



A Marketing Plan of Prominent Brand Chemical Pumps

by

Mr. Jakaphong Tejachongcharoen

A Final Report of the Three-Credit Course
CE 6998 Project

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Computer and Engineering Management
Assumption University

November 2003

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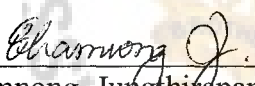
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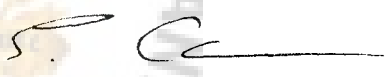
Academic Year November 2003

The Graduate School of Assumption University has approved this final report of the three-credit course, CE 6998 PROJECT, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer and Engineering Management.

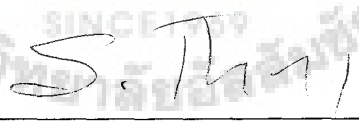
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ABSTRACT

This project is concerned with chemical products. Chemical product is the product used to mix in the process, to reduce the pollution of water from wastewater treatment plant, to clean the water from bacteria and virus before sending to end-users to drink or use. The simple way by which we can transfer chemical products from one place to another is by using a chemical pump to feed them.

Prominent Brand Chemical Pumps is a very famous brand in Thailand, very well-known and established in Thailand for a long time. This project was established for the purpose for making marketing plan of Prominent Brand Chemical Pumps. This project will show how the marketers work to set the strategies and make everything to compete with their competitors and after that will expand the market to be the specialist for chemical system within 3 years and to be the maker of water treatment products in the future.

The plan is for 3 years. The first covers year 2004 that all marketing plan is mainly focused on Prominent Brand Chemical Pumps. The second covers year 2005 for the remaining market of chemical pumps, expand it not much and try to sell other products related to chemical pumps. The third covers year 2006 and beyond. During this period, we will sell all chemical products: Chemical components, mixers, pumps, controllers etc. and will try to sell other products related to water.

After the plan is started, we will monitor sales volume. We will keep track of monthly and quarterly deviations of actual sales from projected sales. We can then find ways to return sales to back on track. There is a contingency plan if the suggested marketing plan is not successful. However, we believe that this plan will be successful.

ACKNOWLEDGEMENTS

I am indebted to the following people and organizations. Without them, this project would not have been possible.

I wish to express my sincere gratitude to my advisor, Dr. Chamnong Jungthirapanich, for his invaluable guidance, patience, constant encouragement and support throughout the course of my project study.

I would like to thank to my brother-Manop and my sister-Thanittha for their help and support. Special thanks are also expressed to many officers of the department of water resource and officers of Prominent Fluid Controls (Thailand) for their help in providing useful information about government markets throughout this project.

Finally, my deepest gratitude is expressed to my family for their continued encouragement, love and support.

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I. INTRODUCTION

1.1 Overview

The most important factor that made the profitable organizations or non-government organizations to survive is profit or income of that organization. The profit or income of organizations that we get from other people are called customers. We get the money from service or products that is provided to our customers. Every organization can't make profits or can't survive if they do not use the business function called "Marketing"

Marketing is the business function that identifies customer needs and wants, determines which target markets the organization can serve best, and designs appropriate products, services, and programs to serve these markets. However, marketing is much more than just an isolated business function- it is a philosophy that guides the entire organization. The goal of marketing is to create customer satisfaction profitably by building value-laden relationships with important customers. The marketing department cannot accomplish this goal by itself. It must team up closely with other departments in the company and partner with other organizations throughout its entire value-delivery system to provide superior value to customers. Thus, marketing calls upon everyone in the organization to "think customer " and to do all they can to help create and delivery superior customer value and satisfaction. As Professor Stephen Burnett of Northwestern puts it, "In a truly great marketing organization, you can't tell who's in the marketing department. Everyone in the organization has to make decisions based on the impact on the consumer."

Many people see marketing only as advertising or selling. But real marketing does not involve the art of selling what you make so much as knowing what to make!

Organizations gain market leadership by understanding consumer needs and finding solutions that delight customers through superior value, quality, and service. If customer value and satisfaction are absent, no amount of advertising or selling can compensate.

Marketing is all around us, and we all need to know something about it. Marketing is used not only by manufacturing companies, wholesalers, and retailers, but by all kinds of individuals and organizations. Lawyers, accountants, and doctors use marketing to manage demand for their services. So do hospitals, museums, and performing arts groups. No politician can get the needed votes, and no resort the needed tourists, without developing and carrying out marketing plans.

Now the trend for many industries in Thailand should use chemical pumps to feed chemical to mix in the process, to reduce the pollution of water from wastewater treatment plant. Just like the ice-produced factory that should pass the GMP quality, the water that is the raw material must be clean so we use the chemical pump to clean up the water before making the ice. And the future trend may go to homes and apartments that should reduce pollution from their wastewater also so this product has the opportunity to grow in the future.

Prominent is a very famous brand in Thailand, very well-known and established in Thailand for a long time. Prominent is the real product in the market so we can find the past and up-to-date information to support our strategies , we can try to use different strategies to compare which may be the best solution for this products for this market situations. Because Prominent products has their subsidiaries in Thailand we can interview them for the real marketing situations and anything that may be useful for us to make this project.

1.2 Objectives

The objective to set A Marketing Plan of Prominent Brand Chemical Pumps is to show how the marketers work to set the strategies and make everything to compete with their competitors. The abilities of marketers are included

- (1) Set the vision and mission that is long term and short term company plan.
- (2) Identify market situations.
- (3) Find market segmentation.
- (4) Select the target market.
- (5) Set marketing mix.
- (6) Set the activities plan for each year to compete with their competitors.

Since marketing is very important for the organization, the main objective of this project is to give the useful information to the persons who make this project or persons who read this project to know what is important to set or to work when they want to make the marketing plan that it is very useful for them in the future

1.3 Scope

Scope for this project is to set the vision and mission of the company that includes long term and short term plans, identify the market situations, find the market segmentation, select target market, setting marketing mix (4P) and set the activities plan for Prominent chemical pumps so we can conclude that we make the marketing plan for Prominent chemical pump for 3 years from now.

II. LITERATURE REVIEW

2.1 Marketing Philosophies

Marketing is the philosophies that guides the entire organization. The goal of marketing is to create customer satisfaction profitably by building value-laden relationships with important customers. But the marketing department cannot accomplish this goal by itself, it must team up closely with other departments in the company and partner with other organizations throughout its entire value-delivery system to provide superior value to customers (Kotler 1996).

Business people, for a long time, knew that marketing plays a vital role to the success of their organizations. This philosophy is called marketing concept. It emphasizes customer orientation and coordination of marketing activities to achieve the organization's performance objectives. Sometimes the marketing concept is simply stated, as "The customer is the boss!" This concept is based on the belief that all planning and operation should be customer-oriented. All marketing activities in an organization, namely product, price, place and promotion, should be coordinated. Customer-oriented, coordinated marketing is essential to achieve the organization's performance objectives (Stanton 1994).

Human needs are states of felt deprivation. Humans have many complex needs that include basic physical needs for food, clothing, warmth, and safety; social needs for belonging and affection; and individual needs for knowledge and self-expression. These needs are not invented by marketers. Human wants are the form taken by human needs as they are shaped by culture and individual personality. Wants are described in terms of objects that will satisfy needs. People have almost unlimited wants but limited resources. Human demands are human wants that have the buying power (Kotler 1996).

Product is anything that can be offered to a market to satisfy a need or want. Usually product suggests a physical object but the concept of product is not limited to physical objects, it can be anything capable of satisfying a need can be called product (Kotler 1996).

Customer value is the difference between the values the customer gains from owning and using a product and the costs of obtaining product (Kotler 1996).

Customer satisfaction is the extent to which a product's perceived performance matches a buyer's expectations. If the product's performance falls short of expectations, the buyer is dissatisfied. If performance matches or exceeds expectations, the buyer is satisfied or delighted (Kotler 1996).

Total quality management are programs designed to constantly improve the quality of products, services, and market processes (Kotler 1996).

There are five alternative concepts under which organizations conduct their marketing activities that is: (Kotler 1996)

- (1) Production concept is the philosophy that consumers will favor products that are available and highly affordable and that management should therefore focus on improving production and distribution efficiency.
- (2) Product concept that is the idea that consumers will favor products that offer the most quality, performance, and features and that the organization should therefore devote its energy to making continuous product improvements. A detailed version of the new-product idea stated in meaningful consumer terms.
- (3) Selling concept is the idea that consumers will not buy enough of the organization's products unless the organization undertakes a large-scale selling and promotion effort.

- (4) Marketing concept is the marketing management philosophy that holds that achieving organizational goals depends on determining the needs and wants of target markets and delivering the desired satisfactions more effectively and efficiently than competitors do.
- (5) Social marketing concept is the idea that the organization should determine the needs, wants, and interests of target markets and deliver the desired satisfactions more effectively and efficiently than competitors in a way that maintains or improves the consumer's and society's well being.

Strategic planning is the process of developing and maintaining a strategic fit between the organization's goals and capabilities and its changing marketing opportunities. It relies on developing a clear company mission, supporting objectives, a sound business portfolio, and coordinated functional strategies (Kotler 1996).

Mission statement is a statement of the organization's purpose- what it wants to accomplish in the larger environment. Mission should be realistic, specific, should fit the market environment, should be motivating and missions are best when guided by a vision (Kotler 1996).

Market segmentation is the process that dividing a market into distinct groups of buyers with different groups of buyers with different needs, characteristics, or behavior who might require separate products or marketing mixes (Kotler 1996).

Market segment is a group of consumers who respond in a similar way to a given set of marketing stimuli (Kotler 1996).

Market targeting is the process of evaluating each market segment's attractiveness and selecting one or more segments to enter (Kotler 1996).

Market positioning is the process of arranging for a product to occupy a clear, distinctive, and desirable place relative to competing products in the minds of target

consumers. Formulating competitive positioning for a product and a detailed marketing mix (Kotler 1996).

Marketing mix is the set of controllable tactical marketing tools-product, price, place, and promotion-that the firm blends to produce the response it wants in the target market (Kotler 1996).

Marketing strategy is the marketing logic by which the business unit hopes to achieve its marketing objectives (Kotler 1996).

2.2 Marketing Management Strategies

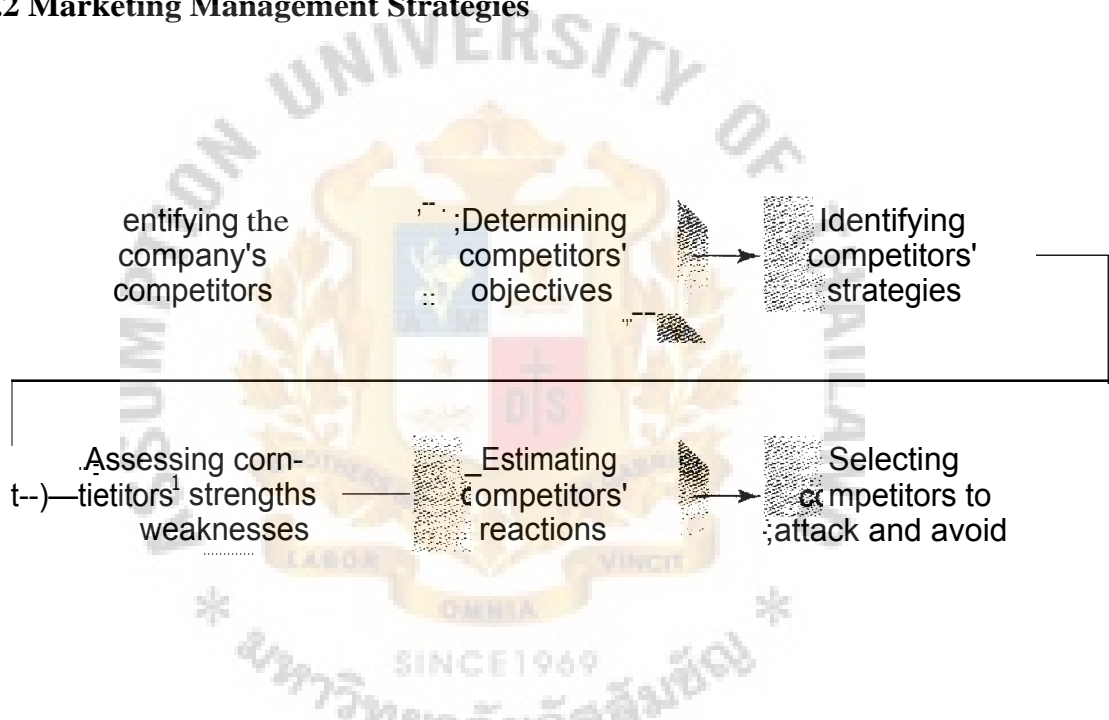


Figure 2.1. Steps in Analyzing Competitors.

To plan effective competitive market strategies, the company needs to find out all it can about its competitors. It must constantly compare its products, prices, channels, and promotion with those of competitors. In this way the company can find areas of potential competitive advantage and disadvantage. Analyzing competitors have many steps to do include: (Kotler 1996)

- (1) Identifying the company's competitors.

- (2) Determining competitors' objectives.
- (3) Identifying competitors' strategies.
- (4) Assessing competitors' strengths and weaknesses.
- (5) Estimating competitors' reactions.
- (6) Selecting competitors to attack and avoid.

More than a decade ago, Michael Porter suggested four basic competitive positioning strategies that companies can follow three winning strategies and one losing one. The three winning strategies include: (Kotler 1996)

- (1) Overall cost leadership. The company works hard to achieve the lowest costs of production and distribution so that it can price lower than its competitors and win large market share. Texas Instruments and Wal-Mart are leading practitioners of this strategy.
- (2) Differentiation. The company concentrates on creating a highly differentiated product line and marketing program so that it comes across as the class leader in the industry. Most customers would prefer to own this brand if its price is not too high. IBM and Caterpillar follow this strategy in computers and heavy construction equipment, respectively.
- (3) Focus. The company focuses its effort on serving a few market segments well rather than going after the whole market. Thus, glass-maker AFG Industries focuses on users of tempered and colored glass. It makes 70 percent of the glass for microwave oven doors and 75 percent of the glass for shower doors and patio table tops.

Planning the marketing strategies in a firm should be conducted on three different levels: strategic company planning, strategic marketing planning, and annual marketing planning. The second and the third levels are the focus of marketing people. In strategic

marketing plan, marketing management conducts a situation analysis, develops marketing objectives, determines positioning and differential advantage, selects target markets and measures market demand, and designs a strategic marketing mix. As part of situation analysis, many organizations perform a SWOT assessment Annual marketing plan is the master blueprint for a year's marketing activity for a specified organizational division or major product (Stanton 1994).

2.3 The Annual Marketing Plan

Organizations may have one annual marketing plan or several annual marketing plans. Additionally, the scope of the annual plan is not the same for all companies. Basically, the number of plans and the scope of the plans will depend on the diversity of the firm's products and markets and on the firm's organizational structure: (Guiltinan & Paul 1985)

- (1) The total annual marketing plan. In the simplest case, a firm or a division of a firm with a single product (or a single line of highly related products) sells through a sales force responsible only for that product.
- (2) The annual product or department plan. Firms which are organized by product lines may require separate plans for each product. In these situations, the number of programs included in the scope of the plans is more limited.
- (3) The annual sales plan. If a sales force is responsible for several products in a division, a separate plan and budget covering only sales-force responsibilities may be developed by sales manager.

Essentially, there are three types of objectives that managers can establish for an annual plan. It's consists of: (Guiltinan & Paul 1985)

- (1) Market- objectives. When management believes that high market share will mean high profits, market-share will be established.
- (2) Sales-volume objectives. Sales objectives are clearly related to market share objectives. That is, if a firm has a market-share objective and an industry sales forecast, then a sales objective can be calculated by multiplying the industry sales forecast by the market-share objective.
- (3) Profitability objectives. New products and problem-child products generally must receive extensive marketing support in order to build sales volume and market share. This mean that, in the short run, profitability must be sacrificed in order to achieve a strong market position and long-run profitability. Accordingly, market-share and sales volume objectives will take precedence over profitability objectives for these kinds of products.

2.4 The Marketing Plan Process Strategies

In other organizations, however, planning is the *basis* of the management process.

In general, these firms believe that planning:

- Encourages systematic thinking about the future.
- Leads to improved coordination.
- Establishes performance standards for measuring results.
- Provides a logical basis for decision making.
- Improves the ability to cope with change.
- Enhances the ability to identify marketing opportunities.

Marketing planning is the systematic process for developing and coordinating marketing decisions. Because marketing decisions are made at two major levels—top management and middle management—the marketing planning process must operate at two levels. Corporate marketing planning provides overall direction for the organization

by specifying the products the firm will make and the markets it will pursue and by establishing the objectives to be achieved by individual products. Middle-management planning (Guiltinan & Paul 1985).

Although marketing planning takes place both the corporate level and the middle-management level, four basic steps are involved at each level: (Guiltinan & Paul 1985)

- (1) Conducting a situation analysis.
- (2) Establishing objectives.
- (3) Developing strategies and programs.
- (4) Providing coordination and control.

In sum, the process of developing a corporate strategy is based on: (Guiltinan & Paul 1985)

- (1) Examining environmental problems and opportunities.
- (2) Selecting corporate objectives that are consistent with these problems and opportunities.
- (3) Examining the resources and distinctive competencies that can be used in implementing the strategy.

2.5 Corporate Marketing Planning

The BCG model assumes that cash flow and profitability will be closely related to sales volume. Accordingly, products are classified in terms of the relative share on the market that a product holds and in terms of the rate of growth in that market. Note that a relatively high market share does not necessarily mean the leading share. Rather, it means that the product has a market share that is at least close to that of the market leader. The BCG model enables a manager to classify a firm's product into four basic types: stars, cash cows, dogs and problem children: (Guiltinan & Paul 1985)

- (1) Stars are products that hold a major market share in a high-growth market. Because such products can be expected to enjoy rapidly growing sales and profits, they will likely generate a large cash flow. But high-growth markets are attractive to competitors. Consequently, stars must receive continuing cash resources to provide a level of marketing support that will enable middle-level managers to protect the market-share position. Additionally, because sales will grow rapidly, additional investment in production facilities and inventories may be needed. As a result, most of the cash flow generated by stars must be reinvested in these same products.
- (2) Cash cows are also market leaders, and so the sales volume from these products is usually large enough to generate substantial profits and cash flow. But because they are in low-growth markets, the cash generated will not typically have to be reinvested in additional marketing expenses or in expanded facilities. Consequently, these products are a firm's primary source of cash flow.
- (3) Dogs are low market-share products in low-growth markets, and consequently are likely to be weak cash providers. If such products do have loyal core markets they may yield consistent profits and cash. However, because the future contribution of these products is not likely to be very large, they normally should receive a relatively small share of the firm's scarce cash resources for marketing purposes.
- (4) Problem children are so named because they have great potential (being in high-growth markets) but require a good deal of attention (in order to build market share). To put it another way, a problem-child product may ultimately be a good cash provider if the firm can successfully build its

market share. But problem children will often be heavy users of cash, because large dollar commitments for product reformulation, advertising, improved distribution, or other marketing activities will be necessary in order to achieve a profitable market-share level.

The BCG model does not show management how it must allocate resources among products. However, in developing a product mix plan, managers should consider the following implications of this portfolio model: (Guiltinan & Paul 1985)

- (1) If problem children fail to obtain a dominant share of the market, they will seldom become major cash contributors. Consequently, if management believes that a problem-child product can achieve a greater market share, and if expanding the sales of such a product is consistent with the firm's corporate strategy, increased resources should flow to the product.
- (2) Dogs cannot provide a large cash flow, and if small cash inflows cannot be maintained with a low level of marketing expenditures, these products will be candidates for elimination from the firm's product mix.
- (3) It is important for management to maintain the market-share position of stars so that, when market growth rates ultimately decline, these products will be cash cows rather than dogs.
- (4) Cash cows are profitable but do not provide a high level of growth. Additionally, cash cows may be in markets that are either unstable or declining or both. Accordingly, cash cows should be used to fund problem children and new products in order to develop future stars.

2.6 Identifying Problems and Opportunities

Opportunities are developed from strengths or positive circumstances. Often a combination of circumstances makes for a potentially positive situation, creating an

opportunity. When we reviewed the competitive situation for a statewide accounting firm, we determined that there were very few accounting firms with aggressive, disciplined marketing programs. Even fewer actually advertised through mass communication vehicles. Also, we found that of the firms advertising, none was targeting small to medium sized businesses. An earlier demand analysis had shown that the greatest potential for our client was in providing a full range of accounting services to small to medium sized businesses in the retail, service, and financial SIC categories. These opportunities meant two things: (Hiebing & Cooper 1994)

- (1) Because of the limited advertising clutter pertaining to accounting firms, an aggressive, targeted campaign could dominate the accounting advertising and build high awareness levels.
- (2) If the messages were strategic and thus meaningful to the target audience, then the increased share of mind or awareness level should be translated into increases in share of business or share of market.

2.7 Setting Marketing Objectives and Strategies

Marketing objectives then are about each of the four main categories of the Ansoff Matrix: (McDonald 2002)

- (1) Existing products in existing markets. These may be many and varied and will certainly need to be set for all existing major products and customer groups (segments).
- (2) New product in existing markets.
- (3) Existing products in new markets.
- (4) New products in new markets.

The general marketing directions which lead to above objectives flow, of course, from the life cycle and portfolio analysis conducted in the audit and revolve around the following logical decisions: (McDonald 2002)

- (1) Maintain. This usually refers to the 'cash cow' type of product/market and reflects the desire to maintain competitive positions.
- (2) Improve. This usually refers to the 'star' type of product/market and reflects the desire to improve the competitive position in attractive markets.
- (3) Harvest. This usually refers to 'dog' type of product/market and reflects the desire to relinquish competitive position in favor of short term profit and cash flow, unless there are sound reasons not to.
- (4) Exit. This also usually refers to the 'dog' type of product/market, also sometimes the 'question mark', and reflects a desire to divest because of a very weak competitive position or because the cost of staying in it is prohibitive and the risk associated with improving its position is too high.
- (5) Enter. This usually refers to a new business area.

2.8 Marketing Analysis

There are three major types of buying situations. At one extreme is the straight rebuy that is a business buying situation in which the buyer routinely reorders something without any modifications. At the other extreme is the new task that is a business buying situation in which the buyer purchases a product or service for the first time. In the middle is the modified rebuy that is a business buying situation in which the buyer wants to modify product specifications, prices, terms, or suppliers (Kotler 1996).

The buying center includes all members of the organization who play any of five roles in the purchase decision process that consists of: (Kotler 1996)

- (1) Users are members of the organization who will use the product or service; users often initiate the buying proposal and help define product specifications.
- (2) Influencers are people in an organization's buying center who affect the buying decision; they often help define specifications and also provide information for evaluating alternatives.
- (3) Buyers are the persons who make an actual purchase.
- (4) Deciders are people in the organization's buying center who have formal or informal power to select or approve the final suppliers.
- (5) Gatekeepers are people in the organization's buying center who control the flow of information to others.

There are 4 major variables that might be used in segmenting consumer markets. There are Geographic segmentation that is process of dividing a market into different geographical units such as nations, states, regions, countries, cities, or neighborhoods. Demographic segmentation that is process of dividing the market into groups based on demographics variables such as age, sex, family size, family life cycle, income, occupation, religion, race, and nationality. Psychographic segmentation that dividing a market in to different groups based on social class, lifestyle, or personality characteristics. Behavioral segmentation that dividing a market into groups according to occasions when buyers get the idea to buy, actually make their purchase, or use the purchased item (Kotler 1996).

The buying-decision process is composed of six stages consumers go through in making purchases. The stages are need recognition, choice of an involvement level, identification of alternatives, evaluation of alternatives, purchase and related decisions, and post-purchase behavior (Stanton 1994).

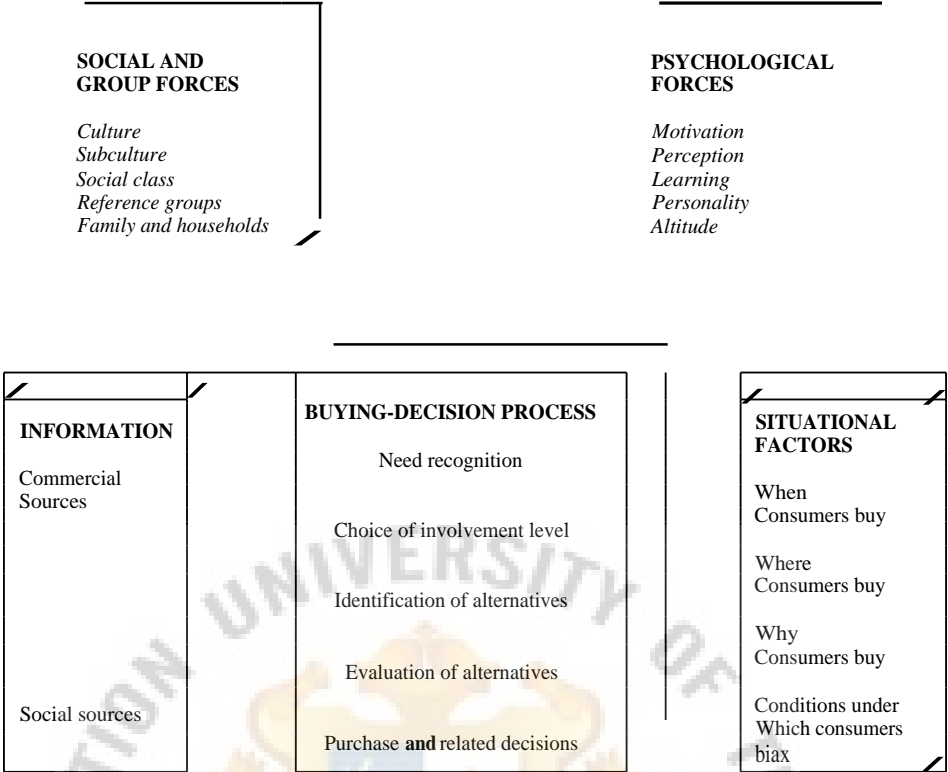


Figure 2.2. The Consumer Buying-Decision Process and the Factors that Influence It.

