

# Engineering Manufacturing Services



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Monroe, NC 28110

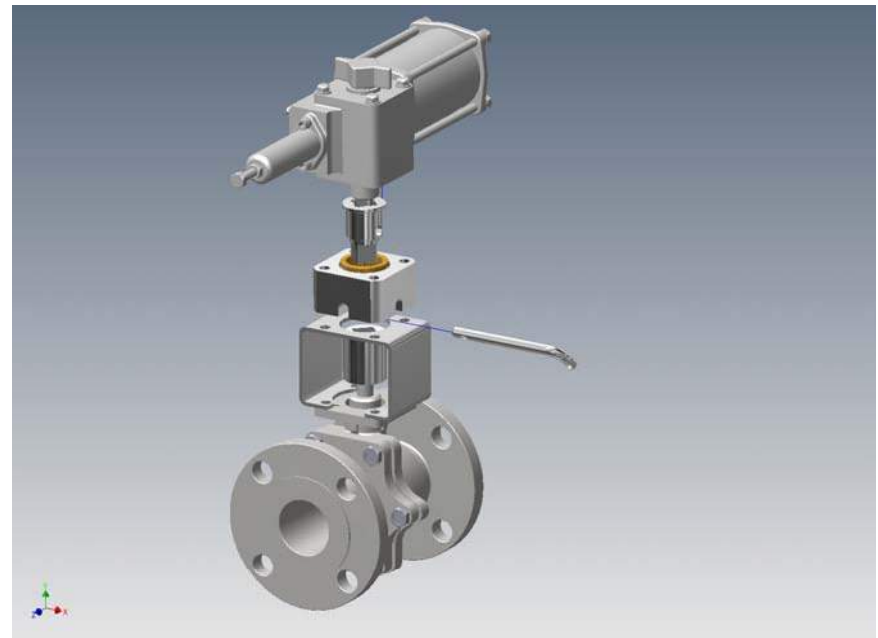
# About



- Est. 1985 and incorporated 1988
- 12500 sq. foot manufacturing facility with offices
  - 17 full time employees
  - Licensed engineer on staff

# Engineering

- Design and CAD drawings generated for every kit before production
- 3D modeling available
- Vast mounting information on valves and actuators from brands A-Z



# Equipment

- LVD 150 ton 10' 5 axis CNC press brake
- LVD  $\frac{1}{2}$ "-10' hydraulic shear
- Abrasive waterjet CNC cutting system
- Haas vertical machining center



# Equipment

- Okuma LBX 3000 EX with live tooling and "Y" axis
- Okuma MV460 vertical machining center
- Haas CNC lathes
- Chevalier CNC lathes



# Manufacturing

- EMS manufactures kits using 303/304/316 stainless steel and other materials upon customer request
- Manufactured parts are 100% inspected
- All parts are marked with a part number for fast and easy reorders
- Kits are packaged with fasteners and/or accessories as required



# Mounting Kits



16" 600# Rockwell to a  
Bettis G50



20" Xomox 20367 to a  
Mastergear M60



# EMS Mounting Kit Specification

## **General**

- \* EMS standard mounting kit is 300 series SS
- \* All kits are designed by trained designers and approved by a licensed engineer
- \* AutoCAD drawings are generated for each part
- \* All manufactured parts are 100% inspected
- \* All parts are marked with a part number for easy reorder
- \* All kits are packaged with fasteners and/or accessories and labeled with customer's PO# and EMS kit number.

## **Bracket Specification**

- \* 304SS is our standard, but any material may be quoted
- \* EMS does not use SS tubing
- \* Brackets are made from SS plate by shearing or by waterjet
- \* EMS bends the final bracket to height tolerances of  $\pm 0.030$ ".
- \* All brackets are deburred and time saved for a uniform and attractive appearance

## **Coupling Specification**

- \* Couplings are cut from 303SS round bar, but any material may be quoted
- \* Couplings will not interfere with valve packing
- \* Couplings are made on CNC machining centers
- \* Couplings are pocket milled for highest strength and quality

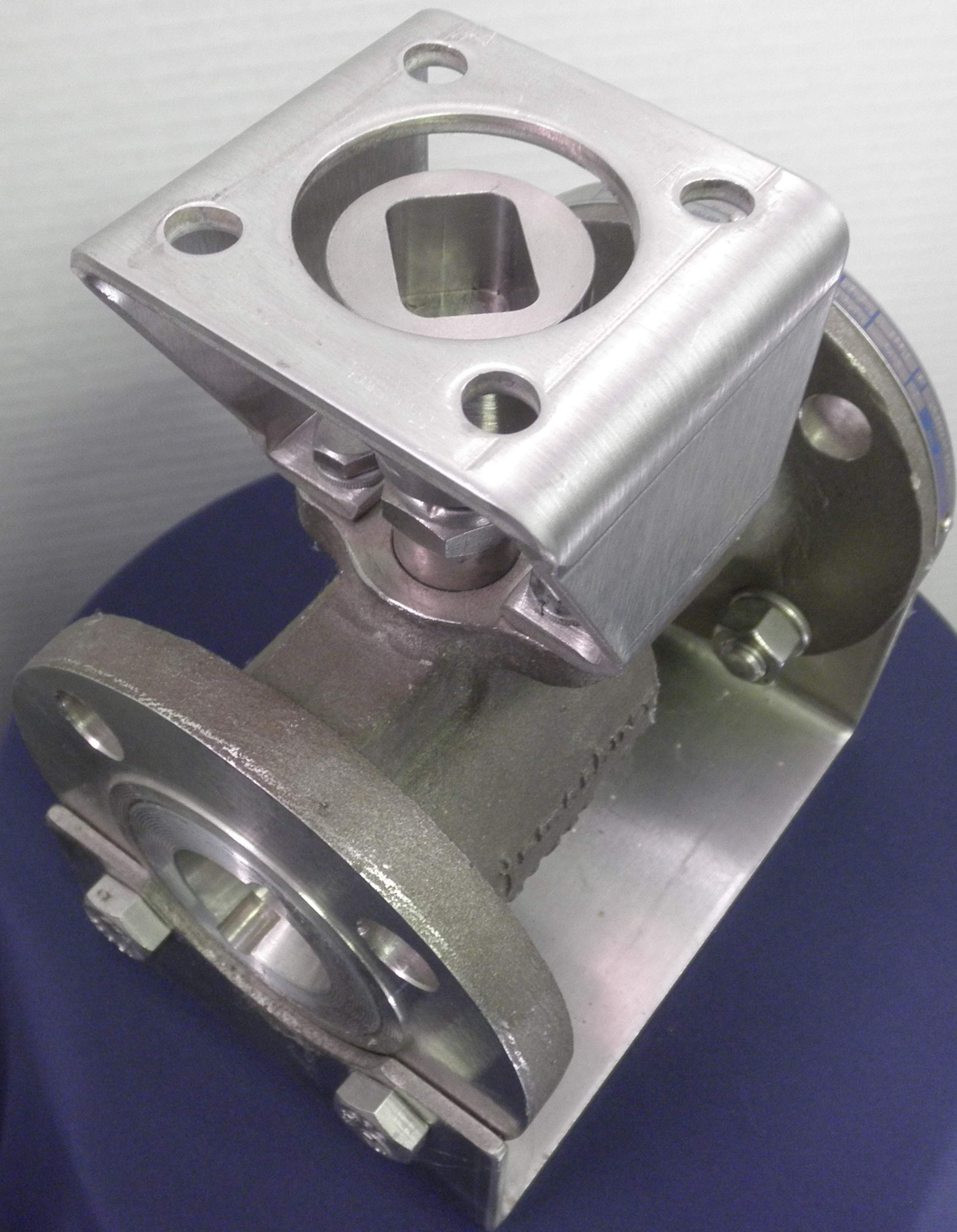














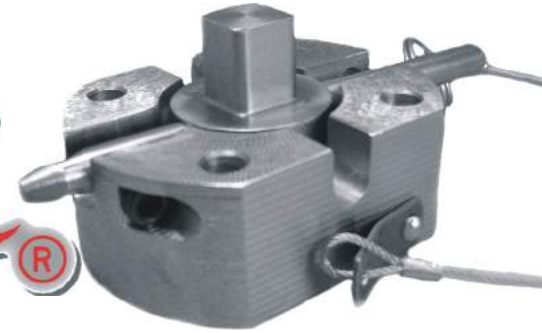
# AdjustaLok®/RetroLok®



Locking out automated valve package  
For additional information, please visit [www.emsco-nc.com/retrolok.html](http://www.emsco-nc.com/retrolok.html)



# AdjustaLok®



Engineering Manufacturing Services featured product is the AdjustaLok®. This product allows you to install a locking device without modifications to existing butterfly valve automation packages.

The AdjustaLok® can accommodate packages which have variable travel such as high performance butterfly valves and 3-way plug valves.

The installed locking pin flag allows quick determination of whether the quarterturn valve is locked open or closed from a convenient distance!

The AdjustaLok® can be installed by standard automation technicians.

