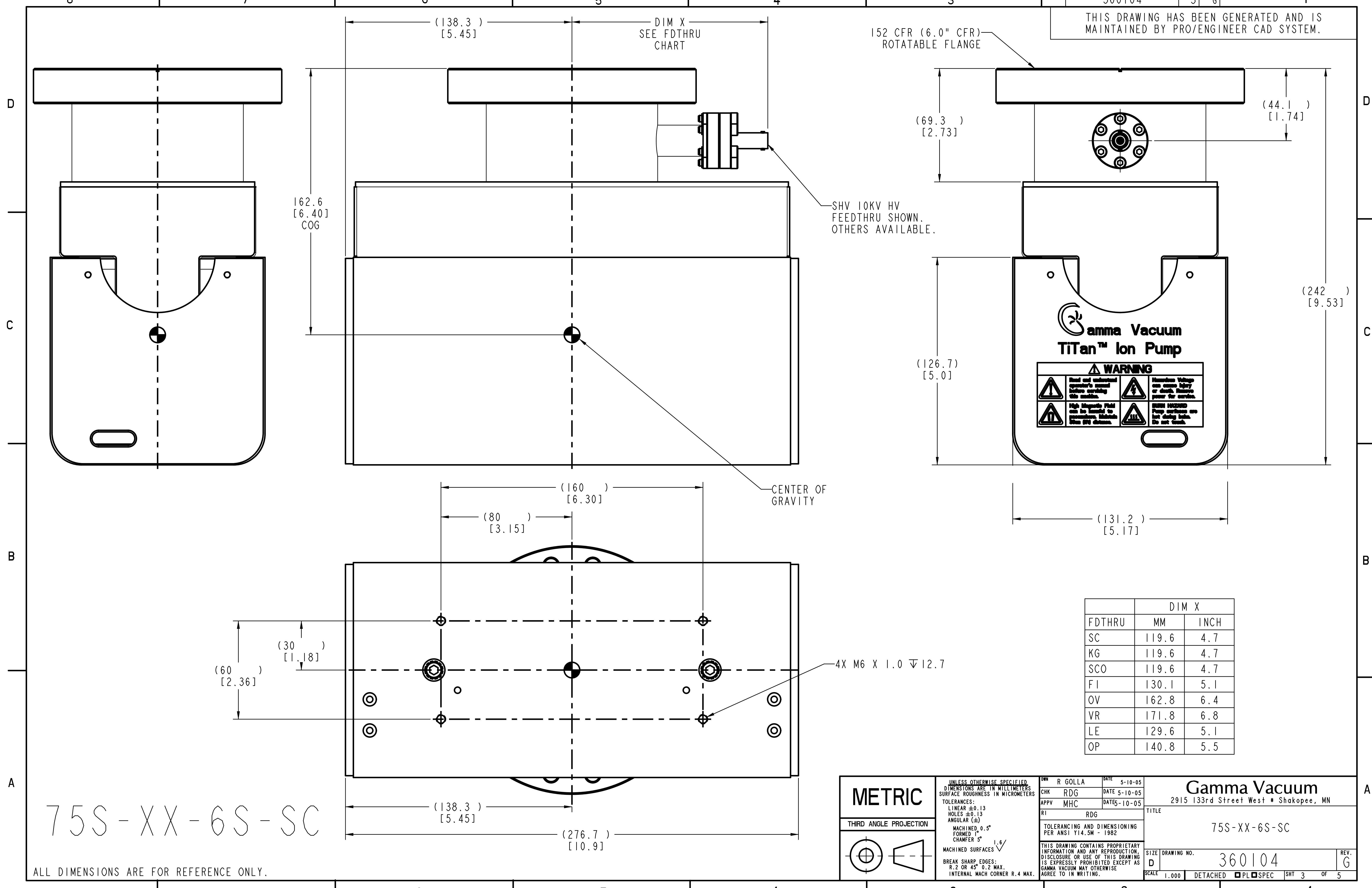


THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY PRO/ENGINEER CAD SYSTEM.



75S-XX-6S-SC

ALL DIMENSIONS ARE FOR REFERENCE ONLY.