Information fuels the buying-decision process. Without it, there would be no decisions. There are two categories of information sources: commercial and social. Commercial sources include advertising, personal selling, selling by phone, and personal involvement with a product. Word of mouth, observation, and experience with a product owned by someone else are social sources (Stanton 1994).

Social and group forces are composed of culture, subculture, social class, reference groups, family, and households. Culture has the broadest and most general influence on buying behavior, while a person's household has the most immediate impact. Social and group forces have a direct impact on individual purchase decisions as well as a person's psychological makeup (Stanton 1994).

Although corporate marketing planning is important for long-run company success, it is equally important that middle managers develop effective marketing strategies and programs to implement corporate plans. And as the marketing concept suggests, an understanding of the marketplace is of primary importance in the selection of effective marketing decisions.

The five steps involved in this approach are portrayed: (Guiltinan & Paul 1985)

- (1) Describe the product-market structure. Managers can describe the product-market structure by identifying the array of products that are available for satisfying a basic need and then analyzing the degrees of substitutability among these products.
- (2) Define the boundaries of the relevant market. Once the overall product market structure is known, managers can then define the set of competitors which they deem most relevant. As we shall see, the boundaries of the relevant market can be set very narrowly (for example, a few highly similar brands) or very broadly (for example, any product or service which can in some way satisfy the basic need). However, the way in which a market is defined will have a major impact on the specific findings we can expect in the subsequent steps.
- (3) Analyze primary demand for the relevant market. In this step, managers attempt to understand the common dimensions of the buying process for all brands and products in the relevant market. Specifically, we provide a series of questions to help managers diagnose who are the buyers (and nonbuyers) in the relevant market, and why they buy (or don't buy).
- (4) Analyze selective demand within the relevant market. In this step, we examine the process by which buyers select specific alternative brands or

suppliers within the boundary of the relevant market. Specifically, a market segmentation approach is presented for examining differences among buyers in terms of their specific needs and in terms of their perceptions about the ability of various alternatives to satisfy needs.

- (5) Identify potential target markets. Ultimately, the goal of market analysis is to identify the best opportunities for creating customers. This final step includes a discussion of how the information from the preceding steps can be employed to identify the specific markets (and market segments) which managers should consider as targets when selecting marketing strategies and programs.

In examining the determinant attributes of buyers, however, managers may find three different patterns of segmentation: (Guiltnan & Paul 1985)

- (1) Segmentation by usage situation. This pattern occurs if the different determinant attributes exist for various usage situations. For example, nutrition will be more important to someone drinking orange juice for breakfast than it will for someone mixing it in a cocktail. Similarly, an organization making a large volume purchase of an electronic part to be used in assembling inexpensive portable radios will be very much concerned with price. However, If the same organization is buying a limited volume of the same product for a space satellite, it will be primarily concerned with reliability and performance.
- (2) Segmentation by individual or organizational needs. This pattern obtains when there are no major differences in the determinant attributes across usage situations. Some ketchup users, for example, may have definite taste preferences and, therefore, always choose the brand they believe tastes best.

(Alternatively, other ketchup users believe all ketchups are essentially the same, so they use the lowest priced brand for all occasions.)

- (3) Segmentation by individual or organizational needs within usage situation. This pattern occurs where some differences in determinant attributes exist across usage situations, yet additional differences also exist across buyers within the same usage situations. For example, although nutrition is likely to be a determinant attribute in purchasing orange juice for use at breakfast, within that situation some buyers will also consider price to be a determinant attribute, while others will not.

2.9 Demand Strategies

Demand forecasting is an important activity in marketing plan. The company can forecast sales by using either "top-down" or "bottom-up" approach. Using the top-down approach, management needs to:

- (1) Develop a forecast of general economic conditions.
- (2) Determine the market potential for a product.
- (3) Measure the share of this market the firm is currently getting or plans to capture.
- (4) Forecast the firm's sales of its brand of the product.

In bottom-up forecasting, management follows a two-step procedure:

- (1) Generate estimates of future demand by acquiring information from segments of the market or from organizational units (sales people or branches) in the company.
- (2) Add the individual estimates to get one total forecast.

Other methods of forecasting demand are survey of buyer intentions, test marketing, past sales and trend analysis, sales-force composite, and executive judgment (Stanton 1994).

The last step in the business review is to attempt to calculate demand for your product. The conclusions will be directional and are intended to provide you with a rough estimate of the size of your market and the potential business you might generate. It should give you a check to make sure the sales goals you set later in the plan are realistic and obtainable. The following outlines the procedures to take in estimating demand for your product: (Hiebing & Cooper 1994)

- (1) Target market. Define the target market in terms of numbers of potential customers. For example, if your going-in target market is women age 25 to 49, provide the total number of women age 25 to 49. This is the top level figure of potential customers. It can be used for calculating future or potential demand.
- (2) Geographic territory. Define your geographic territory and determine the number of your target market in this area. You can do this by utilizing the Standard Rate and Data Service (SRDS) or the Nielsen Test Market Profile Resource. Or you can calculate the percentage of the total population the target market constitutes and multiply it by the total number of people in your geographic territory. Whichever method you use, the end result should be an estimate of the number of target market customers in your geographic territory.
- (3) Consumption constraints. Determine whether there are consumption constraints that will reduce the target market for your product. For example,

apartment dwellers have no need for garden tools or lawn mowers. From this review, develop a final estimate of customers in your geographic territory.

- (4) Average purchase per year per customer. Determine the number of purchases per year. From the business review and the purchase rates/buying habits section, you should have estimates of the average number of purchases per year for your product category.
- (5) Total purchase per year in category. Multiply the number of customers in your territory by the average number of purchases per year to get total purchases.
- (6) Average price. Determine the average price of your product using the pricing section of the business review.
- (7) Total dollar purchases. Multiply the total purchases from number 5 by the average price in number 6 to determine total dollar purchases.
- (8) Your company's market share of purchase. Review market share data and trends from the sales analysis section, and competitive market shares and strengths and weaknesses from the competitive analysis section of your business review. Also, consider loyalty measures from the purchase rates/buying habits section of the business review. Multiply your market share by the total in number 7. Adjust this number up or down depending on the increases or decreases of your company's market share versus the competition over the past five years. (For example, if your company has been losing 5 percent market share per year over five years, project this average loss into your market share projection).
- (9) Additional factors. Additional factors that correlate to the demand for your product, such as the state of the economy, demographic fluctuations,

changing consumer tastes and lifestyles, etc., should be analyzed for their effect on demand. The influence on demand of rising or falling interest rates should be analyzed if your product is extremely interest rate sensitive and there is good probability that interest rates will rise or fall within the next year. Likewise, if your product's sales are teen oriented, determine whether the number of teens is growing or shrinking and project the effect this will have on sales. Based on this information, subjectively adjust the final figure you derived in Number 8. At this point you should have a fairly reasonable estimate of your company's potential share of total dollars and customers.

2.10 Market Measurement

Before examining the basic approaches to market measurement, it is important to define the major kinds of measures that are useful to managers: (Guiltinan & Paul 1985)

- (1) Actual sales represent either the past or current levels of demand realized. Those realized by a firm come under the category of company and product sales, and those of a group of sellers are known as industry sales.
- (2) Sales forecasts are estimates of future levels of demand. Industry sales forecasts indicate the level of demand that is expected to be achieved by all firms selling to a defined market in a defined period of time. A statement such as "Automobile sales in the United States between 1985 and 1990 are expected to be 100 million units" is an industry sales forecast. Similarly, company (or product-line or brand) sales forecasts indicate the expected level of demand that will be met by an individual supplier.
- (3) Market potential represents the upper limit of demand in a defined period of time. That is, market potential is either the maximum sales opportunity that can be achieved by all sellers at the present time (called current market

potential) or the one that can be achieved during some future period of time (future market potential).

Although an extensive array of forecasting approaches exists, there are really three approaches that can be employed in forecasting either industry or company sales. These approaches are: (Guiltinan & Paul 1985)

- (1) Time-series models. The basic assumption underlying time-series models is that sales can be forecast with acceptable accuracy by examining historical sales patterns. These models are relatively easy to use because the only data needed are past sales and because they can be implemented by means of easy-to-obtain "canned" computer programs.
- (2) Multiple-regression models. Multiple-regression models should be employed rather than time-series models if environmental change that cause or influence sales can be expected. Major demand shifts are more likely to occur when the forecasting horizon is more distant, and so multiple-regression models are likely to be especially advantageous when management must make forecasts over one or more years.
- (3) Judgmental approaches. Frequently it will not be possible to rely heavily on statistical approaches for forecasting. Time-series methods may be inappropriate because of wide fluctuations in sales or because of anticipated change in trends. Regression methods may be infeasible because of a lack of historical data or because of management's inability to predict (or even identify) causal factors. The judgment approach will be management's only possible avenue for forecasting in these situations. Managers may use judgment to supplement statistical approaches for three reasons. First, even the most sophisticated statistic model cannot incorporate all of the potential

influences. Second, particularly in industrial markets, a small number of buyers may represent a large share of demand. Third, a general rule of thumb is that statistical forecasts are more reliable for larger levels of aggregation.

2.11 Target Market

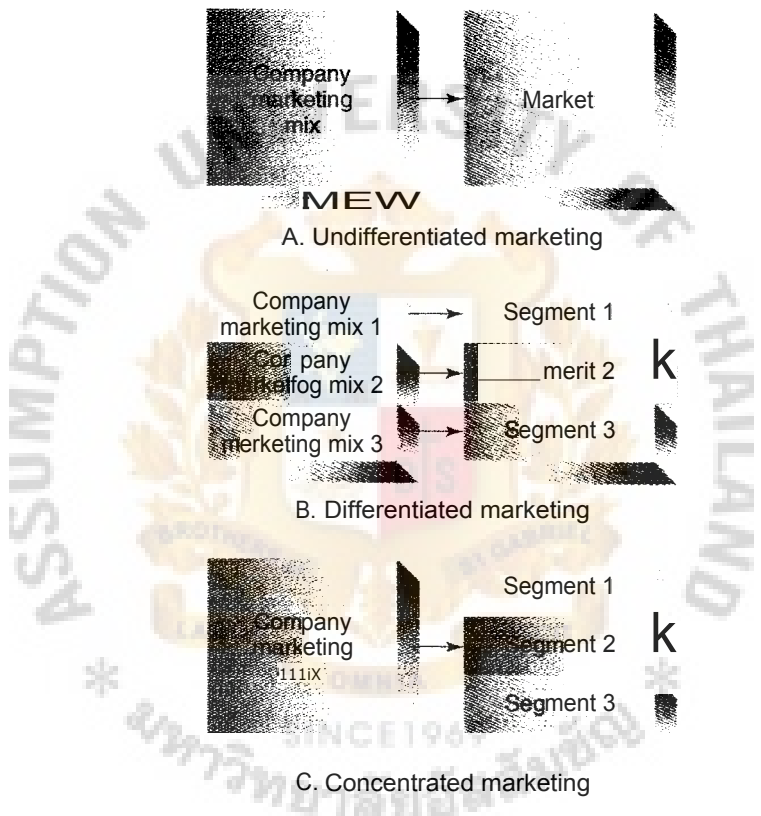


Figure 2.3. Three Alternative Market-Coverage Strategies.

There are three alternatives market-coverage strategies that consists of: (Kotler 1996)

- (1) Undifferentiated marketing is a market-coverage strategy in which a firm decides to ignore market segment differences and go after the whole market with one offer.
- (2) Differentiated marketing is a market-coverage strategy in which a firm decides to target several market segments and designs separate offers for each.
- (3) Concentrated marketing is a market-coverage strategy in which a firm goes after a large share of one or a few submarkets.

The three alternative strategies for selecting a target market are: market aggregation, single-segment. Market aggregation involves using one marketing mix to reach a mass, undifferentiated market. This strategy would be appropriate for firms that are marketing an undifferentiated, staple product such as salt or sugar. With a single-segment strategy, a company still uses only one marketing mix, but it is directed at only one segment of the total market. The advantage is a company can use limited resource economically. The disadvantage is on its risk and limitation. The seller has all his eggs in one basket. If the market potential of that single segment declines, the seller can suffer considerably. Also, a seller with a strong name and reputation in one segment may find it very difficult to expand into another segment. A multiple-segment strategy entails selecting two or more segments and developing a separated marketing mix to reach each segment. This strategy normally results in a greater sales volume than a single segment strategy. It also is useful for a company facing seasonal demand. Multiple segments can provide benefits to an organization, but the strategy has some drawbacks with respect to costs and market coverage (Stanton 1994).

The market segmentation and target-market strategies focused on consumers' ability to buy. Then marketer must consider consumer's willingness to buy as

determined by using a five-part model: the buying-decision process, information, social and group forces, psychological forces, and situational factors (Stanton 1994).

Psychological forces that impact buying decisions are motivation, perception, learning, personality, and attitudes. All behaviors are motivated by some aroused need. Perception is the way we interpret the world around us and is subject to three types of selectivity: attention, distortion, and retention. Learning is a change in behavior as a result of experience. Stimulus-response learning involves drives, cues, responses, reinforcement, and punishment. Continued reinforcement leads to habitual buying and brand loyalty (Stanton 1994).

Attitudes are learned pre-dispositions to respond to an object or class of objects in consistent fashion. Besides being learned, all attitudes are directed toward an object, have direction and intensity, and tend to be stable and generalizable. Strongly held attitudes are difficult to change (Stanton 1994).

Situational influences deal with when, where, how, and why consumers buy, and the consumer's personal condition at the time of purchase. Situational influences are often so powerful that they can override all of the other forces in the buying-decision process (Stanton 1994).

The first commandment in marketing is "know thy customer," and the second is "Know thy product (Stanton 1994)." The relative number and success of a company's new products are a prime determinant of its sales, growth rate, and profits. A firm can best serve its customers by producing and marketing want-satisfying goods or services. The scarcity of some natural resources and a growing concern for our environment make social responsibility a crucial aspect of product innovation (Stanton 1994).

One of the best ways to segment businesses is by utilizing Standard Industrial Classification (SIC) codes. Or, use the same SIC methodology to segment by other

functional classifications that pertain to your particular product category. Businesses are classified into ten different broad, two-digit SIC categories: (Hiebing & Cooper 1994)

- (1) Agriculture/Forestry/Fishing.
- (2) Mining
- (3) Manufacturing.
- (4) Construction.
- (5) Transportation/Communication/Public Utilities.
- (6) Whole-sales trade.
- (7) Retail trade.
- (8) Finance/Insurance/Real Estate.
- (9) Services.
- (10) Public administration.

The first step in developing business-to-business target market segments is to break down your customer base by purchaser segment or SIC. Next, determine how many different business categories you sell to. List the categories in which you have the most customers or clients first, and then continue listing the categories in sequential order from most customers to least. Finally, determine the penetration of each category (percentage of the total category that you can classify as a customer) (Hiebing & Cooper 1994).

Once you have your target market broken into SIC categories, there are additional criteria you should evaluate to further allow for a complete understanding of your target market: (Hiebing & Cooper 1994)

- (1) Dollar size. Determine the total company sales volume for each SIC. Then calculate the average dollar size of each client in the categories by dividing the total company in each SIC by the number of clients you have in that SIC.

This can tell you a lot about current and future potential of the different categories when combined with the penetration information developed earlier.

- (2) Number of employees. Employee size often is an indicators of company's volume and how they do business. Pricing, product, and service requirements often differ between large and small company.
- (3) Heavy usage rates. Determine the reason that why your customer are heavy or light user categories?. Maybe a category of light users would become heavier users if you were to modify your product, service, or pricing. Or perhaps you should consider narrowing your firm's focus to concentrate on just the heavy user categories, especially if the earlier analysis determined that there were potential growth in these categories.
- (4) Product application/use. Essentially this is how the organization uses your product. If you find that there are several different uses for your product, you can segment target markets by usage type and begin to provide more focused service and expertise to each segment.
- (5) Organizational structure. Different companies have different organizational structures. You may need to develop independent marketing strategies and executions for different target groups as defined by their organizational structure, purchasing habits, and purchasing requirements.
- (6) New versus repeat buyer. Determine the percentage of your business that comes from new buyers versus repeat buyers. Correct your weaknesses if it becomes evident that you either aren't getting new business or can't develop long-term clients.

- (7) Geographic location. Determine that you are strong in one part of the country but weak in another. By analyzing where your current business exists and where you have potential to expand, you can segment your target market by geographic location.
- (8) Decision makers and influencers. Determine who actually decides to purchase your product and who influences the purchase of your product.

Simply stated, this positioning method matches your product's inherent and unique benefits or competitive advantage to the characteristics and needs/wants of the target market. These are steps for position by matching: (Hiebing & Cooper 1994)

- (1) Analyze your product versus the competition.
- (2) Identify product differences versus competition.
- (3) List your key target market.
- (4) List key target market characteristics.
- (5) Match your product's characteristics to the target market's needs/wants.

2.12 Marketing Mix Strategies

Product position is the way the product is defined by consumers on important attributes—the place the product occupies in consumers' minds relative to competing products (Kotler 1996).

Competitive advantage is an advantage over competitors gained by offering consumers greater value, either through lower prices or by providing more benefits that justify higher prices (Kotler 1996).

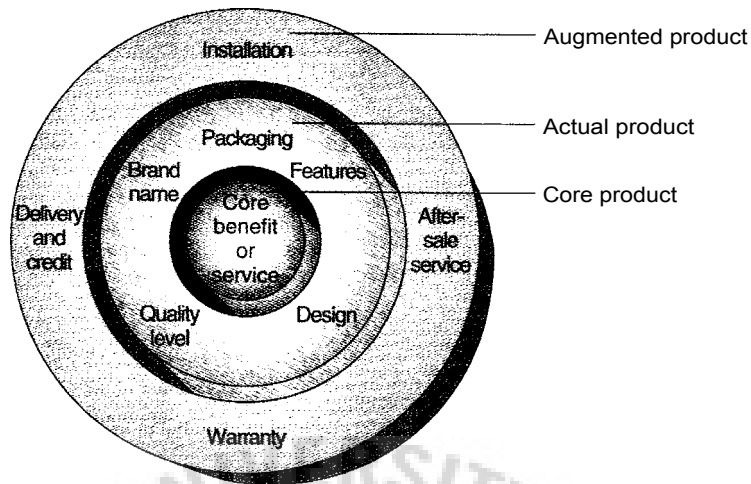


Figure 2.4. Three Levels of Product.

Product is anything that can be offered to a market. Product planners need to think about the product on three levels. The most basic level is the core product, the problem-solving services or core benefits that consumers are really buying when they obtain a product. The product planner must next build an actual product that is a product's parts, quality level, features, design, brand name, packaging, and other attributes that combine to deliver core product benefits. Finally, the product planner must build an augmented product that is the additional consumer services and benefits built around the core and actual products (Kotler 1996).

In developing marketing strategies for products and services, marketers have developed several product-classification schemes. First, marketers divide products and service into two broad classes based on the types of consumers that use them. It can be divided into consumer products and industrial products. Industrial products are products bought by individuals and organizations for further processing or for use in conducting a

business Consumer products are products bought by final consumers for personal consumption. Consumer products are include: (Kotler 1996)

- (1) Convenience products are consumer products that the customer usually buys frequently, immediately, and with a minimum of comparison and buying effort.
- (2) Shopping products are consumer goods that the customer, in the process of selection and purchase, characteristically compares on such bases as suitability, quality, price, and style.
- (3) Specialty products are consumer products with unique characteristics or brand identification for which a significant group of buyers is willing to make a special purchase effort.
- (4) Unsought products are consumer products that the consumer either does not know about or knows about but does not normally think of buying.

Marketing strategy development is designing an initial marketing strategy for a new product based on the product concept (Kotler 1996).

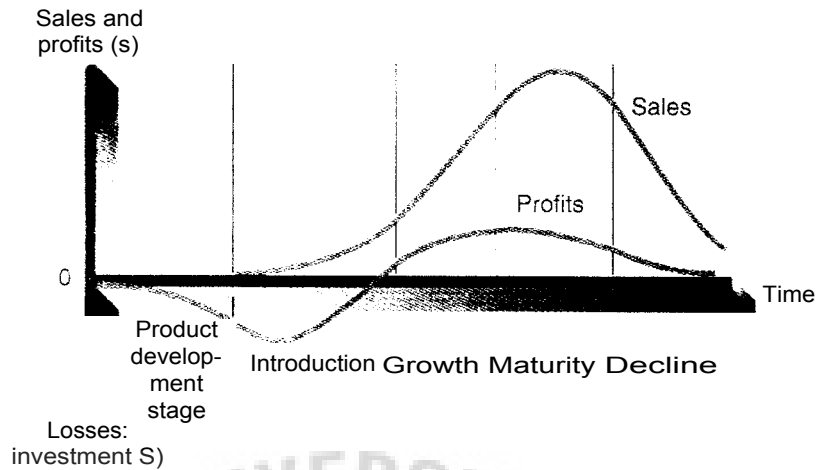


Figure 2.5. Sales and Profits over the Product's Life from Inception to Demise.

After launching the new products, management wants the product to enjoy a long and happy life. Although it does not expect the product to sell forever, management wants to earn a decent profit to cover all the effort and risk that they went into launching it. Management is aware that each product will have a life cycle, although the exact shape and length is not known in advance. Product life cycle (PLC) is the course that product's sales and profits take over a life time. The product life cycle has five distinct stages: (Kotler 1996)

- (1) Product development begins when the company finds and develops a new-product idea. During product development, sales are zero and the company's investment costs mount.
- (2) Introduction is a period of slow sales growth as the product is being introduced in the market. Profits are nonexistent in this stage because of the heavy expenses of product introduction.
- (3) Growth is a period of rapid market acceptance and increasing profits.

- (4) Maturity is a period of slowdown in sales growth because the product has achieved acceptance by most potential buyers. Profits level off or decline because of increased marketing outlays to defend the product against competition.
- (5) Decline is the period when sales fall off and profits drop.

The seller's pricing freedom varies with different types of markets. Economies recognize four types of markets, each presenting a different pricing challenge: (Kotler 1996)

- (1) Pure competition is a market in which many buyers and sellers trade in a uniform commodity—no single buyer or seller has much effect on the going market price.
- (2) Monopolistic competition is a market in which many buyers and sellers trade over a range of prices rather than a single market price.
- (3) Oligopolistic competition is a market in which there are a few sellers who are highly sensitive to each other's pricing and marketing strategies.
- (4) Pure monopoly is a market in which there is a single seller—it may be a government monopoly, a private regulated monopoly, or a private nonregulated monopoly.

Market-penetration pricing is setting a low price for a new product in order to attract a large number of buyers and a large market share (Kotler 1996).

Companies usually adjust their basic prices to account for various customer differences and changing situations. There are seven price-adjustment strategies consists of: (Kotler 1996)

- (1) Discount and allowance pricing is reducing prices to reward customer responses such as paying early or promoting the product.

- (2) Segmented pricing is adjusting prices to allow for differences in customers, products, or locations.
- (3) Psychological pricing is adjusting prices for psychological effect.
- (4) Promotional pricing is temporarily reducing prices to increase short-run sales.
- (5) Value pricing is adjusting prices to offer the right combination of quality and service at a fair price.
- (6) Geographical pricing is adjusting prices to account for the geographic location of customers.
- (7) International pricing is adjusting prices for international markets.

The logistics concept that emphasizes teamwork, both inside the company and among all the marketing channel organizations, to maximize the performance of the entire distribution system (Kotler 1996).

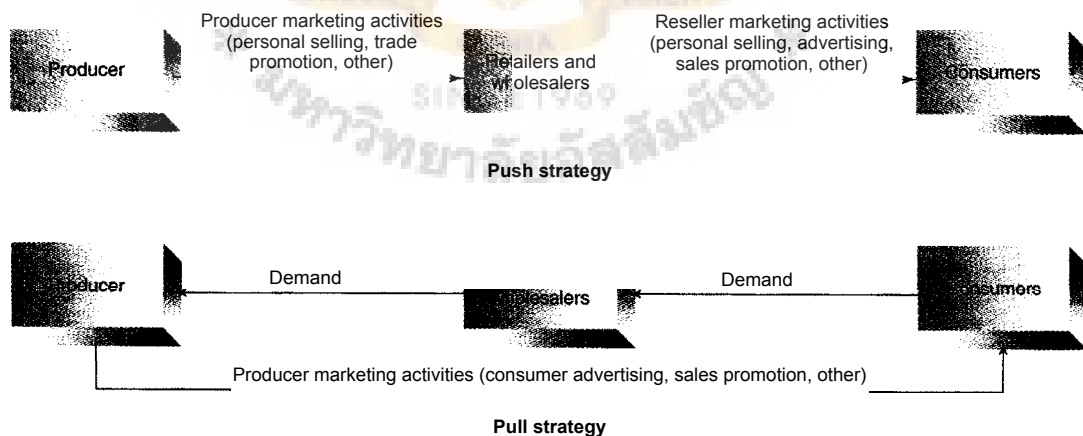


Figure 2.6. Push Versus Pull Promotion Strategy.

