



# GRAPHIC CONTROLS

## Quality Management Systems Manual



Graphic Controls

A Nissha Company

# BUFFALO OPERATIONS - PROCEDURE

Title: <b>QUALITY MANUAL</b>	Number:	This <b>1-42-01 Rev AX</b>	Replaces <b>1-42-01 Rev AW</b>
	Page:	<b>ii of 27</b>	<b>ii of 27</b>
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Departments: **Quality Assurance / All Departments**

Application: **Graphic Controls Operations**

## **PURPOSE:**

To define the Graphic Controls Quality Management System; a system which integrates the operation and development of a Quality system with the strategic business planning required to provide our customers with Quality products at fair market price. The manual is supported by a document and data system which further defines operations and processes, all of which are in alignment with corporate objectives, and compliant to ISO 9001:2008, ISO 13485:2003, EN ISO 13485:2012, USFDA 21 CFR Part 820, Canadian Medical Devices Regulation (SOR/98-282), Medical Device Directive 93/42/EEC including Amendment 2007/47/EC and Council Directive 80/181/EEC (1).

## **DISTRIBUTION:**

Copy 1 – GC Intranet  
Copy 2 – GC Web Site

# REVISION HISTORY

Revision	Release Date	Revised By	Description of Change
AA	30-May-2003	Mosley	Revise & Rewrite of Quality Manual
AB	22-Aug-2003	Mosley	Revise Corrective/Preventive Action
AC	20-May-2004	Mosley	Establish org as Graphic Controls
AD	27-Sep-2004	Mosley	Remove Navigator Process Flow & Replace Mission Statement
AE	17-Oct-2005	Mosley	Addition of "assembly of Ink Jet equipment" to the scope of business
AF	28-Aug-2006	Jablonicky	Revise Cover artwork, 4.2 provision for posting hard copy documents, 5.3.1 Org changes, 7.1 Measure and monitor update to metrics, 8.3 Internal audits each area min of 1X every 3years. Page II change originator
AG	12-Nov-2007	Lasota	5.3.1 Organizational changes. Page II Originator
AH	20-Feb-2008	Lasota	Revised 7.5.6 to point 7.6; changed descriptive information associated with the Calibration System
AI	28-Aug-2008	Lasota	Revised Organizational Chart 5.3.1
AJ	10-Feb-2009	Lasota	Numbering sequence correction section 5
AK	16-Jun-2009	Lasota	7.3 Design & Development Flow Change
AL	20-Oct-2009	Lasota	Change Purpose, 1.0, 2.0, 3.0 & 4.0 to reference ISO 9001:2008, Modify 5.4.1 Org Chart to include Mgmt Rep title – QA/HSE Mgr
AM	20-Jan-2010	Lasota	Updated Scope to include exclusions relative to ISO 13485
AN	28-Apr-2010	Lasota	Revised Cover Art, Updated to clearly align with ISO 9001:2008, ISO 13485:2003, MDD 93/42/EEC including Amendment 2007/47/EC and Council Directive 80/181/EEC (1)
AO	12-Apr-2011	Jablonicky	Change corporate name from Graphic Controls LLC to Graphic Controls, Reference 21CFR part 820, Redefine org chart with changes, Reference MDD Annex V in scope, Update mission statement to include medical devices. Change 8.2.2 audit frequency from 3yrs to 2yrs
AP	06-Jun-2012	Dugan	Update Org Chart, and titles
AQ	21 Mar 2013	Dugan	Updates – Organization Charts and FDA Listing
AR	05 April 2013	Dugan	Revise Cover, page templates, add GC web page to distribution list, page numbering.
AS	12-May-2014	Dugan	Organization Chart / Scope Add Customer Supplied Material
AT	27-Jan-2015	Dugan	Added Approved SH/ES/BH/JS 1.19.2015
AU	01-Jul-2015	Lasota	Added ISO 13485:2012, removed design/dev from scope of
AV	12-Aug-2015	Lasota	Industrial, eliminated redundant ref to Mission, Org Chart update. Change format, add design to scope, change 7.3, add sales feedback to surveillance. Update Navigator Chart.
AW	7-Jul-2016	Lasota	Update purpose to include EN ISO 13485:2012; Update org chart to current; Update objectives to remove credits % of sales; add PMs
AX	24-Apr-2017	Lasota	Update Mission, Brand, Values, Quality Policy to align with Nissha. Org chart update.

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# OUR MISSION, BRAND & SHARED VALUES

## GRAPHIC CONTROLS

A tradition of excellence, A future of innovation.

At Graphic Controls we are a thriving and dynamic publicly held global organization. Our vision, mission and values are driven by continued growth and backed by an exciting and innovative entrepreneurial culture. With over 100 years of manufacturing expertise, we continue to lead the way across four distinct business units – Graphic Controls Industrial Supplies, Graphic Controls Transactional Media, Biomedical Innovations a Graphic Controls Company, and Vermed a Graphic Controls Company.

Our manufacturing sales and distribution operations span the US, Canada, UK, France, Germany, Belgium, Austria and Poland.

## MISSION

We are committed to pursuing a mutually trustful Co-existence with society through our business activities utilizing a unique technology development, based on Printing as a core.

## BRAND

“Empowering Your Vision” expresses the relationship of Co-existence between Nissha and our stakeholders. Both we and our customers, shareholders, employees, suppliers, and society have visions, and we mutually affect each other toward realizing it. We maximize our capabilities driven by our technology, passion, and leadership, and with the energy infused in us by our stakeholders, together we create value for the future.

## VALUES

### **Growth Based on Customer Satisfaction**

We create new value for our customers and transform it into a driver of growth.

### **Commitment to Results**

We set challenging goals for ourselves and deliver results.

### **Magnify Leadership**

We exhibit leadership and resolve difficulties regardless of division or position.

