

Male X Female



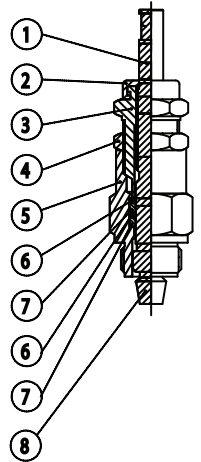
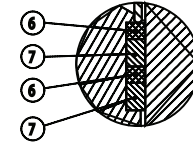
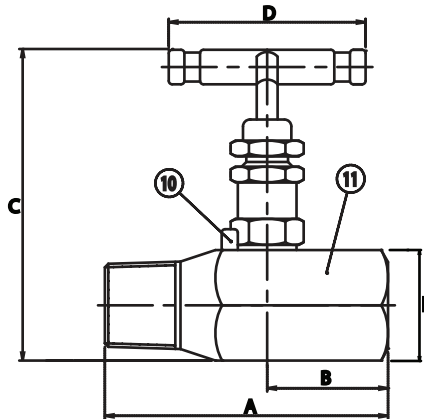
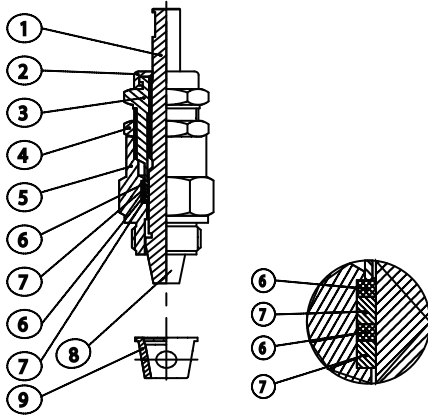
6,000 PSI

SIZE	CARBON PART #	STAINLESS PART #	A	B	C	D	E
1/4" M x 1/4" F	**NC6S2M2F	**NS6S2M2F	3.23"	1.62"	3.54"	2.24"	1.26"
3/8" M x 3/8" F	NA	NS6S3M3F	3.23"	1.62"	3.54"	2.24"	1.26"
1/2" M x 1/4" F	NC6S4M2F	NS6S4M2F	3.23"	1.62"	3.54"	2.24"	1.26"
1/2" M x 1/2" F	**NC6S4M4F	**NS6S4M4F	3.23"	1.62"	3.54"	2.24"	1.26"
3/4" M x 3/4" F	NC6S6M6F	**NC6S6M6F	3.23"	1.62"	3.54"	2.24"	1.26"
1" M x 1" F	**NC6S8M8F	NS6S8M8F	3.70"	1.85"	4.25"	2.24"	1.61"

10,000 PSI

SIZE	CARBON PART #	STAINLESS PART #	A	B	C	D	E
1/4" M x 1/4" F	NC10S2M2F	NS10S2M2F	3.23"	1.62"	3.54"	2.24"	1.26"
1/4" M x 1/2" F	NS10S2M4F	NS10S2M4F	3.23"	1.62"	3.54"	2.24"	1.26"
1/2" M x 1/4" F	NC10S4M2F	NS10S4M2F	3.23"	1.62"	3.54"	2.24"	1.26"
1/2" M x 1/2" F	NC10S4M4F	NS10S4M4F	3.23"	1.62"	3.54"	2.24"	1.26"
3/4" M x 3/4" F	NC10S6M6F	NS10S6M6F	3.23"	1.62"	3.54"	2.24"	1.26"
1" M x 1" F	NC10S8M8F	NS10S8M8F	3.70"	1.85"	4.25"	2.24"	1.61"

**AVAILABLE WITH BLEED SCREW - NC6B & NS6B SERIES



6,000 PSI

PART	CARBON	316 STAINLESS
1 STEM	316 STAINLESS	316 STAINLESS
2 DUST CAP	NBR	NBR
3 PACKING NUT	CARBON STEEL	316 STAINLESS
4 FIXING NUT	CARBON STEEL	316 STAINLESS
5 BONNET	CARBON STEEL	316 STAINLESS
6 BACK-UP RING	TEFLON	TEFLON
7 O-RING	VITON	VITON
8 STEM TIP	316 STAINLESS	316 STAINLESS
9 SOFT SEAT	DELTRIN	DELTRIN
10 LOCK PIN	303 STAINLESS	303 STAINLESS
11 BODY	CARBON STEEL	316 STAINLESS

