

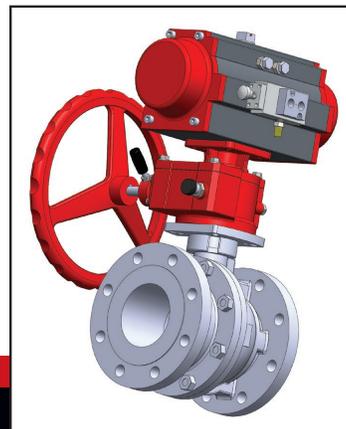
TRIAQ®

CONTROLS

A Division of A-T Controls



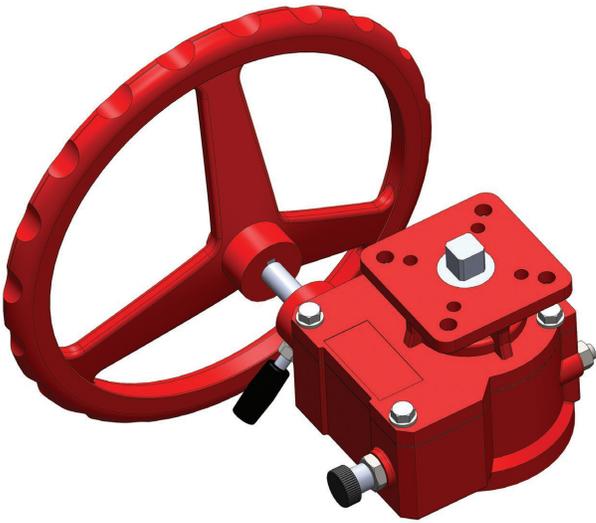
Declutchable Gear Override



3RDGO



3KDGO



The Triac Declutchable Gear Override

“Sandwich Mounts” between a pneumatic quarter-turn actuator and a ball, butterfly, plug valve or damper. This rugged device allows for manual operation during installation and system testing or in the event of an air supply failure.

The 3RDGO Series mounts directly to many of the most popular rack and pinion style actuators on the market, and does not require a bracket and coupler between the pneumatic actuator and declutchable override. The units come complete with a three-stage coupler that connects to the pneumatic actuator, through the gear override, and to the valve or coupler.

Output torques cover a broad range of pneumatic actuator and Quarter-Turn Valve-Damper applications that require a declutchable manual gear override.

FEATURES

- 2 industry standard Mounting Patterns - ISO (3RDGO) and Keystone (3KDGO)
- 3 Stage Coupler (Actuator, Gear, Valve)
- Rugged Declutch Lever and Engagement Handle
- BBV - Block and Bleed Valve to exhaust supply air from actuator

There are three series available:

- **3RDGO**
Matches the ISO 5211 dimensions
- **3KDGO**
Matches the Keystone 3.25 and 5.00 bolt patterns
- **3DGOSO9 (A & B)**
For the THD Series with an ISO Output Pattern

ISO - 3R Series

ACTUATOR SIZE	MODEL	TORQUE RATING (In-Lbs)	GEAR RATIO	ACTUATOR SIDE MOUNTING					VALVE SIDE MOUNTING				
				L	M	J	BCD	HOLE DIA	L	M	K	BCD	TAP SIZE
3R40	3RDGO-14	500	32 : 1	0.551	0.75	0.59	1.968	0.28	0.551	0.75	0.71	1.968	1/4-20
							2.756	0.35				2.756	5/16-18
3R80 3R130 3R200	3RDGO-19	2,150	36 : 1	0.748	1.02	0.71	2.756	0.35	0.748	1.02	0.78	2.756	5/16-18
							4.016	0.41				4.016	3/8-16
3R300	3RDGO-22	3,650	36 : 1	0.866	1.19	0.87	2.756	0.35	0.866	1.19	1.06	2.756	5/16-18
							4.016	0.41				4.016	3/8-16
3R500 3R700 3R850	3RDGO-27	9,000	48 : 1	1.063	1.47	1.06	4.016	0.41	1.063	1.47	1.06	4.016	3/8-16
							4.921	0.55				4.921	1/2-13
3R1000 3R1200 3R1750	3RDGO-36	15,000	64 : 1	1.417	1.97	1.46	4.921	0.55	1.417	1.97	1.65	5.512	5/8-11
							5.512	0.67					
3R2400 3R2500	3RDGO-46A	36,000	96:1	1.811	2.56	1.81	6.496	0.78	1.811	2.56	2.13	6.496	3/4-10
3R2700 3R3300 3R3500	3RDGO-46B	47,000	471 : 1	1.811	2.56	1.81	6.496	0.78	1.811	2.56	2.13	6.496	3/4-10

