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# St. Vrain Manufacturing, Inc.

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**“Manufacturing solutions for industry the SVM way”**

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### Facilities List

During the month of June 2005, St. Vrain Manufacturing purchased a new building and combined two existing manufacturing centers into a single 10,200 square foot facility. The inside of the facility was designed with the space, lighting and climate control that is required for close tolerance machining.

The front office area consists of 1,300 square feet and houses production planning, purchasing and accounting. Shipping and receiving occupies 400 square feet. Our inventory control area is 200 square feet. Quality control has a climate-controlled area totaling 550 square feet. The remaining 7,750 square feet is dedicated to manufacturing activities.

In January 2006 continuing growth led to a 2,600 square foot expansion in manufacturing floor space to accommodate a new, high precision Kitamura Mycenter HX400iF horizontal mill supported by an OKK VM5II CNC 3-Axis mill.

The shop floor is divided into five zones, including Material, Finishing, Lathe, EDM and Mills.

The following is a comprehensive listing of our machining and quality capabilities.

### CNC Mills:

GF AgieCharmilles Mikron UCP 600 Vario 5 Axis with Rotary Tilting Table

#### **Specifications:**

18" diameter rotary table size  
20.87 X 17.7 X 17.7 table travel in X, Y, Z  
115 degrees B axis rotation  
360 degrees C axis rotation  
20,000 RPM maximum spindle rotation  
30 station tool changer  
9 second tool change time  
860 X 860 X 860 ipm rapid traverse in X, Y, Z X C  
.00008" positioning accuracy  
.00004" repeatability  
Heidenhain iTNC 530 Controller

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Kitamura Mycenter HX400iF CNC Horizontal Mill

**Specifications:**

15.7" X 15.7" table size  
28.9" X 24" X 24" table travel in X, Y, Z  
13,000 RPM maximum spindle rotation  
50 station tool changer  
1.0 second tool change time  
1,969 X 1,969 X 1,969 ipm rapid traverse in X, Y, Z X C  
+/- 0.000078" positioning accuracy  
+/- 0.000039" repeatability  
Fanuc Series 16i-MB Controller

Kitamura Mycenter-4Xi CNC 3-Axis Mill

**Specifications:**

20.6" X 43.3" table size  
40" X 20" X 20" table travel in X, Y, Z  
20,000 RPM maximum spindle rotation  
30 station tool changer  
1.4 second tool change time  
1,969 X 1,417 ipm rapid traverse in X, Y, Z X C  
+/- 0.000078" positioning accuracy  
+/- 0.000039" repeatability  
Fanuc Series 16i-M Controller

Kitamura Mycenter 3XiF CNC 3 Axis Mill

**Specifications:**

35.4 X 16.1 table size  
13 X 18 table travel  
9" CNC fourth axis  
15,000 RPM maximum spindle rotation  
30 station tool changer  
1.2 second tool change time  
1,969 X 1,969 X 1,969 ipm rapid traverse in X, Y, Z X C  
+/- 0.000078" positioning accuracy  
+/- 0.000039" repeatability  
Fanuc Series 16i-MB Controller

Kitamura Mycenter-2X CNC 3-Axis Mill

**Specifications:**

14.0" X 30.9" table size  
20" X 14" X 18.1" table travel in X, Y, Z  
20,000 RPM maximum spindle rotation  
24 station tool changer  
1.2 second tool change time  
1,969 X 1,417 ipm rapid traverse in X, Y, Z X C  
+/- 0.000078" positioning accuracy  
+/- 0.000039" repeatability  
Kitamura Yasnac Controller

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OKK VM5 III CNC 3-Axis Mill

**Specifications:**

22" X 42" table size  
40.15" X 20.08" X 20.08" table travel in X, Y, Z  
10,000 RPM maximum spindle rotation  
30 station tool changer  
2.0 second tool change time  
1,417 X 1,417 X 1,181 ipm rapid traverse in X, Y, Z X C  
+/- 0.00012" positioning accuracy  
+/- 0.00008" repeatability  
Fanuc Series 160 is-MB Controller