10,000 PSI

PART	CARBON	316 STAINLESS
1 STEM	316 STAINLESS	316 STAINLESS
2 DUST CAP	NBR	NBR
3 PACKING NUT	CARBON STEEL	316 STAINLESS
4 FIXING SCREW	CARBON STEEL	316 STAINLESS
5 BONNET	CARBON STEEL	316 STAINLESS
6 BACK-UP RING	316 STAINLESS	316 STAINLESS
7 PACKING	TEFLON	TEFLON
8 STEM TIP (ROTATING)	316 STAINLESS	316 STAINLESS
HARD SEAT	CARBON STEEL	316 STAINLESS
10 LOCK PIN	303 STAINLESS	303 STAINLESS
11 BODY	CARBON STEEL	316 STAINLESS

Mini Needle Valves

6,000 psi



* MRC & MRS Series pressure rating at 6,000 psi.

Not recommended for over 4,000 psi due to difficult turning of round handle.

Dimensions

SIZE	CARBON PART #	STAINLESS PART #	A	B	C	D	E
1/4" M x 1/4" F	MRC2M2F	MRS2M2F	1.85"	0.47"	1.97"	1.02"	0.75"
1/4" M x 1/4" M	MRC2M2M	MRS2M2M	1.85"	0.47"	1.97"	1.02"	0.75"
1/4" F x 1/4" F	MRC2F2F	MRS2F2F	1.85"	0.47"	1.97"	1.02"	0.75"

Dimensions

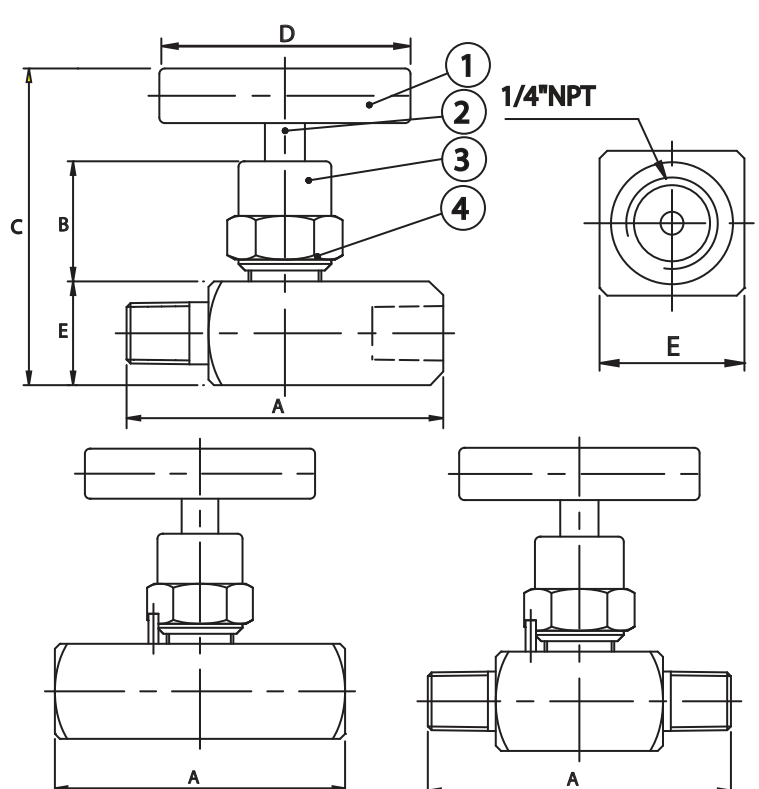
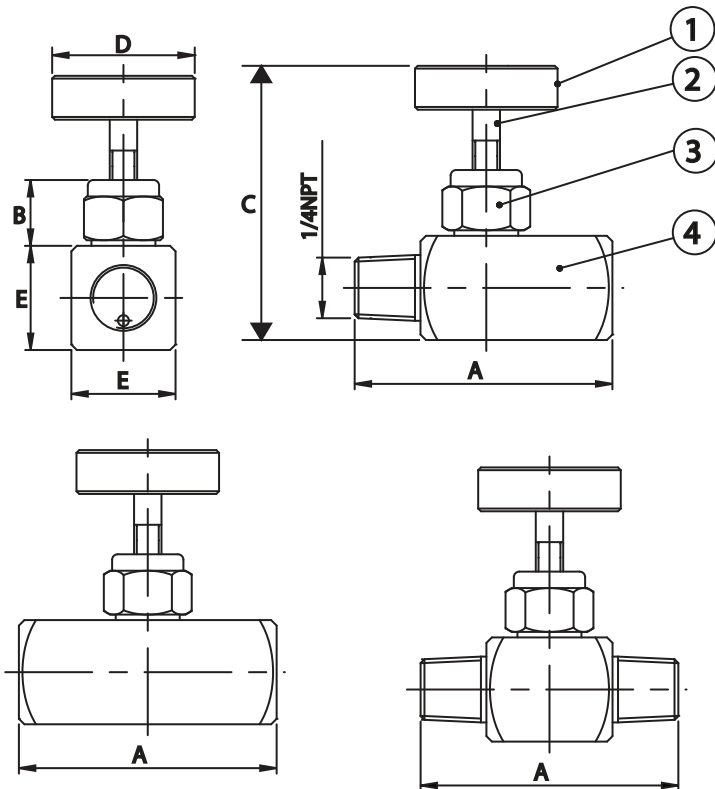
SIZE	CARBON PART #	STAINLESS PART #	A	B	C	D	E
1/4" M x 1/4" F	MTC2M2F	MTS2M2F	2.28"	0.87"	2.28"	1.81"	0.75"
1/4" M x 1/4" M	MTC2M2M	MTS2M2M	2.28"	0.87"	2.28"	1.81"	0.75"
1/4" F x 1/4" F	MTC2F2F	MTS2F2F	2.28"	0.87"	2.28"	1.81"	0.75"