KEYSTONE - 3K Series with Double D Flats

ACTUATOR SIZE	MODEL	TORQUE RATING (In-Lbs)	GEAR RATIO	ACTUATOR SIDE MOUNTING					VALVE SIDE MOUNTING				
				N	P	J	BCD	HOLE DIA	N	P	K	BCD	TAP SIZE
3K40	3KDGO-38	500	36 : 1	0.56	0.375	1.25	3.250	0.41	0.56	0.38	1.38	3.250	3/8-16
3K80 3K130 3K200	3KDGO-50	2,150	36 : 1	0.75	0.500	1.25	3.250	0.41	0.75	0.50	1.38	3.250	3/8-16

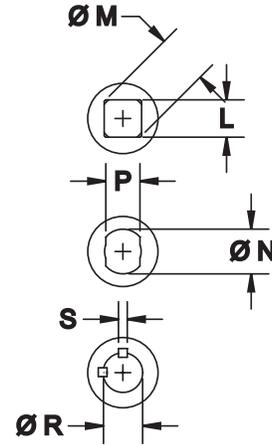
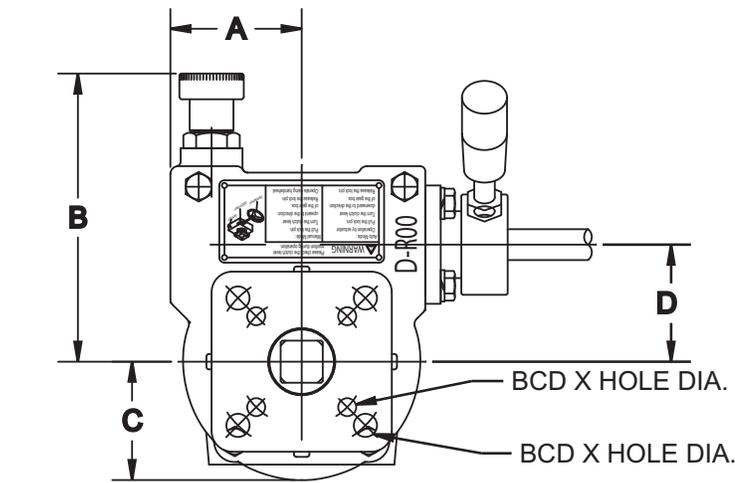
KEYSTONE - 3K Series with 1.125 Dia. with 1/4" Square Key

ACTUATOR SIZE	MODEL	TORQUE RATING (In-Lbs)	GEAR RATIO	ACTUATOR SIDE MOUNTING					VALVE SIDE MOUNTING				
				R	S	J	BCD	HOLE DIA	R	S	K	BCD	TAP SIZE
3K300	3KDGO-300	3,650	36 : 1	1.125	0.25	2.00	3.250	0.41	1.125	0.25	2.00	3.250	3/8-16
3K500	3KDGO-500	9,000	48 : 1	1.125	0.25	2.00	3.250	0.41	1.125	0.25	2.00	3.250	3/8-16
3K850							5.000	0.55				5.000	1/2-13
3K1200	3KDGO-1200	15,000	64 : 1	1.125	0.25	2.00	5.000	0.55	1.125	0.25	2.00	5.000	1/2-13

THD - S09 Heavy Duty with ISO Output Shaft

S09 ACTUATOR SIZE	MODEL	TORQUE RATINGS (In-Lbs)	GEAR RATIO	ACTUATOR SIDE MOUNTING					VALVE SIDE MOUNTING				
				R	S	J	BCD	HOLE DIA	R	S	K	BCD	TAP SIZE
200-280	3DGO-S09A	47,000	471 : 1	2.362	18 x 11 MM	2.63	6.496	0.85	2.362	18 x 11 MM	2.63	6.496	M20
335-385	3DGO-S09B	72,000	958 : 1	2.362	18 x 11 MM	2.63	6.496	0.85	2.362	18 x 11 MM	2.63	6.496	M20