OKK VM5 II CNC 3-Axis Mill

**Specifications:**

22" X 42" table size  
40.15" X 20.08" X 20.08" table travel in X, Y, Z  
14,000 RPM maximum spindle rotation  
20 station tool changer  
2.0 second tool change time  
1,417 X 1,417 X 1,181 ipm rapid traverse in X, Y, Z X C  
+/- 0.00012" positioning accuracy  
+/- 0.00008" repeatability  
Neomatic 635 Controller

Brother TC-S2C-0 CNC Tapping Center

**Specifications:**

31.5" X 12.6" table size  
27.6" X 15.7" X 11.8" table travel in X, Y, Z  
16,000 RPM maximum spindle rotation  
21 station tool changer  
1.7 second tool change time  
1,969 X 1,969 X 1,969 ipm rapid traverse in X, Y, Z  
+/- 0.0002" positioning accuracy / 11.8"  
+/- 0.00012" repeatability  
Brother CNC Interface Unit

Hardinge VMC 1250II 3-Axis Mill

**Specifications:**

54" X 26" table size  
50" X 26" X 25" table travel in X, Y, Z  
8,000 RPM maximum spindle rotation through geared head  
32 station tool changer  
7.0 second maximum tool change time  
1181 X 1181 X 1181 ipm rapid traverse in X, Y, Z X C  
+/- .0002" positioning accuracy  
+/- .00008 repeatability  
Fanuc Oi-MB Series Controller

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Bridgeport VMC 760 XP3

**Specifications:**

30" X 24" table size  
29" X 24" X 24" table travel in X, Y, Z  
12,000 RPM maximum spindle rotation  
30 station tool changer  
4.0 second tool change time  
1,690 X 1,690 X 1,410 ipm rapid traverse in X, Y, Z X C  
+/- 0.0004" positioning accuracy  
+/- 0.000016" repeatability  
GE Fanuc Series 18i-MB Controller

Daewoo DMV 3016L Diamond Series 3-Axis Mill

**Specifications:**

36.2" X 16.9" table size  
30" X 16.1" X 20.1" table travel in X, Y, Z  
12,000 RPM maximum spindle rotation  
24 station tool changer  
1.2 second tool change time  
1,417 X 1,417 X 1,259 ipm rapid traverse in X, Y, Z X C  
+/- 0.000078" positioning accuracy  
+/- 0.000039" repeatability  
Fanuc i-series Controller

Cincinnati VMC-500 CNC 3-Axis Mill - 2 each

**Specifications:**

27.6" X 20.5" table size  
20.1" X 20.1" X 20.1" table travel in X, Y, Z  
8,000 RPM maximum spindle rotation  
21 station tool changer  
8.0 second tool change time  
1,047 X 1,047 X 1,047 ipm rapid traverse in X, Y, Z X C  
+/- 0.00016" positioning accuracy  
+/- 0.000039" repeatability  
Acramatic 2100E Series Controller

## Lathes:

Ikegai Corporation Genesis 1208 CNC Lathe

**Specifications:**

21.85 inch swing over bed  
11.8 inch maximum turning diameter  
21.85 inch maximum turning length  
6.1 inch X-axis travel  
22.4 inch Z-axis travel  
5,000 RPM maximum spindle rotation  
1,200 ipm rapid traverse  
12 station tool post  
Fanuc Series 21i-T Controller

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Daewoo Lynx 220A CNC Lathe

**Specifications:**

20.1 inch swing over bed  
12.6 inch maximum turning diameter  
12.7 inch maximum turning length  
6.9 inch X-axis travel  
13.0 inch Z-axis travel  
6,000 RPM maximum spindle rotation  
1,200 ipm rapid traverse  
12 station tool post  
Fanuc i-series Controller

Bridgeport EZ Path II SD CNC Lathe

**Specifications:**

20 inch swing over bed  
10.5 inch maximum turning diameter  
60 inch maximum turning length  
11 inch X-axis travel  
60 inch Z-axis travel  
3,000 RPM maximum spindle rotation  
394 ipm rapid traverse  
12 station tool post  
Bridgeport BPTC Series Controller