The promotional mix is effected heavily by whether the company chooses a push or pull strategy. Push strategy is a promotion strategy that calls for using the sales force and trade promotion to push the product through channels. The producer promotes the product to wholesalers, the wholesalers promote to retailers, and the retailers promote to consumers. Pull strategy is a promotion strategy that calls for spending a lot on advertising and consumer promotion to build up consumer demand. If the strategy is successful, consumers will ask their retailers for the product, the retailers will ask the wholesalers, and the wholesalers will ask the producers (Kotler 1996).

Sales promotion is short-term incentives to encourage purchase or sales of a product or service. Sales promotion includes a wide variety of promotion tools designed to stimulate earlier or stronger market response. Sales promotion includes: (Kotler 1996)

- (1) Consumer promotion is sales promotion designed to stimulate consumer purchasing, including samples, coupons, rebates, prices-off, premiums, patronage rewards, displays, and contests and sweepstakes.
- (2) Trade promotion is sales promotion designed to gain reseller support and to improve reseller selling efforts, including discounts, allowances, free goods, cooperative advertising, push money, and conventions and trade shows.
- (3) Sales force promotion is sales promotion designed to motivate the sales force and make sales force selling efforts more effective, including bonuses, contests, and sales rallies.

Sales force management is the analysis, planning, implementation, and control of sales force activities. It includes designing sales force strategy and structure; and recruiting, selecting, training, compensating, supervising, and evaluating the firm's salespeople (Kotler 1996).

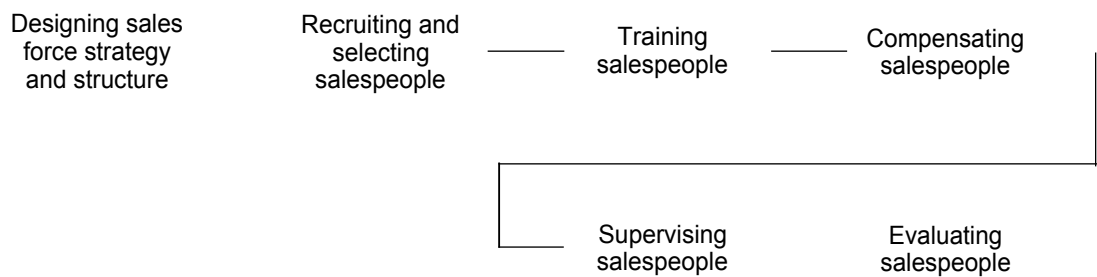


Figure 2.7. Major Steps in Salesforce Management.

A company can divide up sales responsibilities along any of several lines. The decision is simple if the company sells only one product line to one industry with customers in many locations. In that case the company would use a territorial sales force structure that is a sales force organization that assigns each salesperson to an exclusive geographic territory in which that salesperson carries the company's full line. However, if the company sells many products to many types of customers, it might need a product sales force structure that is a sales force organization under which salespeople specialize in selling only a portion of the company's products or lines. Or use customer sales force structure that is a sales force organization under which salespeople specialize in selling only to certain customers or industries. Or use combination of product sales force structure and customer sales force structure (Kotler 1996).

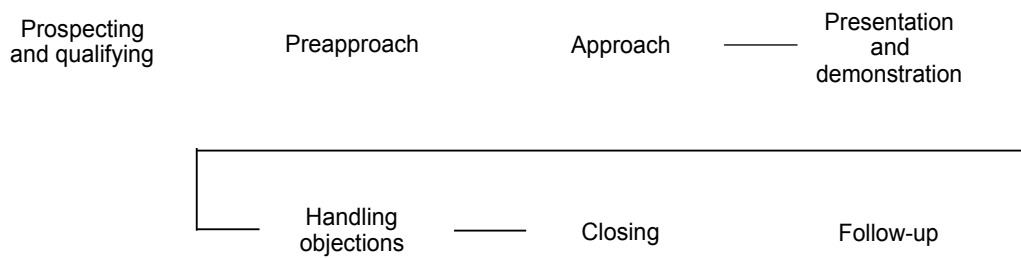


Figure 2.8. Major Steps in Effective Selling.

Most training programs view the selling process as consisting of several steps that the salesperson must master. Selling process are the steps that the salesperson follows when selling, which include: (Kotler 1996)

- (1) **Prospecting** is the step in the selling process in which the salesperson identifies qualified potential customers.
- (2) **Preapproach** is the step in the selling process in which the salesperson learns as much as possible about a prospective customer before making a sales call.
- (3) **Approach** is the step in the selling process in which the salesperson meets and greets the buyer to get the relationship off to a good start.
- (4) **Presentation** is the step in the selling process in which the salesperson tells the product "story" to the buyer, showing how the product will make or save money for the buyer.
- (5) **Handling objections** is the step in the selling process in which the salesperson seeks out, clarifies, and overcomes customer objections to buying.
- (6) **Closing** is the step in the selling process in which the salesperson asks the customer for an order.

(7) Follow-up is the last step in the selling process in which the salesperson follows up after the sale to ensure customer satisfaction and repeat business.

Price is significance in our economy, to an individual firm, and in a consumer's mind. In the economy, a product's price influences the amounts paid for the factors of production. Price thus is a basic regulator of the economic system because it influences the allocation of the factors of production. In the individual firm, a product's price is a major determinant of the market demand for it. In the consumer's mind, some consumers' perceptions of product quality varies directly with price. Typically, the higher the price, the better the quality is perceived to be. Consumers expect a certain value from a product at a particular price level (Stanton 1994).

Before setting a product's base price, management should identify its pricing goal. Major pricing objectives are to: (Stanton 1994)

- (1) Earn a target return on investment or on net sales.
- (2) Maximum profits.
- (3) Increase sales.
- (4) Hold or gain a target market share.
- (5) Stabilize prices.
- (6) Meet competition's prices.

Besides the firm's pricing objective, other key factors that influence price setting are:

- (1) Demand for the product.
- (2) Competitive reactions.
- (3) Strategies planned for other marketing-mix elements.
- (4) Cost of the product.

The concept of elasticity refers to the effect that unit-price changes have on the number of units sold and on total revenue (Stanton 1994).

Three major methods used to determine the base price are cost-plus pricing, marginal analysis, and setting the price in relation only to the market. For cost-plus pricing to be effective, a seller must consider several types of costs and their reactions to change in the quantity produced. A producer usually sets a price to cover total cost. In some cases, however, the best policy may be to set a price that covers marginal cost only. The main weakness in cost-plus pricing is that it completely ignores market demand. To partially offset this weakness, a company may use break-even analysis as a tool in price setting (Stanton 1994).

In actual business situations, price setting is influenced by market conditions. Hence, marginal analysis, which takes into account both demand and costs to determine a suitable price for the product, is a useful price-determination method. Price and output level are set at the point where marginal cost equals marginal analysis in setting prices depends on obtaining reliable cost data (Stanton 1994).

For many products, price setting is relatively easy because management simply sets the price at the level of competition. Pricing at prevailing market levels makes sense for firms setting well-known, standardized products and sometimes for individual firms in an oligopoly. Two variations of market-level pricing are to price below or above the levels of primary competitors (Stanton 1994).

After deciding on pricing goals and setting the base (or list) price, marketers must establish pricing strategies that are compatible with the rest of the marketing mix. When a firm is launching a new product, it must choose a market-skimming or a market-penetration pricing strategy. Market skimming uses a relatively high initial price, market penetration a low one (Stanton 1994).

Strategies also must be devised for discounts and allowances for deductions from the list price. Management has the option of offering quantity discounts, trade discounts, cash discounts, and/or other types of deductions (Stanton 1994).

Freight costs must be considered in pricing. A producer can require the buyer to pay all freight costs (FOB factory pricing), or a producer can absorb all freight costs (uniform delivered pricing). Or the two parties can share the freight costs (freight absorption). Other costs that should be include in pricing an imported goods are insurance, duty fee, and clearing expense (Stanton 1994).

Management also should decide whether to charge the same price to all similar buyers of identical quantities of a product (a one-price strategy) or to set different prices (a flexible-price strategy). Many organizations, especially retailers, use at least some of the following special strategies: Unit pricing-providing not only the total price but also the price per some standard measure; price lining-selecting a limited number of prices at which to sell related products; odd pricing-setting prices at uneven (or odd) amounts; and leader pricing-temporarily cutting prices on a few items to attract customers (Stanton 1994).

Another basic decision facing management is whether to engage primarily in price or nonprice competition. Although price competition is widespread in the 1990s, most firms prefer nonprice competition. Price competition establishes price as the primary, perhaps the sole, basic for attracting and retaining customers. A growing number of businesses are adopting value pricing to improve the ratio of benefits to price and, in turn, win customers from competitors. Market opportunities and/or competitive forces may motivate companies to initiate price changes or, in other situations, to react to other firm's price changes. A series of successive price cuts by competing firms creates a price war, which can harm the profits of all participating companies (Stanton 1994).

In nonprice competition, sellers maintain stable prices and seek a differential advantage through other aspects of their marketing mixes. Common methods of nonprice competition include offering distinctive and appealing products, promotion, and/or customer services (Stanton 1994).

The role of distribution is getting a product to its target market. A distribution channel carries out this assignment with middlemen performing some tasks. A middlemen is a business firm that renders services directly related to the purchase and/or sale of a product as its flows from producer to consumer. Middlemen can be eliminated from a channel, but someone still has to carry out their essential functions (Stanton 1994).

A distribution channel is the set of people and firms involved in the flow of title to a product as it moves from producer to ultimate consumer or business user. A channel includes producer, final customer, and any middlemen that participate in the process (Stanton 1994).

Designing a channel of distribution of a product occurs through a sequence of four decisions: (Stanton 1994)

- (1) Delineating the role of distribution within the marketing mix.
- (2) Selecting the proper type of distribution channel.
- (3) Determining the appropriate intensity of distribution.
- (4) Choosing specific channel members.

A variety of channels are used to distribute consumer goods, business goods, and services. Firms often employ multiple channels to achieve broad market coverage, although this strategy can alienate some middlemen. Because of deficiencies in conventional channels, vertical marketing systems have become widespread in

distribution. There are three forms of vertical marketing systems: cooperate, contractual, and administered (Stanton 1994).

Numerous factors need to be considered in selecting a distribution channel. The primary consideration is the nature of the target market. Others relate to the product, the middlemen, and the company itself (Stanton 1994).

Distribution intensity refers to the number of middlemen a producer uses at the wholesale and retail levels in a particular territory. It ranges from intensive to selective to exclusive (Stanton 1994).

Firms that distribute goods and services sometimes clash. There are two types of conflict: horizontal (between firms at the same level of distribution) and vertical (between firms at different levels of the same channel). Scrambled merchandising is a prime cause of horizontal conflict. Vertical conflict typically pits producer against wholesaler or retailer. Manufacturers' attempts to bypass middlemen are a prime cause of vertical conflict (Stanton 1994).

Channel members frequently strive for some control over one another. Depending on the circumstances, either producers or middlemen can achieve the dominant position in a channel. The firms comprising a particular channel are served best if they all view their channel as a partnership requiring coordination of distribution activities (Stanton 1994).

Attempts to control distribution may be subject to legal constraints. In fact, some practices-such as exclusive dealing and tying contracts-may be ruled illegal (Stanton 1994).

Promotion, the fourth component of a company's total marketing mix, is essential in modern marketing. The three primary methods of promotion are personal selling,

advertising, and sales promotion. Other forms include public relations and publicity (Stanton 1994).

Promotion is communication. Fundamentally, the communication process consists of a source sending a message through a channel to a receiver. The success of communication depends on how well the message is encoded, how easily and clearly it can be decoded, and whether any noise interferes with its transmission Feedback. The response created by a message, is a measure of how effective a communication has been (Stanton 1994).

The purposes of promotion are to inform, persuade, and remind customers. In economic terms, that means changing a firm's demand curve shifting it to the right and changing its shape to make demand inelastic when prices increase and elastic when prices decrease (Stanton 1994).

Promotion must be integrated into a firm's strategic planning because effective execution requires that all elements of the marketing mix-product, price, distribution, and promotion-be coordinated. When deciding on the promotional mix (the combination of advertising, personal selling, and other promotional tools), management should consider: (Stanton 1994)

- (1) The nature of the market, including the type of customer, the prospect's readiness to buy, and the geographic scope of the market.
- (2) The nature of the product, including unit value, the degree of customization required, and the amount of presale and postsale service.
- (3) The stage of the product's life cycle.
- (4) The funds available for promotion.

A basic decision is how much promotional effort should be focused on middlemen and how much should be directed to end users. The options are a push strategy, which

involves concentrating promotion effort on the next link forward in the distribution channel, and a pull strategy, in which promotion is focused primarily on the final buyer (Stanton 1994).

A promotion campaign is a coordinated series of effort built around a single theme and designed to reach a predetermined goal. The key to a successful promotional campaign is to carefully plan and coordinate advertising, sales promotion, personal selling, public relations, and publicity (Stanton 1994).

Because the effects of promotion are unpredictable, it is difficult to set a dollar figure for the total promotional budget. The most common method is to set the budget as a percentage of past or anticipated sales. A better approach is to establish the promotional objectives and then estimate how much it will cost to achieve them (Stanton 1994).

Advertising is the nonpersonal, mass-communications component in a company's promotional mix. Advertising can be directed to consumers or businesses, and focus on products or institutions. Direct-action product ads call for immediate action, while indirect-action product ads are intended to stimulate demand over a longer time period. Product ads are also classified as primary demand and selective-demand stimulating. Primary demand ads are designed to introduce a new product, to stimulate demand for a generic product, or to sustain demand for an industry's products. Selective-demand ads, which include competitive and comparative advertising, are intended to increase the demand for a particular brand (Stanton 1994).

In vertical cooperative advertising, manufacturers and their retail dealers share the cost of advertising the manufacturer's product at the local level. Horizontal cooperative advertising involves joint sponsorship of ads by firms at the same level of distribution (Stanton 1994).

Advertising expenditures are large, but the average cost of advertising in a firm is typically 1 to 3 percent of sales. This is considerably less than the average cost of personal selling. Most advertising dollars are spent on newspaper. Television and direct mail are close behind. Other frequently used advertising media are radio, magazines, yellow pages, and outdoor displays (Stanton 1994).

An advertising campaign should be part of total promotional program. The steps in designing a campaign include defining specific objectives, establishing a budget, creating a message, selecting media, and evaluating the advertising effort (Stanton 1994).

Advertising objectives can be classified as to inform, to persuade, and to remind. Informative advertising is usually used in the first stage of product launching. The objective is to build primary demand. Persuasive advertising is used in the other stage where the company wants to build selective demand for particular product. Reminder advertising is important with mature product (Stanton 1994).

Advertising budget is then designed. Budget set on advertising varies with different factors. New products, high market-share brands and large consumer base brands, high competition products, brands in a commodity class, and number of repetition needs all force the product to use high budget (Stanton 1994).

Advertising message is the next thing to consider. Advertisers go through three steps to develop a creative strategy: message generation, message evaluation and selection, and message execution. In generating a message, creative can use inductive method or deductive method. They can generate inductively by talking to consumer, dealers, experts, and competitors. They can do this deductively by going through consumer expectation of four types of reward from a product: rational, sensory, social, or ego satisfaction. Then advertiser needs to evaluate the alternative messages based on

its desirability, exclusiveness, and believability. And the message execution style is determined. It can be slice of life, lifestyle, fantasy, mood or image, musical, personality symbol, technical expertise, scientific evidence, and testimonial evidence (Stanton 1994).

Media to use is the next thing to decide. The decision can be based on reach, frequency, and impact. It can also be based on variable like target-audience media habits, product, message, and cost. The specific media vehicles, like specific magazines, are decided based on the circulation, audience, effective audience, and effective ad-exposed audience. Then media timing can be decided. In deciding this, they will face macroscheduling problem and microscheduling problem. Solving the first problem, advertiser has to decide how to schedule the advertising in relation to seasonal and business-cycle trends. The firm has three options: to follow the seasonal pattern, to oppose the seasonal pattern, or to be constant throughout the year. Timing pattern depends on the degree of advertising carryover and the amount of habitual behavior in customer brand choice. Carryover of 0.75 per month means that the current effect of a past advertising expenditure is 0.75% of its level in the previous month. High habitual purchasing, say 0.90, means that 90% of the buyers repeat their brand choice in the next period. The second problem, microscheduling problem, is the problem on allocate advertising expenditures within a short period to obtain the maximum impact. The most effective pattern depends upon the communication objectives in relation to the nature of the product, target customers, distribution channels, and other marketing factors. The timing pattern should consider three factors: buyer turnover, purchase frequency, and forgetting rate. In launching a new product, the advertiser has to choose between continuity, concentration, flight, and pulsing (Stanton 1994).

There are many sales promotion tools used for consumer promotion. The following are twelve tools mostly by marketer. Samples are offers of a free amount of a product or service. Sampling is the most effective and most expensive way to introduce a new product. Coupons are certificates entitling the bearer to a stated saving on the purchase of a specific product. Cash refund offers provide a price reduction after the purchase rather than at the retail shop. The consumer sends a specified "proof of purchase" to the manufacturer, who "refunds" part of the purchase price by mail. Price packs are offers to consumers of savings off the regular price of a product, flagged on the label or package. Price packs are very effective in stimulating short-term sales, even more than coupons. Premiums (or gifts) are merchandise offered at a relatively low cost or free as an incentive to purchase a particular product. Prizes offer the chance to win cash, trips, or merchandise as a result of purchasing something. A contest calls for consumer to submit an entry—a jingle, estimate, suggestion—to be examined by a panel of judges who will select the best entries. A sweepstake calls for consumers to submit their names in a draw in. A game presents consumers with something every time they buy—bingo numbers, missing letters—which might or might not help them win a prize. All of these tend to gain more attention than do coupons or small premium. Patronage awards are values in cash or in other forms that are proportional to one's patronage of a certain vendor or group of vendors. Free trials consist of inviting prospective purchasers to try the product without cost in the hope that they will buy the product. Product warranties are an important promotional tools, especially as consumers become more quality sensitive. Tie-in promotions involve two or more brands or companies that team up on coupons, refunds, and contests to increase their pulling power. Cross-promotions involve using one brand to advertise another non-competing brand. Point-of-purchase (POP) displays and demonstrations take place at the point of purchase or sale. Device

mostly used for trade-promotion are price-off, allowance, and free goods. Price-off is a straight discount off the list price on each case purchased during a stated time period. An allowance is an amount offered in return for the retailer's agreeing to feature the manufacturer's products in some way. Free goods are offers of extra cases of merchandise to middlemen who buy a certain quantity or who feature a certain flavor or size (Stanton 1994).

Public relations (PR) are a management tool designed to favorably influence attitudes toward an organization, its products, and its policies. It is a frequently overlooked form of promotion. PR departments perform the following five activities, not all of which support market objectives: (Stanton 1994)

- (1) **Press relations:** The aim of press relations is to place newsworthy information into the news media to attract attention to a person, product, service, or organization.
- (2) **Product publicity:** Product publicity involves various efforts to publicize specific products.
- (3) **Corporate communication:** This activity covers internal and external communications and promotes understanding of the organization.
- (4) **Lobbying:** Lobbying involves dealing with legislators and government officials to promote or defeat legislation and regulation.
- (5) **Counseling:** Counseling involves advising management about public issues and company positions and image.

PR works help assist in the launch of new products, assist in repositioning a mature product, build up interest in a product category, influence specific target groups, defend products that have encountered public problems, and build the corporate image in a way that projects favorably on its products (Stanton 1994).

Major tools in marketing PR are public relations, news, speeches, public-service activities, and identity media. In "public relations", companies rely extensively on communication materials to reach and influence their target markets. These include annual reports, brochures, articles, audiovisual materials, and company news letters and magazines. In "events", companies can draw attention to new products or other company activities by arranging special events. These include news conferences, seminars, outing, exhibits, contests and competitions, anniversaries, and sport and cultural sponsorships that will reach the target publics. In "news", one of the major tasks of PR professionals is to find or create favorable news about the company, its products, and its people. News generation requires skill in developing a story concept, researching it, and writing a press release. "Speeches" are another tool for creating product and company publicity. In "public-service activities", companies can improve public goodwill by contributing money and time to good causes. A large company typically will ask executives to support community affairs where their offices and plants are located. In "identity media", the visual identity is carried by the company's logos, stationery, brochures, signs, business forms, business cards, buildings, uniforms and dress codes, and rolling stock (Stanton 1994).

The management process in marketing is the planning, implementation, and evaluation of the marketing effort in an organization. Implementation is the stage in which an organization attempts to carry out its strategic planning. Strategic planning is virtually useless if it is not implemented effectively (Stanton 1994).

Brand loyalty is a measure of how loyal your customers are over a period of time. If your customers primarily use only your company's product, they are brand loyal. If they use your product most of the time but occasionally use your competitor's products, they are moderately brand loyal. And if brand or product switching occurs regularly,

these exists low brand loyalty. Brand loyalty is analyzed to provide insights into the following types of issues: (Hiebing & Cooper 1994)

- (1) How difficult it will be to keep your own customers.
- (2) How difficult it will be to steal market share from competitors.
- (3) The degree of promotional offers that will be needed to induce trial.
- (4) How much media weight will be necessary to increase trial, retrial, and sales.
- (5) Whether a true product difference or innovation is needed to compete.

Price is a prominent part of the marketing decision making process. A price that is too high may discourage purchase of the product and encourage competition in the form of lower price and more entries into the product category. Alternatively, a price that is too low may be a deterrent to reaching profit and sales goals. The business review section on pricing is designed to provide pricing data relating the competition, changes in the marketplace price structure, and strengths of consumer demand. This information will provide a reference to help guide your pricing objectives and strategies in the subsequent marketing plan. The business review should provide you with for major insights on pricing: (Hiebing & Cooper 1994)

- (1) The price of your product/brands relative to the competition.
- (2) Your company's sales by price point relative to competition.
- (3) The price elasticity of your product. (A price elastic product is one for which, if the price is raised, sales go down, and if the price is lowered, sales go up. A price inelastic product is one for which, even when the price is increased or decreased, sales are not affected positively or negatively to the degree they are with a price elastic product.)
- (4) The cost structure of your product.

Reviewing your marketing strategies and your pricing problems and opportunities in the context of the following factors will help you determine whether your company should set a higher, lower, or parity price objective.

Lower price objective. The reasons for a low price strategy include the following:

- (1) To expand the market, allowing new consumers who couldn't purchase at higher prices to become purchasers.
- (2) To increase trial and/or sales due to price incentives.
- (3) To exploit a situation with a strong price elastic product where a low price results in increased demand. The result is lower margins but increased profits because of the increased volume.
- (4) To preempt competitive strategies, helping to steal market share. This is often necessary in a mature market.
- (5) To remain competitive. If most of the competitors have reduced their prices, you will often need to do so, especially if you are in a price sensitive product category. If a strong competitor is also offering an attribute, such as service, with which you cannot compete, you may need to lower your price to counter the service offering.
- (6) To keep competitors from entering the marketplace by setting a price that is difficult for a new company with high initial investment costs to match. This policy of expanded market pricing allows a company to develop a large, loyal consumer base while keeping competition to a minimum.

Higher price objective. Several conditions favor a high price objective, where the price of the product's price is set above that of the competition.

- (1) To allow fast recovery of the firm's investment.

- (2) To provide faster accumulation of profits to cover R & D costs. The profits can then be used to improve the product and to sustain competitive marketing tactics once competitors enter the market.
- (3) To substantiate a quality image positioning.
- (4) To exploit a situation in which the product is price inelastic, and the demand or sales decrease only marginally with higher pricing.
- (5) To cream profits while there are no substitute products to force competitive pricing. This is typically done for a product or service in the introductory phase of its product life cycle, while representing a substantial innovation within the product category.
- (6) To keep margins high when the company is stressing profits rather than sales.
- (7) To help recover the firm's R & D costs in a short time period, for a product with a short life span. An example would be fad products that last for a relatively short time.
- (8) To exploit a situation in which the product is difficult to copy or has patent protection.

Parity pricing. Parity pricing is pricing that is comparable to the competition's. It can be effectively used if your product has superior attributes and is priced the same as products with inferior product attributes. It can also effectively be used when your product is similar to your competitors' but there are nonproduct advantages that your company can utilize to provide a better overall value to the consumer. Nonproduct advantages, such as service, guarantees, location for retailers, or distribution channel for manufacturers, are often reasons to purchase, given a parity pricing structure in the marketplace among similar products.

