

# CHAPTER 10

## PUMPS

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### 10.1 INTRODUCTION

Pumps are one of the most common types of mechanical components used by today's society, exceeded only by electric motors. Not surprisingly, there are in existence today, an almost endless number of pump types that function in systems with dissimilar operating and environmental characteristics. With so many different pump types it is impossible to establish a failure rate database based on design parameters, their use, and the materials used to construct them, or the type of fluid they move. All of these categories tend to overlap for the many different pump types. Therefore, a system to differentiate between all types of pumps is necessary. This system considers the method by which energy is added to the fluid being pumped. As seen by Figure 10.1, a pump can be classified into two general classes: Centrifugal and Positive