Custom designs are offered



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*5634 Cannon Drive*

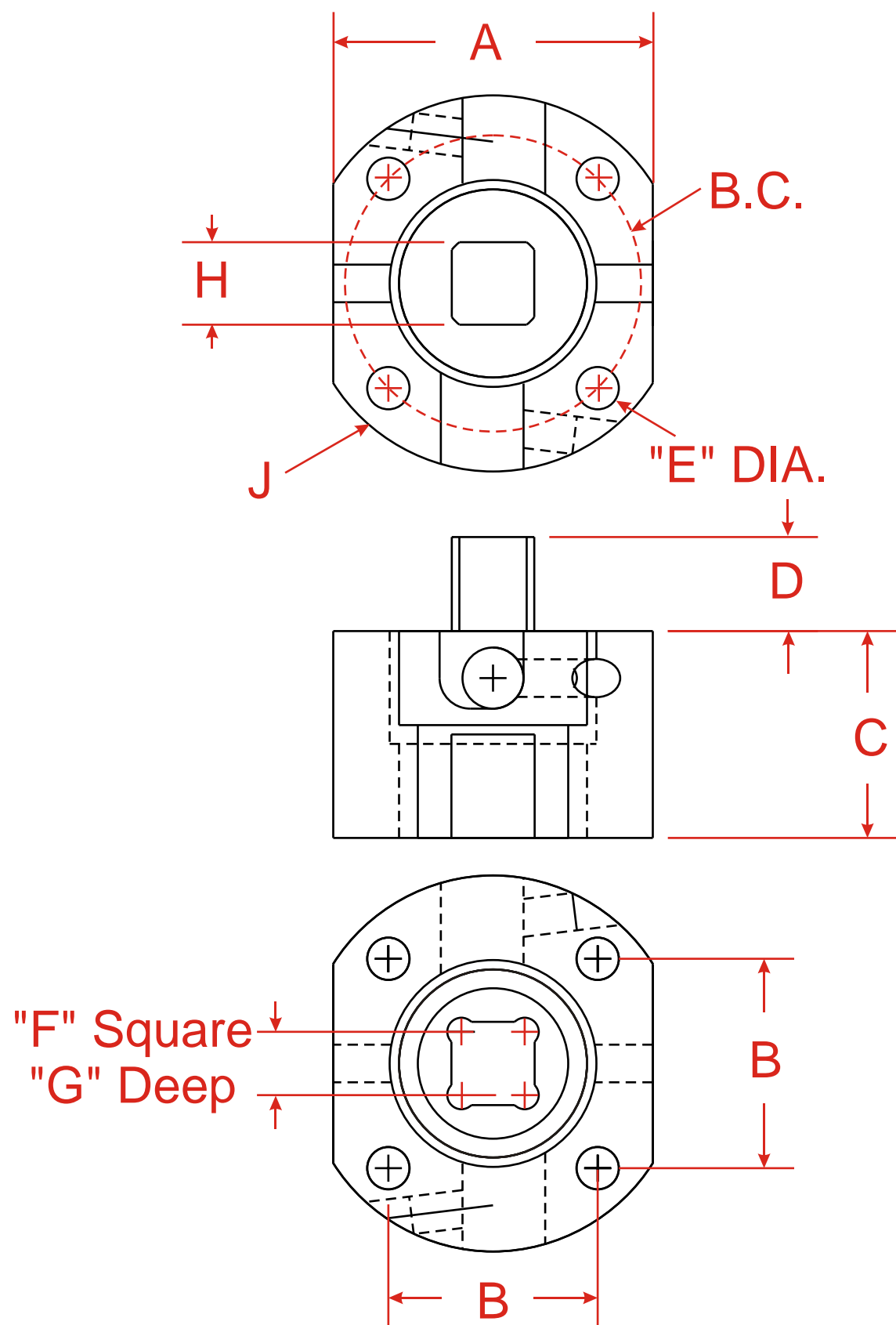
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## ADJUSTALOK MOUNTING DETAILS

MODEL	B	B.C.	A	C	D	E	F	G	H	J
<b>F05/14</b>	1.39	1.969	2.125	1.375	0.63	0.28	0.551	0.63	0.550	2.50
<b>F07/17</b>	1.95	2.756	2.75	1.25	0.70	0.34	0.669	0.70	0.669	3.50
<b>F07/19</b>	1.95	2.756	2.75	1.25	0.75	0.34	0.748	0.70	0.748	3.50
<b>F10/22</b>	2.84	4.016	3.50	1.63	0.88	0.41	0.866	1.00	0.866	4.75
<b>F10/27</b>	2.84	4.016	3.50	1.63	1.13	0.41	1.06	1.13	1.063	4.75
<b>F12/27</b>	3.48	4.920	4.50	1.81	1.13	0.56	1.06	1.13	1.063	6.00
<b>F14/36</b>	3.89	5.512	5.25	1.938	1.25	0.69	1.417	1.25	1.416	6.50
<b>F16/46</b>	4.6	6.496	6.25	3.75	1.88	0.844	1.816	2.00	1.810	8.00

**NOW AVAILABLE FOR  
OTHER ACTUATORS**



**CALL, FAX OR EMAIL US**

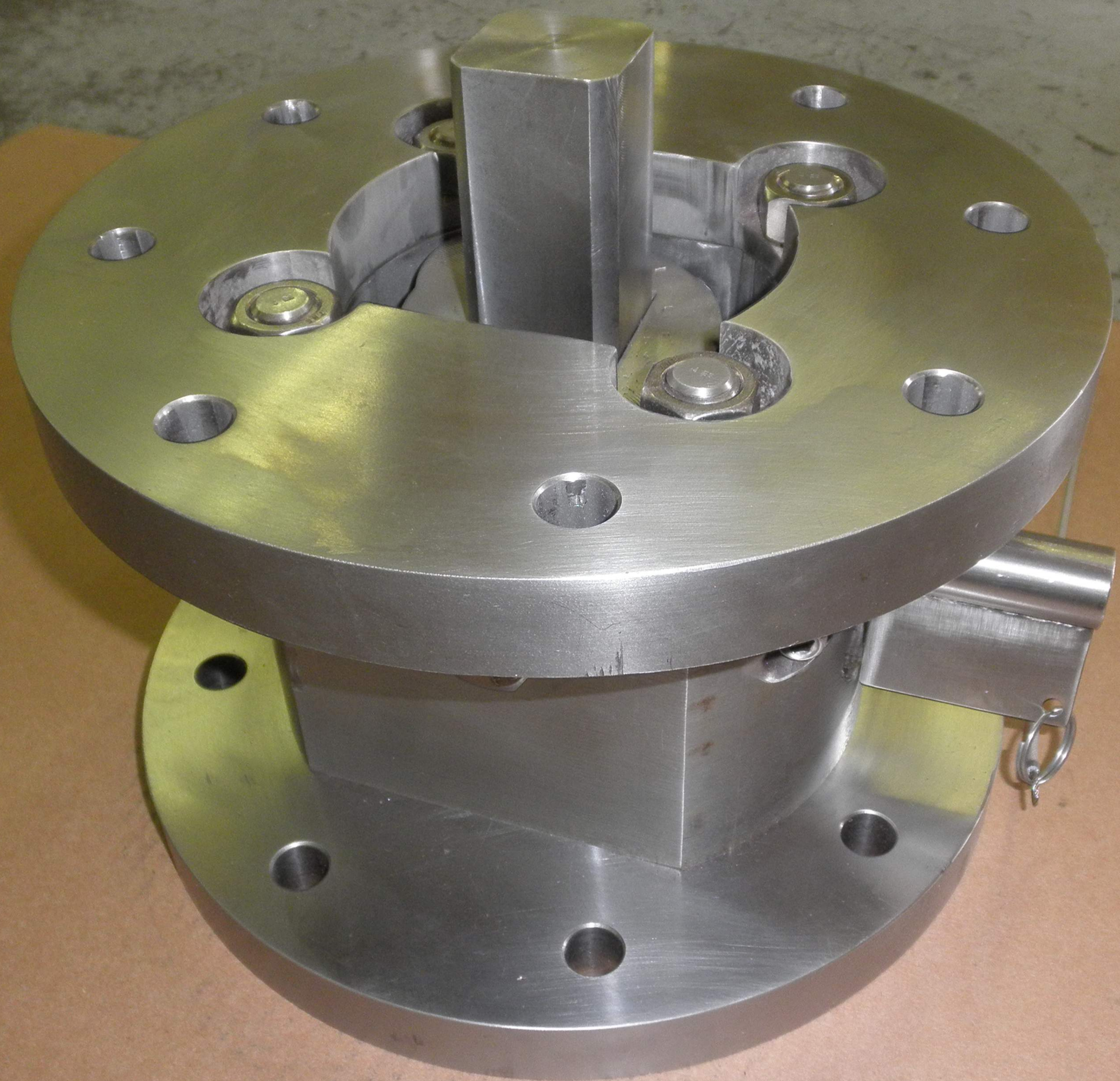
***Engineering Manufacturing Services Company***