Hardinge HLV-H Super Precision Tool Room Lathe

**Specifications:**

11 inch diameter  
36 inch bed  
1-1/8 inch through the spindle  
3,000 maximum RPM (variable speed)  
Accurite™ glass scales, two axis

## Wire EDM:

Mitsubishi RA90 Wire EDM

**Specifications:**

33.9" X 29.9" X 6.3" maximum workpiece dimensions (W x D x H)  
772 pounds maximum weight of workpiece  
22.5" X 18.8" table size  
12.6" X 9.8" X 6.5" table travel in X, Y, Z  
.008" to .010" wire diameter

Sodick Mark EX EDW A320L Wire EDM

**Specifications:**

27.5" X 20.0" X 6.9" maximum workpiece dimensions (W x D x H)  
550 pounds maximum weight of workpiece  
14.0" X 22.0" table size  
12.5" X 8.0" X 6.9" table travel in X, Y, Z  
.004" to .010" wire diameter

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## Knee Mills:

Bridgeport      1 Manual  
                         2 - 2 Axis Programmable

## Grinders:

Harig Super 612 Manual Surface Grinder  
**Specifications:**  
6.0" X 12.0" table, manual magnet  
16.0" X 7.0" X 12.0" table travel in X, Y, Z  
3,450 RPM spindle rotation

Deckel Tool Grinder

Baldor 522 Tool Grinder

## Raw Material Processing:

Rollinsaw manual band saw - 2 each  
Grob Inc. Vertical Bandsaw, Model NS-18

## Material Finishing

C&M Cleaning Systems  
Model 600 large media tumbler

Zero Blast-N-Peen  
Clemco Industries Grit Blasting Cabinet  
3' X 3' X 3' enclosure

Buffing/Polishing Center  
Baldor

## Inspection Equipment:

Brown & Sharpe Chameleon 7.10.7 CNC Coordinate Measuring Machine  
**Specifications:**  
26" X 40" X 26" travel in X, Y, Z  
.00019" Volumetric Deviation  
.00011" X axis deviation  
.00013" Y axis deviation  
.00011" Z axis deviation  
.00006" repeatability  
Open PCDMIS 3.2 operating system  
Renishaw PH-10MQ  
TP20 dynamic touch probe  
SP600M static scanning head

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Mycrona Signum Multi Sensor Coordinate Measuring Machine

**Specifications:**

400 X 400 X 200 travel in X, Y, Z  
1.5 micro meter + L/300 Volumetric Error  
1.5 micro meter + L/400 X axis deviation  
1.5 micro meter + L/350 Y axis deviation  
1.5 micro meter + L/350 Z axis deviation  
Geomatic 2.0 Operating System and Measuring Software  
CCD camera system  
Renishaw probe system, TP200  
Laser system  
Software coupled rotary table

Brown & Sharpe Microval Manual Coordinate Measuring Machine

**Specifications:**

14" X 16" X 12" travel in X, Y, Z  
.0006" Volumetric Deviation  
.0002" X axis deviation  
.0002" Y axis deviation  
.0002" Z axis deviation  
.00016" repeatability  
Micromasure 1Plus operating system  
Renishaw TP-1S

Deltronic DH 216 Optical Comparator

**Specifications:**

20X optics  
16" screen  
MPC-5 Deltronic measuring system

Mitutoyo SurfTest 212 surface finish tester

Fowler Sylvac Trimos V600 Height gage

Brown & Sharpe Tesa Hite Height gage

Mitutoyo QM-Height 600 Height Gage

Sylvac Z\_Cal 300 Height Gage

Starrett 0 to 1 inch bench micrometer

Gage Blocks, grade 2  
81 piece

Gage Pins, class Z, minus  
.011" through 1.000"

Deltronic TP-25 gage pin sets, Class X, 1/16" through 5/8" by 1/16" steps

Deltronic PPM-25 gage pin sets, Class X, 1mm through 12mm by 1mm steps