Materials

PART	CARBON	316 STAINLESS
1 HANDLE	CARBON STEEL	304 STAINLESS
2 STEM	304 STAINLESS	316 STAINLESS
3 BONNET	CARBON STEEL	316 STAINLESS
4 BODY	CARBON STEEL	316 STAINLESS

Materials

PART	CARBON	316 STAINLESS
1 HANDLE	CARBON STEEL	304 STAINLESS
2 STEM	304 STAINLESS	316 STAINLESS
3 BONNET	CARBON STEEL	316 STAINLESS
4 BODY	CARBON STEEL	316 STAINLESS



Mini Needle Valves

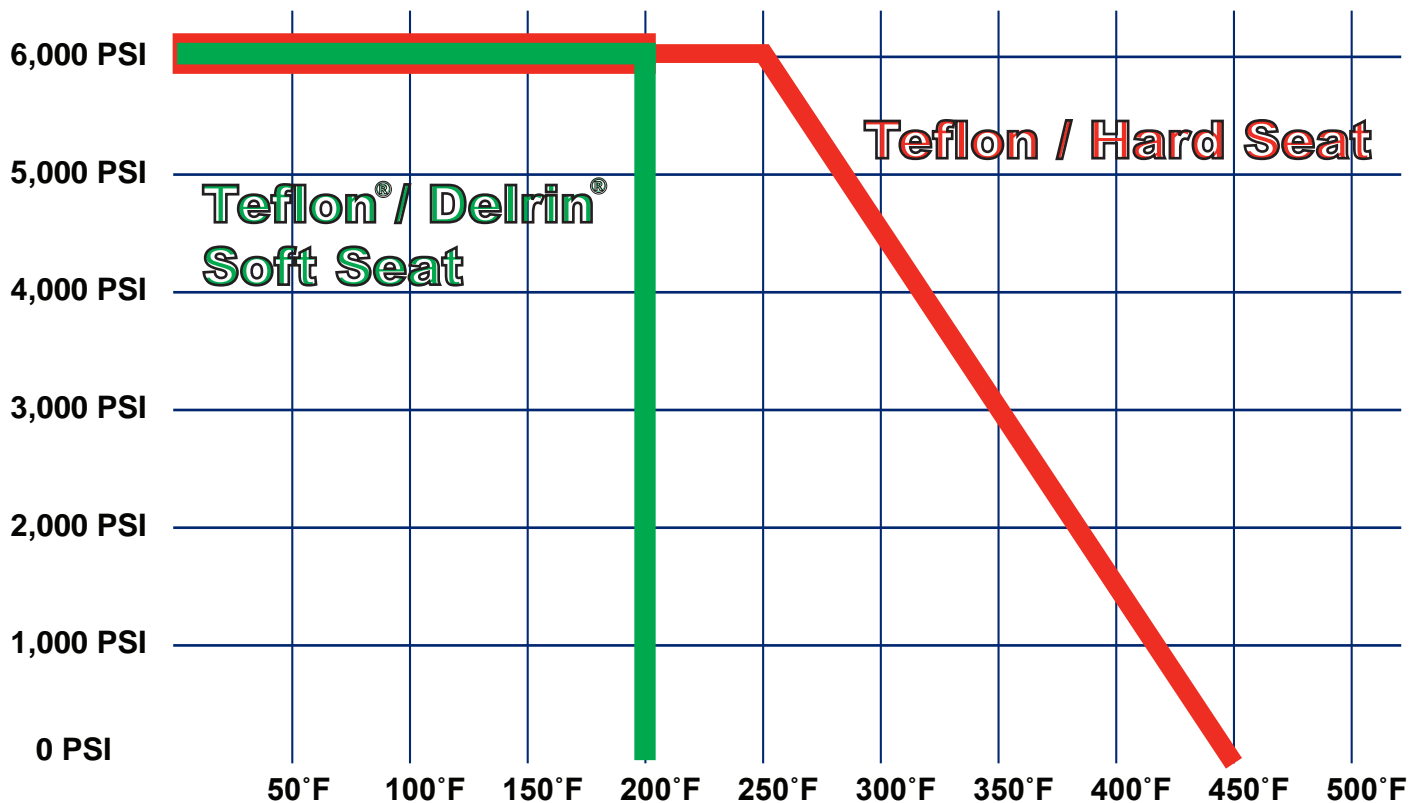
6,000 psi

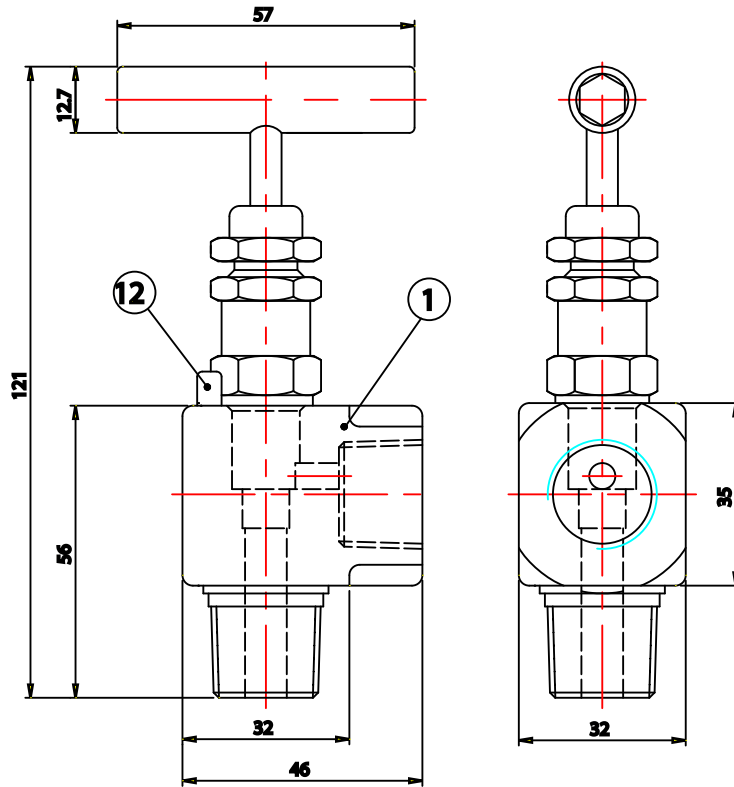
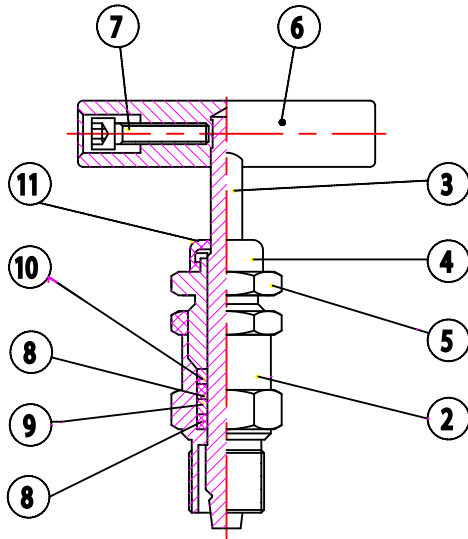


* MRC & MRS Series pressure rating at 6,000 psi.
Not recommended for over 4,000 psi due to difficult turning of round handle.