### **Diverse Capabilities**

We respect diversity that enhances our organizational capabilities and drives growth.

### **Sustainability Through Integrity**

We value individual dignity and conduct fair business as a global corporate partner



## INTRODUCTION

Graphic Controls top management has demonstrated commitment to the establishment of a Quality management system, maintenance of its integrity and the provision of an environment conducive to the production of Quality products and services.

The Graphic Controls Quality Manual documents management's commitment to the implementation and nurturing of a Quality management system. All policy statements have been authorized by the CEO of Graphic Controls.

## 1 - SCOPE

### **Standard: ISO 9001: 2008**

Scope of Registration:

The QMS as it applies to the design, development, manufacture and distribution of paper products, marking pens, formulated inks and filtration products.

### **Standard: ISO 13485:2003**

Scope of Registration:

The QMS as it applies to the design, development, manufacture and distribution of medical recording charts.

### **Standard: EN ISO 13485:2012**

Scope of Registration:

The QMS as it applies to the design, development, manufacture and distribution of medical recording charts.

### **Not Applicable:**

- Servicing
- Installation
- Implantable Devices
- Sterile Devices / Sterilization Processes
- Design and Development

### **FDA: 21CFR Part 820**

Scope of Registration and Device Listing:

Registered as Manufacture and Distributor/Importer

### **Canadian Medical Device Regulation (SOR/98-282)**

Registered as Manufacture and Distributor/Importer

### **Medical Device Directive: 93/42/EEC including Amendment 2007/47/EC + Annex V**

Scope of CE Certification:

Medical Device with a Measuring Function

## 2 - NORMATIVE REFERENCE

The Graphic Controls Quality Manual defines our policies, procedures and business practices; all of which are aimed at the provision of high Quality standards. It is published, distributed and maintained by the Quality Assurance Department.

The purpose of this manual is to describe a Quality system that meets and exceeds the requirements of ISO 9001:2008, ISO 13485:2003, EN ISO 13485:2012, USFDA 21CFR Part 820, Canadian Medical Device Regulation (SOR/98-282), Medical Device Directive 93/42/EEC including Amendment 2007/47/EC and Council Directive 80/181/EEC (1). Our policy statements reflect our commitment to continual improvement, prevention of non-conformity, and adherence to the Quality management system.

## 3 - TERMS AND DEFINITIONS

Graphic Controls has aligned its Quality Management System Manual to ISO 9001:2008, ISO 13485:2003, EN ISO 13485:2012, USFDA 21 CFR Part 820, Canadian Medical Device Regulation (SOR/98-282), Medical Device Directive 93/42/EEC including Amendment 2007/47/EC and Council Directive 80/81/EEC (1) guidelines. All terms used within our documentation and data are reflective of those defined within the ISO Standards, FDA Quality Systems Regulations, Medical Device Directive and Council Directive.

## 4 - QUALITY MANAGEMENT SYSTEM

The Graphic Controls Quality Management System has been established, implemented and is maintained to ensure that our products and services conform to all customer-specified, safety, statutory and regulatory requirements.

### **4.1 - ESTABLISHMENT AND MAINTENANCE OF OUR QUALITY MANAGEMENT SYSTEM**

The Quality Management System framework is comprised of controlled inter-related processes, trained personnel, documented policies and procedures, and the delivery of Quality products and services. Our processes are monitored, measured and analyzed for effectiveness.

### **4.2 - OUR CORPORATE QUALITY MANAGEMENT SYSTEM AND DOCUMENTATION**

Documented corporate policies and procedures link ISO 9001:2008, ISO 13485:2003, EN ISO 13485:2012, USFDA 21CFR part 820, Canadian Medical Device Regulation (SOR/98-282), Medical Device Directive 93/42/EEC including Amendment 2007/47/EC and Council Directive 80/181/EEC (1) with our Quality system and organizational objectives.



## 4.2.1 - Structure of Quality Management System Documentation:

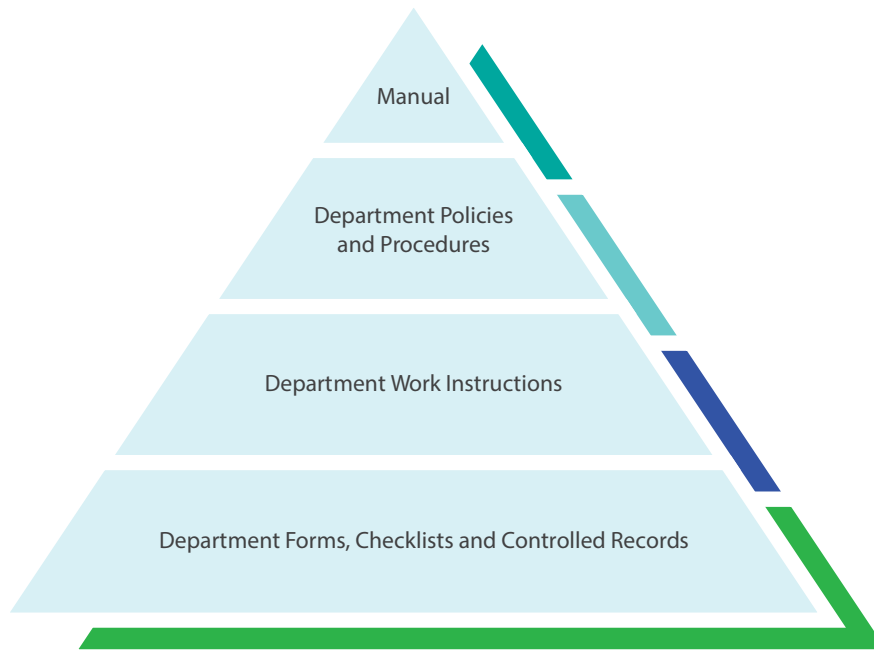
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**Level 1** – Corporate Quality Management System Manual

**Level 2** – Department Policies and Procedures

**Level 3** – Department Work Instructions

**Level 4** – Department Forms, Checklists, and Controlled Records



## 4.2.2 - Quality Management System Manual

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The Quality Management System Manual has been established to define the scope of our business system, identify our inter-related processes, characterize our QMS and outline the structure of our documentation system. There are two approved and controlled Quality Management System Manuals; this manual is documented, housed and maintained on the Graphic Controls intranet site and Graphic Controls website. Any printed copy of any portion of this manual is considered to be uncontrolled. Changes to correct grammar, titles and numbering may be implemented for immediate change through the Management Representative.