DIM X	DIM X	
	MM	INCH
FDTHRU		
SC	119.6	4.7
KG	119.6	4.7
SCO	119.6	4.7
FI	130.1	5.1
OV	162.8	6.4
VR	171.8	6.8
LE	129.6	5.1
OP	140.8	5.5

METRIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS SURFACE ROUGHNESS IN MICROMETERS

TOLERANCES:
 LINEAR ±0.13
 HOLES ±0.13
 ANGULAR (±)
 MACHINED 0.5°
 FORMED 1°
 CHAMFER 5°

MACHINED SURFACES $\sqrt{1.6}$

BREAK SHARP EDGES:
 R.2 OR 45° 0.2 MAX.
 INTERNAL MACH CORNER R.4 MAX.

DWN	R GOLLA	DATE	5-10-05
CHK	RDG	DATE	5-10-05
APPV	MHC	DATES	10-05
RI	RDG		
TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982			
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING.			

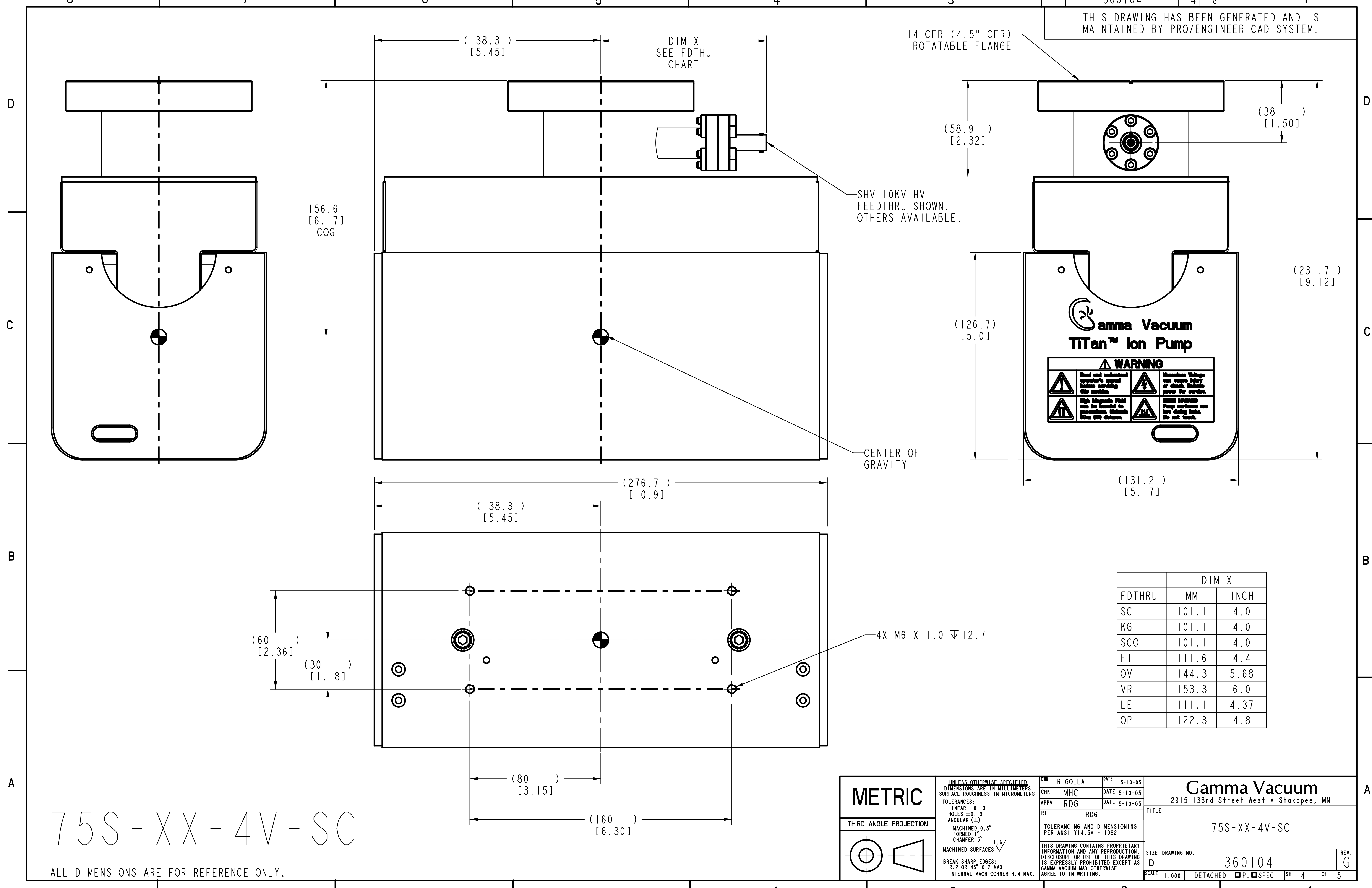
Gamma Vacuum
 2915 133rd Street West * Shakopee, MN

TITLE
 75S-XX-6S-SC

SIZE DRAWING NO. 360104 REV. G

SCALE 1.000 DETACHED PL SPEC SHT 3 OF 5

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY PRO/ENGINEER CAD SYSTEM.