Many times a company's pricing structure is not uniform across the country. One market may have much greater competition, necessitating lower prices. Or a lower pricing objective may be required specific markets to help achieve the marketing strategy of developing trial and placing emphasis on certain markets with greater potential. As a result, your pricing objectives should include a description of how you plan to price by geographic regions.

Timing should be addressed in your price objectives. Do you plan to use a high price, low price, or parity price objective all year, or only during certain portions of the year? Remember that pricing is a tool to help implement marketing strategies and also deliver profits. While timing relates to the changing of your price on seasonal basis, it also relates to the changing of prices in a timely fashion relative to competitive price changes and to addressing increases or decreases in the margin or cost of goods sold (Hiebing & Cooper 1994).

Personal selling is promotion via a person-to-person conversation, whether it be at the customer's premises, on the telephone, or elsewhere. Personal selling has a number of advantages over other elements of the communications mix: (McDonald 2002)

- (1) It is a two-way form of communication, giving the prospective purchaser the opportunity to ask questions of the salespeople about the product or service.
- (2) The sales message itself can be made more flexible and, therefore, can be more closely tailored to the needs of individual customers.
- (3) Salespeople can use in-depth product knowledge to relate their message to the perceived needs of the buyer and to deal with objections as they arise.

Most importantly, salespeople can ask for an order and, perhaps, negotiate on price, delivery or special requirements.

III. MARKET SITUATION

3.1 Market Situations Analysis

The factories market is continuous using and growing. The information by department of industrial work is shown below

Table 3.1. Number of Factories in Thailand.

| Year\Type of Factories | New Factories | Expanded Factories | New and Expanded Fac | Closed Factories | Total at End Year |
|-----------------------------------|--------------------------|-------------------------------|---------------------------------|-----------------------------|------------------------------|
| 1997 Bangkok | 1,013 | 318 | 1,331 | 1,118 | 21,107 |
| Others | 3,530 | 1,038 | 4,568 | 1,518 | 105,561 |
| Total | 4,543 | 1,356 | 5,899 | 2,636 | 126,578 |
| 1998 Bangkok | 775 | 255 | 1,030 | 1,172 | 21,096 |
| Others | 1,938 | 769 | 2,707 | 2,629 | 106,268 |
| Total | 2,713 | 1,024 | 3,737 | 3,801 | 127,364 |
| 1999 Bangkok | 688 | 216 | 904 | 717 | 21,164 |
| Others | 1,542 | 654 | 2,196 | 1,365 | 107,186 |
| Total | 2,230 | 870 | 3,100 | 2,082 | 128,350 |
| 2000 Bangkok | 969 | 148 | 1,117 | 1,249 | 20,910 |
| Others | 2,018 | 600 | 2,618 | 1,466 | 104,539 |
| Total | 2,987 | 748 | 3,735 | 2,715 | 125,449 |
| 2001 Bangkok | 726 | 150 | 876 | 1,340 | 20,273 |
| Others | 2,292 | 725 | 3,017 | 3,139 | 103,806 |
| Total | 3,018 | 875 | 3,893 | 4,479 | 124,079 |

Table 3.1. Number of Factories in Thailand. (Continued)

| Year \ Type of Factories | New Factories | Expanded Factories | New and Expanded Fac | Closed Factories | Total at End Year |
|-----------------------------|------------------|-----------------------|-------------------------|---------------------|----------------------|
| 2002 Bangkok | 637 | 210 | 847 | 651 | 20,195 |
| Others | 2,637 | 693 | 3,330 | 4,402 | 106,482 |
| Total | 3,274 | 903 | 4,177 | 5,053 | 126,677 |

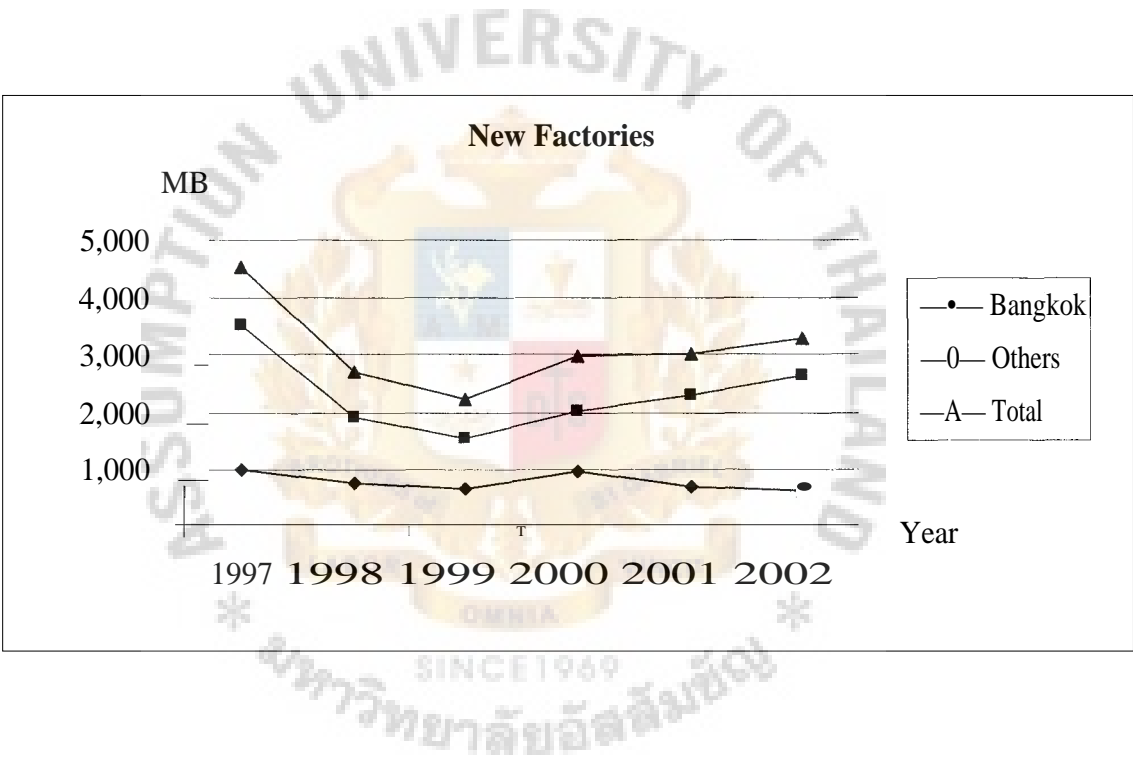


Figure 3.1. New Factories.

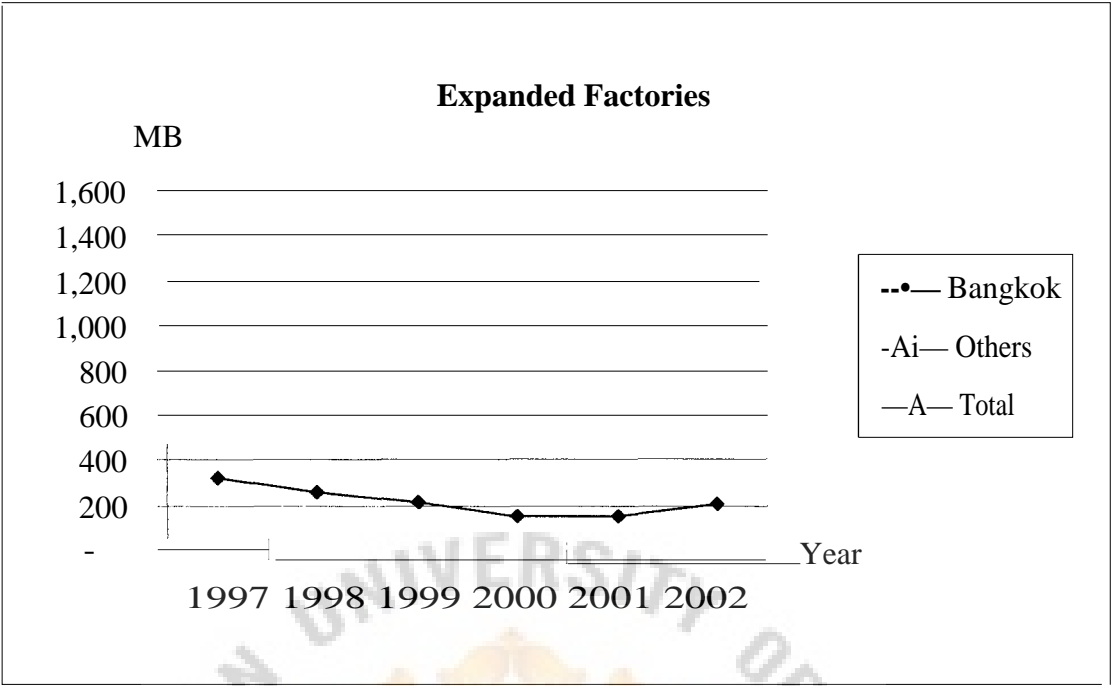


Figure 3.2. Expanded Factories.

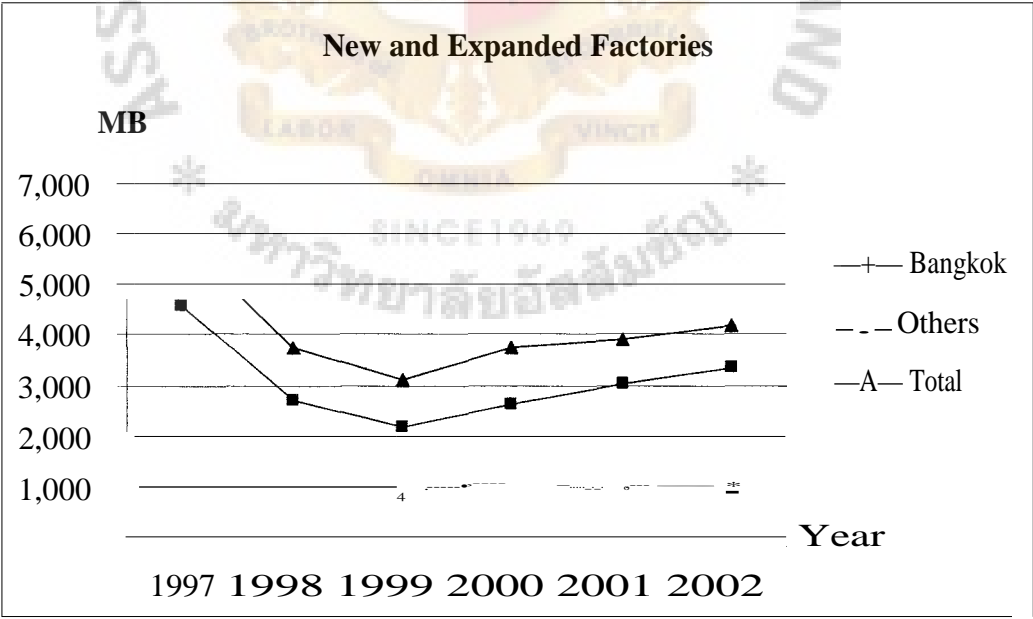


Figure 3.3. New and Expanded Factories.

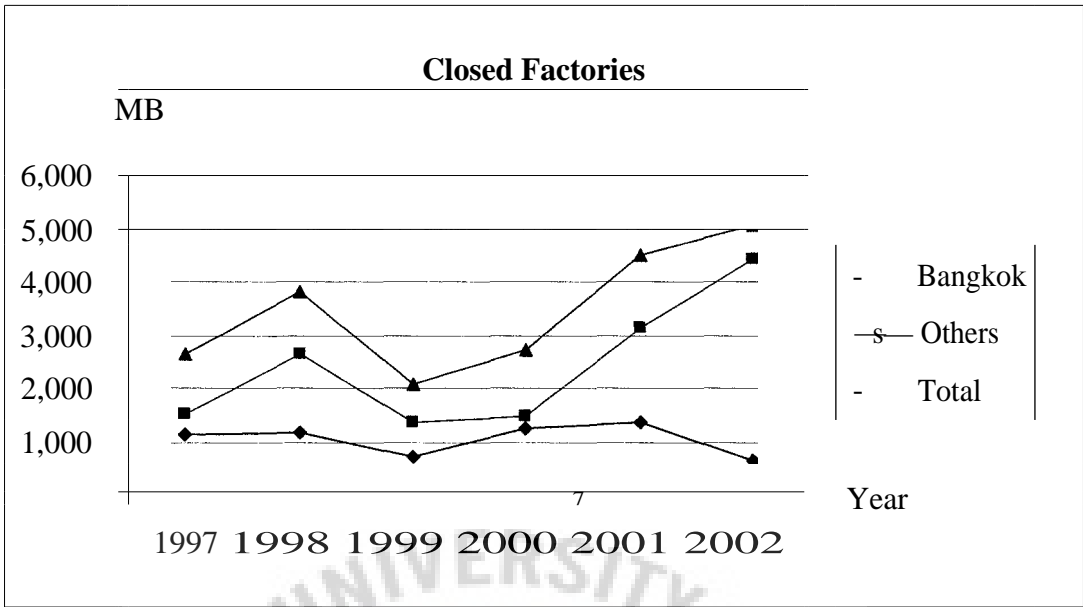


Figure 3.4. Closed Factories.

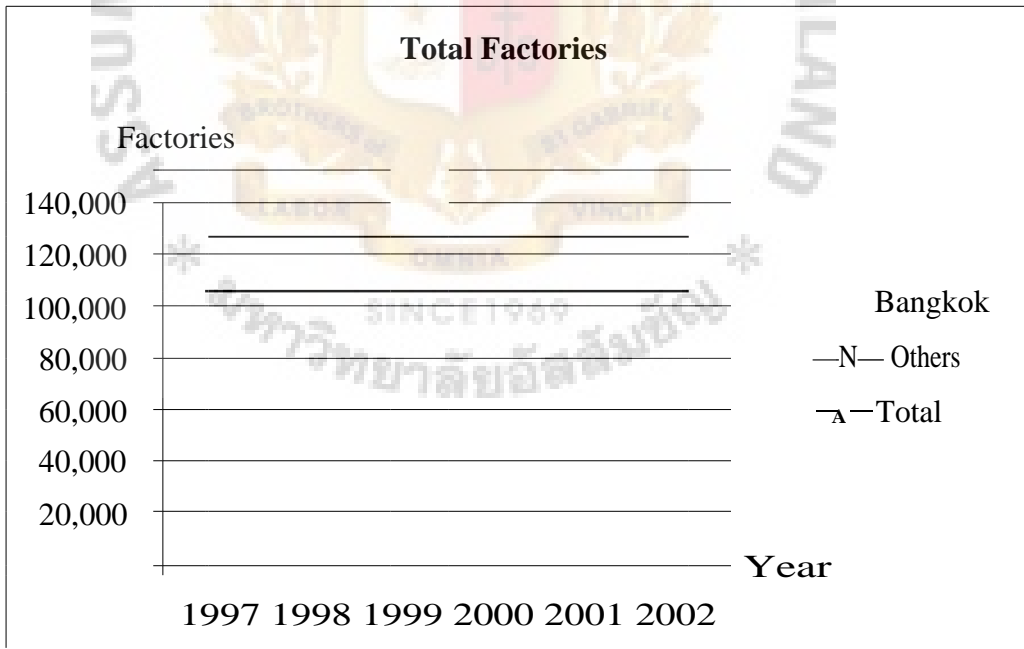


Figure 3.5. Total Factories.

Table 3.2. Number of Factories Grouped by Provinces at Year 2002.

| Province\Type | Factory Type 1 | Factory Type 2 | Factory Type 3 | Total Factory |
|----------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| Bangkok | 2,600 | 7,301 | 10,294 | 20,195 |
| Samut prakarn | 210 | 904 | 5,943 | 7,057 |
| Samut Sakhon | 60 | 148 | 3,231 | 3,439 |
| Nontaburi | 26 | 194 | 1,237 | 1,457 |
| Patumthaini | 34 | 237 | 1,963 | 2,234 |
| Nakornpathom | 89 | 336 | 2,404 | 2,829 |
| Kanchanaburi | 353 | 212 | 858 | 1,423 |
| Chainat | 97 | 75 | 354 | 526 |
| Nakornnayok | 28 | 57 | 211 | 296 |
| Prajuabkirkhun | 96 | 132 | 479 | 707 |
| Prachinburi | 148 | 144 | 680 | 972 |
| Ayutthaya | 69 | 161 | 1,121 | 1,351 |
| Petchburi | 232 | 129 | 472 | 833 |
| Rachaburi | 123 | 265 | 1,276 | 1,664 |
| Lopburi | 58 | 70 | 361 | 489 |
| Samutsongkram | 17 | 59 | 272 | 348 |
| Srakaew | 104 | 26 | 228 | 358 |
| Saraburi | 95 | 155 | 1,015 | 1,265 |
| Singhaburi | 22 | 77 | 301 | 400 |
| Supunburi | 222 | 275 | 811 | 1,308 |
| Ungthong | 45 | 85 | 318 | 448 |

Table 3.2. Number of Factories Grouped by Provinces at Year 2002. (Continued)

| Province\Type | Factory Type 1 | Factory Type 2 | Factory Type 3 | Total Factory |
|----------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| Uthaitхани | 98 | 24 | 270 | 392 |
| Chantaburi | 149 | 91 | 450 | 690 |
| Chacheangsao | 169 | 179 | 1,037 | 1,385 |
| Chonburi | 174 | 240 | 2,072 | 2,486 |
| Trad | 262 | 115 | 311 | 688 |
| Rayong | 287 | 123 | 1,103 | 1,513 |
| Kalasin | 1,589 | 159 | 385 | 2,133 |
| Khonkaen | 3,464 | 534 | 990 | 4,988 |
| Chaiyapoom | 1,262 | 168 | 391 | 1,821 |
| Nakornpanom | 1,806 | 86 | 397 | 2,289 |
| Nakomrachasrima | 4,905 | 649 | 2,064 | 7,618 |
| Burirum | 1,110 | 109 | 342 | 1,561 |
| Maharakham | 2,416 | 117 | 281 | 2,814 |
| Mukdaharn | 299 | 48 | 215 | 562 |
| Yasothon | 668 | 101 | 244 | 1,013 |
| Roi-ed | 3,084 | 332 | 460 | 3,876 |
| Lei | 396 | 68 | 233 | 697 |
| Srisaket | 1,475 | 108 | 237 | 1,820 |
| Sakolnakorn | 646 | 271 | 345 | 1,262 |
| Surin | 678 | 259 | 425 | 1,362 |
| Nongkai | 313 | 172 | 392 | 877 |

Table 3.2. Number of Factories Grouped by Provinces at Year 2002. (Continued)

| Province\Type | Factory Type 1 | Factory Type 2 | Factory Type 3 | Total Factory |
|----------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| Nongbualumpoo | 1,044 | 80 | 93 | 1,217 |
| Umnajcharoen | 68 | 57 | 123 | 248 |
| Udonthani | 2,741 | 655 | 1,043 | 4,439 |
| Ubonrachathani | 328 | 236 | 816 | 1,380 |
| Kumpaengpetch | 590 | 67 | 436 | 1,093 |
| Chiangrai | 725 | 154 | 454 | 1,333 |
| Chiangmai | 997 | 320 | 1,273 | 2,590 |
| Tak | 149 | 87 | 360 | 596 |
| Nakornsawan | 416 | 340 | 1,025 | 1,781 |
| Nan | 175 | 25 | 209 | 409 |
| Payao | 196 | 67 | 204 | 467 |
| Pichit | 243 | 97 | 350 | 690 |
| Pitsanulok | 750 | 184 | 515 | 1,449 |
| Petchaboon | 352 | 189 | 226 | 767 |
| Prae | 190 | 129 | 450 | 769 |
| Maehongsorn | 77 | 32 | 119 | 228 |
| Lumpang | 825 | 391 | 1,054 | 2,270 |
| Lumpoon | 366 | 112 | 395 | 873 |
| Sukhothai | 426 | 86 | 227 | 739 |
| Utaradit | 543 | 147 | 353 | 1,043 |
| Krabee | 139 | 39 | 283 | 461 |

Table 3.2. Number of Factories Grouped by Provinces at Year 2002. (Continued)

| Province\Type | Factory Type 1 | Factory Type 2 | Factory Type 3 | Total Factory |
|----------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| Chumporn | 198 | 244 | 491 | 933 |
| Trung | 102 | 64 | 572 | 738 |
| Nakornsritammarat | 308 | 247 | 1,011 | 1,566 |
| Narathivas | 468 | 52 | 376 | 896 |
| Puttani | 581 | 114 | 314 | 1,009 |
| Pungnga | 68 | 36 | 232 | 326 |
| Puttalung | 315 | 139 | 288 | 742 |
| Phuket | 70 | 87 | 332 | 489 |
| Yala | 116 | 51 | 282 | 449 |
| Ranong | 26 | 69 | 284 | 379 |
| Songkla | 122 | 160 | 1,218 | 1,500 |
| Satul | 116 | 28 | 150 | 294 |
| Suratthani | 84 | 174 | 810 | 1,068 |

From the information from the department of industrial work, we estimate that factories are still opening about 120,000 factories each year with new expansion of factories at about 4,000 factories each year.

From the statistics that factories use chemical pumps in the past it should be 2 factories/1 chemical pump so it should use the chemical pumps about 60,000 units in the market. Chemical pumps should be replaced every 10 years so each year must have the potential base of chemical pumps of 6,000 units and also use this factor with the new and expanding factories. From the growth of the economies and improvement of quality

policy so the amount of chemical pumps that should be replaced will be increase up to 10 % every year. In 1997 the average price of a chemical pump was 30,000 baht and reduced every year by about 5%.

Table 3.3. Potential Market for Chemical Pumps.

| Market\Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|-------------|--------|--------|--------|--------|--------|--------|--------|
| Factories | 9,000 | 8,400 | 8,900 | 9,900 | 10,800 | 11,800 | 12,800 |
| Government | 800 | 1,000 | 1,100 | 1,200 | 1,600 | 1,000 | 900 |
| Others | 1,000 | 1,000 | 1,000 | 1,100 | 1,200 | 1,300 | 1,400 |
| Total pumps | 10,800 | 10,400 | 11,000 | 12,200 | 13,600 | 14,100 | 15,100 |
| Avg. Price | 30,000 | 28,500 | 27,000 | 25,500 | 24,000 | 22,800 | 21,600 |
| Potential | 324M | 296.4M | 297M | 311.1M | 326.4M | 321.5M | 326.2M |

Information of government pumps market comes from interviewing the government officers of department of water resource.

From table of pumps and table of potential pumps we can see that it has the gap between potential and actual selling because of economic crisis, so almost every customer must save their budget. But now economy is recovery, so they may plan to buy more. Some factories have plan for expansion and have new investing plan to open new factories. And from the competition among the factories that produce the same products, factories must improve their products and their quality to compete with their competitors. In the past, people think that treat wastewater is only cost "it 's not useful", so they don't want to do. From the past, there are less competitors, so they are trying to do only reduce cost. But now, the trend is to improve the quality of products, so they may use chemical pumps to feed more and want the chemical pumps that more accurate

than the past. From the GMP quality that factories that produced food must passed this quality. In the past government standard plant of water supplies market, some plant do not use chemical to eliminate bacteria or virus, but now they want to improve the quality of people's life. So they use chemical pump to improve the quality of water that people use. From all of these reasons, the demand of chemical pump will increase in the future. Almost chemical pump suppliers or importers know this opportunities, so they want to increase their volumes of sales and market share. In the future every companies must compete with each other more than this situations, so the price will be reduce and volumes will be more. From less margin, it will make small companies difficult to survive or can't import by themselves from other countries and set the position of company as the dealer who buys chemical pumps from another big company, and sell it with margin. From the high competition, so every competitor must improve or maintain their quality of products, price, service as well as possible. In the past, the almost government project was bid in Bangkok. But now government market budget will be decentralized into the district, it makes every company that sells chemical pumps to increase the salesmen to be responsible for up country government projects.

3.2 Market Segmentation

3.2.1 Geographies

We have customers throughout Thailand, but we are focusing on the main provinces that have industrial estates or have more factories, and also focusing on the provinces that have many people to live because our products are related to increase the quality of life of the people.

3.2.2 Demographics

Products Segmentation

From information of Department of Business Development.

Table 3.4. Water Pump Products Market. (Millions Baht)

| Company\Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Yimyuth | 85.2 | 35.4 | 42.8 | 39.8 | 34.1 | 36.5 | 39 |
| Bruno | 17 | 14.8 | 16.7 | 25.1 | 28.7 | 30.7 | 32.9 |
| Grundfos | 116 | 177.4 | 218.6 | 248.6 | 278.9 | 298.4 | 319.3 |
| Kriangthai | 469.4 | 255 | 329.8 | 441 | 432 | 462.2 | 494.6 |
| Calpeda | 60 | 80 | 102 | 159 | 167 | 178.7 | 191.2 |
| KSB | 145 | 107 | 94 | 179 | 183 | 195.8 | 209.5 |
| Kultorn | 302 | 270 | 298.4 | 429.5 | 384.5 | 411.4 | 440.2 |
| Jebsen | 274.5 | 270.2 | 245.5 | 259.8 | 198 | 211.9 | 226.7 |
| Acme | 174 | 266.1 | 327.9 | 372.9 | 418.4 | 447.7 | 479 |
| Other | 182.6 | 164 | 186.2 | 239.4 | 236.1 | 252.6 | 270.2 |
| Total | 1,825.7 | 1,639.9 | 1,861.9 | 2,394.1 | 2,360.7 | 2,525.9 | 2,702.6 |

The information of water pumps in year 2002 and 2003 comes from appraising with the statistics average growth of water pumps market.