## 4.2.3 - Document and Data Control

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Constant evolution of the Quality management system and frequent document changes are necessary to support our emphasis on continual improvement and technological advancement. For the purpose of this Quality management system, the range and detail of procedures is dependent upon the complexity of work and methods of production. All documentation, including procedures, work instruction, checklists, training and records are maintained, monitored and are in alignment with the Corporate Quality Management System.

### 4.2.3 - Document and Data Control (Cont.)

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The Quality Management System Manual, Procedures, Departmental Policies and Procedures, and Departmental Work Instructions are available on the intranet and are maintained by the Management Representative. Level 1, 2, and 3 documents are considered controlled when viewed online; a copy may be printed but is considered an uncontrolled document. A provision within the document control procedure allows for hard copy posting of documents. Documents and data are reviewed and approved for adequacy by authorized personnel prior to use. A unique revision date and description track the changes made to identify each version; obsolete copies are removed from use.

### 4.2.4 - Control of Quality Records

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Quality records are objective evidence that our Quality management system operates properly. Records may be in the form of any type media.

**At a minimum, our records must include the following:**

- Management Review
- Maintenance Activities
- Customer Contracts
- Product Design Files
- Product Change History
- Quality Plans – Acceptance Records
- Calibration Records
- On-Hold Records
  - o Records of Accept on Deviation
  - o Records of Rework
  - o Final Disposition
- Customer Return Goods Authorization
- Medical Recall, Correction Removal Records
- Master Revision Lists • Internal Audits
- Training Records
- Customer Purchase Orders
- Advisory Notices
- Device Master Records
- Device History Records
- CE Technical Files
- Supplier Approval Records
- Supplier Evaluation Records
- Customer Complaints
- Customer Feedback & Report Cards
- Customer Account Adjustments
- Corrective & Preventive Actions
- Medical Device Reporting Records
- Quality System Dashboard Charts

Each department will maintain Quality records; records will be stored, maintained and retrievable within their respective areas. Retention period for individual Quality Records will be based upon content and risk management. The Procedure for Maintaining Quality Records defines record-specific retention periods.

## 5 - MANAGEMENT RESPONSIBILITY

### 5.1 - MANAGEMENT COMMITMENT

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Graphic Controls senior management is committed to the development and implementation of its Quality management system and the continual improvement of its effectiveness. Commitment is illustrated through:

- Communication to the organization of the importance of meeting customer, statutory and regulatory requirements
- Establishment of the Quality policy
- Ensuring that Quality objectives are established
- The conduct of management reviews
- Ensuring the availability of resources

### 5.2 - CUSTOMER FOCUS

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Graphic Controls senior management is dedicated to ensuring that customer, safety, statutory and regulatory requirements are met.

- Determination and review of customer, safety, statutory and regulatory requirements
- Monitoring of customer feedback through report cards, complaints, and sales channels

## **5.3 - QUALITY POLICY**

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### **Graphic Controls Quality Policy**

Graphic Controls is committed to contributing widely to society through customer's trust and satisfaction of quality, cost, delivery, services and speed.

- 1. We aim for quality that stands up to the customer's expectations.**
- 2. We pursue Zero Defects in our products.**
- 3. We provide products which satisfy customer requirements and conform to the relevant legislation and regulations.**
- 4. We establish and maintain a quality management system, and continually improve its effectiveness.**

## 5.4 - PLANNING

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### 5.4.1 - Quality Objectives

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It is the objective of Graphic Controls top management to provide products and services which consistently meet the needs and expectations of our customers in relation to price paid and to the nature of competitive offerings. In doing so, Graphic Controls strives to be the industry leader in product Quality.

#### Quality objectives include:

- Continual Improvement of Our Quality System
  - Ref: Quality System Manual
  
- Responsive to our Customers' Needs
  - Ref: Abandon Call  
Telephone Service Factors
  
- Meeting or Exceeding Our Customers' Expectations
  - Ref: Ship to Promise Metrics  
Factory Order On-Time Performance Metrics  
Complaints & Internal Rejections vs. Lines Sold Metrics
  
- Maintaining Infrastructure Impacting Conformity of Product
  - Ref: PMs to Schedule Metrics
  
- Leadership in the Markets in which we Compete
  - Ref: Sales to Budget Metrics
  
- Improving Cost Effectiveness
  - Ref: Manufacturing Variance Metrics
  
- Improving Inventory Efficiencies
  - Ref: Inventory Turn Metrics
  
- Production of Quality Products
  - Cost of Bad Quality Metrics

Our Quality Objectives are monitored, measured and reviewed to ensure that they are in alignment and consistent with our Quality Policy and Principles.

## **5.4.2 - Quality Management System Planning**

Graphic Controls top management realizes that strategic business planning and the nurturing of a Quality management system are interrelated processes. Our goal is to understand customer needs and satisfy customer expectations while operating our business as effectively and efficiently as possible. Historical business performance data, in conjunction with current market segment analysis, provide the avenues needed for sales, marketing and operational resource forecasting. Through forecasting management is able to set daily, monthly, quarterly and annual objectives, and ensure resource availability and capacity required to attain goals.