*Phone: 704-821-7325*

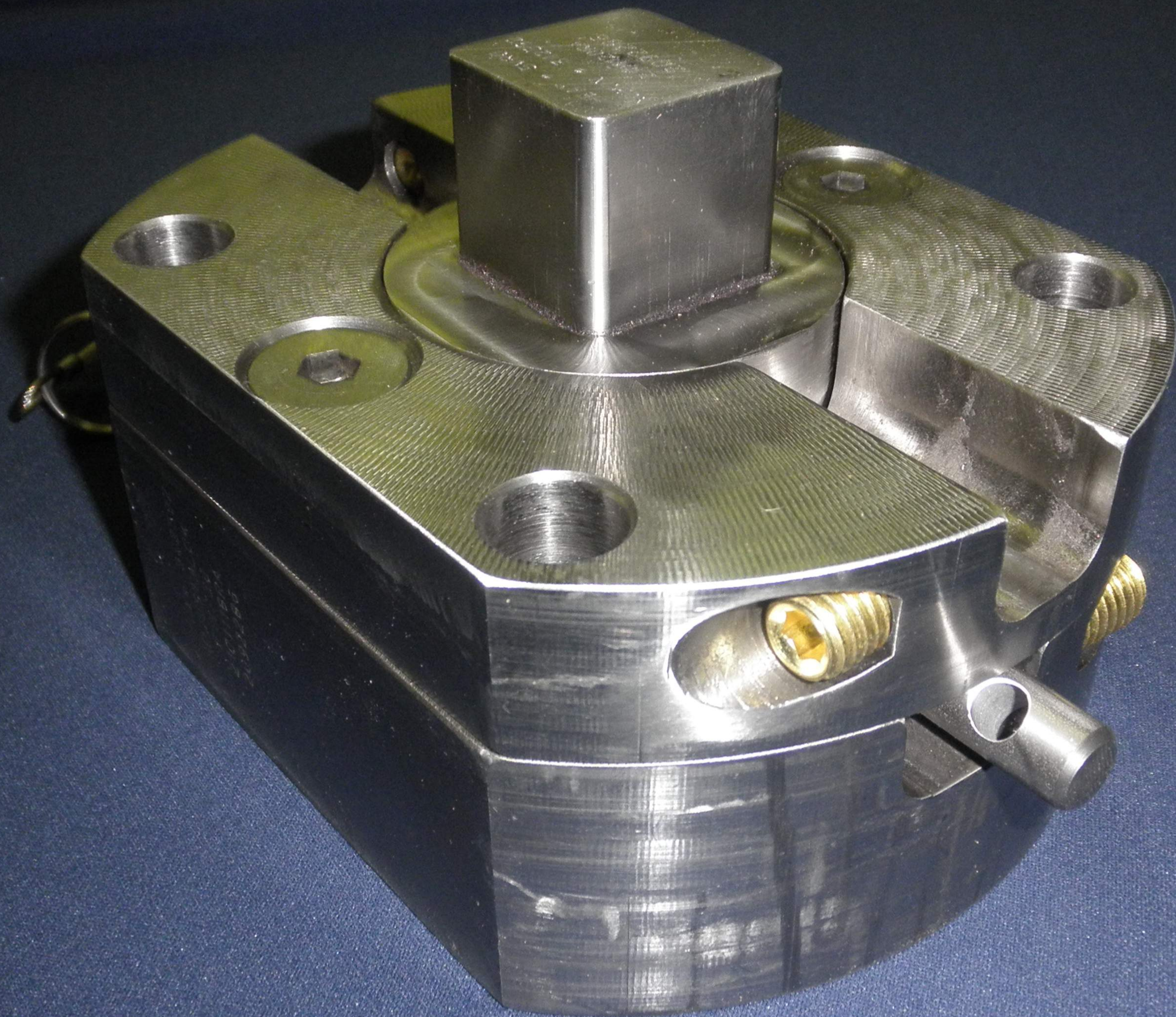
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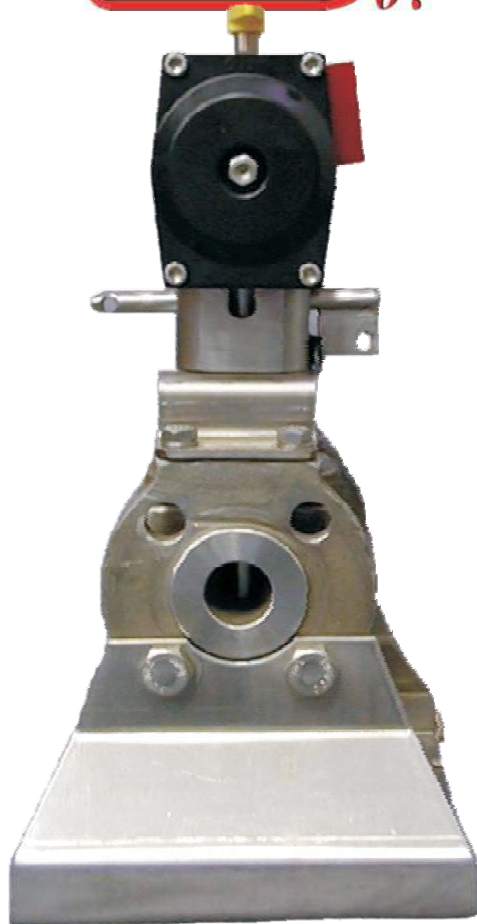












# RetroLok<sup>®</sup>

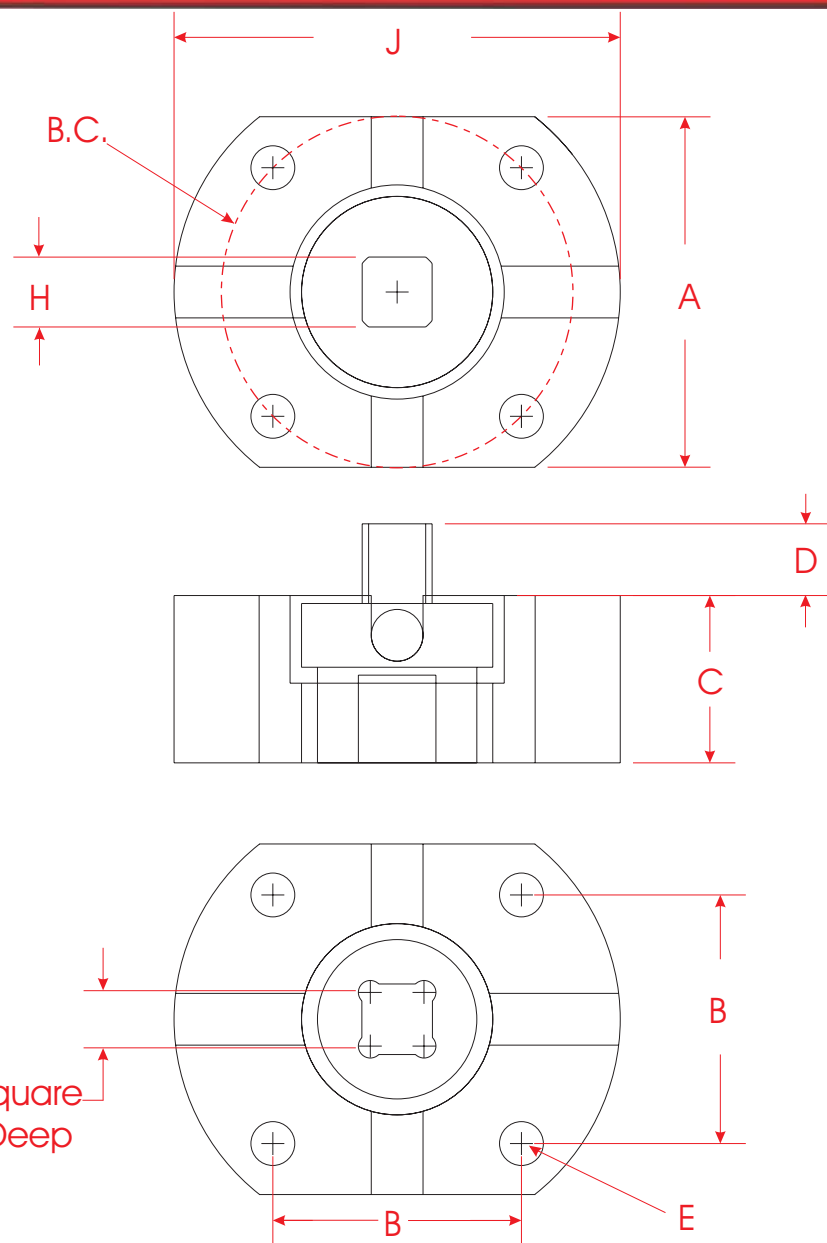
**RetroLok** is a locking device that can be installed without modification to existing automation packages.

This device allows quick visual determination from a distance of whether the quarterturn valve is locked open or closed by the locking pin.

No special skills required for installation.