Table 3.5. Sales Volume of Companies that Sell Chemical Pumps. (Millions Baht)

| Company\Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Iwaki | 45.8 | 36 | 42.5 | 49.8 | 43.3 | 45.5 | 47.8 |
| Hydroplus | 8.1 | 7.6 | 13.6 | 14.3 | 16 | 16.7 | 17.6 |
| CMP | 67.5 | 64 | 58 | 71 | 83 | 87 | 91 |
| Water Doctor | 120 | 162 | 206 | 210 | 264 | 278 | 292 |
| Prominent | 151.8 | 143 | 173.8 | 209.4 | 237.4 | 249.2 | 261.8 |

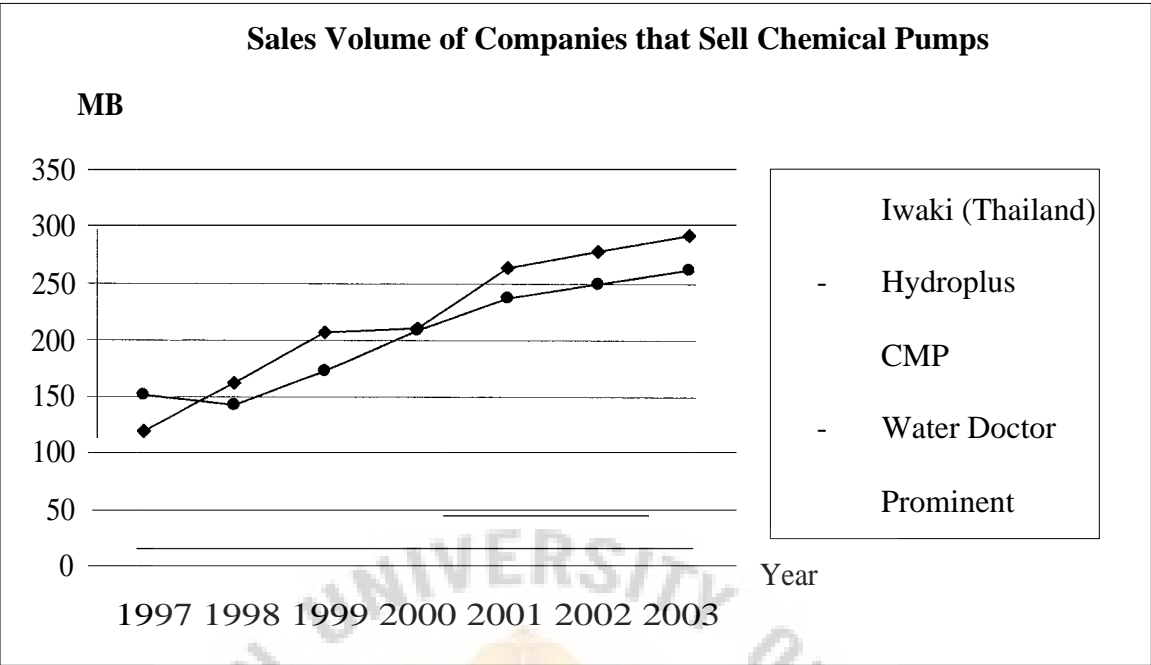


Figure 3.6. Sales Volume of Companies that Sell Chemical Pumps.

The information of chemical pumps in year 2002 and 2003 comes from appraising with the statistics average growth of company.

Table 3.6. Chemical Pumps Product Market. (Millions Baht)

| Company\Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Iwaki (60%) | 27.5 | 21.6 | 25.5 | 29.9 | 26 | 27.3 | 28.7 |
| Pulsatron (80%) | 6.5 | 6.1 | 10.9 | 11.5 | 12.8 | 13.4 | 14.1 |
| Tacmina (20%) | 13.5 | 12.8 | 11.6 | 14.2 | 16.6 | 17.4 | 18.2 |
| LMI (5%) | 6 | 8.1 | 10.3 | 10.5 | 13.2 | 13.9 | 14.6 |
| Prominent (50%) | 75.9 | 71.5 | 86.9 | 104.7 | 118.7 | 124.6 | 130.9 |
| Other (5%) | 6.8 | 6.3 | 7.6 | 9 | 9.9 | 10.4 | 10.9 |
| Total | 136.2 | 126.4 | 152.8 | 179.8 | 197.2 | 207 | 217.4 |

The information of chemical pumps in year 2002 and 2003 comes from appraising with the statistics average growth of chemical pumps market. From table3.5 shows that Iwaki (Thailand) selling a lot of products included chemical pumps so we estimated that Iwaki sells chemical pumps at the rate of about 60% of their sales volume. Hydroplus company is selling chemical pumps as their main product so the portion of Pulsatron chemical pumps that they sell is about 80% of their sales volume. CMP Products selling many things and not focusing much about chemical products so the portion of Tacmina chemical pumps they sell is about 20% of their total sales volume. Water Doctor company is selling basic chemical products, construction water and wastewater treatment plant so they use chemical pumps only in their projects and just like give to customers for free when customers buy chemical products from their company. The portion of LMI chemical pumps that Water Doctor sells is about 5% of their sales volume. Prominent mainly sells chemical systems but they have many products of chemicals to sell so they sell Prominent chemical pumps at the portion of about 50% of their total sales volume.

Table 3.7. Other Pumps Products Market. (Millions Baht)

| Company\Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|--------------|-------|-------|-------|-------|------|-------|-------|
| MRM | 33 | 33.8 | 18.4 | 28 | 36 | 38.5 | 41.2 |
| Premier | 381 | 259.6 | 191.4 | 173.6 | 190 | 203.3 | 217.5 |
| Other (30%) | 177.4 | 125.7 | 90.2 | 86.4 | 97 | 103.6 | 110.9 |
| Total | 591.4 | 419.1 | 300 | 288 | 323 | 345.4 | 369.6 |

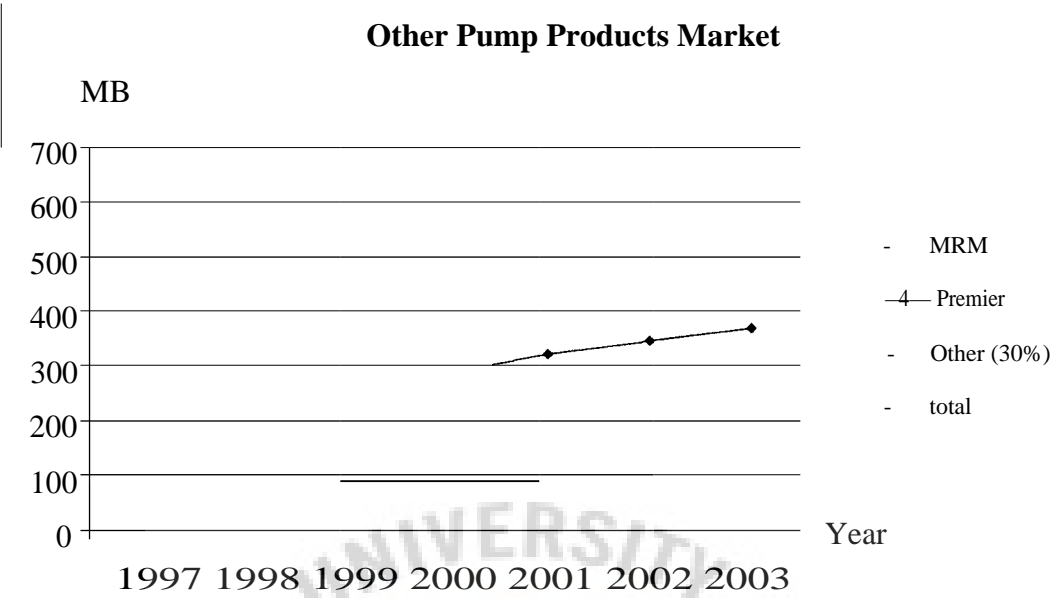


Figure 3.7. Other Pump Products Market.

The information of other pumps in year 2002 and 2003 comes from appraising with the statistics average growth of other pumps market.

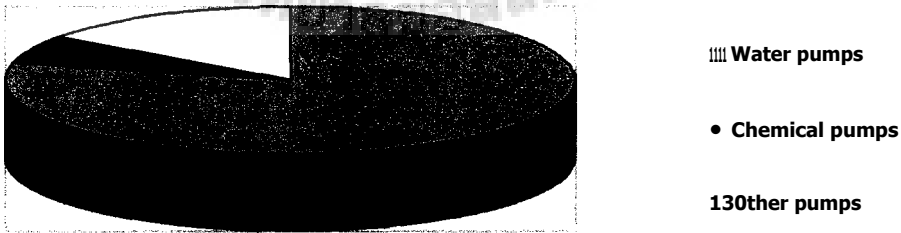


Figure 3.8. Products Segmentation.

From above information we collect them from year 1997 to 2003 and divided by 7 years so we can conclude that

| | | |
|----------------|-------------------|-----|
| Water pumps | have market share | 79% |
| Chemical pumps | have market share | 6% |
| Other pumps | have market share | 15% |



Figure 3.9. Market Segmentation.

Market segmentation of chemical pumps consists of

| | |
|---------------|-----|
| Factories | 40% |
| Dealers | 25% |
| Contractors | 15% |
| Government | 10% |
| Other markets | 10% |

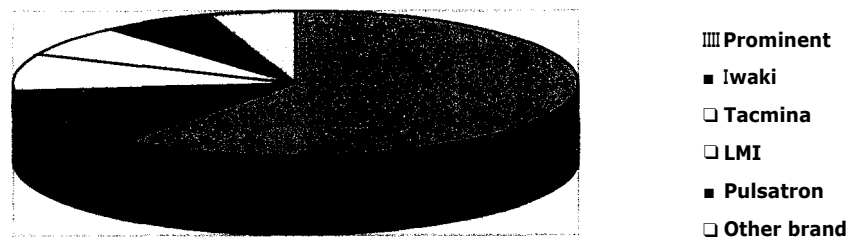


Figure 3.10. Market Share of Each Brand.

Market share of chemical pumps separated by each brand

| | |
|-------------|-------|
| Prominent | 60.2% |
| Iwaki | 13.2% |
| Tacmina | 8.4% |
| LMI | 6.7% |
| Pulsatron | 6.5% |
| Other brand | 5.0% |

From the overall market of chemical pumps we will select the target market of

- (1) Factories
- (2) Dealers
- (3) Contractors
- (4) Government

The 4 markets that we selected has the market segment of about 90% of total the market. From the mission that we want to gain a market share of more than 80% within 2006, so these selected markets can make our mission to reach the target and the other markets may be the markets that we do not know them yet so we selected the market that we are familiar with to compete with our competitors.

Table 3.8. Forecast Chemical Pumps Potential Market.

| Market\Year | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------------------|-------------|-------------|-------------|-------------|-------------|
| Factories | 13,900 | 15,000 | 16,100 | 17,000 | 18,000 |
| Government | 1,000 | 1,100 | 1,200 | 1,200 | 1,300 |
| Others | 1,400 | 1,500 | 1,500 | 1,600 | 1,600 |
| Total pumps | 16,300 | 17,600 | 18,800 | 19,800 | 20,900 |
| Avg. Price | 20,500 | 19,500 | 18,500 | 17,500 | 16,500 |
| Potential | 334.2M | 343.2M | 347.8M | 346.5M | 344.9M |

Table 3.9. Forecast Sales Values Bases on the Local Past Sales Volume Records.

| Activities\Year | 2004 | 2005 | 2006 | 2007 | 2008 |
|------------------------|-------------|-------------|-------------|-------------|-------------|
| Sales value overall | 327.3M | 409.1M | 511.4M | 613.7M | 736.4M |
| Chemical pump value | 163.7M | 204.6M | 255.7M | 306.9M | 368.2M |

3.3 Competitor Analysis

3.3.1 Key Competitors

Iwaki

Iwaki, which began as a trading firm specializing in laboratory equipment in 1956, launched an in-house development program to create a chemical pump for the first time in the industry in 1959. Since that time, Iwaki has been conducting new products aggressively and providing those products widely both in world and domestic markets. Nowadays, with the company's persistent efforts toward development, Iwaki has reached the company's current unbeatable position as the total chemical pump manufacturing company. The company offers an enormously wide product range, which

counts thousands even just with the off-the-shelf items such as magnet pumps, metering pumps, positive displacement rotary pumps, pumps for the production of semiconductor circuits. Iwaki at large has been trying to develop a quality assurance system and acquired the ISO 9001 International quality assurance certification since Iwaki aspired to make the company's production system synonymous with a quality assurance system. Iwaki believes the company's high reputation was earned not only from the company's Japanese clientele but also from the company's clients around the world because of both the company's wide product range and the company's world class standard of quality. Iwaki will continue to conquer challenges inherent in fluid transportation by presenting the company's pump technology which has been developed over many years and has become the state-of-art. It is also the company's wishes to contribute to the development of the industries which have put their trust in Iwaki.

Pulsatron

Since 1936, Pulsafeeder, Inc., headquartered in Rochester, New York, has been the recognized leader in fluids handling technology. Pulsafeeder has always understood that leadership is comprised of many facets, all in balance: long-standing, high performance products, comprehensive application solutions, innovative engineering designs, knowledgeable and attentive service, continuing improvements in R & D and Manufacturing processes. Pulsafeeder works hard to maintain this balance - always with the goal to provide the best products and support for the company's customers.

Pulsafeeder has built an impressive record of success in thousands of fluid handling applications. The company's extensive product breadth enables Pulsatron to provide the convenience and efficiency of single-source solutions across various industries including:

- (1) Chemical processing

- (2) Pharmaceutical
- (3) Mining and material
- (4) Food processing
- (5) Utilities
- (6) Water treatment
- (7) Waste water treatment
- (8) Pulp & paper
- (9) Petrochemical
- (10) Water conditioning

With manufacturing and distribution facilities located around the globe, Pulsafeeder ensures the availability of its products and service world wide to meet customers' fluid handling needs. Pulsafeeder's manufacturing facilities are world-class. Continually investing in the latest production equipment and manufacturing techniques maximizes control of product quality, manufacturing efficiency and production cost for fast, effective response to customers needs. Pulsafeeder manufactures and sells equipment, systems and accessories that compliment each other and provide the assurance that each piece of equipment will operate at maximum efficiency. Pulsafeeder's brand names include:

At Pulsafeeder, the company recognizes that critical applications demand prompt, quality service and support. The company's network of authorized representatives and distributors are seasoned professionals with many years of experience specifying, installing and maintaining fluid handling equipment. Complimenting this experience is thorough, on-going training in and ready access to Pulsafeeder's products. The company's representatives and distributors truly understand how important your application is and the company knows how to select and obtain the right Pulsafeeder

products for the job. Also, since the company is located in Thailand, Pulsafeeder representatives and distributors are there when you need them, ready to respond with timely, personal service. You can count on Pulsafeeder for continued commitment to total satisfaction of the company's customer fluid handling needs.

LMI

Liquid Metronics Incorporated (LMI) is the leading manufacturer of chemical metering pumps, controllers, and accessories. The company's trademark yellow and black products are the standard for water treatment professionals around the world. LMI manufactures a wide range of electronic and motor-driven metering pumps and controllers for simple chemical addition, to complete systems to control conductivity, pH, and ORP. LMI products are designed and manufactured in the company's ISO9001 facilities throughout the world for reliable, dependable operation in a variety of applications including; cooling towers, boilers, potable water, wastewater, swimming pools, plating, mining, car wash, oil & gas, etc. The company's customers rely on LMI for the company's versatility and experience in the industrial, commercial, residential, agricultural and OEM markets. All of the company's products are supported by a global network of stocking distributors and service centers.

Tacmina

The history of TACMINA started from the chlorine sterilization business in November 1956. Since then, being based on the sterilization business, The company has developed the wide range of business while focusing on metering pumps in the industry that demands extremely high level and special knowledge of engineering for liquid controls

The field that requires the liquid control treats the products and technologies that general people are not familiar with, but Tacmina give full scope to the company's

contributing technologies in the background of the company's livings. These fluid technologies will be more important in the 21st century.

3.4 Product Positioning

Prominent chemical pumps position has the highest price and highest quality in the market. Prominent chemical pumps will serve four target customer groups of government, factories, dealers, contractors and consulting firms.

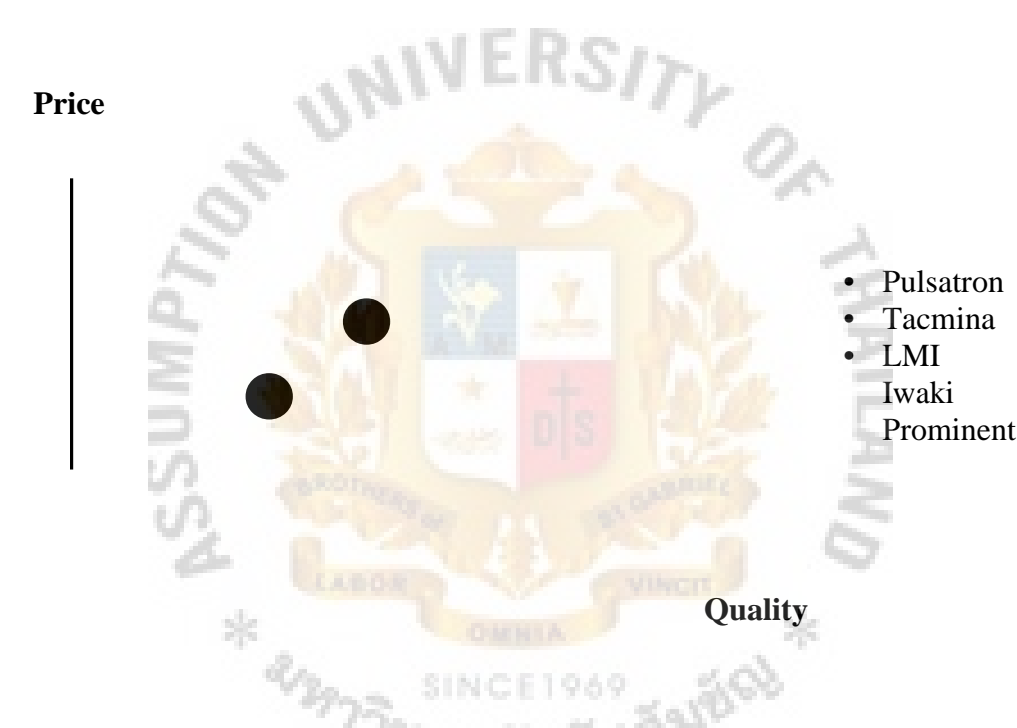


Figure 3.11. Positioning Diagram.

IV. MARKETING PLAN DEVELOPMENT

4.1 Company Profile

Prominent started with the development and manufacture of the company's solenoid-operated metering pump for domestic water applications. Today the company is actively involved in the planning and implementation of complex metering systems. At present the Prominent company group has approx. 1500 employees who make a group turnover of more than 200 million Euro.



Figure 4.1. Prominent Headquarters.

A large part of the company's staff in the company's Heidelberg headquarters is employed in research and development. The company has available laboratories with ultramodern equipment and test rigs. Here work is constantly in progress with the aim of developing completely new products and processes. At the same time, however, the company's well-proven series products are brought up to the state of the art. A company-own manufacture percentage of over 70% in the company's production ensures an optimum standard of quality while, in addition, making independent of fluctuations in the supplier market.

The company's extensive and comprehensive sales and service network makes it possible for prominent to provide excellent customer support and a rapid response to all inquiries. The concept of short distances is reflected in a quality assurance system which is certified in accordance with DIN EN ISO 9001 and which extends consistently from market research through development, production and despatch up to staff training.

Innovative product development and precision production methods have stood the test of time. The ProMinent company group will therefore continue to follow this successful company concept also in the future.

The company's sphere of involvement is set no geographical limits. Prominent is well familiar with the different regulations and standards which apply on the international scene. The company's sales and service network and the company's high export share have made prominent the number one partner in feed and metering systems renowned throughout the world.

This year, ProMinent Dosiertechnik GmbH, an innovative company which has grown and is still growing continuously is celebrating its 40th anniversary. The company was founded on the idea of moving liquids using a diaphragm powered by an eletromagnet instead of the conventional motor and pump mechanism. The company has a turnover of 310 million DM with over 1,400 employees in 36 subsidiaries and over 60 representatives worldwide

Today, 16th anniversary of ProMinent Fluid Controls (Thailand), it is subsidiaries of ProMinent Dosiertechnik GmbH. The Company not only has been awarded DIN EN ISO 9001 certification, but it is also committed to the concept and further development of total quality management by an excellent team consisting of experienced and creative employees.

Prominent Fluid Controls (Thailand) has the vision of company that is "We make water treatment products" within 20 years and has the mission of company that is "To be specialist chemical system" within 3-5 years.

Importer & Supplier of:

- (1) Metering Pump & Controller
- (2) Chlorine Dioxide Generator
- (3) Ozone Generator
- (4) UV & Reverse Osmosis System
- (5) Water & Waste Water Treatment System
- (6) Magnetic Driven Pump
- (7) Swimming Pool Equipment & Supplies

4.2 Marketing Mix

4.2.1 Product Analysis

Because Prominent's product is produced by their own factories and sells products through more than 50 subsidiaries around the world so in Prominent's factories they have their own Research and Development department to improve the quality of their products by themselves and they also have the quality control department to test all of chemical pumps that sent from their factories. Every chemical pumps must be test before sent out to the customers so it has very low defected chemical pumps and more quality.

It began with the treatment of domestic water supply and the manufacture of the company's solenoid driven dosing pumps. Prominent introduced one of the first electronically controlled solenoid dosing pumps as early as 1968. This formed the basis of the company's development into a wide range of applications. During this period the company established a broad based approach to the production of microprocessor

controlled dosing pump systems each one tailored to the individual needs of its application. As well as multifunctional control options, microprocessor technology offers significant benefits to operational efficiency via a wide range of monitoring functions. This means, for instance, that chemicals for water treatment can be dosed in exactly the quantities required for important environmental consideration. The same goes for process control technologies in which metering accuracy of liquid chemicals plays a decisive role both for the environment and for economy

There are currently more than the million of Prominent's dosing pumps in operation world wide- always successfully, even under the most difficult conditions. Building on proven construction principles the company operates to a very high standard of quality and precision. This enables prominent to provide a two year guarantee with every Prominent dosing pump (power end)

The solenoid armature, which slides in maintenance-free composite Teflon bearings, is the only moving part in the drive. It's magnetic force produces a discharge stroke of max. 1.25 mm and the suction stroke is provided by a linear return spring.

Prominent uses state of the art semiconductor components for the company's pump controllers- these include, for instance, SMD components and custom- designed microprocessors. The base model (Beta pump) allows dosing frequency adjustment in 10% steps and external control via voltage free contacts. The gamma/L dosing pumps are adjustable to digital accuracy between 1 and 180 strokes per minute, and can also be externally controlled via voltage free contacts (e.g. pulse type water meters) or semiconductor contacts, e.g. open collector transistors. These pumps can also be controlled via different analogue signals.

Housings are manufactured in the company's own injection moulding shop from high strength, chemical resistant and glass fiber reinforced PPE. The mouldings are both

functional and visually attractive: resistance to water and dust, ribs to provide heat dissipation, enabling pumps to operate in temperature of up to 45 degree C, and visual appeal.

The liquid ends are available in 5 different materials: Polypropylene (PP), Acrylic (NP), Teflon/PTFE (TT), stainless steel Mat. No. 1.4404(SS) and PVC. The ball valves are designed as one way valves, conforming to DN 10. Self deareating liquid ends are available for gaseous chemicals.

For example; foot valves, injection valves, back pressure valves, float switches, flow monitors, pipework and ancillary control devices. All this means that prominent is able to assemble complete chemical feed systems tailored to the particular application needs of each client.

The timer option enables the user to program up to 75 events, e.g. "Pump start", "Pump stop", "Ready1,close", "Switch to external operation". This allows whole programs as well as the usual time which operating mode. Because it is integrated into the pump, you get a program-controlled pump with enclosure rating IP 65, with far more flexibility than the conventional pump and timer combination.

It can be separated to 5 groups that the company focusing first that can feed chemical at the rate of 0-790 litres per hour but in the ordinary Prominent chemical pumps can feed at the maximum rate of 2,500 litres per hour because in the ordinary process if they want more chemical they may be not serious about the accuracy so in the case of want to feed much chemical then they use another kind type of pumps that less accuracy but cheaper such as magnetic drive pumps or double diaphragm pumps. These 5 models that the company focus is about 80% of the overall markets that prominent selected.

Prominent is the brand that is the same as its company and the factories so it's look familiar with Prominent's customers to remember the company's brand name.

Because of Prominent established their subsidiaries in Thailand for more than 15 years so in the case of service they can do very well to keep the image of their company. In Thailand has service department that have about 20-30 persons to service throughout Thailand. And every pumps that send to check at Prominent should be finished within 3 days. Prominent's office they stock almost every part of their products so they can check and repair their chemical pumps very fast.