The Graphic Controls Quality management system continues to develop as our business system evolves. Graphic Controls top management ensures the integrity of the Quality management system through extensive planning, risk assessment and controlled implementation of processes.

## **5.5 - RESPONSIBILITY, AUTHORITY AND COMMUNICATION**

### **5.5.1 - Responsibility and Authority**

To ensure that our objectives are achieved, a defined organizational structure is in place with defined lines of authority and responsibility. The defined structure is maintained and is included in this manual.

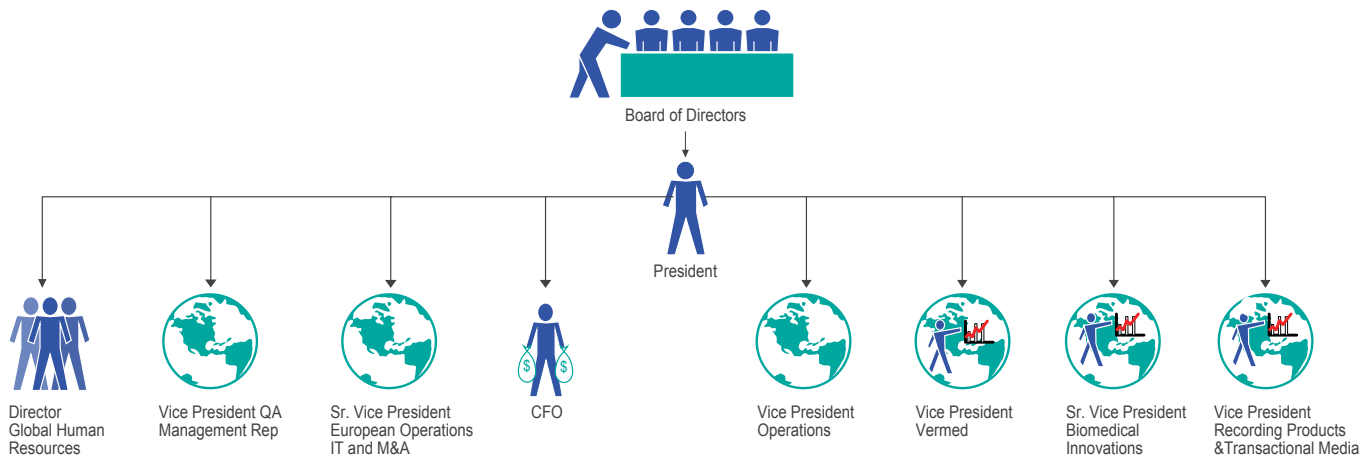
Senior management is ultimately responsible for the Quality of products and services. All personnel are empowered and responsible for the Quality of their work, and have the authority to prevent occurrences of discrepancies.

#### **Senior Management is responsible for ensuring:**

- Personnel receive the tools, training, development and environment to be successful
- Personnel are in the position to make a difference in meeting or exceeding our customer expectations
- Personnel are encouraged to initiate, recommend or provide solutions through designated channels
- Personnel are empowered to overcome obstacles related to products, processes, and their own success
- Personnel can report discretion to their operation leader at any time and make suggestions for continuous improvements

Senior management will ensure that responsibilities and authorities of all individuals are defined, documented and communicated within the organization.

## 5.5.1 - Diagram: Organizational Chart



## 5.5.2 - Management Representative

The President / CEO has authorized the Quality Assurance Director, hereafter referred to as the Management Representative, to review and approve the Quality management system.

**The Management Representative reports directly to the Sr. Vice President of Operations, and responsibilities and authorities include:**

- Ensuring that processes needed for the Quality management system are established, implemented and maintained
- Reporting to top management on the performance of the Quality management system and any need for improvement
- Ensuring the promotion of awareness of regulatory and customer requirements throughout the organization

## 5.5.3 - Internal Communication

Graphic Controls senior management actively communicates Quality policies, business objectives and organizational accomplishments with personnel. Management also encourages personnel to voice concerns and suggestions for improvement.

**Channels of organizational communication include:**

- Outlook Meetings
- Team meetings
- Intranet (Organizational & Departmental)
- Focus Groups
- Employee Surveys
- Notice boards
- Email
- "Open-door" policy and approach to management

## **5.6 - MANAGEMENT REVIEW**

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### **5.6.1 - Reviewing Our Quality Management System**

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Graphic Controls senior staff reviews the Quality management system at a minimum of once annually to ensure continuity in suitability, effectiveness and support of its stated Quality policy, vision statement and Quality objectives. In addition, the review process evaluates the overall effectiveness of the system and considers evolving customer needs, developing technologies and opportunities for improvement. Records of management reviews are maintained within the Quality Assurance Department.

### **5.6.2 - Inputs to Management Review Include:**

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- Results of audits
- Customer feedback
- Process performance and product conformity
- Status of preventive and corrective actions
- Follow-up actions from previous management reviews
- Changes that may affect the Quality management system
- Recommendations for improvement
- New or revised regulatory requirements
- Risk Assessment

### **5.6.3 - Outputs from Management Review Include:**

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- Improvements needed to maintain the effectiveness of the Quality management system and its processes
- Improvement of product related to customer requirements
- Resources needed



## 6 - RESOURCE MANAGEMENT

### 6.1 - PROVISION OF RESOURCES

Graphic Controls senior management will determine and provide the resources required to maintain our Quality management system's effectiveness. An effective Quality management system is defined as one that attains our Quality objectives while meeting all customer, safety, statutory and regulatory requirements.

### 6.2 - HUMAN RESOURCES

Graphic Controls is committed to the education, training and development of personnel regarding policies, procedures and processes, and will ensure that the necessary competencies are available for effective and efficient operation of the Quality system.