Economy Mini needle Valve
Teflon® stem packing with Viton® O-ring
POM/Delrin® Soft Seat

Mini needle Valve
Double Teflon® stem packing and
double Viton® O-ring back up.
Hard seat for higher temperature rating.





No.	Item	Material
1	Valve body	SS 316
2	Bonnet	SS 316
3	Stem	SS 316
4	Packing nut	SS 316
5	Fixing screw	SS 316
6	Handle	SS 303
7	Handle fixing screw	SS 302
8	Packing	Teflon
9	Back up ring	SS 304
10	Back up ring	SS 304
11	Dust Cap	NBR
12	Bonnet lock pin	SS303

Note: Dimensions for reference purpose only and are subject to change.

Outside dim. dwg. for:

NS10A2M2F (w/ 1/4" connections)
NS10A4M4F (w/ 1/2" connections)

Pressure rating: 10,000 psi
Conforms to NACE MRO175



Phone: 405-509-2665 Fax: 866-239-1587

www.mako-products.net

408 Wimbledon Rd., Edmond, OK 73003

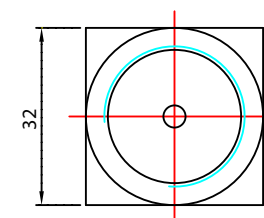
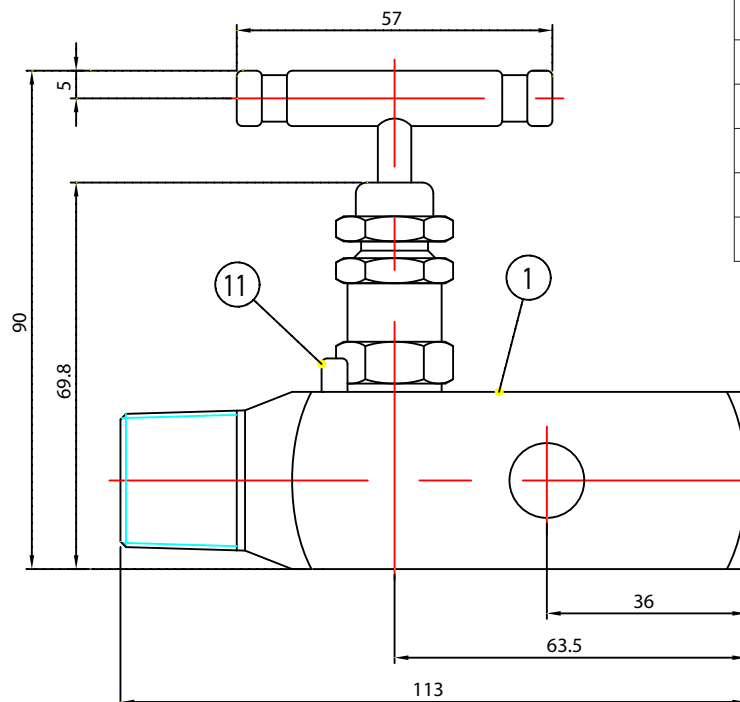
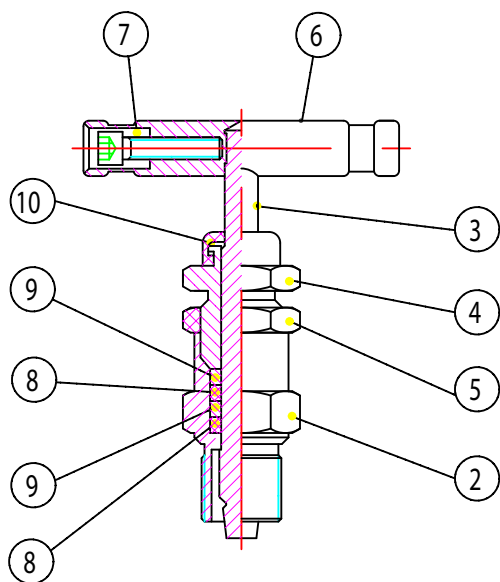