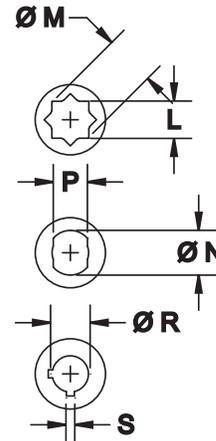
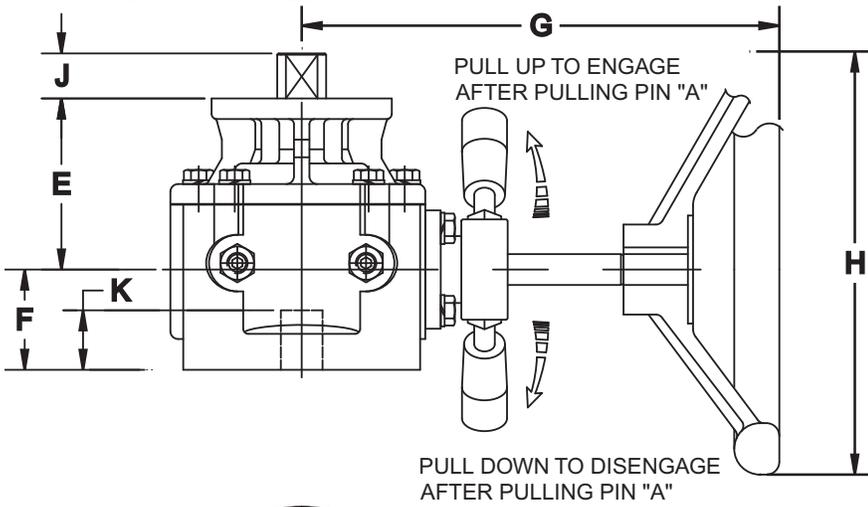
Torque rating is based on output shaft design.
Rim pull for the rated torque does not exceed 80lbs.



3RDGO

3KDGO

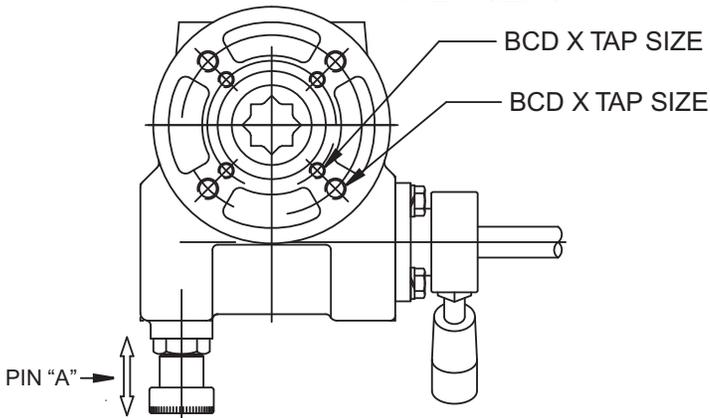
3KDGO



3RDGO

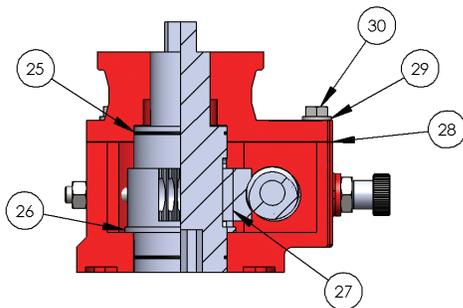
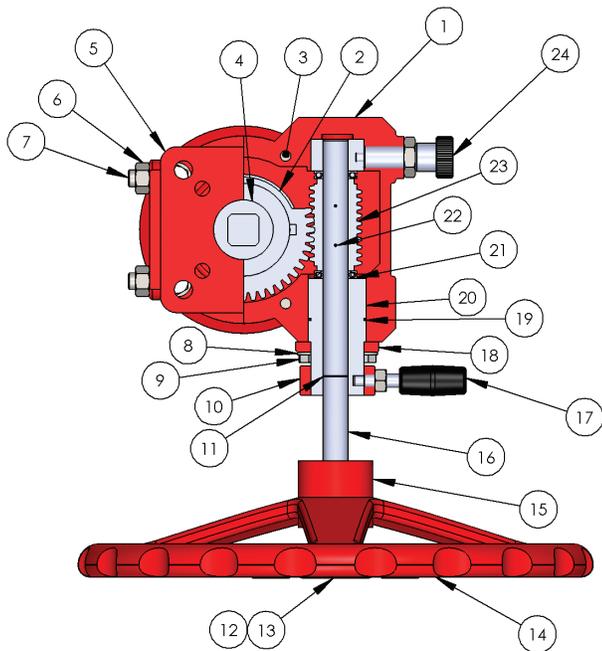
3KDGO