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## RETROLOK MOUNTING DETAILS

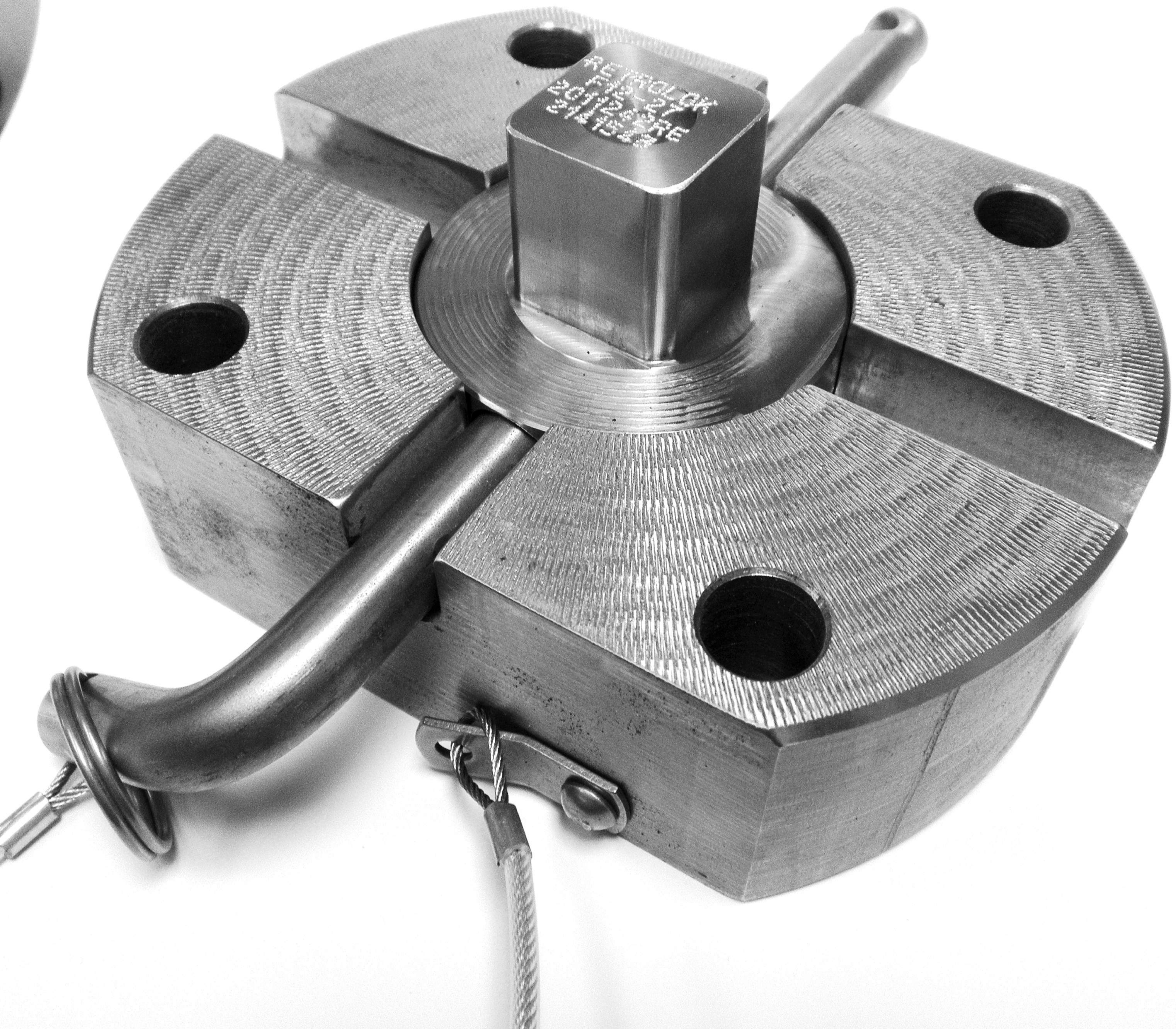
MODEL	B	B.C.	A	C	D	E	F	G	H	J
<b>F05/14</b>	1.39	1.969	2.125	1.438	0.63	0.28	0.551	0.63	0.550	2.50
<b>F07/17</b>	1.95	2.756	2.75	1.313	0.70	0.34	0.669	0.70	0.669	3.50
<b>F07/19</b>	1.95	2.756	2.75	1.313	0.75	0.34	0.748	0.70	0.748	3.50
<b>F10/22</b>	2.84	4.016	3.50	1.688	0.88	0.41	0.866	1.00	0.866	4.75
<b>F10/27</b>	2.84	4.016	3.50	1.688	1.13	0.41	1.06	1.13	1.063	4.75
<b>F12/27</b>	3.48	4.920	4.50	1.873	1.13	0.56	1.06	1.13	1.063	6.00
<b>F14/36</b>	3.89	5.512	5.25	1.938	1.25	0.69	1.417	1.25	1.416	6.50
<b>F16/46</b>	4.6	6.496	6.25	3.75	1.88	0.844	1.816	2.00	1.810	8.00