All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change



**10,000 PSI Pressure rating
All Stainless - NACE Compliant**

No.	Item	Material
1	Valve body	SS316
2	Bonnet	SS316
3	Stem	SS316
4	Packing nut	SS316
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6	Handle	SS303
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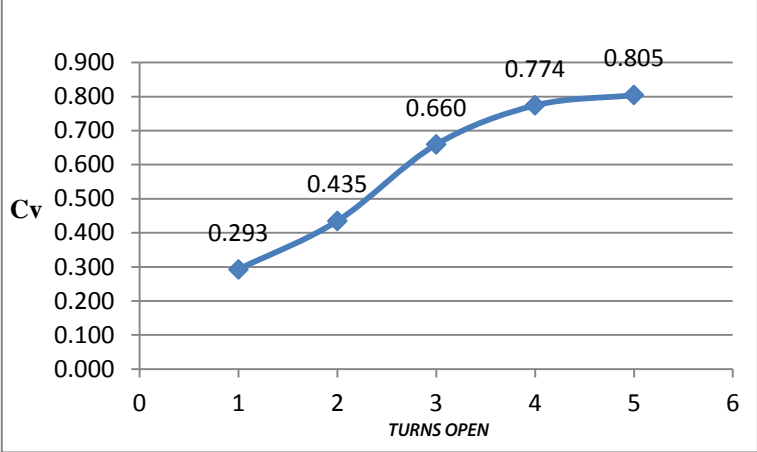
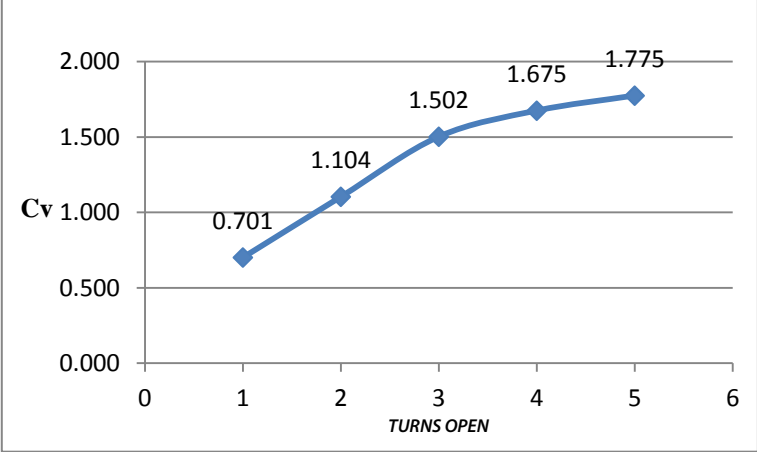
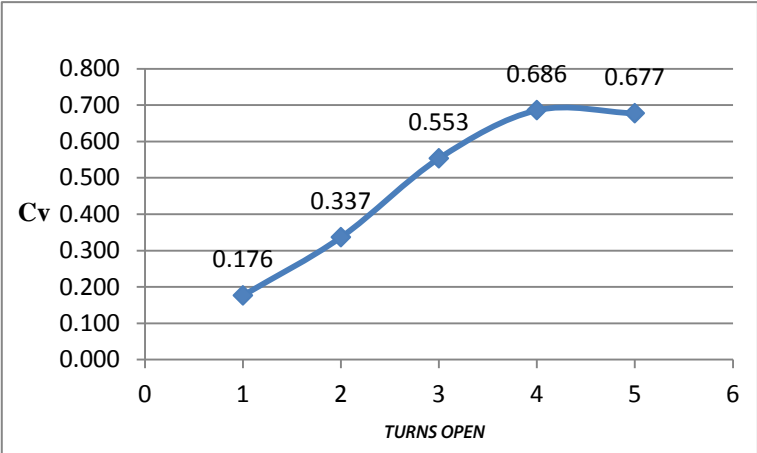