#### 6.2.2 - Competence, Awareness and Training

**Graphic Controls management will:**

- Determine resources required to fulfill organizational objectives
- Evaluate and determine necessary competencies to perform work function
- Educate, train, and develops skills of personnel
- Develop methods for evaluation of competence
- Provide avenues for employee involvement
- Ensure that personnel understand the relevance and importance of their activities, and the contribution those activities make to our business objectives
- Implement employee rewards and recognition programs
- Establish channels of communication
- Employ methods for evaluation and verification of system effectiveness

Personnel performing activities which affect product and service Quality must be provided with the proper training required to perform those activities. It is the process area manager's responsibility to identify training requirements, ensure implementation, verify effectiveness and maintain training records.

Personnel are qualified to perform specific assigned tasks based upon determined competency, appropriate education, training and/or experience.

### 6.3 - INFRASTRUCTURE

Graphic Controls senior management is equally committed to providing a work environment and infrastructure beneficial to employee gratification and to the manufacture of high Quality products. Top management provides a building, workspace, equipment and environment conducive to the production of Quality products and services. Maintenance of facilities and equipment are planned and records are maintained.

## 7 - PRODUCT REALIZATION

The Graphic Controls Quality management system is the culmination of an interrelated series of processes and support activities. All processes and activities, from quote to invoice, are carried out under controlled conditions which are monitored, measured, and analyzed for effectiveness.

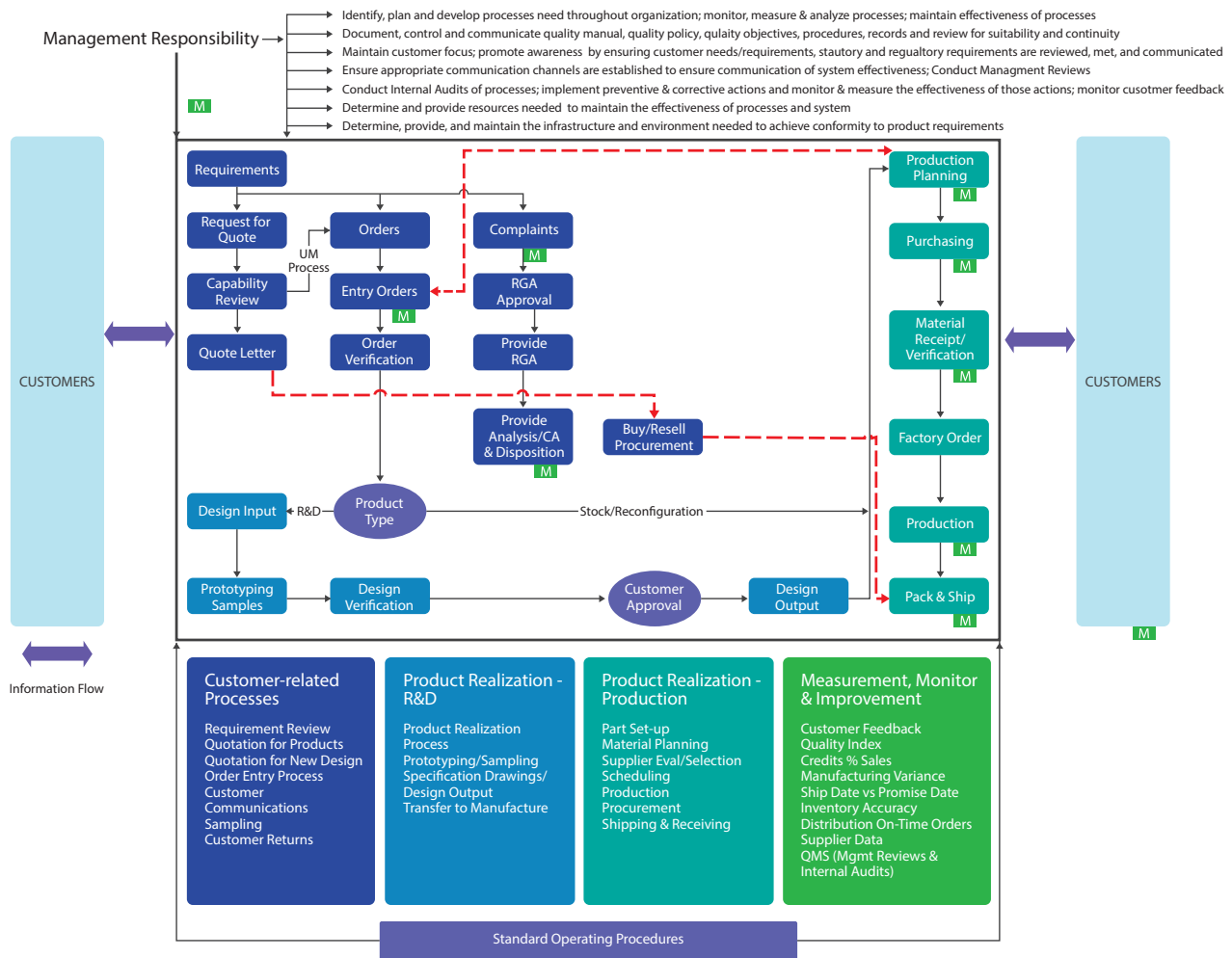
### 7.1 - PLANNING OF PRODUCT REALIZATION

#### Graphic Controls top management:

- Identifies processes and activities needed to meet customer requirements
- Ensures availability of resources to achieve desired outputs
- Documents processes to support effective and efficient operation
- Captures and records individual product specifications
- Implements verification, validation if required, monitoring and test activities specific to the criteria for product acceptance
- Mitigates risk, ensuring the safety of our products
- Periodically reviews process performance to ensure consistency with operating plans
- Provides methods for implementation and monitoring of process changes to ensure the integrity of product, customer requirements and the organization remain intact

In the event that validation results are not fully measurable and verifiable and/or where processing deficiencies may become apparent only after product is in use, Graphic Controls will validate product at our customer's site. These processes will be continuously monitored, controlled and carried out by qualified personnel to ensure all specified requirements are met.