**NOW AVAILABLE FOR OTHER ACTUATORS**  
 MATRYX MX60-1250, VANE, BETTIS CB SERIES, KINETROL  
 CALL FOR OTHERS

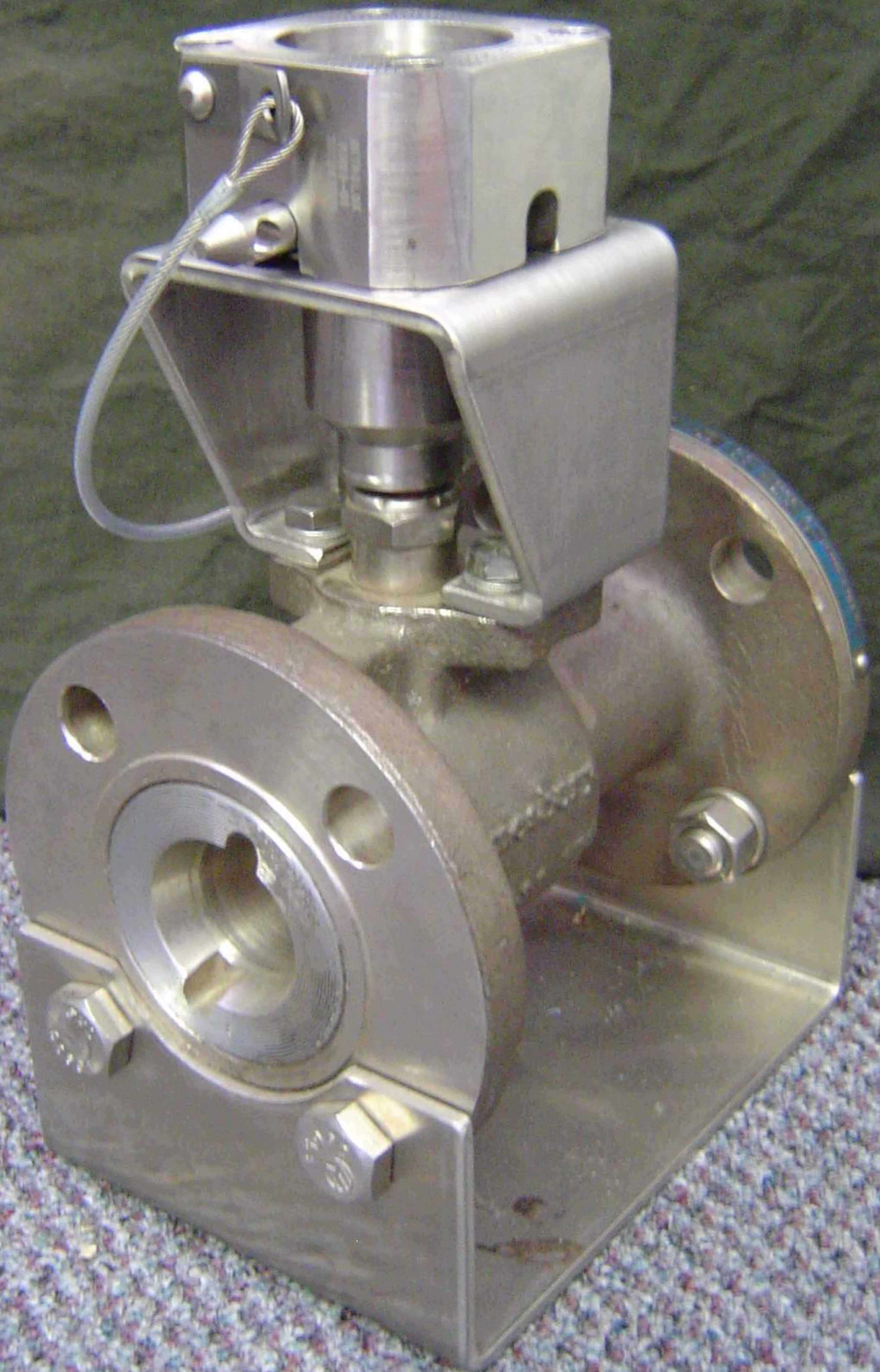


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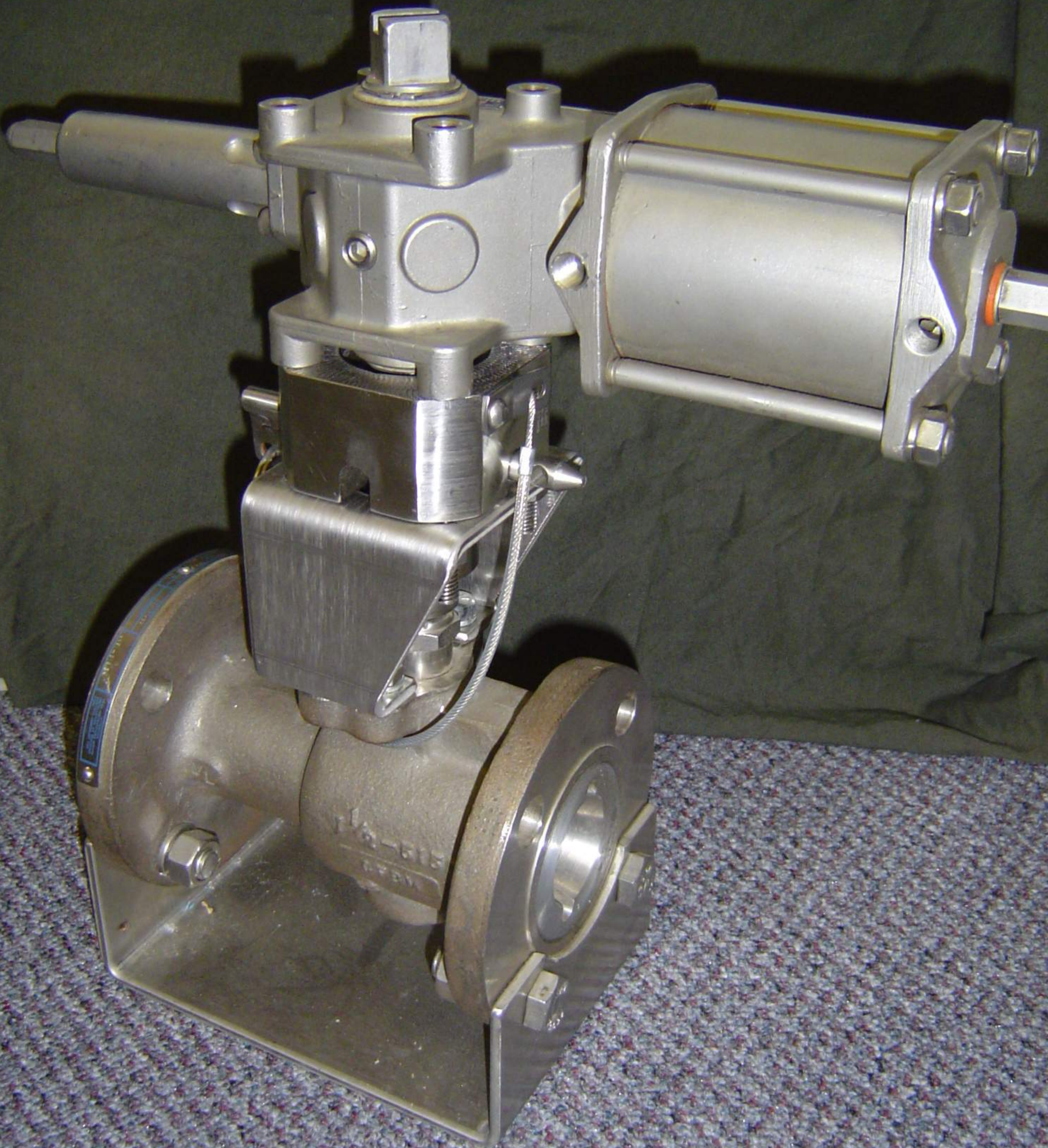
















## HOW TO ORDER **RETROLOK®** & **ADJUSTALOK®**

### ISO MOUNT ACTUATOR

<b>A</b>	<b>A-1</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>A</b>	<b>A-1</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<u>ISO</u>	<u>DRIVE SIZE</u>	<u>HOUSING MAT.</u>	<u>COUPLER MAT.</u>	<u>SHAPE &amp; CONFIG.</u>	<u>STUD TYPE</u>
F05	14 MM	<u>SS</u> -Stainless Steel	<u>SS</u> -Stainless Steel	<u>Standard</u> :	<u>I</u> -Imperial thread
F07	17MM	304/303	Only	<u>DD</u> -Double D Body	studs and nuts.
F10	19MM	<u>CS</u> -Carbon Steel	Standard: Coupler		
F12	22MM	<u>AL</u> -Aluminum	at 90°	SQ=Square Body	<u>M</u> -Metric thread
F14	27MM				studs and nuts.
F16	36MM		* Coupler at 45°	<u>ADJ</u> -AdjustaLok®-	
	46MM		also available	allows for overtravel in	
				closed position	

**EXAMPLES: F07/17/SS/SS/DD**

**F07/17/SS/SS/DD/M**

#### STANDARD ASSEMBLIES AVAILABLE

F05/14/SS/SS/DD	F07/19/SS/SS/DD	F10/27/SS/SS/DD	F14/36/SS/SS/DD
F05/14/SS/SS/DD/M	F07/19/SS/SS/DD/M	F10/27/SS/SS/DD/M	F14/36/SS/SS/DD/M
F07/17/SS/SS/DD	F10/22/SS/SS/DD	F12/27/SS/SS/DD	F16/46/SS/SS/DD
F07/17/SS/SS/DD/M	F10/22/SS/SS/DD/M	F12/27/SS/SS/DD/M	F16/46/SS/SS/DD/M

INQUIRE FOR PRICING OF NON-STANDARD ASSEMBLIES

[sales@emsco-nc.com](mailto:sales@emsco-nc.com) OR

[emscompany@emsco-nc.com](mailto:emscompany@emsco-nc.com) OR

PHONE: 704-821-7325



## NON ISO MOUNT ACTUATOR

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Make &amp; Model No.</b>	<b>Housing Mat.</b>	<b>Coupler Mat.</b>	<b>Shape &amp; Config.</b>	<b>Stud Type</b>
<u>Matryx</u> MX60 MX200 MX450-1250 MX3000	<u>SS</u> -Stainless Steel 304/303 <u>CS</u> -Carbon Steel <u>AL</u> -Aluminum	<u>SS</u> -Stainless Steel Only  Standard: Coupler at 90°	<u>Standard:</u> <u>DD</u> -Double D Body  <u>Special</u> SQ-Square Body	I-Imperial thread studs and nuts.  M-Metric thread studs and nuts.
<u>Bettis</u> CB315/415 CB420/520 CB525/725		* Coupler at 45° also available	<u>ADJ</u> - AdjustaLok®- allows for overtravel in closed position	
<u>Kinetrol</u> KN07-100 KN189-100 KN209-100				
<u>Morin</u> _B06-15 _B23-144				

EXAMPLES: MX200/SS/SS/DD  
KN189-100/SS/SS

### STANDARD ASSEMBLIES AVAILABLE

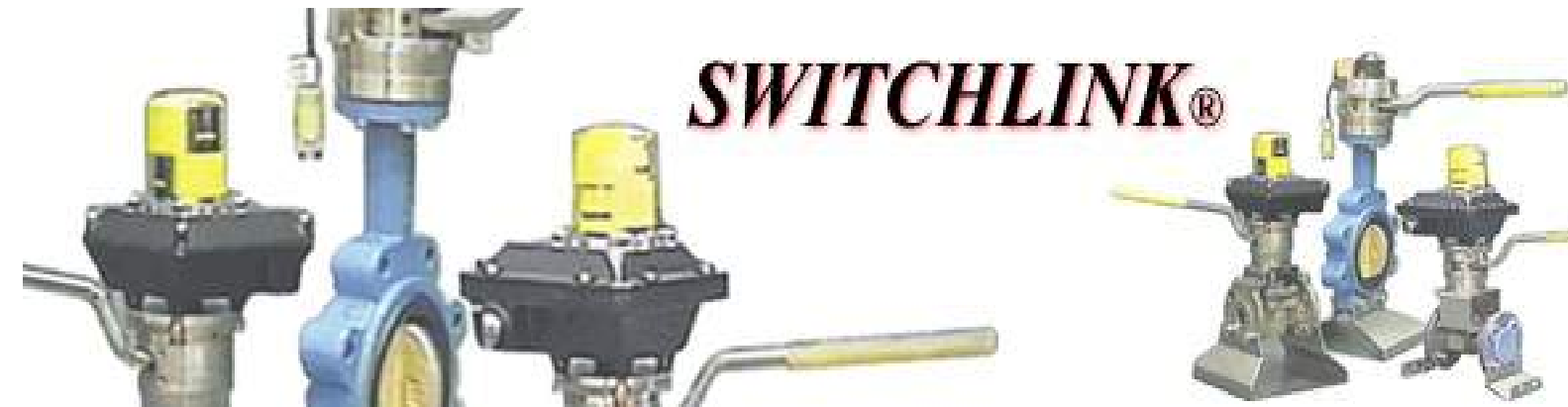
MX60/SS/SS/DD	CB315/415/SS/SS/ADJ	KN07-100/SS/SS	Morin_B06-015/SS/SS
MX200/SS/SS/DD	CB315/415/SS/SS/DD	KN189-100/SS/SS	Morin_B06-015/CS/SS
MX200/CS/SS/DD	CB420/520/SS/SS/DD	KN209-100/SS/SS	Morin_B23-144/SS/SS
MX450-1250/SS/SS/DD	CB525/725/SS/SS/ADJ		
MX450-1250/CS/SS/DD			
MX3000/AL/SS			
MX3000/AL/SS/DD			

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PHONE: 704-821-7325



Engineering Manufacturing Services featured product is the SwitchLink®. This product is a robust mechanical handle actuator used to manually operate a valve while providing a standardized switch/signal mounting surface.