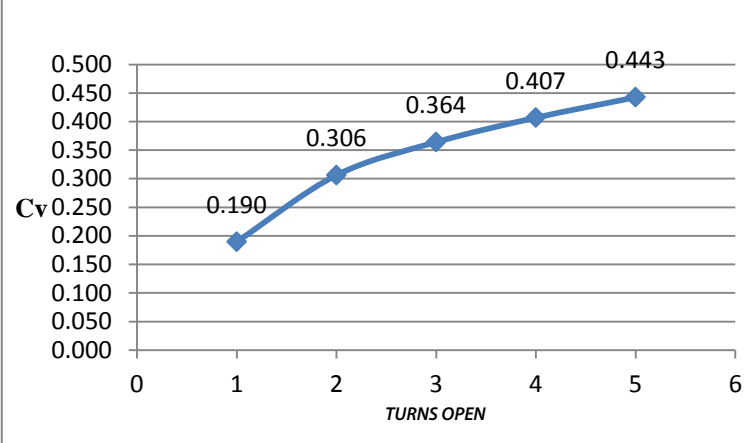
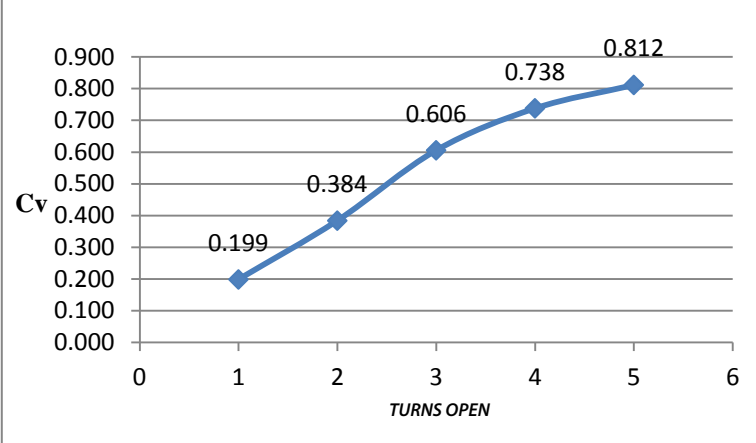
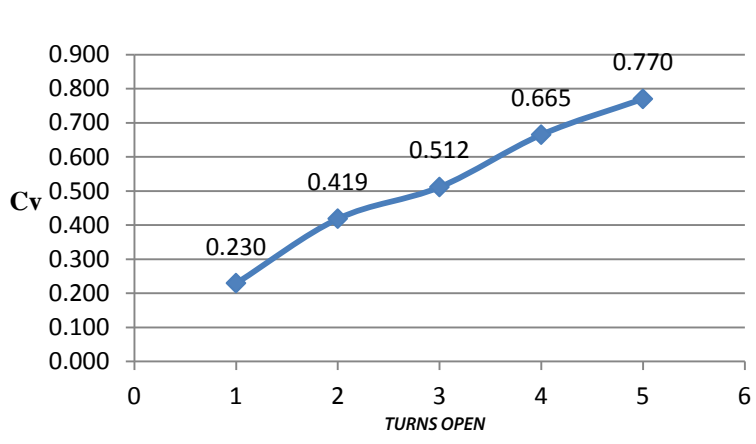
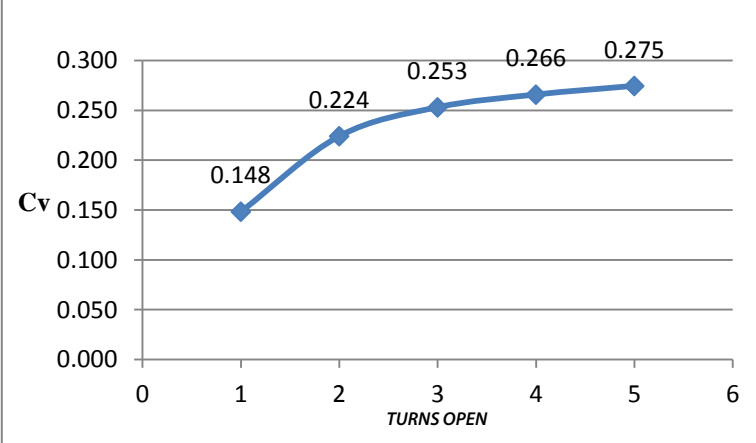
All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

Cv Flow Chart

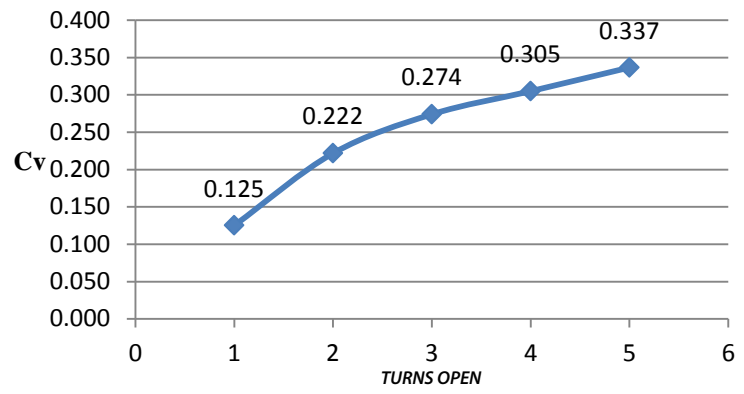
Please note that the Cv data shown is based on our calculations.

