

Centrifugal Pump Selection, Installation and Operation Guide

What To Do If You Want A Low Maintenance, Highly Reliable Centrifugal Pump Installation.



The 'Centrifugal Pump Selection, Installation and Operation Guide' gives you a thorough checklist of the important factors in centrifugal pump installation and its operation to get a long, failure-free, low maintenance operating life. All the information in this guide is based on years of practical engineering experience with pump operation, fault finding, failure analysis and pumping system design. It provides you with an intensely thorough checklist of what to do to get many years of trouble free service. Use it as a means to select the right equipment and to fault-find existing equipment.

CONTENTS

1. Overview of Pump Failure Modes.	2
2. Understand The Pump Service Duty, Conditions And Environment.	2
3. The Floor Under The Pump.	2
4. The Pump Plinth On Which It Sits.	3
5. The Pump Base Frame On Which The Pump Is Mounted.	3
6. The Pump Body From Which It Gets Rigidity.	4
7. The Pump Bearing Housing And Bearings.	4
8. The Pump Shaft.	5
9. The Pump Seal and Stuffing Box.	5
10. The Pump Impeller.	7
11. The Pump Volute.	8
12. The Pump Back Plate.	9
13. The Pump Expeller.	9
14. The Pump Electric Motor.	9
15. The Pump Shaft Coupling.	10
16. Correct Pipe Sizing To And From The Pump.	10
17. Correct Pump Suction Characteristics.	11
18. The Ancillaries To Be Included On The Pump.	11
19. The Pump Set Alignment.	12
20. Pump Cavitation Protection.	13
21. Pump Dry-run Protection.	13
22. Pump Dead-head Protection.	13
23. Pump Corrosion Protection.	14
24. Pump Erosion Protection.	14
25. How To Help The Operator And Maintainer Monitor The Pump.	15

Sump Pumps, Submersibles and Bilge Pump Selection and Installation Guide



The ‘Sump Pump, Submersible Pumps and Bilge Pump Selection and Installation Guide.’ gives you a thorough checklist of the important factors to consider with these pumps, their installation and operation to get a long, failure-free, low-maintenance operating life. The information in this guide is based on years of practical engineering experience with pump operation, fault finding, failure analysis and pumping system design. It provides you with a good checklist of what to do to get many years of trouble-free service. Use it as a means to select the right equipment and to fault-find existing equipment. This guide is the work of Lifetime Reliability Solutions and they have full copyright over it. Copyright of other authors referenced in this publication is recognised and respected.

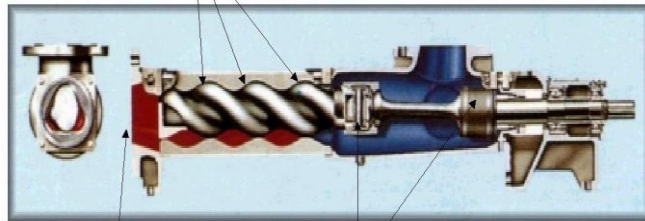
CONTENTS

1.	Overview of Sump, Submersible and Bilge Pumps	2
2.	Understand The Pump Service Duty, Conditions And Environment	3
3.	Setting-Up The Pump In Position	4
4.	Do You Install A Non-Return Valve Or Not?	5
5.	Tips For Easy Maintenance and Replacement	5
6.	Problems With Sump Pump Applications	6
7.	Electrical Considerations	7
8.	Particulars of Installing a Bilge Pump	8
9.	Particulars Of Installing A Sump Pump	11
10.	Particulars Of Installing a Submersible Pump	12
	Well Pumps	12
	Submersible Pumps	19
	High-Temperature Submersibles	21
	Variable-Speed Drives For Geothermal Application	23

Disclaimer: Because the authors, publisher and resellers do not know the context in which the information presented in the book is to be used they accept no responsibility for the consequences of using the information contained or implied within it.

Helical Rotor Pump Selection, Installation and Operation Guide

What To Do If You Want A Low Maintenance, Highly Reliable Helical Rotor Pump Installation.



The 'Helical Rotor Pump Selection, Installation and Operation Guide' gives you a thorough checklist of the important factors you must have in a pump, its installation and its operation to get a long, failure-free, low maintenance operating life. All the information in this guide is based on years of practical engineering experience with pump operation, fault finding, failure analysis and pumping system design. It provides you with a comprehensive checklist of what to do to get many years of trouble free service. Use it as a means to select the right equipment and to fault-find existing equipment. This guide is the work of Mike Sondalini and he has full copyright over it.