114 CFR (4.5" CFR) ROTATABLE FLANGE

SHV 10KV HV FEEDTHRU SHOWN. OTHERS AVAILABLE.

CENTER OF GRAVITY

4X M6 X 1.0 ∇12.7

Gamma Vacuum
TiTan™ Ion Pump

WARNING

- Read and understand operator's manual before operating this machine.
- High voltages that can be harmful or fatal. Always wear proper safety gear.
- Handle with care. Do not touch any exposed parts.
- Always use proper safety procedures when working with this machine.

DIM X	DIM X	
	MM	INCH
FDTHRU		
SC	101.1	4.0
KG	101.1	4.0
SCO	101.1	4.0
FI	111.6	4.4
OV	144.3	5.68
VR	153.3	6.0
LE	111.1	4.37
OP	122.3	4.8

METRIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS SURFACE ROUGHNESS IN MICROMETERS

TOLERANCES:
 LINEAR ±0.13
 HOLES ±0.13
 ANGULAR (±)
 MACHINED 0.5°
 FORMED 1°
 CHAMFER 5°
 MACHINED SURFACES 1.6

BREAK SHARP EDGES:
 R.2 OR 45° 0.2 MAX.
 INTERNAL MACH CORNER R.4 MAX.

DWN	R GOLLA	DATE	5-10-05
CHK	MHC	DATE	5-10-05
APPV	RDG	DATE	5-10-05
RI	RDG		
TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982			
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING.			