Stainless steel is standard, other alloys available

No more problems with sheet metal mounting kits wearing out or the switch disengaging

No more yearly re-design due to handle casting changes

No more waiting 4 weeks for custom designs

What was once a difficult and frustrating task is now simple with Switchlink®.



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***www.emsco-nc.com***

# Switchlink ®



Switch mounting for manually operated valves  
For more detailed information, please visit [www.emsco-nc.com/switchlink.html](http://www.emsco-nc.com/switchlink.html)

# HOW TO ORDER

The categories shown on this key are provided to cover standard features of **SWITCHLINK®**. Please use these figure numbers to ensure prompt and accurate processing of your order. A detailed description must accompany any special orders.

**SWITCHLINK®**

A	B	C
<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>

Example:

A	B	C
I	072	WL1

## A Model Number

I Maximum Recommended torque 1250 in-#  
2-4" Flanged Ball Valve  
3-4" Threaded Ball Valve  
1 ½ -2" Plug Valve

II Maximum Recommended torque 500 in-#  
Up to 1 ½" Flanged Ball Valve  
Up to 2" Threaded Ball Valve  
Up to 1" Plug Valve

## B Standard Bottom Configurations Model I

KS1 -3 ¼ " B.C. with 3/8-16 tapped holes  
Drive: 1 1/8" Dia. with ¼" Sq. Key

KS2 -5"B.C. with ½ -13 tapped holes, 1 ¼ " Stem Ht.  
Drive: 1 1/8" Dia. with ¼" Sq. Key

KS3 -5"B.C. with ½ -13 tapped holes, 2" Stem Ht  
Drive: 1 1/8" Dia. with ¼" Sq. Key

071 -70mm B.C. with 5/16-18 tapped holes  
Drive: 1 1/8" Dia. with ¼" Sq. Key

072 -70mm B.C. with 5/16-18 tapped holes  
Drive: 19mm sq.

073 -70mm B.C. with 5/16-18 tapped holes  
Drive: 17 mm sq.

## Model II

F05 -50mm B.C. with ¼-20 tapped holes  
Drive: 14 mm sq.



## C *Standard Top Configurations*

WL1	Westlock Standard Mount	AJ1	ASCO Standard Mount
WL2	Westlock Namur Mounting	AJ2	ASCO Namur Mount
WLB	Westlock Beacon	AJ3	ASCO Pointer
AC1	Accord Standard Mount	GO1	Go Switch Model 41 Std.
AC2	Accord Namur Mount	GO2	Go Switch Model 41 Namur
ST1	Stonel Onyx	KS1	Keystone Namur Mount
ST2	Stonel Quartz	PX1	
AX1	Automax Standard Mount	MN1	Moniteur
AX2	Automax Namur Mount	WO1	Worcester Mas
BR1	Bray Series 50	NA1	80 X 20mm Namur Std.
BR2	Bray Series 52	EF1	Effector IND Switch w/17105 puck
SV 1	Save Vision Namur		

## ACCESSORIES



1. Mounting kits for use with non direct mounting valves.
2. Lockouts
3. Ten position function
4. Clean service/ wash down additions
5. Handle Extensions



CALL FOR PRICING, ORDERING INFORMATION,  
AND YOUR SPECIAL REQUIREMENTS

5

 $\pm 1/64$ 

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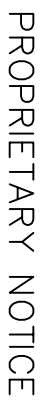
REV	DATE	DESCRIPTION	BY	CHK'D	APPV.
SCALE	1/1	DESIGN	GEN	DRAWN	GEN
				PLOTTED	FTT

**EMS**  
Engineering Manufacturing Services Co.

SWITCHLINK I

JOB NO.	DRAWING NO.	REV.
975000	975000	A



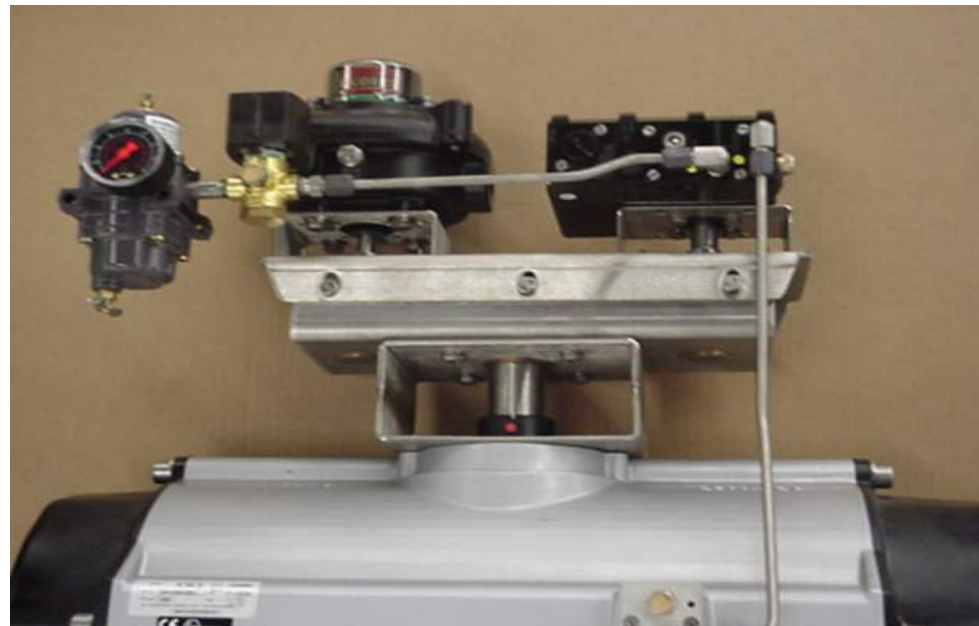
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**EMS** *Engineering Manufacturing Services Co.*  
5634 CANNON DR. MONROE, NC 28110

GENERAL DIMENSIONS FOR SWITCHLINK II		
JOB NO.	DRAWING NO.	REV.
975000	975001	A



# Tandem Linkage



Tandem linkage assembly is an economical cost saver and alternative to expensive ball valves.

Our tandem linkage kit allows an operator to turn multiple valves at once.



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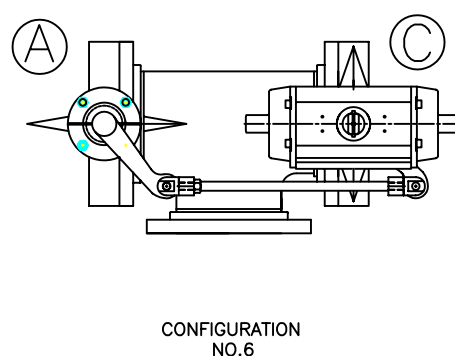
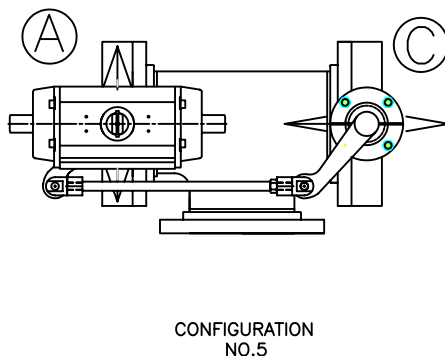
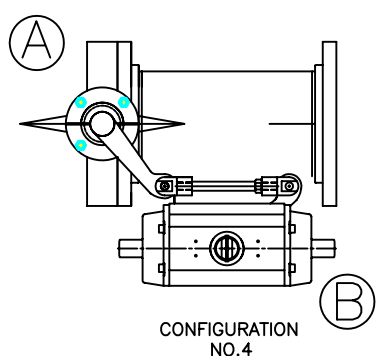
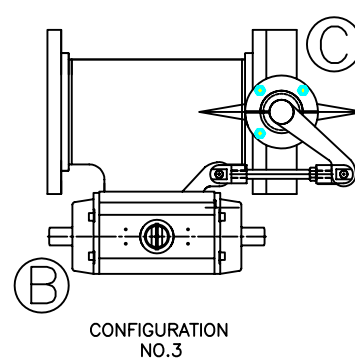
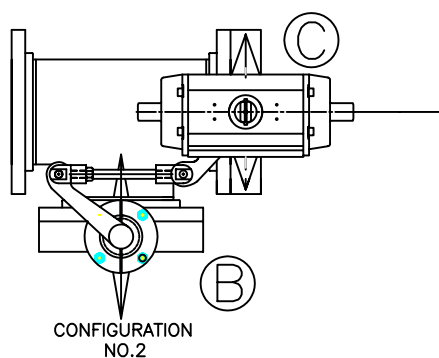
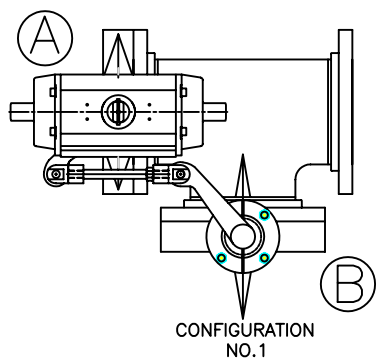
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*emscompany@emsco-nc.com*