## 7.1 - DIAGRAM: PROCESS MAPPING



## 7.2 - CUSTOMER-RELATED PROCESSES

The Graphic Controls Sales and Marketing Departments are responsible for market research, competitive analysis, defining of customer requirements and verification of process capabilities prior to acceptance of contract.

### 7.2.1 - Determining the Requirements Related to the Product

Graphic Controls Sales and Marketing will:

- Determine customer requirements including product, delivery and post-delivery activities
- Determine and communicate with customer necessary information, where known, regarding specified or intended use
- Determine safety, statutory and regulatory requirements related to product where applicable
- Identify organizational requirements in conjunction with product realization

## 7.2.2 - Review of Requirements Related to the Product

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Customer Service is the interface utilized to process customer requirements through the Graphic Controls on-line operating system.

### **Prior to acceptance of contract Graphic Controls Customer Service will:**

- Ensure customer requirements are reviewed
- Ensure customer requirements are clearly defined and/or documented
- Ensure all discrepancies between quotes, proposals and customer requirements are communicated and resolved
- Ensure the organization has capability to meet defined requirements
- Confirm acceptance of contract requirements with customer

## 7.2.3 - Customer Communication

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### **Upon acceptance of contract Graphic Controls Customer Service will:**

- Enter order into the Graphic Controls operating system
- Confirm all product, delivery and post-delivery requirements
- Amend and document customer order requirements as necessary
- Notify relevant personnel upon change to requirements

### **Customer Service, as the interface between our customer and operating system, will communicate with customers regarding:**

- Product information including price and availability
- Order status inquiries and amendments
- Customer feedback, including customer complaints

Graphic Controls will issue advisory notices to our customers as required in accordance with product safety, statutory and regulatory requirements. An advisory notice will be issued in the event that subsequent to delivery of product it becomes necessary to provide our customers with supplementary information and/or advise them of actions needed to be taken in reference to device use, a modification made to the device, return of device to Graphic Controls or destruction of the device.

## **7.3 - DESIGN AND DEVELOPMENT**

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The Graphic Controls product design and development process ensures Quality products that meet customer, functionality, safety, statutory and regulatory requirements. Design processes may vary among projects and are detailed to meet specific requirements associated with individual product development.

Products requiring new product development are defined as products produced using new technology and/or materials. Those products utilizing established technology and which are sold to existing and new customers within existing markets, or to new customers outside established markets, are considered re-configurations or product line extensions; such products do not require new product development.

### **7.3.1 - Design and Development Planning**

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Design and development is planned and controlled. A project file is devised to capture design and development stages, assign responsibilities and ensure that review, verification, validation and design transfer activities occur as appropriate. All stages of design and development are documented within project files; project files are retained for the product's life cycle.

### **7.3.2 - Design and Development Inputs**

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New product development projects are structured and defined at onset. Inputs include needs and expectations, risk management data, information derived from previous similar designs when applicable, and all essential functional, performance, safety, statutory and regulatory requirements.

### **7.3.3 - Design and Development Outputs**

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Our design and development team is responsible for ensuring project outputs are verified against predefined inputs. Our R&D group coordinates efforts with Purchasing, Planning, Manufacturing and Quality, ensuring that all acceptance criteria is met, and that we have the capabilities necessary to achieve Quality results. All characteristics of the product that are deemed essential for safe and proper use are identified and documented.

### **7.3.4 - Design and Development Review**

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Design and development reviews are planned and executed at appropriate project stages. Reviews include an interrelated grouping of individuals, each concerned with functions and requirements of the specific stage being evaluated. Reviews are utilized to identify problems, propose necessary actions and determine course of actions to be taken.

### 7.3.5 - Design and Development Verification

Verification of product design and development is carried out as defined in the project plan. Outputs of design and development are evaluated against initial inputs to ensure our products meet all customer, functionality, safety, statutory and regulatory requirements.

### 7.3.6 - Design and Development Validation

We at Graphic Controls are committed to ensuring our products are capable of meeting all requirements for intended use within specified applications. It is essential design and development validation is carried out in accordance with planned arrangements prior to implementation of our products into the marketplace.

### 7.3.7 - Control of Design and Development Changes

All changes within design and development are documented in the project files. Changes are reviewed, verified and validated as appropriate prior to implementation; review includes evaluation of the effect of the changes on constituent parts within the product.

After new designs and processes are initially qualified, manufacturing processes are monitored to ensure that the processes are in control and remain unaffected over time.

In the event that design changes are required post market release, they will be reviewed, verified and validated as appropriate; review includes evaluation of the changes on all constituent parts within in the product and the impacted processes. Approval will be required by organizations affected by the design change. Customers will be notified when change has the potential to affect form, fit or function of the product. Post market release product changes are documented through the Product Change Request/Notice process.

## 7.3 - DIAGRAM: DESIGN AND DEVELOPMENT / NAVIGATOR FLOW



## **7.4 - PURCHASING**

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Graphic Controls senior management empowers its Purchasing Department to ensure all purchased products meet our high standards of Quality and satisfy organizational needs. Organizational needs are dictated by customer, safety, statutory and regulatory requirements and those of the industry channel.

### **7.4.1 - Purchasing Process**

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**The Purchasing Department is required to:**

- Define the extent of due-diligence exercised over suppliers, dependent upon type of product and its application
- Ensure products conform to specified requirements
- Evaluate suppliers based on their ability to provide product and delivery in a manner which satisfies our customer requirements
- Review product Quality, price, and performance as compared to competitors
- Establish method for inspection or verification of product Quality
- Rate suppliers based on Quality, service and delivery performance
- Establish and maintain a listing of approved suppliers based on rating and evaluation of products and services

### **7.4.2 - Purchasing Information**

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Purchasing translates Graphic Controls products into individual requirements to be procured from our suppliers. All material/product requirements and terms of purchase are documented and reviewed for adequacy and accuracy prior to issue of purchase order. It is essential that all materials/products directly impacting form, fit or function of our finished product are traceable by lot to our supplier.