Gamma Vacuum
2915 133rd Street West # Shakopee, MN

TITLE
75S-XX-4V-SC

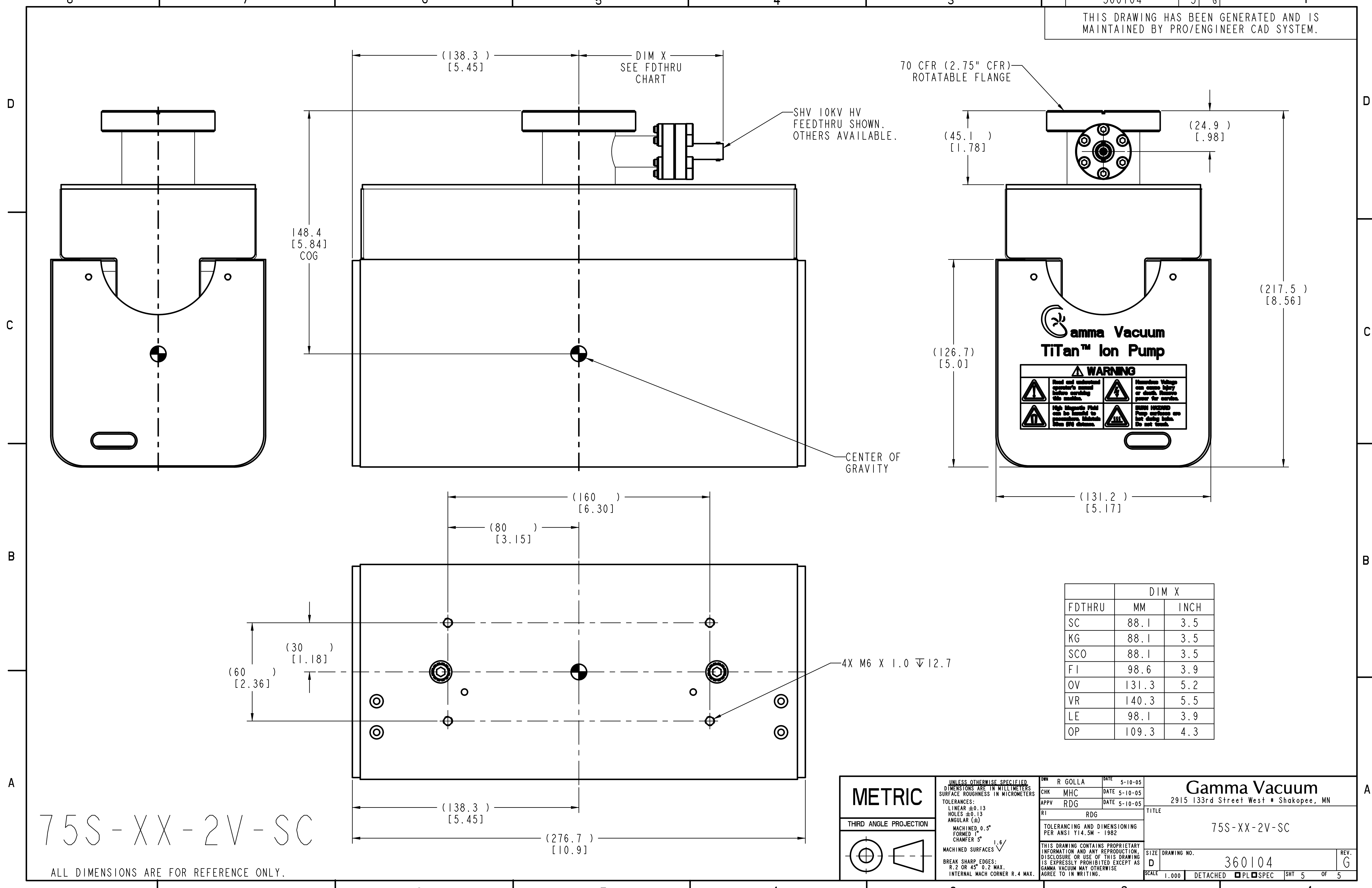
SIZE DRAWING NO. **360104** REV. **G**

SCALE 1.000 DETACHED PL SPEC SHT 4 OF 5

75S-XX-4V-SC

ALL DIMENSIONS ARE FOR REFERENCE ONLY.

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY PRO/ENGINEER CAD SYSTEM.



(138.3)
[5.45] DIM X
SEE FDTHRU
CHART

SHV 10KV HV
FEEDTHRU SHOWN.
OTHERS AVAILABLE.

70 CFR (2.75" CFR)
ROTATABLE FLANGE

148.4
[5.84]
COG

(45.1)
[1.78]

(24.9)
[.98]

(217.5)
[8.56]

CENTER OF
GRAVITY

(126.7)
[5.0]

Gamma Vacuum
TiTan™ Ion Pump

WARNING

	Read and understand operator's manual before operating this machine.		Maximum Voltage can cause injury or death. Always power off before service.
	High Temperature Parts can be harmful to operation. Handle with care.		THIS MACHINE Pump surfaces are not to be touched. Do not touch.

(131.2)
[5.17]

(160)
[6.30]

(80)
[3.15]

(60)
[2.36]

(30)
[1.18]

4X M6 X 1.0 ∇12.7

(138.3)
[5.45]

(276.7)
[10.9]

FDTHRU	DIM X	
	MM	INCH
SC	88.1	3.5
KG	88.1	3.5
SCO	88.1	3.5
FI	98.6	3.9
OV	131.3	5.2
VR	140.3	5.5
LE	98.1	3.9
OP	109.3	4.3

METRIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN MILLIMETERS
SURFACE ROUGHNESS IN MICROMETERS

TOLERANCES:
LINEAR ±0.13
HOLES ±0.13
ANGULAR (±)
MACHINED 0.5°
FORMED 1°
CHAMFER 5°

MACHINED SURFACES $\sqrt{1.6}$

BREAK SHARP EDGES:
R.2 OR 45° 0.2 MAX.
INTERNAL MACH CORNER R.4 MAX.

DWN	R GOLLA	DATE	5-10-05
CHK	MHC	DATE	5-10-05
APPV	RDG	DATE	5-10-05
RI	RDG		
TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982			
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING.			