Turns open is indicated from the "zero" position or closed position to full open at 5 turns.

Type	Item	Chart												
V-Type	<p>SERIES: NC6S & NS6S 1/4", 1/2" & 3/4"</p>	 <table border="1"> <thead> <tr> <th>Turns Open</th> <th>Cv</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.293</td></tr> <tr><td>2</td><td>0.435</td></tr> <tr><td>3</td><td>0.660</td></tr> <tr><td>4</td><td>0.774</td></tr> <tr><td>5</td><td>0.805</td></tr> </tbody> </table>	Turns Open	Cv	1	0.293	2	0.435	3	0.660	4	0.774	5	0.805
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<p>SERIES: NC6S & NS6S 1"</p>	 <table border="1"> <thead> <tr> <th>Turns Open</th> <th>Cv</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.701</td></tr> <tr><td>2</td><td>1.104</td></tr> <tr><td>3</td><td>1.502</td></tr> <tr><td>4</td><td>1.675</td></tr> <tr><td>5</td><td>1.775</td></tr> </tbody> </table>	Turns Open	Cv	1	0.701	2	1.104	3	1.502	4	1.675	5	1.775	
Turns Open	Cv													
1	0.701													
2	1.104													
3	1.502													
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<p>SERIES: NC6A & NS6A 1/4" & 1/2"</p>	 <table border="1"> <thead> <tr> <th>Turns Open</th> <th>Cv</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.176</td></tr> <tr><td>2</td><td>0.337</td></tr> <tr><td>3</td><td>0.553</td></tr> <tr><td>4</td><td>0.686</td></tr> <tr><td>5</td><td>0.677</td></tr> </tbody> </table>	Turns Open	Cv	1	0.176	2	0.337	3	0.553	4	0.686	5	0.677	
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	<p>SERIES: NC10S & NS10S 1/4", 1/2" & 3/4"</p>	 <table border="1"> <thead> <tr> <th>Turns Open</th> <th>Cv</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.190</td></tr> <tr><td>2</td><td>0.306</td></tr> <tr><td>3</td><td>0.364</td></tr> <tr><td>4</td><td>0.407</td></tr> <tr><td>5</td><td>0.443</td></tr> </tbody> </table>	Turns Open	Cv	1	0.190	2	0.306	3	0.364	4	0.407	5	0.443
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<p>T-Type</p>	<p>SERIES: NC10S & NS10S 1"</p>	 <table border="1"> <thead> <tr> <th>Turns Open</th> <th>Cv</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.199</td></tr> <tr><td>2</td><td>0.384</td></tr> <tr><td>3</td><td>0.606</td></tr> <tr><td>4</td><td>0.738</td></tr> <tr><td>5</td><td>0.812</td></tr> </tbody> </table>	Turns Open	Cv	1	0.199	2	0.384	3	0.606	4	0.738	5	0.812
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	<p>SERIES: NC10A & NS10A 1/4" & 1/2"</p>	 <table border="1"> <thead> <tr> <th>Turns Open</th> <th>Cv</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.230</td></tr> <tr><td>2</td><td>0.419</td></tr> <tr><td>3</td><td>0.512</td></tr> <tr><td>4</td><td>0.665</td></tr> <tr><td>5</td><td>0.770</td></tr> </tbody> </table>	Turns Open	Cv	1	0.230	2	0.419	3	0.512	4	0.665	5	0.770
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	<p>SERIES: MTC & MTS 1/4"</p>	 <table border="1"> <thead> <tr> <th>Turns Open</th> <th>Cv</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.148</td></tr> <tr><td>2</td><td>0.224</td></tr> <tr><td>3</td><td>0.253</td></tr> <tr><td>4</td><td>0.266</td></tr> <tr><td>5</td><td>0.275</td></tr> </tbody> </table>	Turns Open	Cv	1	0.148	2	0.224	3	0.253	4	0.266	5	0.275
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SERIES:
MTS & MTC
1/4"



SERIES:
MRS & MRC
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