### **7.4.3 - Verification of Purchased Product**

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Graphic Controls has established and implemented incoming receiving and inspection processes as appropriate. Diligence in meeting material/product requirements lies within our supplier relationships and is verified through internal process checks.

## 7.5 - PRODUCTION AND SERVICE PROVISION

Graphic Controls senior management recognizes that product realization is a complex interrelation of processes and activities carried out by trained, educated and empowered employees. Through simultaneous monitoring and measurement of our system and industry channels Graphic Controls strives to meet current market expectations while anticipating future needs. Future successes are reliant upon the manufacture and distribute of Quality products in conjunction with the maintenance and continual improvement of our Quality management system.

### 7.5.1 - Control of Production and Service Provision

Graphic Controls top management defines and controls the processes and activities required to provide Quality products and services to its customers. **Controlled conditions include:**

- Documented information that describes specifications and characteristics of products
- Documented procedures, work instruction, Quality plans and reference materials whenever lack of such would have adverse affect on Quality of product or service
- Personnel trained to perform specific processes
- Suitable facilities and equipment for the provision of Quality product and services
- Proper devices for the measuring and monitoring of product specifications
- Defined operations for labeling and packaging
- Implemented policies and procedures for the release, shipment, and post-delivery activities associated with manufactured products
- Operation metrics measure, monitor and drive continual improvement within the Quality management system

### 7.5.2 - Validation of Processes for Production and Service Provision

In those cases where product cannot be adequately measured and/or deficiencies may become apparent only after product has been delivered, the organization will validate the processes, procedures, methods, equipment and personnel dedicated to its manufacture. These processes will be documented.

### 7.5.3 - Identification and Traceability

All products supplied by Graphic Controls are identified by a unique part number, and are recognized as such throughout the organization's written and electronic documents. The part number is used to identify customer specific requirements as the product moves from acceptance of contract through planning, manufacturing, storage, dispatch and delivery. Products are lot coded for traceability of raw materials and other tangible inputs.

Raw materials used in the manufacture, converting and finishing processes are assigned unique identifying part numbers. The assigned part number is recognized throughout the organization on all written and electronic documents from receipt to finishing. Those materials considered critical to the product are lot coded for traceability.



## 7.5.4 - Customer Property

There are documented procedures for the identification, verification, protection and storage of customer-supplied product. Any customer-supplied product determined to be lost, damaged or otherwise considered unsuitable for use will be reported to the customer and records will be maintained.

## 7.5.5 - Preservation of Product

Graphic Controls top management ensures appropriate facilities are available to preserve the Quality and integrity of all products. **Preservation of product includes:**

- Proper product identification
- Utilization of proper equipment and trained personnel
- Secure packaging to avoid damage of product in transit
- Appropriate storage conditions
- First In First Out (FIFO) stocking and fulfillment to prevent degradation of product

Stock products are assessed as part of physical inventory and cycle counts; detection of product or package deterioration during these processes will result in segregation, rework and/or scrap of product.

Products with limited shelf-life are identified through our operating system and/or through product labeling. Processes are in place to ensure that these items are planned, produced and shipped with optimal shelf-life intact.

## 7.6 - CONTROL OF MEASURING AND MONITORING DEVICES

Graphic Controls maintains control over all monitor and measurement equipment utilized in the development, manufacture and testing of products and processes. Measuring and monitoring devices must be capable of measuring characteristics within tolerances prescribed by industry standards or customer requirements, as applicable.

All equipment used for the monitor, measure or control of product is calibrated and traceable to U.S. National Institute of Standards and Technology. All equipment maintained within the Calibration System is visibly marked with a unique identifying control number. Equipment control number, description, assigned location and date of next scheduled calibration are logged and maintained within a database; a search tool is accessible through the intranet.

Equipment is protected and maintained from damage and deterioration. In the event that equipment is damaged, out of calibration and/or considered unsuitable for use, the equipment is segregated and labeled as such. The equipment will be reintroduced into the system once it has undergone repair and/or recalibration.

In the event monitoring and/or measuring equipment is found to be out of calibration, Graphic Controls will assess and the validity of previous measuring results and verify the Quality of all product potentially affected by the nonconforming equipment.

## **8.0 - MEASUREMENT, ANALYSIS AND IMPROVEMENT**

Graphic Controls top management has implemented appropriate means for the monitor, measurement, analysis, maintenance and continual improvement of our Quality system. Statistical techniques are used as appropriate for data driven analysis.

### **8.1 - DEMONSTRATING CONFORMANCE OF OUR PRODUCTS AND QUALITY MANAGEMENT SYSTEM**

Graphic Controls Quality System Metrics are utilized for measurement and analysis of our Quality management system and impacts to our customers. Through collection of various data, management is able to identify organizational strengths, weaknesses and potential areas for improvement. Quality System Metrics are compiled and reviewed by management on a monthly basis, and continual improvement actions are taken. Quality System Metrics are posted throughout the facility to inform employees of our performance against Quality management system goals, and communicate the impact each individual has on the system.

### **8.2 - MONITORING AND MEASUREMENT**

Graphic Controls monitors and measures our ability to meet customer requirements. Our ability, as an organization, to meet customer requirements encompasses many facets; it is for this reason that Graphic Controls monitors, measures and analyzes our internal processes, supplier relationships and capabilities of meeting all customer, safety, statutory and regulatory requirements.