Gamma Vacuum
2915 133rd Street West # Shakopee, MN

TITLE
75S-XX-2V-SC

SIZE DRAWING NO.
D 360104

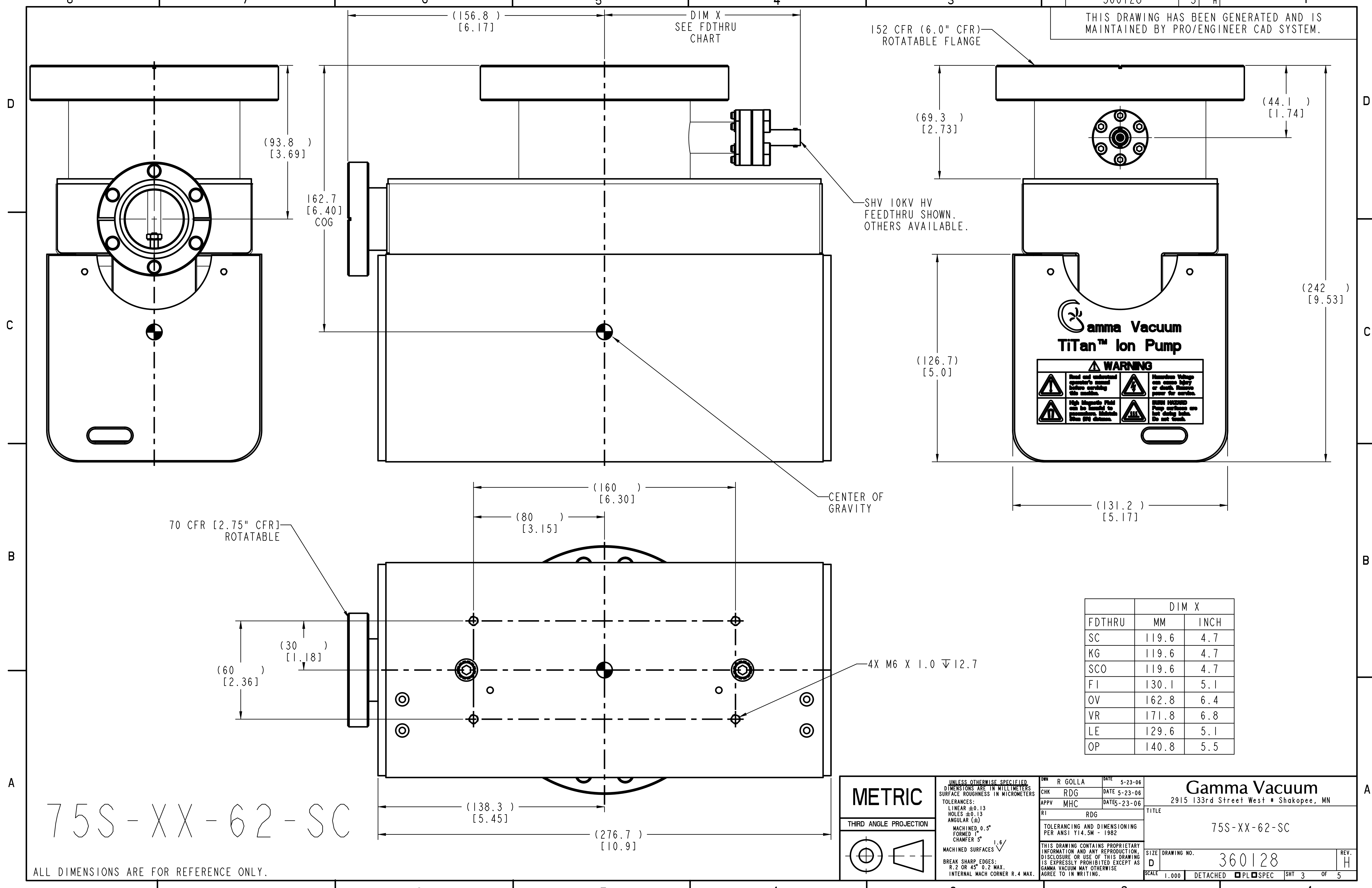
SCALE 1.000 DETACHED PL SPEC SHT 5 OF 5

REV. G

75S-XX-2V-SC

ALL DIMENSIONS ARE FOR REFERENCE ONLY.

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY PRO/ENGINEER CAD SYSTEM.



70 CFR [2.75" CFR] ROTATABLE

SHV 10KV HV FEEDTHRU SHOWN. OTHERS AVAILABLE.

CENTER OF GRAVITY

4X M6 X 1.0 ∇ 12.7

WARNING

	Read and understand operator's manual before operating this machine.		High Voltage Pump contains an HV power supply. Do not touch.
	High Voltage Pump contains an HV power supply. Do not touch.		High Voltage Pump contains an HV power supply. Do not touch.