It has a warranty of 1 year under factory conditions from their factories. By nature of chemical pumps if you choose the correct pump's material that suitable for the chemical, it rarely have the problem from using it and warranties may be claim from Prominent throughout the world.

If chemical pumps have the problem that are defective from factories they can claim with Prominent's office and the company will send the new pumps to them if they do not use it for more than 1 month or up to the situation.

4.2.2 Price Analysis

List Price

Conb series list price 16,000 — 18,000 bahts

Alpb series list price 15,000 — 18,000 bahts

Beta series list price 22,000 — 32,000 bahts

Vamb series list price 45,000 — 65,000 bahts

Mtma series list price 60,000 — 100,000 bahts

This is the list price of standard pump. If customer want more options such as 4-20 mA input or pulse control, the price should be higher than these price list.

Discount

Prominent gives discount up to type of customer business.

- (1) Factories maximum 30% discount, normal discount is 10-20%
- (2) Dealers normal discount 40% but can be more discount up to the situations
- (3) Government maximum 10-20% discount, normal non-discount
- (4) Contractors maximum 40% discount but have more promotions like the dealers

Payment Period

Normally the price that Prominent set is in cash

- (1) Factories get credit 30, 45, 60, 90 days up to the financial status.
- (2) Contractors, Dealers get credit, 30 - 60 days but for first time, they have to pay by post-dated cheques.
- (3) Government get credit 30 days.

For new customers normally Prominent get cash except factories and government that get credit 30 days if new customer want to buy in credit term, they must fill out the credit form that Prominent send to them and send back all of information that Prominent need and then manager will make the decision that should give them credit or not.

4.2.3 Places Analysis

Prominent sell chemical pumps to many customers but the customers can be grouped in to these categories

- (a) Dealers, Retailers throughout Thailand. Prominent try to sell to every dealer but some provinces have the big retailer that have more power so they may ask Prominent to set them to the dealer that take care of that province only, so any retailers in that province must buy from them. The dealers must keep more stocks, brand loyalty with Prominent brand products.

(b) Government organizations. Prominent sell directly to them consists of

- (1) Ministry of Industry
- (2) Ministry of Public Health
- (3) Ministry of Education
- (4) Ministry of Science and Technology
- (5) Ministry of Culture
- (6) Ministry of Labor
- (7) Ministry of Justice
- (8) Ministry of Interior
- (9) Ministry of Commerce
- (10) Ministry of Energy
- (11) Ministry of Information and Communications Technology
- (12) Ministry of Natural Resources and Environment
- (13) Ministry of Transport
- (14) Ministry of Agriculture and Cooperatives
- (15) Ministry of Social Development and Human Services
- (16) Ministry of Tourism and Sports
- (17) Ministry of Foreign Affairs
- (18) Ministry of Finance
- (19) Ministry of Defence

(c) Contractors and consulting firms, Prominent sell directly to them.

(d) Factories and other companies. The company want to sells Prominent chemical pumps and anything that Prominent can sell to that companies. Prominent is focus on those that are located in the industrial estate and factories that stay in the industrial park. From data of Industrial Estate

Authority of Thailand and from department of industrial work. Prominent will focus on these industrial estates and industrial parks that consist of

- (1) Northern Region Industrial Estate EPZ
- (2) Pichit Industrial Estate
- (3) Kaeng Khoi Industrial Estate
- (4) Nong Khae Industrial Estate
- (5) Khon Kaen small Industrial Estate mini factory
- (6) Hi-Tech Industrial Estate
- (7) Bang Pa-In Industrial Estate
- (8) Saharattananakorn Industrial Estate
- (9) Ratchaburi Industrial Estate
- (10) Samut Sakhon Industrial Estate
- (11) Bang Chan Industrial Estate
- (12) Lat Krabang Industrial Estate
- (13) Gemopolis Industrial Estate
- (14) Bang Poo Industrial Estate EPZ
- (15) Bang Phlee Industrial Estate
- (16) Well Grow Industrial Estate
- (17) Gate Way City Industrial Estate
- (18) Bowin Industrial Estate EPZ
- (19) Laem Chabang Industrial Estate EPZ
- (20) Bang Pa Kong Industrial Estate
- (21) Pin Thong Industrial Estate
- (22) Map Ta Phut Industrial Estate EPZ
- (23) Eastern Industrial Estate

- (24) Padaeng Industrial Estate
- (25) Eastern Sea Board Industrial Estate
- (26) Amata City Industrial Estate
- (27) Asia Estate
- (28) Southern (Chalung) Industrial Estate EPZ
- (29) Thai Summit Industrial Park
- (30) Cementhai Industrial Park
- (31) Siam Eastern Industrial Park
- (32) LPN Industrial Park
- (33) Bang Bon Industrial Park mini factory
- (34) Thai Petrochemical Industrial Park
- (35) Kaeng Khoi (TPI) Industrial Park
- (36) Kabinburi Industrial Park
- (37) Sanyo Industrial Park
- (38) Factory Land Industrial Park
- (39) GK land Industrial Park
- (40) North-Eastern Industrial Park
- (41) Sinrattana Steel Industrial Park
- (42) Prachinburi Industrial Park
- (43) Thai Suzuki Industrial Park
- (44) LPN Industrial Park mini factory
- (45) Alpha Technopolis Industrial Park
- (46) SSP Industrial Park
- (47) Nakin Industrial Park
- (48) Bangna Industrial Park

- (49) Pan Thong Industrial Park
- (50) Rayong Land Industrial Park(Cementthai)
- (51) Chatchaval Industrial Park
- (52) Suan Nong Bon Industrial Park
- (53) Bung-Klo Intercity Industrial Park
- (54) Tanning Leather Industrial Park

Inventories

Prominent always have chemical pumps in the stock in Thailand. The ordinary dealers send purchase order to them in advance, the prominent policy lets the dealers keep some stock with them. So that it is easy to distribute the product throughout the province in Thailand after that Prominent send orders to factories and keep inventories for them. Big dealers have committed to order about 300 units per lot within 3 months. Dealers will know that which models exist in stock or which models do not exist in stock in advance, so it is very comfortable to sell Prominent products. It is less cost of inventories for the dealers, so it encourage dealers to sell more.

Transportation

Prominent has many transportation that provide to their customers. The types of transportation can be divided to

- (1) By mail or EMS. Prominent send by mail when the order is too small, low weight such as cable or accessories for pumps.
- (2) By motorcycles. Prominent use when customers stay in Bangkok and want to use the company's products as soon as possible and the product is not big so the company send it by motorcycles
- (3) By company's trucks. Prominent use this type of transportation when customers are not more far from Prominent's office than 200 km. The

company must get cash or post-date cheque from these customers, or customers are not familiar with the company's products so they can't install the company's products so Prominent send the company's person to advise them to install and send the company's products also.

- (4) By third-party transportation that may be bus, train, airplane. It's upon request of the company's customers but the transportation cost, the company's customers must pay for that.

4.2.4 Promotion Analysis

Prominent will advertise the company's products in Yellowpages, and Industrial book magazines, Technique book magazines, and another book that related with Prominent's products. To be sponsor of academic seminars or government seminars or group customer seminars that related with Prominent's products such as seminar of department of water resource. To be sponsor of university press or books. Make the special gifts that related with Prominent's products and send through the company's customers.

Prominent's sales brochure will contribute to dealer, as they can use this brochure to promote the company's product with no charge and the company also give to contractors, governments, factories and other customers that want it.

Prominent must radically improve the company's direct mail efforts, reaching the company's established customers with training, support services, upgrades products, and seminars.

Prominent's salesperson are high quality with these characteristics: well educated, well trained, professional who work to build and maintain long-term relationships with customers. They build these relationships by listening to customers, assessing customer

needs and organizing the company's efforts to solve customer problems. Prominent divided the company's sales to 2 teams by type of customer.

(1) IC (Intermediate Customer)

- (a) Contractors and consulting companies has 4 salespersons.
- (b) Government has 3 salespersons.
- (c) Dealers has 4 salespersons.

(2) FC (Final Customer)

- (a) Factories has 7 salespersons.

Each team has sales leader or supervisor to take care. The core products business is chemical pumps, but the company's salesman also can sell other products upon the customer's request.

Sales Promotion

For old customers it's up to the situations. In general if the products is in the company's stock more than 2 months without movement or little movement, Prominent will have promotion to send prominent's products to prominent's dealers until that product is out of stock. The way that Prominent set product promotion to prominent's dealers is the same price, but the company give another gift or another products for free such as buy 1 pump take 1 polyethylene tank for free. Another way is to extend the credit term may be from 30 to 60 days especially for this product and during this promotion time only or send Prominent the purchase order and then send the order after that. If take this solution and it's not make the situation better so you can sales anyway but must have the profit. And it have another way that Prominent set the commitment for prominent's dealers that if you want promotion price that lower than ordinary price you must commit to buy from Prominent at least 10 pumps per month for every month and they take this special price.

For new customers Prominent will have a promotion to convince them for trial. The promotion may be buy at the same price that they buy before, price higher a little but have special gift for free, give them more credit term than the competitors

Both of old and new customers Prominent will set for the target sales of each year and if they can reach the target, they will get the special gifts from the company such as if they reach 500,000 baht target they will get 2 baht gold, 1,000,000 baht get 2 tickets to Hongkong 3 days 2 nights.

4.3 Position Analysis

4.3.1 SWOT Analysis

Strengths

Strengths are internal factors that are better than other competitors or we can called it competitive advantages. Prominent have these strengths:

- (1) Company established for a long time, very famous in chemical industries brand.
- (2) High quality of products.
- (3) Almost complete range of products.
- (4) Sales team have more experiences and high sales skills.
- (5) There are more technician than other competitor.
- (6) This is subsidiaries so have back up from main company in Germany.
- (7) Good relation with organizations and government.
- (8) The leader in the market.
- (9) Brand loyalty.
- (10) Have a big service team.

Weaknesses

Weaknesses are internal factors that worse than the competitors. Prominent have these weaknesses:

- (1) It's the subsidiaries so it must do business according to the policy of the main company so some case decision is not flexible to compete with competitors.
- (2) Bigger organization than competitors so more cost of operation.
- (3) The price is higher than competitors.

Opportunities

Opportunities are external factors that give them a chance to make something better. Prominent has these opportunities:

- (1) Now, the economic in Thailand are turning into star. The most factories set the new factory or expand the line of production, so they need more chemical pumps to use in their process of production and the waste water treatment. As well as the growing of high-end house building business that build many swimming pool in their house, so Prominent can sell pumps and controller to the swimming pool contractors.
- (2) Quality Control improvement that related with the environment such as ISO14000. The factories must treated their wastewater before sending out. Another Quality control is GMP if they not meet this quality their food can not sell and must close the factories. So they have to improve the production line by using Prominent's product.
- (3) Government has the policy to make everybody in Thailand have good health by drinking and use clean water so the plant of water will established more in the future

- (4) In the future, the quality and cost will be very important, most factories must use chemical pumps to feed in their production line. So they may change to the new models that can feed the chemical more accurate to make their products quality better or can save cost of chemical.

Threats

Threats are external factors that can make problems to Prominent's market.

Prominent has these threats:

- (1) The strong foreign competitors such as Iwaki
- (2) Some customers want to use only low price pumps
- (3) Many new competitors are coming in the market soon
- (4) Japanese customers may want to use only Japanese products.
- (5) From Government market may have the problems because of limited budget, so government market hardly be estimated for long term. It may be estimated year by year up to the government officers.

4.4 Activities Plan for Year 2004

At year 2004 Prominent fluid controls (Thailand) Co., Ltd plan to achieve the sales target of 327.3 millions baht. These are the activities that they plan to do to achieve the sales target of year 2004:

- (1) Checking competitors information that how about their situations and from SWOT analysis compare with each of competitor and concludes that which competitor is the weakest, so we will beat them first. Because we want to be the market leader of chemical system, so some competitors should be eliminated. We maintain the market share by trying to protect the established of new competitor in the way of destroy them before they birth. From data that we compared, we conclude that we should eliminate Pulsatron first.

- (2) Analyzing situation about the existing customers separate in groups of customers that government, contractors and consulting companies, government and dealers and analyze with these questions
- (a) Why they use Prominent pumps and what do they think about our products compared with another brands?
 - (b) What is the portion that they use compared with the whole pumps that they must buy per year?
 - (c) Why they use another brand that is not Prominent and if they must sell only Prominent what would they want from us?
 - (d) How many pumps that they buy per year?
- (³) After analyzing customers try to keep the loyalty customers and potential first by sending manager to go with sales to visit the customers at least 2 times per year. And use every way to keep them and try to satisfy them as much as possible.
- (4) Analyze that we strong in which market and weak in which market and why we strong and why we weak in that market?
- (5) Maintain the strong market, by sending the junior sales visit the customers every month, and give them some gifts. And keep in touch to repeat the order.
- (6) Find the way to go to the weak market and improve them by send manager or supervisor to sales in the weak market by themselves to make more market share. And trying to eliminate Pulsatron products as much as possible.

- (7) List all of target customers, and then analyze that customers use prominent only one brand or not, if not try to replace another brand by convincing about quality, services, and price that compare to quality of lifetime.
- (8) Set CRM (Customer Relation Management) to call about 50% of our customers that use our products, to know the response of customer when they use our products.
- (9) Increase sales person to focus more customers because total market have more than 100,000 customers but we have only 20 sales to cover so we must increase our salesperson.
- (10) Advertise in Yellowpages, Industrial and Technique magazines that may be cost about 300,000 baht per year
- (11) Set commission for people that sell pumps for us or introduce another people to buy.
- (12) Set the budget of 2 MB for training the dealers about the features of products and how to repair our pumps with themselves. That may set the seminar for each part of Thailand should be east, west, north, north-east and Bangkok.
- (13) Give money to big dealers or send free pumps for them to show our products in their showroom. Budget about 1 M bath.
- (14) Setup the call center for after sales service and toll free number for long distance.
- (15) Arrange sales promotion program for the first month of each quarter by including premium such as polyethylene tank.
- (16) Contact with Government organizations that related with chemical pumps product to be the sponsor of seminar or co-instructor of seminar that related with chemical pumps.

- (17) Arrange the rewards for dealers who can achieve the sales target as follows:
- (a) Target 1,500,000 baht : 2 tickets for Hong Kong trip (value of 20,000 baht).
 - (b) Target 4,000,000 baht : 2 tickets for Europe trip (value of 80,000 baht).
- (18) Target top twenty potential dealers in major provinces and try to push products through these channels of 100 unit's per year and sells to the retailers at least 1 shop per province. Dealers and retailer. Thailand has 76 provinces so we divided in to 5 parts and we will set main dealers to take care of each parts.
- (a) North part we set dealers at Chiangmai, Nakornsawan, Phitsanulok, Lumpoon.
 - (b) East part take care by Prominent' s Rayong office.
 - (c) East-North we set dealers at Koankaen, Udonrthani, Ubonrachathani, Nakornrachasrima
 - (d) South part we set dealers at Songkla, Suratthani, Trung, Puttalung, Praj uabkirikun.
 - (e) West part we set dealers at Kanchanaburi, Rachaburi
- (19) Arrange main dealers in each part of Thailand to be after sales service center that receive products from customers and can repair them from not serious case and if it is the serious case send back to main office.
- (20) Use logistic or supply chain management to reduce transportation cost as much as possible.
- (21) Join the international exhibition such as INTERMACH or ENTECH and other that related for the budget of 2 MB.

- (22) Try to send sales to every industries or market to find the new groups of customers.
- (23) Make the souvenir or special gifts to send to the dealers or customers that buying our products.
- (24) Prepare to keep more stock of pumps because bigger order can be negotiate with the factories better.
- (25) Help dealers and contractors to use and to sell our products in everyway that they want, let the sales go to survey what customer want from our company.
- (26) Try to reduce operation cost as much as possible.
- (27) Try to find another products that are related with our products to sells full of range and reduce ability to compete from competitors. In this year will set factory to build polyethylene tank to sell more.
- (28) Send salesperson to training higher skill or the thing that they want to improve their performance at least 1 person must train 1 skill. Try to motivate our salesperson to work more by using both of intrinsic and extrinsic motivation by give them the special rewards if they can reach their target sales.
- (29) Recruit salesperson from Pulsatron company to reduce competitor's ability to fight with us
- (30) Plans to build up the factory that produce polyethylene tank because it use a lot with chemical pumps and in the past sometimes when polyethylene tank suppliers go to sell directly to factories ,sometime they sell another brand pump also so if we can sell this by lower price, so customer will buy from us and know less suppliers.

4.5 Activities Plan for Year 2005

In the year 2005 Prominent fluid controls (Thailand) Co., Ltd plan to achieve the sales target of 409.1 millions baht. These are the activities that they plan to do to achieve the sales target of year 2005:

- (1) Analyst the potential of dealers last year. Try to improve them to sell more and find that we cover all of dealers in Thailand already or not. Set the target higher than last year about 30% and find what they want from us to reach the target.
- (2) Talk to government section more to convince them to set the budget to use with related with our products. And go to other sections that not use our products to convince them to use.
- (3) Arrange the rewards for dealers who can achieve the sales target as follows:
 - (a) Target 2,000,000 baht : 2 tickets for Hong Kong trip (value of 30,000 baht)
 - (b) Target 5,000,000 baht: 2 tickets for Europe trip (value of 90,000 baht)
- (4) Arrange sales promotion program for the first month of each quarter by including premium such as polyethylene tank or stainless steel pump.
- (5) Sell more products such as import water pump because the market is very big and we have good relation with our customer. Try to sell them more to gain more profit.
- (6) Check SWOT analysis of Prominent compared with another brands that still in the market and find that who is the weakest or who is the suitable competitor that should be eliminated. After we eliminated Pulsatron in last year, in this year we will beat Tacmina.

- (7) Asking factories to produce low cost products to sell in the low end market that want only the cheap price.
- (8) Recruit sales from the competitor's sales to work with us to reduce the ability of competitors especially from Tacmina company.
- (9) Set seminar for dealers to train them about 15 times in every parts of Thailand and upon they requests. Training or seminar is about repair our pumps by themselves, skills for sales, latest news from factories, new promotions to make them satisfy with our product. In the part that have more potential customers then we may be established the office of after sales service to take care of our pumps product but not sales the pumps because we want to sales through the dealers when customer is not within 200 km. from our office. May be set 3 service centers at Lampoon, Khonkaen and Suratthani.
- (10) Import new products such as Chlorine to launch in the market.
- (11) Plan to sales to nearby countries such as Vietnam, Burma, Laos , Cambodia may send sales to survey the market first and identify the situation that can sales or not if can sales may be set the sales team to take care of each countries. The first that we may go is Vietnam and Laos.
- (12) Sales more high technology products such as Ozone, Chlorine Dioxide and for the general products will sell more to the dealers and let dealers to do marketing with us.
- (13) Continuous motivating for all of employees in the company to make them love and try to do more for the company set the system just like Japan that want to work at the same place for whole of their life.

- (14) Rotate sales by sending supervisor or sales manager to sell to the market that is hard to sell; try to get more market share and eliminate the competitor.
- (15) Build up the factory to make the cast-iron tank that use in the softener process and build up the factory that make the mixer components.

4.6 Activities Plan for Year 2006

At year 2006 Prominent fluid controls (Thailand) Co., Ltd plan to achieve the sales target of 511.4 millions baht. These are the activities that they plan to do to achieve the sales target of year 2006:

- (1) Check SWOT analysis of Prominent compare with another brand that still in the market and find that who is the weakest or who is the suitable competitors that should be eliminated. So it should be IWAKI.
- (2) Set up the strongest team of sales to beat the IWAKI by every way such as reduce cost, promotion, etc within 1-3 years.
- (3) Established the subsidiaries of Thailand at another countries such as Laos, Vietnam, Cambodia, Burma and send trusted person to be the GM of the company and reported to Thailand's office.
- (4) Open the new department at Thailand office to sell to the swimming pool department, chemical pumps department, water pumps department , etc to decentralized the organizations so the people in the organizations feel that they have more power, they grown and they have the future if they stay at this company.
- (5) Find another equipment to sales to complete range of water system.
- (6) Do construction about chemical plants, wastewater treatment plant, swimming pool plant or any kind of plant that related with our field.

- (7) Expand the market of another kind of products by the same way that we do before.
- (8) Set the seminar that all dealers come and we set the rewards and certificates to the dealers who sells our products most and have many rewards to encourage our dealers to sell our products.
- (9) Established the service center at another provinces more such as Nakornsawan, Kanchanaburi, Petchburi to ensure that at each part of Thailand should have at least 2 service centers.
- (10) Arrange the rewards for dealers who can achieve the sales target as follows:
- (a) Target 2,500,000 baht : 2 tickets for Australia trip (value of 40,000 baht)
 - (b) Target 5,000,000 baht: 2 tickets for Europe trip (value of 100,000 baht)
- (11) Sell the another chemical such as SodiumHydroxide to complete the range of basic using chemical products
- (12) Recruit more sales from the competitors and also recruit new sales that not have experience to expand the market.
- (13) Set seminar for the factories customer to promote our products and make more relation.
- (14) Arrange sales promotion program for the first month of each quarter by including premium such as polyethylene tank or stainless steel pump.
- (15) Set the seminar for government sections more than last year to convince them to use our products, it may be set budget for them to visit our factory in Germany to make them happy with our products, and sometimes go to visit

other factories that make water pumps or another products that we sell to the government section also.



| Activity\Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|---------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| I(7) Target customers | | | | | | | | | | | | | |
| I(8) Set CRM | | | | | | | | | | | | | |
| I(1) Checking information | | | | | | | | | | | | | |
| I(2) Analyst situation | | | | | | | | | | | | | |
| I(3) Manager visit loyalty | | | | | | | | | | | | | |
| I(4) Analyst Market | | | | | | | | | | | | | |
| I(5) Rotate Sales | | | | | | | | | | | | | |
| I(6) Manager sell weak market | | | | | | | | | | | | | |
| I(13) Help dealers showroom | | | | | | | | | | | | | |
| I(14) Set up call center | | | | | | | | | | | | | |
| I(15) Arrange Promotion | | | | | | | | | | | | | |
| I(17) Arrange the rewards | | | | | | | | | | | | | |
| I(18) Target Potential Dealers | | | | | | | | | | | | | |
| I(21) Join Exhibition | | | | | | | | | | | | | |
| I(23) Make souvenir | | | | | | | | | | | | | |
| I(24) Keep more stock | | | | | | | | | | | | | |
| I(28) Train more sales | | | | | | | | | | | | | |
| I(29) Recruit salesperson | | | | | | | | | | | | | |
| I(30) Plan to build up factory | | | | | | | | | | | | | |
| I(10) Advertising | | | | | | | | | | | | | |
| I(11) Educate Dealers | | | | | | | | | | | | | |
| I(16) Set government seminar | | | | | | | | | | | | | |
| I(19) Setup service center | | | | | | | | | | | | | |
| I(20) Reduce cost | | | | | | | | | | | | | |
| I(22) Expand new market | | | | | | | | | | | | | |
| I(25) Help Dealers | | | | | | | | | | | | | |
| I(27) Find another products | | | | | | | | | | | | | |

Gantt Chart for Activities Plan 2004.

| Activity\Month | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
|--------------------------------------|------|------|------|------|-----|------|------|------|------|------|------|------|
| 1(1) Analyst situation | | | | | | | | | | | | |
| 6)SWOT analysis | | | | | | | | | | | | |
| 1(15) Build up the factory | | | | | | | | | | | | |
| 1b 1) Plan to sales nearby countries | | | | | | | | | | | | |
| 1(2) Convince government | | | | | | | | | | | | |
| (3) Arrange rewards | | | | | | | | | | | | |
| 1(4) Arrange sales promotion | | | | | | | | | | | | |
| 1(7) Asking factories | | | | | | | | | | | | |
| 1(8) Recruit sales | | | | | | | | | | | | |
| 1(14) Rotate sales | | | | | | | | | | | | |
| 1(5) Sell more products | | | | | | | | | | | | |
| 1(9) Seminar dealers and services | | | | | | | | | | | | |
| 1(10) Import products | | | | | | | | | | | | |
| 1(12) Sales Hi-tech products | | | | | | | | | | | | |
| 1(13) Continuous motivating | | | | | | | | | | | | |

Gantt Chart for Activities Plan 2005.

| Activity\Month | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
|-------------------------------|------|------|------|------|-----|------|------|------|------|------|------|------|
| 1(1) SWOT analysis | | | | | | | | | | | | |
| 1(2) Set up team | | | | | | | | | | | | |
| 1(3) Established subsidiaries | | | | | | | | | | | | |
| 1(4) Open the new department | | | | | | | | | | | | |
| 1(6) Do construction | | | | | | | | | | | | |
| 1(10) Arrange rewards | | | | | | | | | | | | |
| 1(12) Recruit more sales | | | | | | | | | | | | |
| 1(14) Arrange sales promotion | | | | | | | | | | | | |
| 1(5) Find another equipment | | | | | | | | | | | | |
| 1(7) Expand the market | | | | | | | | | | | | |
| 1(8) Seminar dealers | | | | | | | | | | | | |
| 1(9) Service center | | | | | | | | | | | | |
| 1(11) Sell another chemical | | | | | | | | | | | | |
| 1(13) Seminar factories | | | | | | | | | | | | |
| 1(15) Seminar for government | | | | | | | | | | | | |

Gantt Chart for Activities Plan 2006.