#### **8.2.1 - Customer Satisfaction & Feedback**

Graphic Controls has established means for collecting customer satisfaction data; we have systems in place dedicated to receiving, collecting and analyzing customer feedback. Customer satisfaction is measured through sales analysis, our customer complaint processes, sales feedback, and customer issued “performance report cards”. Information is compiled and assessed in Management Review, where action plans are developed toward continual improvement.

## 8.2.2 - Internal Auditing

Graphic Controls utilizes the internal audit as a management tool to evaluate the efficiency and effectiveness of our Quality management system. Internal audits provide an opportunity to ensure our processes and systems are operating as planned, are in compliance with ISO 9001:2008, ISO 13485:2003, EN ISO 13485:2012, USFDA 21 CFR Part 820, Canadian Medical Device Regulation (SOR/98-282), MDD 93/42/EEC including Amendment 2007/47/EC and Council Directive 80/181/EEC (1) as applicable, and to the guidelines established in our Quality management system. Documented procedures provide framework and methodology for the internal audit process.

It is the responsibility of the Management Representative to ensure internal audits are scheduled, planned and coordinated efficiently; the Management Representative will also ensure that audits are conducted and verified for effectiveness in a timely manner.

### Internal Audits:

- Scheduled based on risk and impact to the Quality management system
- Scheduled and executed in each area as dictated by previous audit findings, issuance of corrective action requests and/or changes implemented within the process area
- Performed in each area at a minimum of once every two (2) years; areas prone to non-compliance may be audited more frequently to ensure effectiveness and compliance
- Conducted by trained personnel independent of the process being audited
- Findings are recorded and brought to the attention of the manager responsible for the area audited and the implementation of corrective action
- Summarized results are reported as an integral part of the input conveyed at Management Reviews

Audit details, corrective actions and follow-up activities, as applicable, are captured in the audit report and maintained within the Quality Assurance Department as objective evidence.

## 8.2.3 - Monitoring and Measurement of Processes

Graphic Controls evaluates process performances and incorporates measurement results into daily management operations.

### Process Evaluations:

- Capabilities
- Cycle Time
- Measurable Aspects of Dependability
- Utilization of Technologies
- Cost Allocation and Reduction
- Reaction Time
- Yield
- Effectiveness and Efficiency of Personnel
- Waste Reduction

## **8.2.4 - Monitoring and Measurement of Product**

Graphic Controls has established and documented monitor and measurement requirements for its products. Quality Plans identify critical characteristics to be monitored and measured, methods of monitor and measurement, and the required frequency. Product is not released unless all acceptance criteria are met. Measurement results are recorded and kept on file.

## **8.3 - CONTROL OF NONCONFORMING PRODUCT**

Graphic Controls top management believes that Quality is a culture; the production of high Quality products meeting all customer, safety, statutory and regulatory requirements is our goal and expectation. Personnel have been trained and educated to their job functions and are empowered to cease production upon detection of suspect product.

Documented procedures have been established for the handling of nonconforming products to prevent use, release or delivery of such. Nonconforming products are clearly identified and segregated from conforming product. Product will be accepted and released on concession only if all customer, safety, statutory and regulatory requirements can be met. Product may be reworked or reconfigured only if it can be determined that rework or reconfiguration does not compromise the integrity of the product, or present adverse effects. Reworked/ Reconfigured products will be re-inspected prior to release to ensure all acceptance criteria are met. Product disposition is determined, authorized and carried out only by those sanctioned to do so.

In the event non-conforming product is detected after delivery or use has begun, Graphic Controls will take all actions appropriate and necessary to correct known nonconformity, and negate potential for adverse effects.

## **8.4 - ANALYSIS OF DATA**

Graphic Controls Quality management decisions are based on market research, competitive analysis, operation metrics and ongoing verification of system suitability, efficiency and effectiveness.

### **Results of analysis can be used to determine:**

- Performance to Objectives –
  - Ability to Meet All Quality System, Product, Customer, Safety, Statutory and Regulatory Requirements
- Effectiveness and Efficiency of Processes
- System Trends
- Supplier Contributions
- Opportunities for Quality System Improvements
- Financial and Market Related Performances
- Competitive Strategies

## 8.5 - IMPROVEMENT

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Graphic Controls senior management actively seeks opportunities to improve the efficiency and effectiveness of our Quality management system. Opportunities for improvement are identified through use of our Quality policy & principles, Quality objectives, data analysis, internal audits, corrective and preventive actions and management reviews.

### 8.5.1 - Continual Improvement

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Opportunities for continual improvement present themselves in different ways; improvement initiatives may be derived through highly visible strategic business projects or, as more often occurs, born through day to day business operations. At Graphic Controls it is our goal to cultivate opportunities for process improvements, while sustaining the effectiveness of our Quality management system. Delivering Quality products and meeting all customers, safety, statutory and regulatory requirements is our competitive advantage in the marketplace.

### 8.5.2 - Corrective Action

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Corrective action is used as a tool for improvement. Corrective actions are taken to prevent reoccurrence of nonconformities and eliminate potential for deficiencies within our Quality management system

#### **Corrective Action may be taken as the result of:**

- Customer complaints
- Internal Audits
- In-Process Inspections
- Surveillance Audits
- Process Measurements
- Data Analysis
- Management Review

### 8.5.3 - Preventive Action

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Graphic Controls takes preventive action to mitigate potential for nonconformities and losses. Planning for prevention is systematic, and based on data collected through evaluation of current performance, historical statistics and trend analysis.

#### **Contributors to preventive action initiatives:**

- Failure Mode and Effects Analysis (FMEA)
- New Product Development/Design Control
- Market Analysis
- Process Measurements
- Surveillance and Internal Audits
- Business Operation Metrics
- Review of Customer Requirements and Feedback
- Management Review
- Data, Records and Statistics Collected
- Process and Capability Analysis



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