CONTENTS

1.	Overview of Pump Failure Modes.....	2
2.	Understand The Pump Service Duty, Conditions And Environment.....	2
3.	The Floor Under The Pump.....	4
4.	The Pump Plinth On Which It Sits.....	4
5.	The Pump Base Frame On Which The Pump Is Mounted.....	5
6.	The Pump Body From Which It Gets Rigidity.....	6
7.	The Pump Bearing Housing And Bearings.....	6
8.	The Drive Shaft And Flexible Drive.....	7
9.	The Shaft Seal and Stuffing Box.....	8
10.	The Pump Helical Rotor Shaft.....	11
11.	The Pump Electric Motor.....	12
12.	The Pump Shaft Coupling.....	13
13.	Correct Pipe Sizing To And From The Pump.....	14
14.	Correct Pump Suction Characteristics.....	15
15.	The Ancillaries To Be Included On The Pump.....	15
16.	The Pump Set Alignment.....	16
17.	Pump Cavitation Protection.....	17
18.	Pump Dry-run Protection.....	18
19.	Pump Dead-head Protection.....	18
20.	Pump Corrosion Protection.....	19
21.	Pump Erosion Protection.....	19
22.	How To Help The Operator And Maintainer Monitor The Pump.....	21

Solving Belt Bucket Elevator Problems Checklist

For A Low Maintenance, Highly Reliable Belt Bucket Elevator Installation

The ‘Smart Belt Bucket Elevator Selection, Installation & Operation Checklist’ gives you a thorough checklist of the important factors you must have in a belt bucket elevator, its installation and its operation to get a long, failure-free, low maintenance operating life.

All the information in this guide is based on years of practical engineering experience with belt bucket elevator operation, fault finding, failure analysis and equipment design. It provides you with an intensely thorough checklist of what to do so you get many years of trouble free service. Use it as a means to select the right equipment and to fault-find existing equipment.

This is the work of Lifetime Reliability Solutions and they have full copyright over it.

Contents:

1.	Understanding The Service Duty, Conditions And Environment.	2
2.	Properties Of The Bulk Material.	3
3.	Materials Of Construction.	3
4.	Feed Chute Arrangement.	4
5.	Bottom Drum Pulley, Shaft And Bearings.	4
6.	Top Drum Pulley, Shaft And Bearings.	5
7.	Belt Material and Construction.	5
8.	Belt Tension Adjustment.	6
9.	Buckets And Scrapers.	6
10.	Discharge Chute Arrangement.	6
11.	Elevator Drive Arrangement.	6
12.	Electric Motor Duty.	7
13.	Overload And Bog-down Protection.	7
14.	Surface Treatment And Protection.	7
15.	Access For Operators And Maintainers.	7
16.	How To Help Operators And Maintainers Use And Care For The Equipment.	8

Solve Screw Conveyor and Auger Problems Checklist *For A Low Maintenance, Highly Reliable Screw Auger Installation*

The ‘Screw Conveyor & Auger Selection, Installation and Operation Checklist‘ gives you a thorough checklist of the important factors you must have in an auger or screw feeder design, its installation and its operation to get a long, failure-free, low maintenance operating life. All the information in this guide is based on years of practical engineering experience with screw conveyor and auger operation, fault finding, failure analysis and equipment design. It provides you with a comprehensive checklist of what to do so you get many years of trouble free service. Use it as a means to select the right equipment and to fault-find existing equipment.

This guide is the work of Lifetime Reliability Solutions and they have full copyright over it.

Contents:

1. Overview Of Failure Modes.	2
2. Understanding The Service Duty, Conditions And Environment.	2
3. Properties Of The Bulk Material.	2
4. Materials Of Construction.	3
5. Shaft Support Bearings.	3
6. Screw Flytes.	4
7. Center Shaft And Ends.	4
8. Trough Shape, Design And Mounting Locations.	5
9. Feeder Drive Arrangement.	6
10. Electric Motor Duty.	6
11. Feed Hopper Into The Trough.	6
12. Overload, Snapped Shaft And Bog-Down Protection.	6
13. Surface Treatment And Protection.	7
14. Access for Operators And Maintainers.	7
15. How To Help Operators And Maintainers Use And Care For The Equipment.	8

Solve Magnetic Drive Pumps Problems Checklist

For A Magdrive Pump That Will Give Years Of Trouble Free Service

The ‘Magnetic Drive Pump Selection & Operation Checklist’ gives you the most thorough checklist yet compiled of the important factors you need to know when using a magdrive pump to get long, failure-free, low maintenance operating life.

A magnetic drive pump is a centrifugal pump and as such the ‘Centrifugal Pump Selection, Installation & Operation Best Practice Guide’ also applies to these pumps. The ‘Magnetic Drive Pumps Special Considerations Guide’ focuses on the specific considerations above and beyond those for standard centrifugal pumps that must be taken into account for magnetic drive pumps.

All the information in this guide is based on years of practical engineering experience with magdrive pump operation, fault-finding, failure analysis and pumping system design. It provides you with an intensely thorough checklist of what to do so a centrifugal magnetic drive pump can give you many years of trouble free service. Use it as a means to select the right equipment and to fault-find existing equipment.

This guide is the work of Lifetime Reliability Solutions and they have full copyright over it.

Contents:

1. Overview Of What Makes Magdrive Pumps Different	2
2. Dry-Running Is Their Great Weakness.	2
3. High Heat Output From Magnetic Effect.	2
4. Sediment And Particulate Is A Great Danger.	3
5. Internal Plastic Liners Introduce Problems Of Their Own.	3
6. The Separation Liner Can be A Weakness And Its Failure Is Catastrophic.	3
7. Magnetic De-coupling Will Happen If The Pump Is Overloaded.	4
8. Dangers of working with magdrive pumps.	4
9. Net Positive Suction Head Characteristics Can Be Poor.	4