V. A CONTINGENCY PLAN

If we do everything we could but the plan is not successful, we must use the contingency plan that is the back up plan, to solve the problems that may occur when we use the plan. These are contingency plans that we use to solve the problems that may occur:

- (1) From the rewards for dealers if they can not reach the target, we may find something to them such as target 2,000,000 baht get 2 tickets of Hong Kong trip but they can reach only 1,500,000 baht, so we may give them 1 ticket or change to 2 ticket tour in Thailand to Phuket. It's upon the situation because if we do not do like this our dealers may be dissatisfy with our company.
- (2) If the department of water resource or government organization do not have budget to buy chemical pumps or our products this year, so we must find another products that can sell to them this year to keep the relation and waiting for the next year.
- (3) If our competitor launch the promotion that more than we have, so we will force our customer to think about the quality and try to launch nearly the equal promotions that our competitors have, but set price higher than our competitor a little bit to differentiate that our product is better quality.
- (4) If the product that we import or buy from suppliers can not sell through the market within 6 months, we will find another products that can sells such as Italy water pumps can not sell, so import Australia pumps to sell.
- (5) If in the future our price much higher than competitors and we can not compete with them anyway, so we will ask our factory to produce in China to compete with our competitor or sell our products include with the hi-tech equipments that our competitors do not have.

- (6) If our potential sales go to work with our competitors or establish their own company, we will try to make good relation with them first. But if they are not corporate with our company, so we try to eliminate them in every way because if we let them can survive now, in the future they may become our great competitor.
- (7) If we can't control the subsidiaries in South-east asean countries or not know the information much, so we will improve the way to report by teleconferencing meeting. Every employee can see each other and participate with each other and may be install the monitoring TV at the subsidiaries and send pictures to Thailand. So manager in Thailand can see and know anything happen at the subsidiaries.
- (8) If the economic have the crisis, so we will change our strategy from growth to retrenchment or stay at the best position that we can survive, reducing investment.
- (9) Everything that we do, we will benchmarking them such as CRM. If the result or benefits is not much but the cost is very much. So we will not use them anymore.
- (10) We will do them first but if it can not work within 6 months or 1 year, so stop it and change it to the better way that we can find.
- (11) For the market that we send the best person of our company trying to sell but it's not work, so we change to another market. But always checking for the situation that may be change to our opportunity or not.

VI. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This marketing plan is made to help increase the sales of Prominent Brand Chemical Pumps and increase sales of related products also. Prominent Brand Chemical Pumps imported by Prominent Fluid Controls (Thailand) is a subsidiary of ProMinent Dosiertechnik GmbH Germany, they have their own factories. Prominent Fluid Controls (Thailand) is an importer and supplier of metering pumps and controller, chlorine dioxide generator, ozone generator, UV & reverse osmosis system, water and wastewater treatment system, magnetic driven pump, and swimming pool equipment and supplies.

We start this plan by analyzing situations compared with the competitors that sells chemical pumps. After analyzing, we find that we are the market leader of chemical pumps but the competitor is also the well-known brand and have the subsidiaries in Thailand. We want to increase 20-25% sales target of overall company every year but now we gain market share about 60%. The overall market of chemical pumps can not make us reach the target that we set every year so we must sell more products to survive. After we understand the situation. In the first year we will maintain old market and try to increase market share by compete with the competitors in the market of dealers, contractors, government organizations, and factories. We will use the different, focus strategies of Michael Porter to make our products different from another products. Set the CRM for customer satisfactions, arrange sale promotion for dealers, increase salesperson , set budget about 2MB for training dealers about the features and how to repair pumps, set the main dealers in each part of Thailand to represent our products, expand the new market and motivating existing employees.

In the second year we plan to maintain the market share of chemical pumps, try to expand a little bit but the main focus is try to expand the sales target by selling more products related to our products. In this year we plan to recruit more salesperson to sales more at the target market that we set, selling chemical products such as Chlorine, Polyethylene tank that used with chemical pumps, mixer and anything upon the request of our customers, sales more high technology products because it is value added products and plan to sell nearby Thailand.

In third year we plan to maintain market share that we have last year and try to expand both of chemical products and another thing that related with water. Plan to make construction of chemical plants, wastewater treatment plant, swimming pool plant or any plant that related with our products, established more service center in each part of Thailand. Keep good relation with old customers and try to sales them more products, try to sales more to the factories market, try to eliminate competitors by checking for SWOT analysis and eliminate the competitors that weaker than us.

After the plan is implemented we will evaluate the plan judging from the sales volume on the monthly basis. If the actual sales volume is lower than the budget we will, then, find out the cause of the deviation and find the solution for it.

If the plan is not successful and we have done everything we could, we must use the contingency plan. This marketing plan can modify to use with all kinds of pump products and also can modify to use with the industrial products because marketing plan of one industrial product is very similar to another industrial products in term of marketing mix.

6.2 Recommendations

After the company use this marketing plan, the company should keep in touch with the market situations because this market is high uncertainty situations. The

company should revise contingency plan every 6 months to make sure that they are always the leader of this market and should extend this marketing plan to use with all products that they have to achieve the company sales target. If they want to extended this marketing plan, they should find more information from another government organizations such as department of interior, department of underwater resource etc. to make this marketing plan more accurate and more efficient to use, find more information from the factories that is very far from Bangkok because this marketing plan gets the most information from the factories that are not far from 400 Kms from Bangkok, try to get information from every industries that have in Thailand by send salesperson to survey all of industries at least 5 factories/ industries to make more their marketing plan more accurate.

By the way if other people want to use this marketing plan to adapt to use with their company, If they sell industrial products, They can use this marketing plan to use with their product because industrial products most of them have the same market and similar in many factors. But if they not sell industrial products so they should read this marketing plan and try to understand the concept of marketing that we do, then make their marketing plan by themselves. Because different products have different environments so they must solve their problems by themselves.



APPENDIX A

PROMINENT BRAND CHEMICAL PUMPS SPECIFICATION

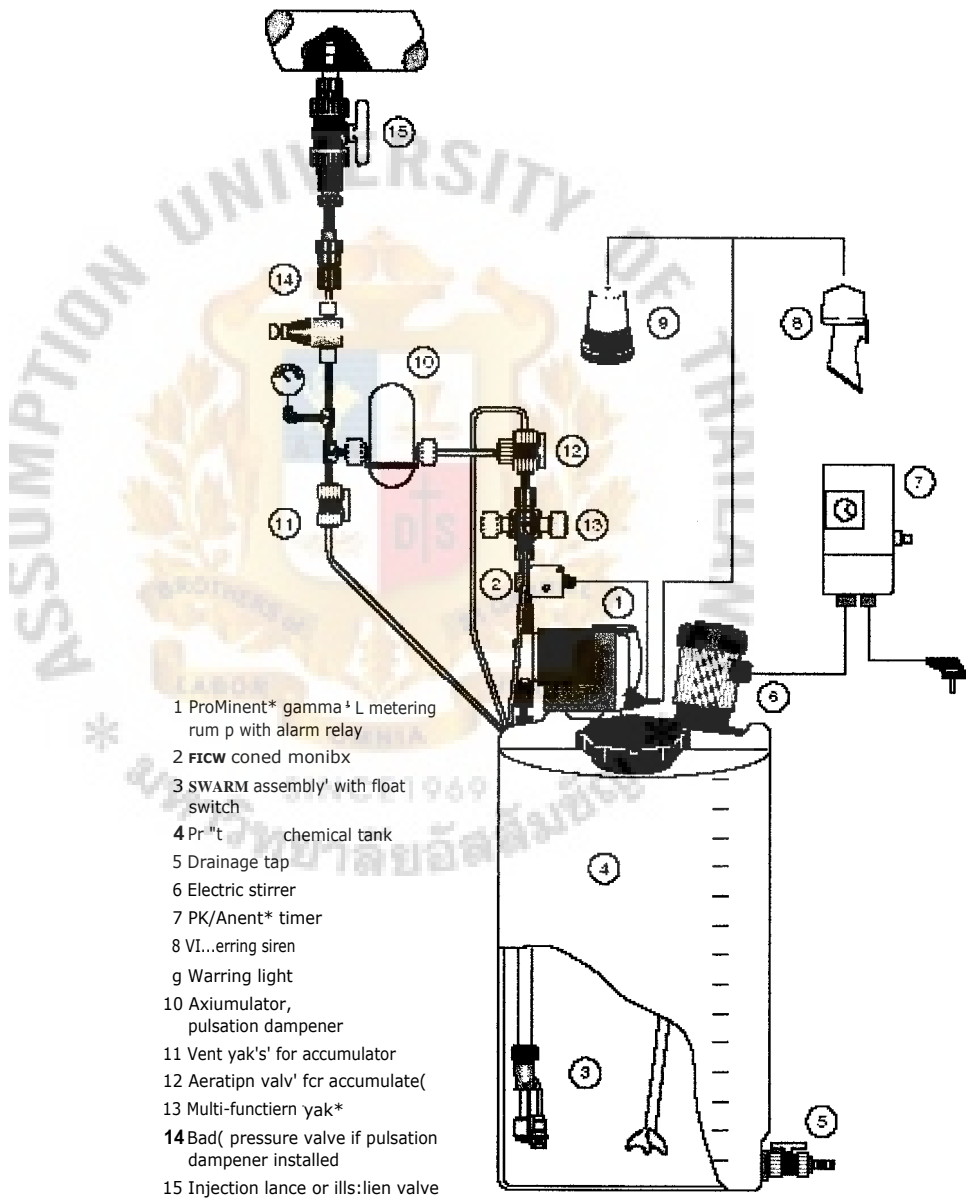
1.1 ProMinent: Innovations In Chemical Feed Technology

1.1.3

ProMinents Dosing Station: Comprehensive Accessory Range Ensures Processing Safety

Note: Excessive pressure can built up if adenoid mnete(ing pumps are used where a .discharge lna is blcreked, 01 a line is cloeed off yia a step valve. In thee* 'acridlions, therefore, we strongly advise the use of a multifunctica valve 0lt.

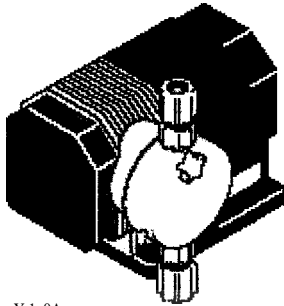
When metering at at ncepheric pr eseura the pump can achieve several times the stated feed rate. For this reescn we recommend inatallinq a multi-function valve 0311.



1.2 ProMinent''' alpha Motor Driven Diaphragm Dosing Pumps

1.2.1

ProMinents alpha Motor Driven Diaphragm Dosing Pumps



pY 1_0A

Capacity range 0.5-18.5 l/h 10-4 bar
Stroke length adjustment in 10 steps from 0-100 %
Material options: Polypropylene and Acrylic PVC
Patented wares sine head valve
Constant stroking rate
Controlled via mains ON/OFF connection

The ProMinent alpha is a dosing pump designed for simple operations. It is especially suited to continuous dosing.

It is an oscillating motor-driven diaphragm pump for liquid chemicals. Its main components are the drive and liquid end. Drives are available in four gear ratios, liquid ends in 3 sizes, are constructed from Polypropylene or Acrylic/PVC. It is therefore possible to specify the required pump capacity and material combination. The alpha pumps are activated by switch to the mains power supply. The feed rate is set by adjusting the stroke length from 0% to 100%.

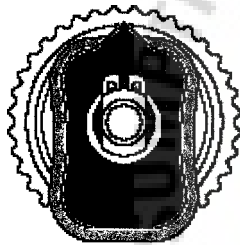
The drive consists of a powerful split pole motor with gearbox, cam shaft and connector rod as the drive shaft. The housing, made from glass fibre reinforced plastic, is resistant to impact and chemicals. The cam which causes the stroke motion passes through a cam plate producing suction and discharge strokes.

Stroke length adjustment is carried out by varying the eccentricity of the cam in 10 steps while the pump is at rest via a graduated slide valve. This means that diaphragm deflection always occurs at the point when it is in the neutral centre position.

In operation, the alpha pump with its suction and discharge strokes and stroke length adjustment via variable cam eccentricity produces a smooth, sinusoidal stroke action for suction and discharge strokes with diaphragm deflection always occurring from the neutral state.

The result is good suction capacity, smooth discharge stroke and consistently accurate dosing while the pump diaphragm is subjected to the minimum of mechanical stress.

The liquid end consists of liquid end, pump diaphragm and head disc. The liquid end in PP or Acrylic/PVC is fitted on the suction and discharge sides with a double ball valve. The PP1-, PP2-, PP3- and NP3 versions are fitted with a combined bleeding valve with integrated fine-tuning screw for continuous, automatic bleeding. The bleeding valve allows suction and bleeding at full operating pressure without the need to depressurise the dosing pipe. Valves can be spring-loaded for highly viscous media.



1.2 ProMiner alpha

Motor Driven Diaphragm Dosing Pumps

Technical Data

| | Max. Pump Capacity at Maximum Back Pressure | | Max. Pump Capacity at Medium Back Pressure | | Stroke Frequency at Maximum Back Pressure | Connector Size Outer Dia Inner Dia | Suction Lift | Intake Head | Max. Permissible Priming Pressure | Shipping weight |
|---------------|---|------|--|------|--|---|-----------------|----------------|--------------------------------------|--------------------|
| pump type | bar | | bar | L/h | strokes/min. | mm | m WG | m WG | bar | kg |
| 50 Hz version | | | | | | | | | | |
| 1001 | 10.0 | 12 | 5 | 1.3 | 30 | 8 x 5 | 6 | 2.5 | 100 | 3 |
| 1002 | 10.0 | 2.4 | 5 | 2.6 | 58 | 8x5 | 3 | 2.5 | 10.0 | 3 |
| 1003 | 10.0 | 3.5 | 5 | 3.8 | 86 | 8 x 5 | 3 | 2.5 | 100 | 3 |
| 0804 | 7.5 | 4.0 | 4 | 4.4 | 30 | 15 A 5 | 6 | 30 | 7.5 | 3 |
| 0808 | 7.5 | 8.0 | 4 | 8.5 | se | 5 x 5 | 8 | 30 | 7.5 | 3 |
| 0612 | 5.5 | 12.0 | 3 | 12.7 | 88 | 8 A 5 | 6 | 5.0 | 5.5 | 3 |
| 0419 | 4.0 | 18.5 | 2 | 19.8 | 128 | SA 5 | 3 | 30 | 4.0 | 3 |
| 60 Hz version | | | | | | | | | | |
| 1001 | 10.0 | 1.4 | 5 | 1.6 | 36 | 8 x 5 | a | 2.5 | 10.0 | 3 |
| 1002 | 10.0 | 2.9 | 5 | 3.2 | ea | 8 x 5 | 6 | 2.5 | 100 | 3 |
| 1003 | 10.0 | 4.2 | 5 | 4.5 | 105 | 8 x 5 | 6 | 2.5 | 10.0 | 3 |
| 0804 | 7.5 | 5.0 | 4 | 5.4 | 36 | 8 x 5 | a | 30 | 7.5 | 3 |
| 0808 | 7.5 | 9.5 | 4 | 10.0 | 69 | 8 x 5 | 6 | 30 | 7.5 | 3 |
| 0612 | 5.5 | 14.0 | 3 | 15.2 | 105 | 8 A 5 | 3 | 3.0 | 35 | 3 |
| 0419 | 4.0 | 21.5 | 2 | 23.5 | 154 | 8 A 5 | a | 3.0 | 2.5 | 3 |

Materials in Contact With Chemicals

| | Liquid End | Suction/Discharge Connector | Seals | Valve Balls | Patented Dearthion |
|------|----------------|--------------------------------|------------------|-------------|--------------------|
| PP1 | PackYPK-fluore | Polypropylene | EPDM | ceramic | Yea |
| PP` | Pctypropylene | PolgropOeile | FPM A rytion" | oexamic | Yea |
| PP:3 | PdYPPW-liefer | Polypropylene | FPM B (Vito& B) | ceramic | Yea |
| NP3 | Acrylic | PVC | FPM B (Viton*13) | aaamic | Yea |
| NP6 | Acrylic | PVC | FPM yitone) | ceramic | ro |

DEVELOPANE dosing diaphragms with PTFE coating for all versions.
 *Atone is a registered trademark of OUP:Alt Doa Elastomers.

Included in delivery dosing pump with 2 m mains cable and plug, connector set for hoseitube connection as indicated in tables.

Motor Data

Type Split pole .motor with integrated thermal overload protection
 raWiet supply: 220-240 V, 5ofee Hz (version A)
 Power input: 50 W kat 250 W50 Hz)
 Prover consumption: 0.4 A ist 23D V.:50 HK

Guarantee: The warranties given under'General Commercial Terms and Conditions"
 accty. The alpha pump drive ie, however, supplied with a 12 month warianty.

1.2 ProMinent alpha

Motor Driven Diaphragm Dosing Pumps

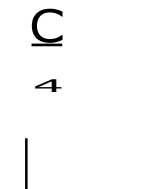
1.2.2 Identity Code Ordering System

| | |
|------|--|
| ALPb | alpha, Version b |
| | Pump type: Capacity at 50 HzCapacity at 60 Hz |
| 1001 | 1.2 Ph - 10.0 bar1.41:h - 10.0 bar |
| toce | 2.4 WI - 10.0 ter2.9 l:h - 10.0 bar |
| 1003 | 3.51:11- 10.0 bar4.2 - 10.0 bar |
| 0304 | 4.0 - 7.5 ter5.0 h11- 7.5 bar |
| 0805 | 8.0 - 7.5 ter9.51'h- 7.5 bar |
| 0612 | 12.01.11 - 5.5 ter14.01:h - 5.5 bar |
| 0419 | 18.5 - 4.0 ter21.5 - 4.0 bar |
| | Liquid end material: PP1 Polypcmymtrle1PDM with bleed valve PP2 Polyp cmyiene.IFIDNI A (Viton* Ai Voith Heed yelve. 0804-0419 only) PP3 Polyp tcpytene/FPMB Bitwith bleed tiah.e. it C01-1003 only) NP3 AcrylivPVC:FPM B iyton*B) with bleed yatye it C61-1003 only) NP3 Acryli,:PVCTPM tryitcnyieiliticet Need 'veto? (0604-0419 only) |
| | Valve springs: 0 No yal ye wrings 'eVith 2 salve springs approx. 0.1 bar, stainless steel 1.4571 |
| | Hydraulic connectors: Standard |
| | Ifers'ofr. 0 With ProMinent* logo |
| | Electrical connectors: A 230 4 5060 Ft, 2 m. Euo. plug B 230 4 54360 Ft, 2'a, Swiss plug C 230 50:60 Ft, 2'n, Austral. Mug 115 4 54t60 Hz, 2 1). LIS.A.pkig |
| | Ancillary equipment: h4o ancillary equipment With foot and doeing valve 2 As 1, additional 211 PVC and 3 m PE hose As 2, adctiknal 100 I PE tank |
| ALPb | 0808 P91 0 |
| | A |

Mtn* is a registered Uedemark DuPcnt
[oe Elastomers.

1.2 ProMinent- alpha Motor Driven Diaphragm Dosing Pumps

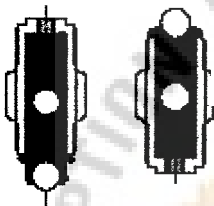
1.2.3 Spare Parts Kits, Replacement Diaphragms



Spare parts kits for ProMinent' alpha, consisting of:
1 pxnp diaphrayn
1 suction vaMe con pl.
1 dia::harge 'yak* comp'.
2 ...afire; bale
1 anal
1 connector sml

Spare parts kits alpha

| | |
|---|-----------|
| for alpha b, type 1001, 1002, 1003 | Order no. |
| PPI | 740388 |
| PP3 | 740387 |
| NP3 | 749385 |
| for alpha b, type 12604, 0808, 0612. 0419 | |
| PPI | 740)15 |
| PP2 | 740317 |
| NP8 | 744013 |



Replacement diaphragms

| | |
|---------------------------------|---------|
| Replacement diaphragms for type | |
| 1001. 1002, 1903 | \$11458 |
| asaa, 0805, 0512, 0419 | 791475 |



pkisos

1.3 ProMinentt' Beta'' Solenoid Diaphragm Dosing Pumps

1.3.1

ProMinents Bete Solenoid Diaphragm Dosing Pumps

- Capacity range 0.74-32 l/h, 1e-2 bar
- Continuous stroke length adjustment from 0-100% (recommended 50-100%)
- Supplied in PP, PVC, Acrylic, PTFE, stainless steel
- Patented ceramic fine deaeration for PP, PVC and Acrylic/PVC
- Self-deaerating design, standard type in PP and Acrylic/PVC
- NV 'quid end for highly viscous media
- 100% stroke frequency adjustment from 10-100%
- Electrical control Via voltage-free, contact
- Connector for dual-setting level switch
- 12-24 V DC low voltage version
- 5 LED display for operation, warning and fault indication



1.3 ProMInent* Beta* Solenoid Diaphragm Dosing Pumps

Technical Data

| Beta pump type | Max. Pump Capacity at Marlin lin Back Reissue | | | Max. Pump Capacity at Medium Back Poseurs | | | Stoke Req. | Connector | Suction lift" | Delivery Weight | |
|---|---|------|-------------|---|------|----------|----------------|-------------------|---------------|----------------------------|-----------|
| | btu | Ph | nil: stroke | bar | Ph | m stroke | strokes,' min. | Outer 0 x Inns(0 | niWG | PR HP. | SS PC, TT |
| | | | | | | | | | | approx. kg | |
| BT4a 1000 | 10 | 0.74 | 0.07 | 5 | 0.82 | 0.08 | 180 | 6 x 4 | 8 | 2.9 | 5.6 |
| BT4a 1601 | 16 | 1.1 | 0.10 | 8 | 1.4 | 0.13 | 180 | 6'x 4 | 8 | 2.9 | 3.6 |
| BT4a 1602 | 16 | 2.1 | 0.19 | 8 | 2.5 | 0.24 | 180 | 6*. 4 | 8 | 2.9 | 3.6 |
| BT4a 1005"- | 10 | 4.4 | 0.41 | 5 | 50 | 0.46 | 180 | 8 K 5" | d | 3.1 | 3.9 |
| BT4a 0708 | 7 | 7.1 | 0.66 | 3.5 | 8.4 | 0.78 | 180 | 8x 5 | 8 | 3.1 | 3.9 |
| BT4a 0413 | 4 | 12.3 | 1.14 | 2 | 14.2 | 1.31 | 180 | 8 x 5 | 3 | 3.1 | 3.9 |
| BT4a 0220 | 2 | 19.0 | 1.76 | 1 | 20.9 | 1.94 | 180 | 12 x 9 | 2 | 3.3 | 4.4 |
| BT5a 1606 | 16 | 41 | 0.38 | 8 | 4.9 | 0.45 | 180 | 8 x 5" | 8 | 4.5 | 5.3 |
| BT5a 1008 | 10 | 8.8 | 0.63 | 5 | 53 | 0.76 | 180 | 8* 5 | 8 | 4.5 | 5.3 |
| BT5a 0713 | 7 | 11.0 | 1.02 | as | 13:1 | 1.21 | 180 | 8 x 5 | 4 | 4.5 | 5.3 |
| BT5a 0420 | 4 | 17.1 | 1.58 | 2 | 19.1 | 1.77 | 180 | 12 K 9 | 3 | 4.7 | 5.8 |
| BT5a 0232 | 2 | 32.0 | 2.96 | 1 | 352 | 3.35 | 180 | 12x 9 | 2 | 5.1 | 6.6 |
| Bete closing pumps with self-leaerating &Airing heal' | | | | | | | | | | | |
| BT4a 1601 | 16 | 0.59 | 0.06 | e | 0.78 | 0.07 | 180 | 6 x 4 | 1.8 | 2.9 | |
| BT4a 1602 | 16 | 1.4 | 0.13 | 8 | 1.7 | 0.16 | 160 | 6* 4 | 2.1 | 2.9 | |
| BT4a 1006 | 10 | a 6 | 0.33 | 5 | 4.0 | 0.37 | 180 | 8x 5 | 2.7 | 3.1 | |
| BT4a 0708 | 7 | 8.6 | 0.61 | a 5 | 7.5 | 0.69 | 180 | 8 K 5 | 2.0 | 3.1 | |
| BT4a 0413 | 4 | 10.8 | 1.00 | 2 | 12.6 | 1.17 | 180 | 8'x 5 | 2.0 | 3.1 | |
| BT4a 0220 | 2 | 18.2 | 1.50 | 1 | 150 | 1.67 | 180 | 12x.9 | 2.0 | 3.3 | |
| BT6a 1605 | 16 | 53 | 0.31 | e | aa | 0.36 | 180 | 8 x 5 | 3.0 | 4.6 | - |
| BT5a 1008 | 10 | 8.3 | 0.58 | 5 | 7.5 | 0.69 | 180 | 8 K 5 | 3.0 | 4.5 | |
| BT5a 0713 | 7 | 10.5 | 0.97 | as | 12.3 | 1.14 | 180 | 8 x 5 | 2.5 | 4.5 | - |
| BT5a 0420 | 4 | 15.6 | 1.44 | 2 | 17.4 | 1.61 | 180 | 12 K 9 | 25 | 4.7 | - |
| Beta' pumps with liquid ends for highly viscous media have 10-20 si lees metering capacity and are not self-ph:ling. G .3.44-DN omnectoi with d16-DN10 no=le union. | | | | | | | | | | | |
| " The :values given in the capacity data tables are guaranteed minimum values, using medium hardness 'water at rodm temperature. | | | | | | | | | | | |
| - Suction lift I eadindia when liquid end and suction tuting are full. cc for self-' egassing liquid end Whafi the suctpn tubing o:ntainsaii. | | | | | | | | | | | |
| -* Reduced pressure 4, 7 and 10 tar pump types are available for specialised applications. e.g. for use in swimming pcd systems. | | | | | | | | | | | |
| Further ifiktRlatiOn CO request. | | | | | | | | | | | |
| ***8 •nr, inn.z4 diametu in stainless steel taSiCiïi. | | | | | | | | | | | |

Materials On Each Model In Contact With Chemicals

| | dosing head | suction/pressure connector | seals | balls |
|------|------------------|----------------------------|-----------------|----------|
| PPE | Polypropylene | Polypropylene | EPDM | ceramic |
| PPB | Polypropylene | Polyp cpAsne | FPM i yttrAft | ceramic |
| PCE | PVC | PVC | EPDM | osornic |
| PCB | PVC | PVC | FPM ,yitonwr | °stank |
| NPE | Acrylic | PVC | EPDM | oceanic |
| NPB | Acrylic | PVC | FPM ,,,,itone't | oRamic |
| PVT | PVDF | PVDF | PTFE | crRamic |
| 111' | WIFE with carbon | PIPE 'with carbon | PTFE | oar anic |
| SST | stainless steel | stainless steel | PTFE | °seismic |
| | no. 1.4404 | no. 1.4404 | | |

Silf-ckgassing version available in PP and NPonty. Supplied with Hasteloy valve spings, PVDF valve core.