FDTHRU	DIM X	
	MM	INCH
SC	119.6	4.7
KG	119.6	4.7
SCO	119.6	4.7
FI	130.1	5.1
OV	162.8	6.4
VR	171.8	6.8
LE	129.6	5.1
OP	140.8	5.5

75S-XX-62-SC

ALL DIMENSIONS ARE FOR REFERENCE ONLY.

METRIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS SURFACE ROUGHNESS IN MICROMETERS

TOLERANCES:
 LINEAR ± 0.13
 HOLES ± 0.13
 ANGULAR (\pm)
 MACHINED 0.5°
 FORMED 1°
 CHAMFER 5°
 MACHINED SURFACES $\sqrt{1.6}$

BREAK SHARP EDGES:
 R.2 OR 45° 0.2 MAX.
 INTERNAL MACH CORNER R.4 MAX.

DWN	R GOLLA	DATE	5-23-06
CHK	RDG	DATE	5-23-06
APPV	MHC	DATE	5-23-06
RI	RDG		
TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982			
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING.			

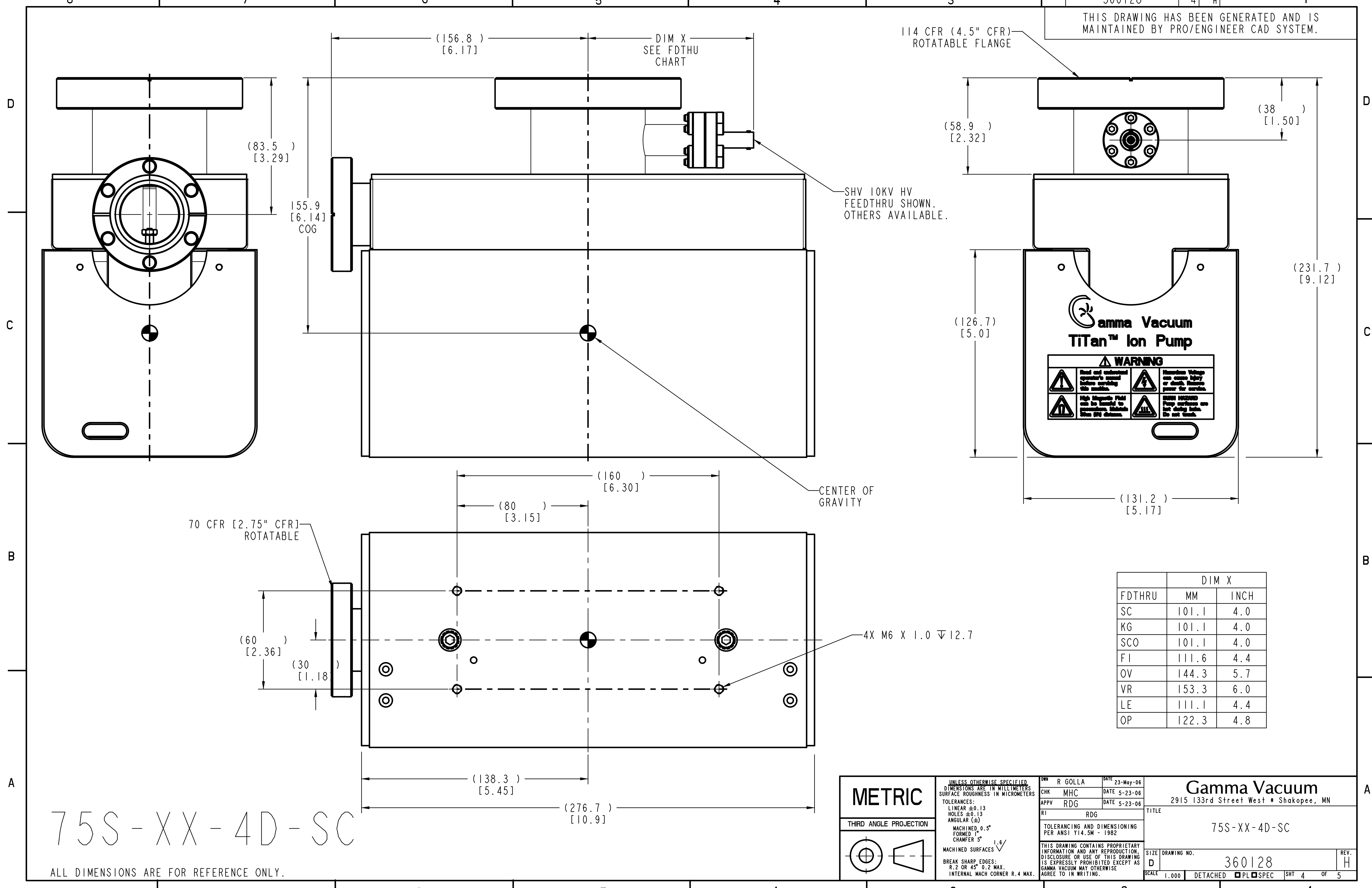
Gamma Vacuum
 2915 133rd Street West * Shakopee, MN