***www.emsco-nc.com***



# TEE LINKAGE KITS FOR BUTTERFLY VALVES 2" THRU 36"



CONFIGURATION	ACTUATED VALVE	NORMALLY CLOSED	NORMALLY OPEN
NO.1	VALVE A	VALVE A	VALVE B
NO.2	VALVE C	VALVE C	VALVE B
NO.3	VALVE B	VALVE B	VALVE C
NO.4	VALVE B	VALVE B	VALVE A
NO.5	VALVE A	VALVE A	VALVE C
NO.6	VALVE C	VALVE C	VALVE A

CONFIGURATION NO.: \_\_\_\_\_ MATERIALS OF CONSTRUCTIONS: \_\_\_\_\_ CS \_\_\_\_\_ SS

ACTUATOR BRAND: \_\_\_\_\_ MODEL NO. \_\_\_\_\_

VALVE BRAND: \_\_\_\_\_ VALVE MODEL NO. \_\_\_\_\_

VALVE SIZE: \_\_\_\_\_ VALVE CLASS: \_\_\_\_\_



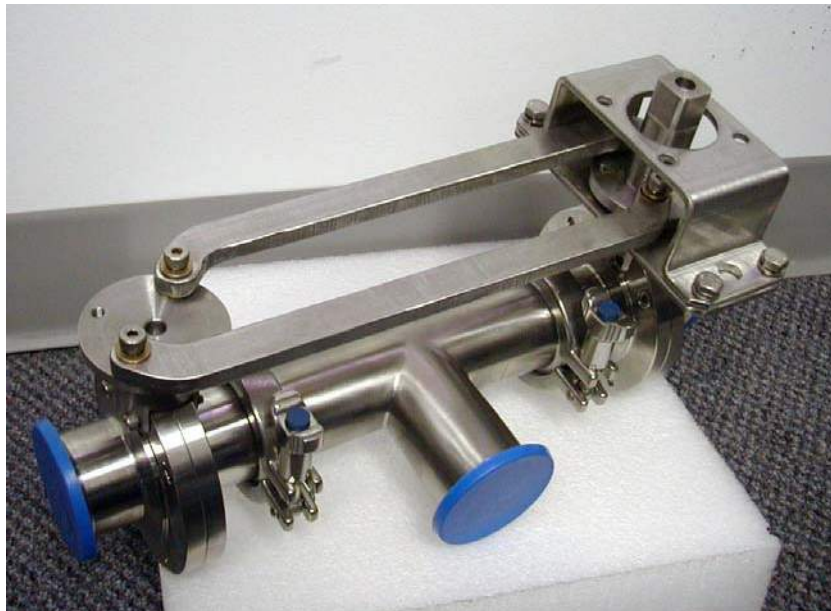
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WWW.EMSCO-NC.COM SALES@EMSCO-NC.COM

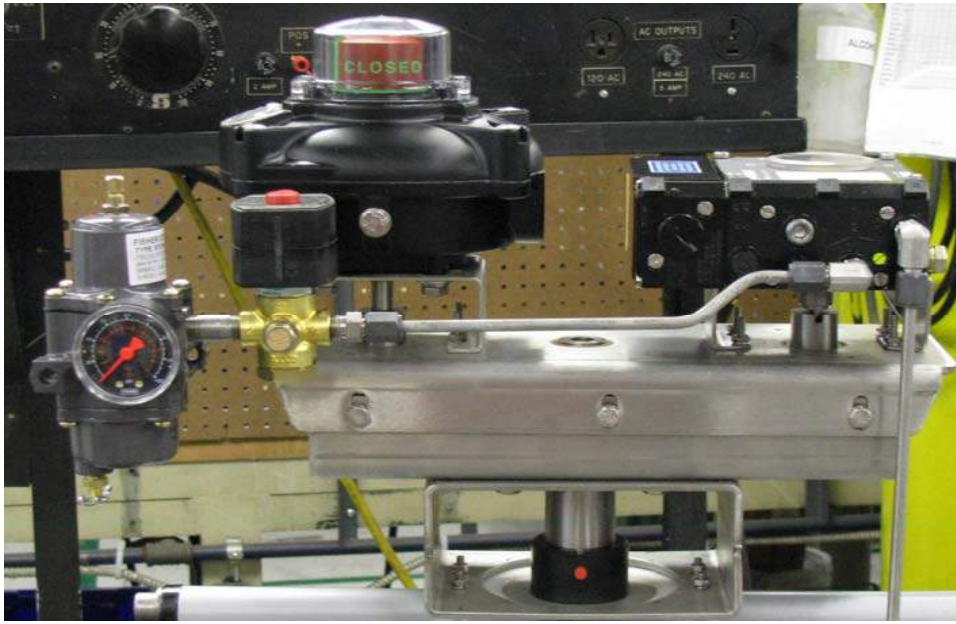
# Tandem Valve Linkage







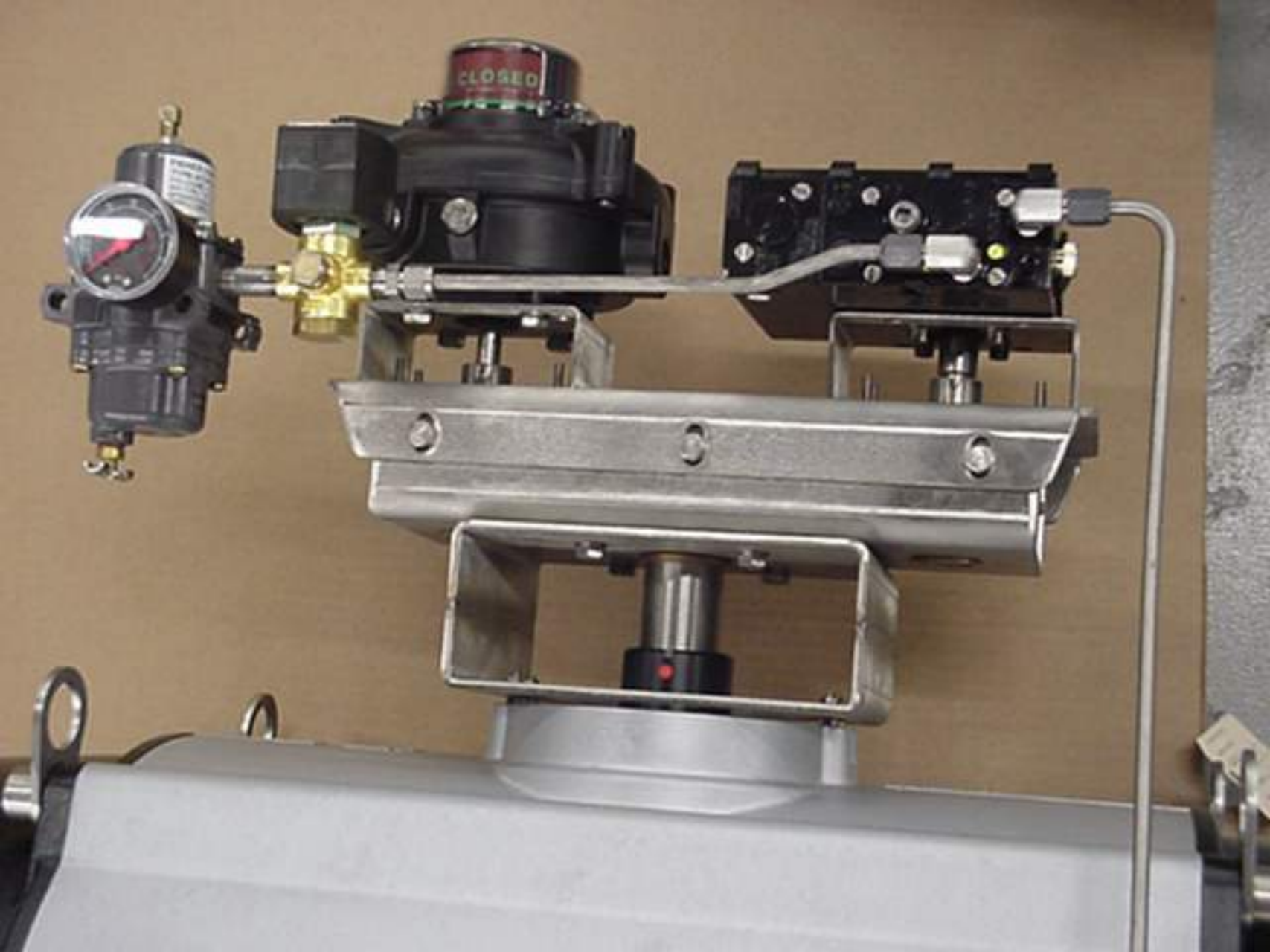
# Tandem Switch Linkage



Tandem switch linkage allows either 2 switches or a switch and positioner to be mounted on a single actuator.

