

Warning: Undefined array key 0 in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 164

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 164

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 165

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 167

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 168

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 169

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 171

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 171

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 171

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 171

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 171

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 171

Warning: Trying to access array offset on value of type null in `/var/www/vhosts/amatrol.com/httpdocs/wp-content/themes/kallyas-child/dkpdf/dkpdf-index.php` on line 171

8 (8-9 of 65) (106%) Skill PDF

Table of Contents

Segment 1: SERIES PUMP INSTALLATION AND OPERATION

Objective 1: Describe the function of a series pump system and give an application

Objective 2: Describe the operation of a multi-stage pump

Objective 3: Describe how to install a centrifugal pump with a close-coupled mount.

Skill 1: Install a centrifugal pump with a close-coupled mount.

Objective 4: Describe how to start up and operate a series pump system

Skill 2: Start up and operate a series pump system.

Segment 2: SERIES PUMP CHARACTERISTICS

Objective 5: Describe the flow/pressure characteristics of a series centrifugal pump system

Skill 3: Measure and graph the flow/pressure characteristics of a series centrifugal pump system

Skill 4: Use a performance curve to determine the head and capacity of a series centrifugal pump system

Objective 6: Describe how to determine the efficiency of a series centrifugal pump system

Skill 5: Calculate the efficiency of a series centrifugal pump system

Segment 3: PARALLEL PUMP INSTALLATION AND OPERATION

Objective 7: Describe the function of parallel pump system and give an application

Objective 8: Describe the

OBJECTIVE 3 DESCRIBE HOW TO INSTALL A CENTRIFUGAL PUMP WITH A CLOSE-COUPLED MOUNT

A close-coupled pump is a centrifugal pump designed so that the pump shaft is an extension of the motor shaft. The motor shaft extends into the pump and the pump impeller is mounted directly onto the motor shaft. This pump design eliminates any alignment problems between the pump and motor.

Figure 5. Close-Coupled Pump Design

The following steps describe how to install a close-coupled pump:

Step 1: Mount the pump to the motor

The close-coupled pump casing is made of two casings bolted together. To mount the pump to the motor, remove the casing bolts and the front portion of the casing to gain access to the suction side of the impeller. Fit the back portion of the pump over the motor shaft so that the motor shaft extends through the impeller. Typically, a bolt and washer is then fastened to the motor shaft to secure the impeller in place. Insert the retaining bolts, hold the pump and motor together, and tighten in a cross pattern to ensure a good fit. Bolt the front half of the pump casing back onto the pump and tighten once again using a cross pattern. Check manufacturer's instructions for specific requirements.

Figure 6. Mounting to Pump to Motor

ROBERT JOHNSON, MULTIPLE PUMP OPERATION
Copyright © 2022 Amatrol, Inc. 8

ROBERT JOHNSON, MULTIPLE PUMP OPERATION
Copyright © 2022 Amatrol, Inc. 9

Amatrol's Multiple Pump Systems eBook course allows learners to study the functions and real world applications of series and parallel pumps. This course presents practical skills such as installing and operating series and parallel pumps with theoretical knowledge like measuring and graphing flow/pressure characteristics and calculating pump efficiency.

Multiple Pumps eBook

What Does a Series Pump System Do?

Series pump systems feed the output of one pump directly into the input of the next pump. This effectively raises the pressure or head of the pumped fluid. This type of system is used when one pump alone cannot create enough head to meet the requirements of the application. One application of a series pump system is to raise water in a high-rise building. The system's multiple pumps produce the head necessary to lift the water from underground to the top floor.

Title Element

Multiple Pump Systems eBook Allows Online Access to Curriculum!

Amatrol's eBooks look like a real book and allow users to flip between pages with ease. Enhanced with features such as keyword searches and zoom controls that enable a user to quickly locate and view information, these eBooks are a fantastic learning tool. Amatrol's eBooks are available online and can be used by anyone with access to Amatrol's Learning Management System (LMS). Optionally, if you choose to use your own LMS, these eBooks are SCORM compatible to allow smooth integration into your current training system. Combined with our already extensive library of interactive multimedia titles, which are also SCORM compatible, users can now complete their entire course work online!

Address

**Amatrol
2400 Centennial Blvd
Jeffersonville, IN 47130**

Contacts

**email: contact@amatrol.com
phone: (800) 264 8285**