TITLE
 75S-XX-62-SC

SIZE DRAWING NO. 360128 REV. H

SCALE 1.000 DETACHED PL SPEC SHT 3 OF 5

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY PRO/ENGINEER CAD SYSTEM.



(83.5)
[3.29]

155.9
[6.14]
COG

(156.8)
[6.17]

DIM X
SEE FDTHU
CHART

114 CFR (4.5" CFR)
ROTATABLE FLANGE

(58.9)
[2.32]

(38)
[1.50]

SHV 10KV HV
FEEDTHRU SHOWN.
OTHERS AVAILABLE.

(126.7)
[5.0]

(231.7)
[9.12]

Gamma Vacuum
TITan™ Ion Pump

WARNING

- Read and understand operator's manual before servicing this machine.
- High Magnetic Field can be harmful to pregnant females. Minimize time in field.
- Excessive voltage can cause injury or death. Always power off service.
- WORN INSIDE Pump surfaces are not during back. Do not touch.

(160)
[6.30]

CENTER OF GRAVITY

(80)
[3.15]

70 CFR [2.75" CFR]
ROTATABLE

(60)
[2.36]

(30)
[1.18]

4X M6 X 1.0 ∇12.7

(138.3)
[5.45]

(276.7)
[10.9]

DIM X	DIM X	
	MM	INCH
FDTHRU		
SC	101.1	4.0
KG	101.1	4.0
SCO	101.1	4.0
FI	111.6	4.4
OV	144.3	5.7
VR	153.3	6.0
LE	111.1	4.4
OP	122.3	4.8

75S-XX-4D-SC

ALL DIMENSIONS ARE FOR REFERENCE ONLY.

METRIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN MILLIMETERS
SURFACE ROUGHNESS IN MICROMETERS

TOLERANCES:
LINEAR ±0.13
HOLES ±0.13
ANGULAR (±)
MACHINED 0.5°
FORMED 1°
CHAMFER 5°
MACHINED SURFACES 1.6

BREAK SHARP EDGES:
R.2 OR 45° 0.2 MAX.
INTERNAL MACH CORNER R.4 MAX.

DWN	R GOLLA	DATE	23-May-06
CHK	MHC	DATE	5-23-06
APPV	RDG	DATE	5-23-06
RI	RDG		
TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982			
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING.			