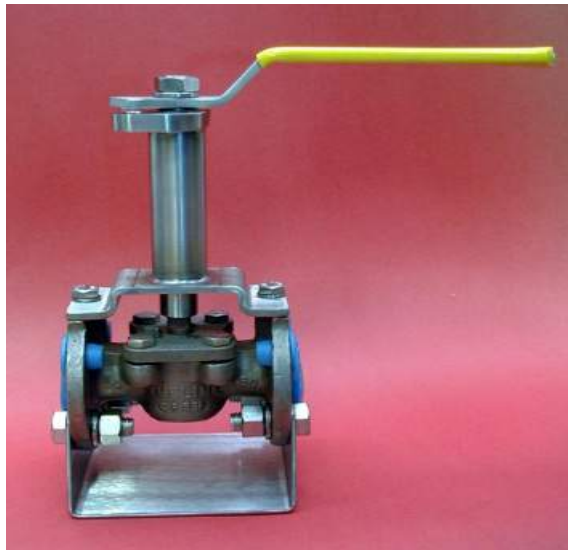












Stem Extensions are available in carbon or stainless steel and lengths from 4" to 12'0"

Stem Extensions designs accommodate the following:

- \* Existing handles with stops and locks
- \* EMS designed handles with stops and locks
- \* Standard automation kits or automation kits with lockouts
- \* Mounting switches on manually operated valves with a Switchlink®



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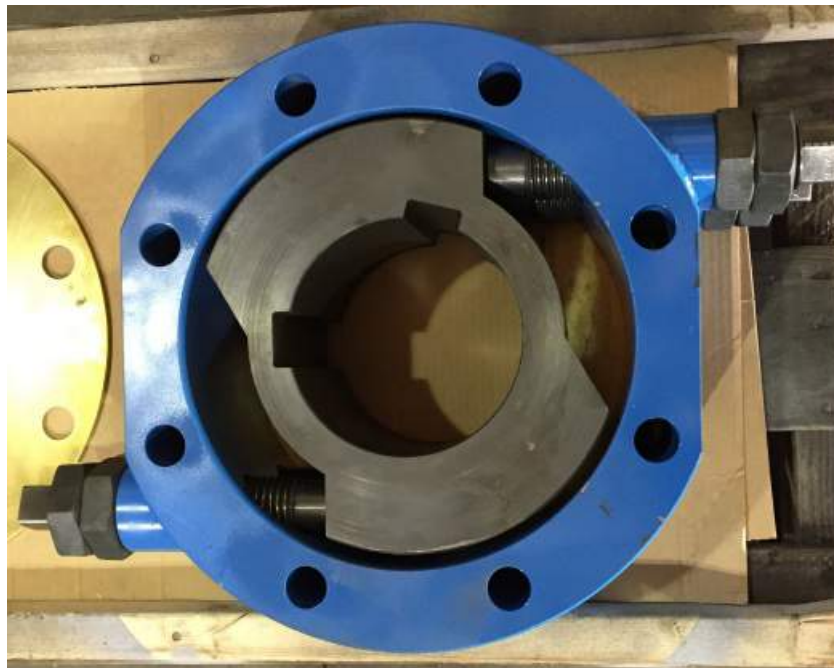
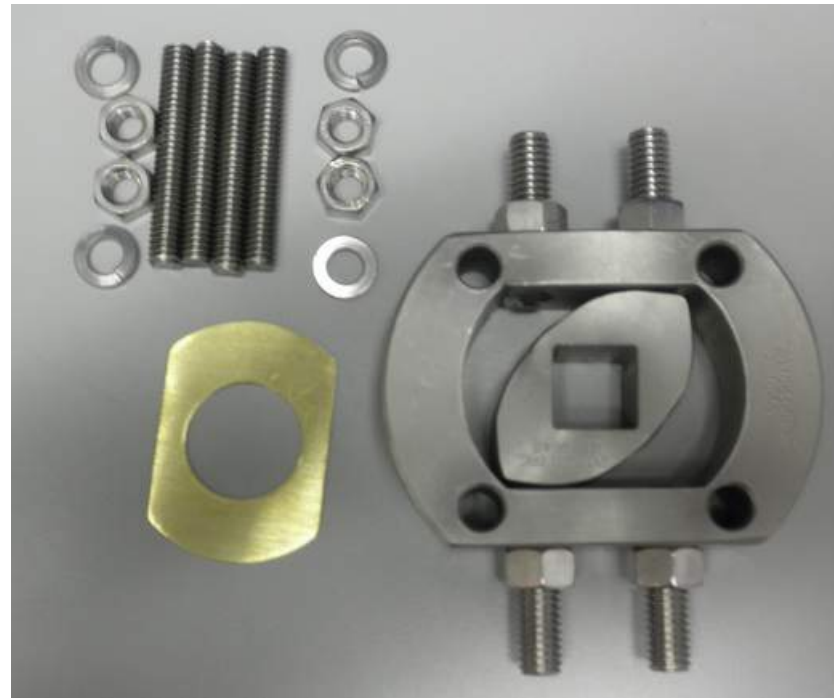
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# Stem Extensions



Extensions for remotely operated valves



# Travel Stops

A travel stop allows for greater control of stroke than most actuators can provide.



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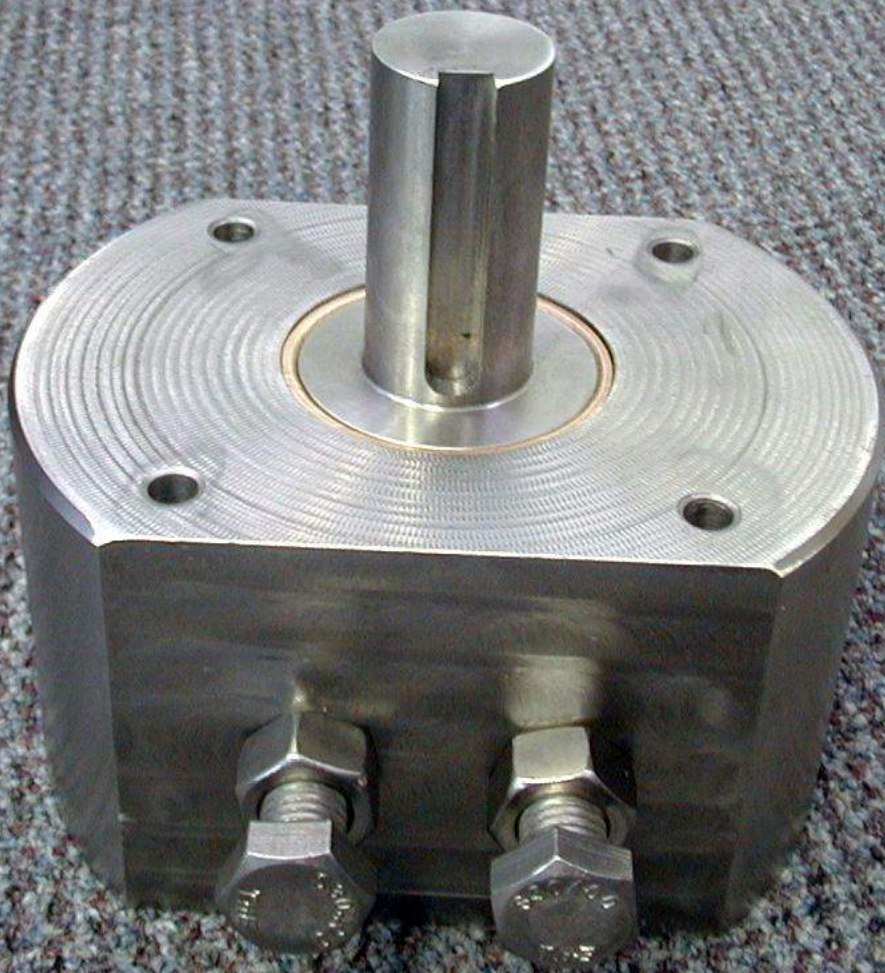
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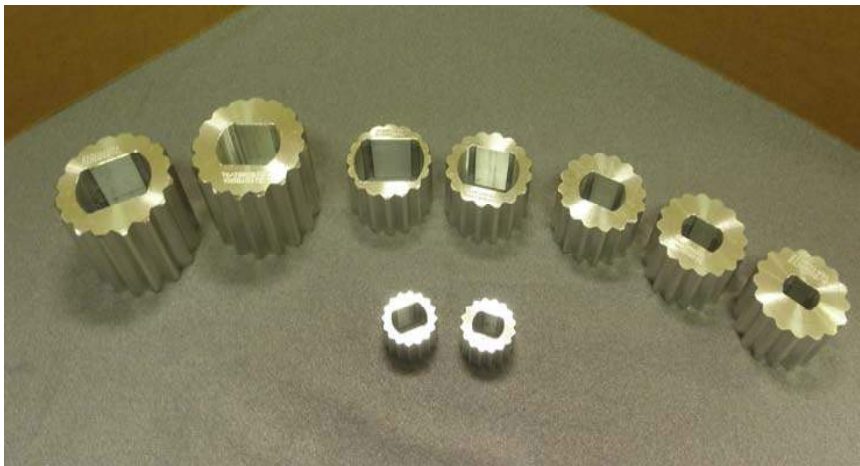
# Accessories



10 Position stainless steel handle



Switch/positioner hardware



Aluminum & stainless steel inserts



Handle