3KDGO



PULL PIN "A" AND ROTATE TO ENGAGE AND DISENGAGE THE GEAR

GEAR RATIO	A	B	C	D	E	F	G	H	WEIGHT (LBS)
32 : 1	2.00	4.41	1.81	1.81	2.64	1.50	7.48	7.87	18.00
36 : 1	2.68	4.92	1.97	2.24	3.39	1.85	8.86	12.20	40.00
48 : 1	3.19	6.46	3.03	3.07	4.09	2.09	10.24	15.75	66.00
64 : 1	4.25	7.87	3.35	4.33	4.84	2.80	11.97	19.69	110.00
96 : 1	6.65	11.34	5.75	6.97	6.42	3.54	17.40	31.50	218.00



PART NO	DESCRIPTION	QTY	MATERIAL
1	HOUSING	1	DUCTILE IRON
2	WORM WHEEL	1	DUCTILE IRON
3	HOUSING PIN	2	CARBON STEEL
4	DRIVE COUPLER	1	CARBON STEEL
5	COVER	1	DUCTILE IRON
6	STOP BOLT NUT	2	CARBON STEEL
7	STOP BOLT	2	CARBON STEEL
8	SIDE COVER WASHER	4	CARBON STEEL
9	SIDE COVER BOLT	4	CARBON STEEL
10	POSITION ADAPTER	1	CARBON STEEL
11	WORM SHAFT O-RING	1	NBR NITRILE RUBBER
12	HAND WHEEL BOLT	1	CARBON STEEL
13	HAND WHEEL WASHER	1	CARBON STEEL
14	HAND WHEEL	1	CARBON STEEL/ DUCTILE IRON
15	WORM SHAFT KEY	1	CARBON STEEL
16	WORM SHAFT	1	CARBON STEEL
17	POSITION LEVER ASSEMBLY	1	CARBON STEEL / PLASTIC
18	SIDE COVER	1	CARBON STEEL PLATED
19	DECLUTCH CAM BUSHING O-RING	1	NBR NITRILE RUBBER
20	DECLUTCH CAM BUSHING	1	DUCTILE IRON
21	THRUST BALL BEARING	2	BEARING STEEL
22	WORM PIN	2	CARBON STEEL
23	WORM	1	CARBON STEEL
24	POSITION LOCK PIN ASSEMBLY	1 SET	CARBON STEEL/ PLASTIC
25	WORM WHEEL O-RING	2	NBR NITRILE RUBBER
26	THRUST BEARING	1	ALUMINUM BRONZE
27	COUPLING KEY	1	CARBON STEEL
28	GASKET	1	OIL PAPER
29	COVER WASHER	4	CARBON STEEL
30	COVER BOLT	4	CARBON STEEL

See IOM for BOM drawing of 3RDGO-46B, 3DGO-S09A, and 3DGO-S09B.

BBV - Block and Bleed Valves

- The NAMUR mounted BBV for TRIAC® actuators is used as a bypass valve with a manual override to shut off supply air and vent actuator ports. It may also be used as a lockout valve which, when properly implemented, will satisfy OSHA Standard 1910.147 *The Control of Hazardous Energy*.

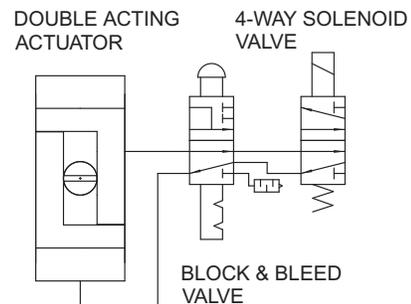
BBV - Block and Bleed Valves

The BBV - Block and Bleed Valve shuts off the supply air and vents the pneumatic actuator, allowing manual operation.

- Manual operation purges air from one side of the pistons to the other, preventing corrosive atmospheres from being drawn into the actuator.
- Directly mounts to the NAMUR air porting of the pneumatic actuator, eliminating tubing and fittings.
- Can be combined with other NAMUR accessories such as NAMUR-NPT and TVC solenoid valves.