Gamma Vacuum
2915 133rd Street West # Shakopee, MN

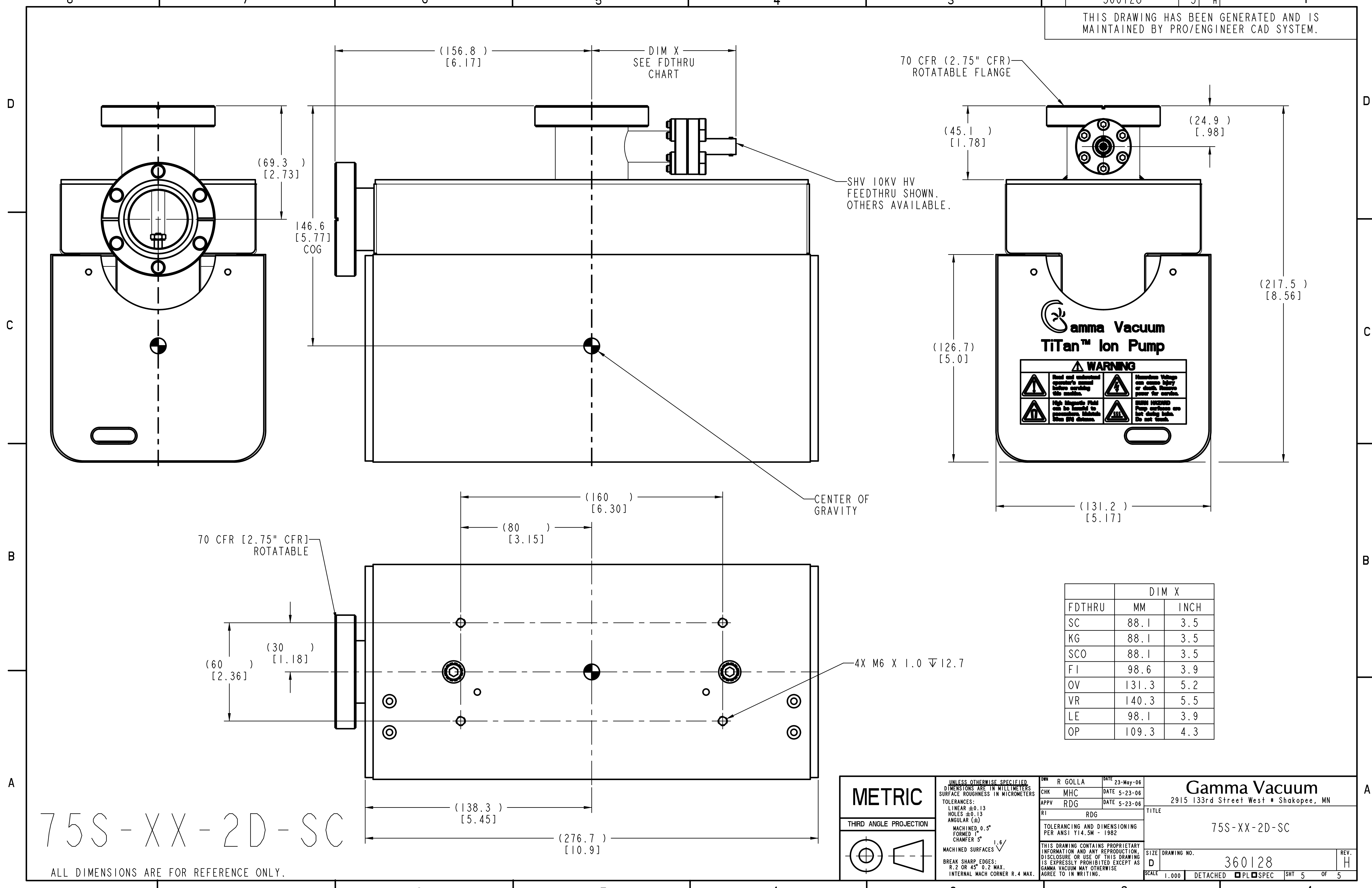
TITLE
75S-XX-4D-SC

SIZE DRAWING NO.
D 360128

REV.
H

SCALE 1.000 DETACHED PL SPEC SHT 4 OF 5

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY PRO/ENGINEER CAD SYSTEM.



WARNING

Read and understand operator's manual before operating this machine.

High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage!

High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage!

High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage! High Voltage!

FDTHRU	DIM X	
	MM	INCH
SC	88.1	3.5
KG	88.1	3.5
SCO	88.1	3.5
FI	98.6	3.9
OV	131.3	5.2
VR	140.3	5.5
LE	98.1	3.9
OP	109.3	4.3

METRIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS SURFACE ROUGHNESS IN MICROMETERS

TOLERANCES:
 LINEAR ±0.13
 HOLES ±0.13
 ANGULAR (±)
 MACHINED 0.5°
 FORMED 1°
 CHAMFER 5°

MACHINED SURFACES $\sqrt{1.6}$

BREAK SHARP EDGES:
 R.2 OR 45° 0.2 MAX.
 INTERNAL MACH CORNER R.4 MAX.

DWN	R GOLLA	DATE	23-May-06
CHK	MHC	DATE	5-23-06
APPV	RDG	DATE	5-23-06
RI	RDG		
TOLERANCING AND DIMENSIONING PER ANSI Y14.5M - 1982			
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS AGREED TO IN WRITING.			

Gamma Vacuum
 2915 133rd Street West # Shakopee, MN

TITLE
 75S-XX-2D-SC

SIZE DRAWING NO.
 D 360128

REV.
 H

SCALE 1.000 DETACHED PL SPEC SHT 5 OF 5

75S-XX-2D-SC

ALL DIMENSIONS ARE FOR REFERENCE ONLY.