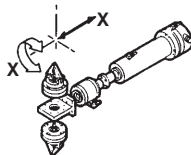
COMPONENT SELECTION



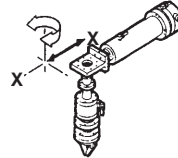
GRIPPER MOUNTED IN-LINE WITH THE X-X AXIS. ROLL MOTION IS ABOUT THE X-X AXIS.



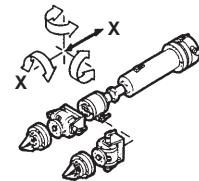
GRIPPER MOUNTED NORMAL TO THE X-X AXIS. ROLL MOTION IS ABOUT THE X-X AXIS.



TWO GRIPPERS MOUNTED OPPOSING AND NORMAL TO THE X-X AXIS. ROLL MOTION IS ABOUT THE X-X AXIS.

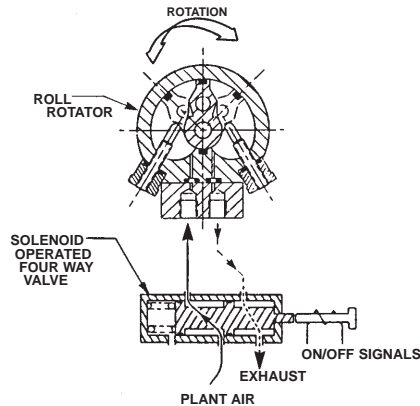


GRIPPER & ROLL UNIT MOUNTED NORMAL TO THE X-X AXIS. ROLL MOTION IS ABOUT THE X-X AXIS.

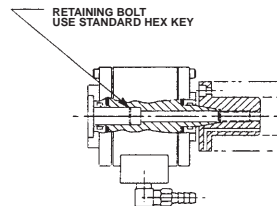


GRIPPER MOUNTED TO A PITCH/YAW ROTATOR WHICH IS MOUNTED TO A ROLL ROTATOR. ROLL ROTATION OF 90° PROVIDES WRIST MOTION IN BOTH PITCH AND YAW.

SCHEMATIC



ADJUSTMENTS



NOTE:
 Nominal position for the "basic operating range" is properly set when both adj. screws are flush with locknuts. Adj. screws are for fine tuning within ±10° of nominal.
 To place the "basic operating range" in another quadrant—loosen retaining bolt, rotate assem. and re-tighten.