Specifications	
Temperature Range:	-20°F to +180°F
Pressure Range:	20 psig to 120 psig
Media:	Dry or lubricated (<i>non-corrosive gas compatible with nitrile seals</i>)
Flow Coefficient:	Cv = 1.75



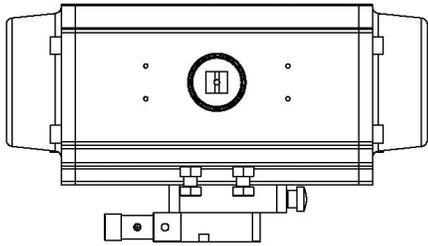
Bill of Material of NAMUR-BBV.

Item	Material
Body	Aluminum, Anodized
Spool	Aluminum, Anodized
End Cap	Aluminum, Anodized
Seals	Nitrile, Buna
Knob	Plastic

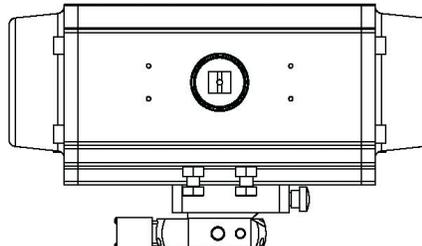
Drawing P1984

General arrangement drawing for 3R Series Rack & Pinion actuators with NAMUR-BBV Block & Bleed Valve with the TVCS, TVC5, and TVC6 solenoids.

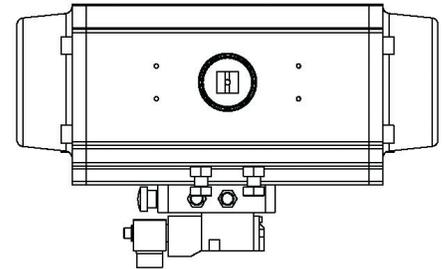
THE D20-106 BLOCK & BLEED HANDLE IS ON THE RIGHT SIDE FOR THE TVCS, TVC6 AND ON THE LEFT SIDE FOR THE TVC5



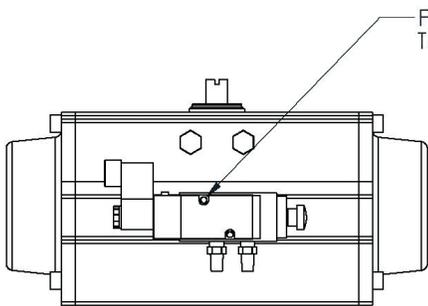
USE 2 EA M5 X 55 MM SOCKET HEAD CAP SCREWS



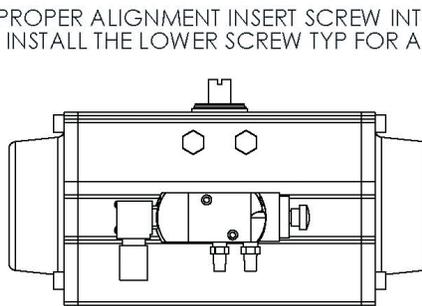
USE 2 EA M5 X 55 MM SOCKET HEAD CAP SCREWS



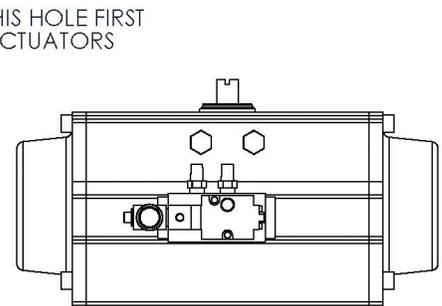
USE 2 EA M5 X 60 MM SOCKET HEAD CAP SCREWS



TRIAC TVCS SOLENOID WITH D20-106 BLOCK & BLEED



TRIAC TVC6 (ASCO) SOLENOID WITH D20-106 BLOCK & BLEED



TRIAC TVC5 (VERSA) SOLENOID WITH D20-106 BLOCK & BLEED

Part Number Matrix

Model Number	Size	Designation	Option
3RDGO	14	L	Low Temperature Silicone Seals (-40°C to 82°C) (-40°F to 180°F)
	19		
	22	V	High Temperature FKM Seals (-18°C to 177°C) (0°F to 350°F)
	27		
	36	M	Marine Powder Coating
	46A		
3KDGO	46B		
	38		
	50		
	300		
3DGO	500		
	1200		
	S09A		
	S09B		

Note: Standard temperature rating is -5°F to 175°F.

Example: 3RDGO-36-V

(Declutchable Gear Override with 19.69" (500mm) Dia Handwheel. 64:1 Gear Ratio. Mounts directly to 3R1000, 3R1200, & 3R1750 with FKM Seals)

Declutchable Gear Override



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