Dosing diaphragm with PTFE-coating.

Vitore is a register ed trademark od DuPont Dow Elastortz6.

ReproJwitle dosing accuracy ±2 96 under ccrrect owiditions (see opseating instructions}.

Amtrent temperature -10 ::0 to +45 <C.

Medium p:over osnsumption Type 1000-0 20: 17 W Type 1605-0232: 22 W

Type dimclosure: P 85, insulation class F

Dosing pumps supplied with mains power cable ≥ rai and plug, hose/pipe connector set as tables.

1.3 ProMinent Beta"

Solenoid Diaphragm Dosing Pumps

1.3.2 Identity Code Ordering System For Beta*/ 4 And Bette/ 5

| | |
|------|--|
| BT4a | Beta` Version a |
| | Type Capacity: |
| | 814a bar Ph |
| | 1030 10 0.74 |
| | 1601 15 1.1 |
| | 16C2 is 2.1 |
| | 1005 10 4.4 |
| | 07c6 7 7.1 |
| | 0413 4 12.3 |
| | 0220 2 19.0 |
| | BT5a |
| | 1646 15 4.1 |
| | 1008 10 3.8 |
| | 0713 7 11.0 |
| | 0420 4 17.1 |
| | 0232 32.4 |
| | Material version: |
| | PPE Polyp cpykneJEPDM |
| | PPB Polyp opylene...FPM |
| | POE PVCiEPDM |
| | PCB PVCiFPM(Mtons) |
| | NPE Acryib'EPOM |
| | NPB Aavlic/FPM |
| | P'TT NDEPTFE, Only for doting head verakm "4", highly 'viscous media |
| | TIT PTTFEPTFE |
| | '3b1 Stainless eteel 1.4404/RIFE |
| | Dosing head design: |
| | Non-bleed 'vereiDn, no valve spring, for TT, SS and type 0232 NP PP and PC only |
| | Non-Need 'vet sbn, with t.alve spin , for TT, SS and type 0232 NP PP and PC only |
| | With deaerator, novalve spring, PP PC, NP only, not type 0232 |
| 3 | With deaerator, with valve spring, PP, PC, NP only, not type C232 |
| 4 | version for highly viscous media, only PVDF, types on request |
| 9 | sell-degaesina for PP NP only, not for types 1000 and Cr232 |
| | Hydraulic connections: |
| | Standard wool ding to tectnkal data |
| | Connector for 12:6 hose, delivery side only |
| | Connector for 10,4 hose, delivery side only |
| | Design: |
| | With ProMinent® logo |
| | Power supply: |
| | A 200-230', ±10 to. 5.040 Hz |
| | B 100-115 'I, t10 96, 50'60 Hz |
| | U 100-230 ±10 96, 50/30 Hz |
| | M 12-24 V DC ±10 9i, types 10Cb-CC20 only, |
| | with 2 'n open ended cOlini•stim cable only |
| | N 24 V CC ±1096, typos 160E-02V only, |
| | with 2 in of R1 ended connection cable only |
| | Cable and plug: |
| | A. 2 in European |
| | B 2 in Swiss |
| | 2 m Atietraian |
| | D 2 m IJSA |
| | 2 in, open-ended |
| | Relay: |
| | 0 No relay: |
| | 1 Fault indicating relay iN/Cir |
| | 3 Fault indk:..atin5 relay-iy40:3 |
| | A9 1 + pacing relay (1 input eschi |
| | As 3+ pacing relay (1 irput eachl |
| | Accessories: |
| | 0 No. acreesones |
| | With foot and dosing valve, 2'n PVC suction tubing, |
| | 5 n PE dischasge tubing |
| | Electronic locking: |
| | No lock |
| | With kck: manual operation locked when external |
| | cable plugged in |
| | Options on request: |
| | O O O I No options |
| | 4 4 4 |
| | 0 0 0 |

Vital® is a registered trademark of DuPont Dow Elastomers.

1.3 ProMiner Beta⁴ Solenoid Diaphragm Dosing Pumps

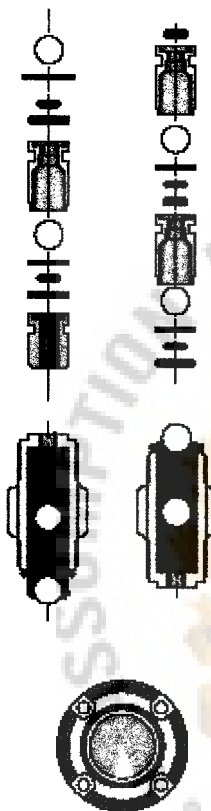
1.3.3 Spare Parts Kits, Replacement Diaphragms

Spare parts kits for Profit inent• Bete. consisting of:

- 1 p.rnp diaphregh
- 1 suction valve compl.
- 1 discharge valve 00710.
- 2 valv.i beds
- 1 &A esals
- 1 connstcoi set

Suction and pees's' e el,,e set not included with .stainless steel wt.,eicrt.

Spare parts kits Beta'



pic_1_006

| | | Order No. |
|-------------------------|---------|----------------|
| Type 1000 | PPE | 1 001644 |
| | PPB | 1001852 |
| | PCENPE | 1 001713 |
| | PC8a4PB | 1001721 |
| | TTT | 1 001737 |
| | SST | 1001729 |
| Type 1601 | PPE | 1001645 |
| | PPB | 1 001653 |
| | PCEMPE | 1 001714 |
| | POIVNPB | 1 001722 |
| | TTT | 1001736 |
| | SST | 10:•1730 |
| Type 1602 | PPE | 1001646 |
| | PPB | 1 001654 |
| | PCENPE | 1001715 |
| | PCBMPB | 1 001723 |
| | TIT | 1 001739 |
| | SST | 1 001731 |
| Type 1005 and Type 1605 | PPE | 1 00164 7 |
| | PPB | 1 001655 |
| | PCENPE | 1 001716 |
| | POBINPB | 1 001724 |
| | PVT | 1 019066 |
| | TIT | 1001740 |
| Type 0706 and Type 1008 | PPE | 1001648 |
| | PPB | 1 001656 |
| | PCENPE | 1 001717 |
| | PCBi4PB | 1071725 |
| | | 1 019067 |
| | TTT | 1 001741 |
| | SST | 1 001733 |

1.3 ProMinentB• Bete
Solenoid Diaphragm Dosing Pumps

Spare Parts Kits, Replacement Diaphragms

| | | |
|-------------------------|---------|-----------|
| Type 0413 and Type 0713 | PPE | Order No. |
| | PPB | 1001649 |
| | PCENPE | 1001657 |
| | PCB:NPB | 1001718 |
| | PVT | 1001 726 |
| | m | 1019059 |
| | SST | 1001742 |
| | | 1001754 |

| | | |
|-------------------------|---------|----------|
| Type 0220 and Type 0420 | PPE | 1001 650 |
| | PPB | 10016..5 |
| | PCENRE | 1001719 |
| | PCB:NPB | 1001727 |
| | PVT | 1019070 |
| | TTT | 1001754 |
| | SST | 1001755 |

| | | |
|-----------|---------|----------|
| Type 0232 | PPE | 1001 651 |
| | PPB | 1001699 |
| | PCENPE | 1001720 |
| | PC8:NPB | 1001728 |
| | ITT | 1001755 |
| | SST | 1001755 |



1.3 ProMinent Beta'® Solenoid Diaphragm Dosing Pumps

Spare Parts Kits, Replacement Diaphragms

Spare parts kits for ProMinent+ Betas with self-deaerating head, consisting of:

- 1 pump diaphragm
- 1 suction valve compl.
- 1 dialyase yaks compl.
- 4eseuts control vales compl.
- 2 valve balls
- 1 set seals
- 1 opnnector

Spare parts kits Beta⁻ with self-deaerating head

| | | Order No. |
|-------------------------|-----|-----------|
| Type 1601 | PPE | 1 001756 |
| | PPB | 1 001762 |
| | NPE | 1 001660 |
| | NPB | 1(01666 |
| Type 1602 | PPE | 1001757 |
| | PPS | 1001763 |
| | NPE | 1001661 |
| | NPB | 1 001667 |
| Type 1005 and Type 1605 | PPE | 1001758 |
| | PPB | 1 001764 |
| | NPE | 1 001662 |
| | NPB | 1001666 |
| Type 0706 and Type 1038 | PPE | 1(01759 |
| | PPB | 1 001765 |
| | NPE | 1001663 |
| | NPB | 10)1669 |
| Type 0413 and Type 070 | PPE | 1001760 |
| | PPB | 1 001766 |
| | NPE | 1 001664 |
| | NPB | 1021670 |
| Type 0220 and Type 0420 | PPE | 1(01761 |
| | PPB | 1(01767 |
| | NPE | 11:01666 |
| | NPB | 10:11671 |

Spare parts kit Beta*
with HV liquid end

on request

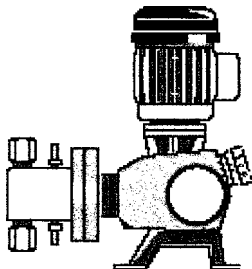
Replacement diaphragms for Beta* range

| | | |
|-------------------------|---------------|----------|
| Type 1003 | all materials | 1(00244 |
| Type 1601 | all materials | 10:0245 |
| Type 1602 | all materials | 10:0246 |
| Type 1005 and Type 1605 | all materials | 1007247 |
| Type 0706 and Type 1098 | all materials | 10:02415 |
| Type 0419 and Type 0713 | all materials | 10:0249 |
| Type 0220 and Type 0420 | all materials | 1(03250 |
| Type 0252 | all materials | 10:0251 |

2.12 ProMinentV Meta Plunger Dosing Pumps

2.12.1

ProMinent® Mete Plunger Dosing Pumps



pk 2_010

The ProMinent Mete plunger pump is a standard sized dosing pump driven by an 0.18 kW.: 37 1451 dual wound three phase* motor. 230.400 V, 50.k30 Hz p:twer supply, ercloeue rating IP 55, insulation class F Stroke length is adjustable between 0...15.5 mm in 0.2 crii steps. Worn gears in a choice of four reduction ratite, and cam spring folbwet mechanisms are hilt Sao a salt water-resistant and acrylic resin coated housing. Liquid end pats in contact with chanicsIs are listed below. The suction hilt varies depending upon the density and-visaasity of the feed chemical, and connecting pipework dimensions. Under defined conditions and providing installation is cconnect, re.proiducilde dosing accuracy is better than $\pm 0.5\ 9E$ at a stoke length ranged la-Aween 1094 and ice 96. (Gruideines given in the instruction manual must be folkewed precisely.) For technical safety reaaratte, appopiate equipment must be installed to prevent current ovedoad to motorised dosing pumps.

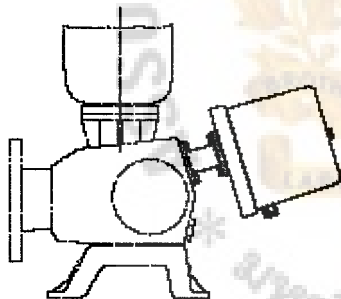
ProMinentg Mete Add-On Pumps



pk 2_011

ProMnent• Mete add-on pumps can be. connected up with ProMinent*Meta main pumps to form duplex or triplex pimps. (In certain cases more add-on pimps can be operated with a main pump with reduced heck pressures). The multiplexed pumps can ale: be ordered and supplied as ccomplete system, consisting of a main pump and the required number of add-on pumps. Multipliced pumps can also be retrofitted by the operator. All necessary fittings and canneators ere supplied with the add-on pump. They ate e connected to the main pump at the powa output side, i.e. the stroke rated the add-on pimp is identical to that of the main pump.

Meta Dosing Pump Controllers



Pr1 Da

Meta stroke length actuator/controller

Actuator foe automatic stroke length adjustment actuating period approx. 1 ek:for 1 9rir stroke length, fitted with limit switches for mi settings, 1 Ma respanee signal patentiarretet, enclosure rating IP 54.

Controller consists cf actuatot with ea v.) Teotot and integrated servo control foe stroke length adjustment via a standard signal. Standard signal input 0'4-20 mA, co-seep:41de to stroke length 0-100 cri. Automaticimanual operation selection key for manual stroke adjustment. Current value output 04-20 niA for remote display.

Speed controllers in metal housing (Identity code characteristic Z)

Frequency changer built into IP 54 protective housing and main switch designed for 'ilex. 0.37 kle: motor output see chapter 2.15.2:i.

Externally' controlled with 04-20 0-10 to oar reepand to-0-50 output fie-4,44)0y.

Integrated controller with versatile functions e.g. switching betaesnexternaHnternal control. In the case of internal control, frequency input vie snow keys. Multi-lingual fault message deploy etc. and maim temperature 11.)rib:sing Ahermistor-protection).

The speed controller assembly coneists of a speed controller and a variaMe speed motor Orrie also identity code characteristic

2.12 ProMinenV Meta Plunger Dosing Pumps

Technical Data

| pump type | with 1500 rpm motor at 50 Hz | | | | | with 1800 rpm motor at 60 Hz | | | | | Adm. Rimming Pressure, Suction 'fide | Connec- tion: Discharge Side | Nidtc4 Power Output | Shppirig VVEIIT |
|------------------------|--------------------------------------|------------------|------|----------------------|--|-------------------------------------|---------------------------------------|----------------|------|-----|--------------------------------------|------------------------------|---------------------|-----------------|
| | Ptrnp Capacity' at Max. Be* Pressure | Max. Stoke Freq. | | | | Pump Capacity at Max. Back Pressure | Stroking rate at max. back- pic.esure | Suction Lift | | | | | | |
| Identity code bar MTKa | | | rn | strokes; stroke min. | | psi | bi/gph | strokes/ rain. | niWG | bar | | Rp-DN | kW | kg |
| 21606 | 216 | 6.1 | 1.42 | 72 | | 3130 | 7.31 1.9 | 86 | 4 | | | 1/4 | 0.18 | 18 |
| 24006 | 240 | 6.1 | 1.42 | 72 | | 3477 | 7.31 1.9 | 86 | 4 | | | 1/4 | 0.37 | 20 |
| 16203 | 182 | 8.1 | 1.42 | 93 | | 2347 | 9.8% 2.5 | 115 | 4 | | | 1/4 | 0.18 | 16 |
| 22508 | 225 | 8.1 | 1.42 | 93 | | 3260 | 9.8% 2.5 | 115 | 4 | | | 1/4 | 0.37 | 20 |
| 1291 0 | 129 | 10.2 | 1.42 | 120 | | 1878 | 12.2/ 3.2 | 144 | 4 | | | 1/4 | 0.18 | 16 |
| 2161 0 | 216 | 10.2 | 1.42 | 120 | | 3130 | 12.2/ 3.2 | 144 | 4 | | | V4 | 0.37 | 20 |
| 1081 2 | 103 | 12.2 | 1.42 | 144 | | 1565 | 14.7; 3.8 | 173 | 4 | | | 1/4 | 0.18 | 18 |
| 2101 2 | 210 | 12.2 | 1.42 | 144 | | 3043 | 14.7; 3.8 | 173 | 4 | | | 1/4 | 0.37 | 20 |
| 10213 | 102 | 13.0 | 3.01 | 72 | | 1479 | 15.61 4.0 | 86 | 4 | | | 1/4 | 0.18 | 18 |
| 11313 | 113 | 13.0 | 3.01 | 72 | | 1844 | 15.61 4.0 | 5.3 | 4 | | | 1/4 | 0.37 | 20 |
| 07817 | 76 | 17.3 | 3.01 | 96 | | 1109 | 20.8/ 5.4 | 115 | 4 | | | 1/4 | 0.18 | 18 |
| 10817 | 106 | 17.3 | 3.01 | 96 | | 1541 | 20.81 5.4 | 115 | 4 | | | 1/4 | 0.37 | 20 |
| 06122 | 61 | 21.7 | 3.01 | 120 | | 888 | 28.01 6.8 | 144 | 4 | | | 1/4 | 0.18 | 18 |
| 10222 | 102 | 21.7 | 3.01 | 120 | | 1479 | 26.0; 6.8 | 144 | 4 | | | 1/4 | 0.37 | 20 |
| 05126 | 51 | 26.0 | 3.01 | 144 | | 740 | 31.21 8.2 | 173 | 4 | | | 1/4 | 0.18 | 18 |
| 09926 | 99 | 26.0 | 3.01 | 144 | | 1438 | 31.21 8.2 | 173 | 4 | | | 1/4 | 0.37 | 20 |
| 05425 | 54 | 24.6 | 5.71 | 72 | | 782 | 29.5/ 7.7 | 86 | 4 | | | 3/8 | 0.18 | 18 |
| 08025 | 60 | 24.6 | 5.71 | 72 | | 869 | 29.51 7.7 | 86 | 4 | | | 3/8 | 0.37 | 20 |
| 04033 | 40 | 32.8 | 5.71 | 95 | | 587 | 39.4/10.3 | 115 | 4 | | | 3/6 | 0.18 | 18 |
| 05633 | 56 | 82.6 | 5.71 | 95 | | 815 | 39.4/10.3 | 115 | 4 | | | 3.3 | 0.37 | 20 |
| 03241 | 32 | 41.1 | 5.71 | 120 | | 469 | 49.3/12.9 | 144 | 4 | | | 3/8 | 0.18 | 16 |
| 05441 | 54 | 41.1 | 5.71 | 120 | | 782 | 49.3/12.9 | 144 | 4 | | | 18 | 0.37 | 20 |
| 02749 | 27 | 49.3 | 5.71 | 144 | | 391 | 59.2/15.6 | 173 | 4 | | | 318 | 0.18 | 18 |
| 05249 | 52 | 49.3 | 5.71 | 144 | | 761 | 59.215.6 | 173 | 4 | | | 3:8 | 0.37 | 20 |

Materials In Contact With Chemicals

| | Dosing Head | Suction! Discharge Connector | Seals | Valve Balls | Valve Seat | Plungers |
|-----|-------------------------------------|--------------------------------------|----------------------------|-------------|--------------------------------------|----------|
| SST | stainless steti no.1 457111.4404 | stainless steel no. 1.4571;1.4404 | PTFE PTFE with graphite | ceramic | stairiase steel no. 1.457111.4404 | ceramic |

Motor Data MTMa

| | | | | Identity code characteristic |
|-----------------|--------------|-----------|--------------|------------------------------|
| 3phIP55 | 230 V1400 V | 519:80 Hz | 0.18'0.37 kW | S |
| 1 Fri Ac. | z?.2'+' | 50,80 Hz | 0.377'- WV | H |
| 1 ph AC- | 115V | 60 It | 037/- W. | N |
| 3 ph Eke or ads | n.) V;400 V | 50 Ft | 0.181037 kW | L |
| 3 ph Eke or ade | MO W400 V | 60 Hz | 0.18'0.37 kW | P |
| 3 ph IP 55 | 230 W400 V | 50;80 Hz | 0.37 kW | R |

riarsicri with external fan
1 O 230 V: .5060 Hz

The motor output depends on the pimp type (we technical dater.
For further informatica you can request motct data sheets.
Custom motes arid%or custom motor flan.?se may be supplied on request.

2.12 ProMinent Meta Plunger Dosing Pumps

2.12.2 Identity Code Ordering System

| | | | | | | | | | | | |
|------|---|-------|---|---|---|---|---|---|---|---|---|
| MTKa | Meta Plunger Dosing Pump Version a | | | | | | | | | | |
| | Main drive | | | | | | | | | | |
| | A Add-on drive | | | | | | | | | | |
| | 02749 06025 11313 03241 05122 12910 04033 07617 15208 05126 09926 21012 05249 1.7.213 21606. 05425 10222 21610 05441 10.317 22508 06.333 10312 24006 | | Pump type: ifkates 1 - 3 = bra pessusure[bar], figures 4 + 5 = feed rate [VI] | | | | | | | | |
| | Liquid end materials: S3 Stainless steel | | | | | | | | | | |
| | Seal material: PTFE | | | | | | | | | | |
| | Disp acement component: Standard plui+ger, carj oaamic | | | | | | | | | | |
| | Liquid end version: 14:1 valve spinge With 2 ...015i0 springs, Hastelloy C. 0.1 bar | | | | | | | | | | |
| | Hyd aulic connection: Standard thread ed connector re:cording to techical data) | | | | | | | | | | |
| | Vers'on: With ProMinents logo (standard) Without Pf oMinEntit kgo | | | | | | | | | | |
| | Electrical power supply: 3 ph, 230 ⁴ /400 V, 50:60 H.z ,WBS) 1 ph, AC, 230 50:00 Hz 1 ph, AC, 115 V, 60 Hz 3 ph, 230 ¹ :400 b', 5.0 Hz, iEExa. EErt.dej p 3 ph, 230 ⁱ 400 V, 60 Hz, FEte, EEcxelej 31:4), variable speed motor, 220 W400 V 1 ph, variable spied set 25 an.' , 5000 Hz 0 Add-cn pump ipo moto:1 No motor, with flange 95'03 Mon otor, with flange 145'71 Na 't otor, with flange 155'11 No ...note', with flange 5a C | | | | | | | | | | |
| | Enclosure rating: IP 66 (standards Era mctor versioivEEExe II T. Ende motor estebn rEEn.de IIC Tor | | | | | | | | | | |
| | Stroke sensor: 143 stroke sensor (standard) With streke Ofie:4. Namur sigma! (Be) | | | | | | | | | | |
| | Stroke length adjustment Manual (standard) 1 With Woke positioning. M0'1;50..50 Hz 2 With sticks. positioning, 115'1.5030 Hz A W With stoke oxibal motor 0..20 !IA 230 Vi..50e60 Hz With strthe rnotx 4...20 mA 230 W50e50 Hz With stoieccntrol motor 0...20 mA 115 Ve50•60 Hz With et oke. ixotrol remx 4...20 tnA 115 Hz | | | | | | | | | | |
| MTKa | H | 10222 | SS | T | S | 0 | 0 | 0 | S | 0 | 0 |

2.12 ProMiner Meta Plunger Dosing Pumps

2.12.3 Spare Parts Kits

Spare parts kits for ProMiner* Meta (MTKa) Plunger
Dosing Pumps

- consisting of:
- 1 ceramic plunger
 - 4 valve balls
 - 4 ball seat discs
 - 2 PTFE/graphite plunger packing rings
 - 2 plunger guide bars
 - 14 flat seals
 - 2 O-rings

Spare parts kits Meta

| | |
|---|-----------|
| Applies to identity code: Type 21603, 24006, 16208, 22505 12910.21310, 1C812, 2101. | Order No. |
| Liquid end FK 12.5 | 910470 |
| (Applies to identity code: Type 10213 11314, 07317, 10617, 06122, 10222, 05126, 029261 | |
| Liquid end FK 25 | 910471 |
| (Applies to identity code: Type 05425 06025.04033, 056.53, 03241, 05441, Ce749, 05249i | |
| Liquid end FK 50 | 910472 |

Base Frames for Meta MTMa and MTKa

A base frame is available for main and add-on pump combinations.

| | |
|--|-----------|
| Base frame for main and one add-on pump | Order No. |
| Base frame for main and two add-on pumps | 8C0898 |
| Base frame for main and three add-on pumps | 803899 |

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