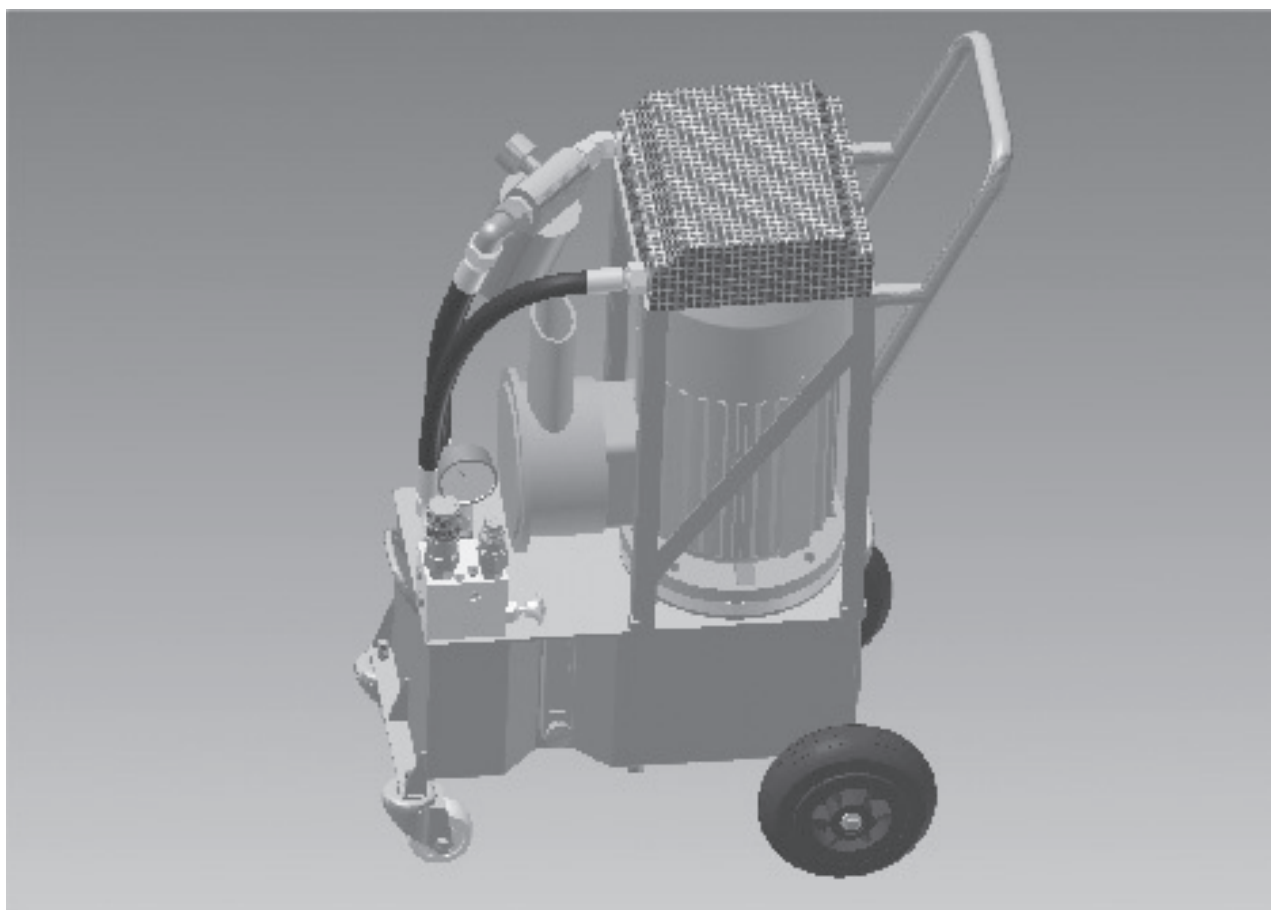




Hydraulic Immediate Need Power Pack



Safety, Operation, and Maintenance Manual



WARNING

Improper use of this tool can result in serious bodily injury! This manual contains important information about product function and safety. Please read and understand this manual BEFORE operating the tool. Please keep this manual available for other users and owners before they use the tool. This manual should be stored in a safe place.

Table of Contents

Main Components..... 3

Pre-Operative Checklist 4

Introduction 5

General Safety Rules..... 6-7

Operational Instructions 8-9

Inspections and Maintenance 10-11

Trouble Shooting Guide 12-14

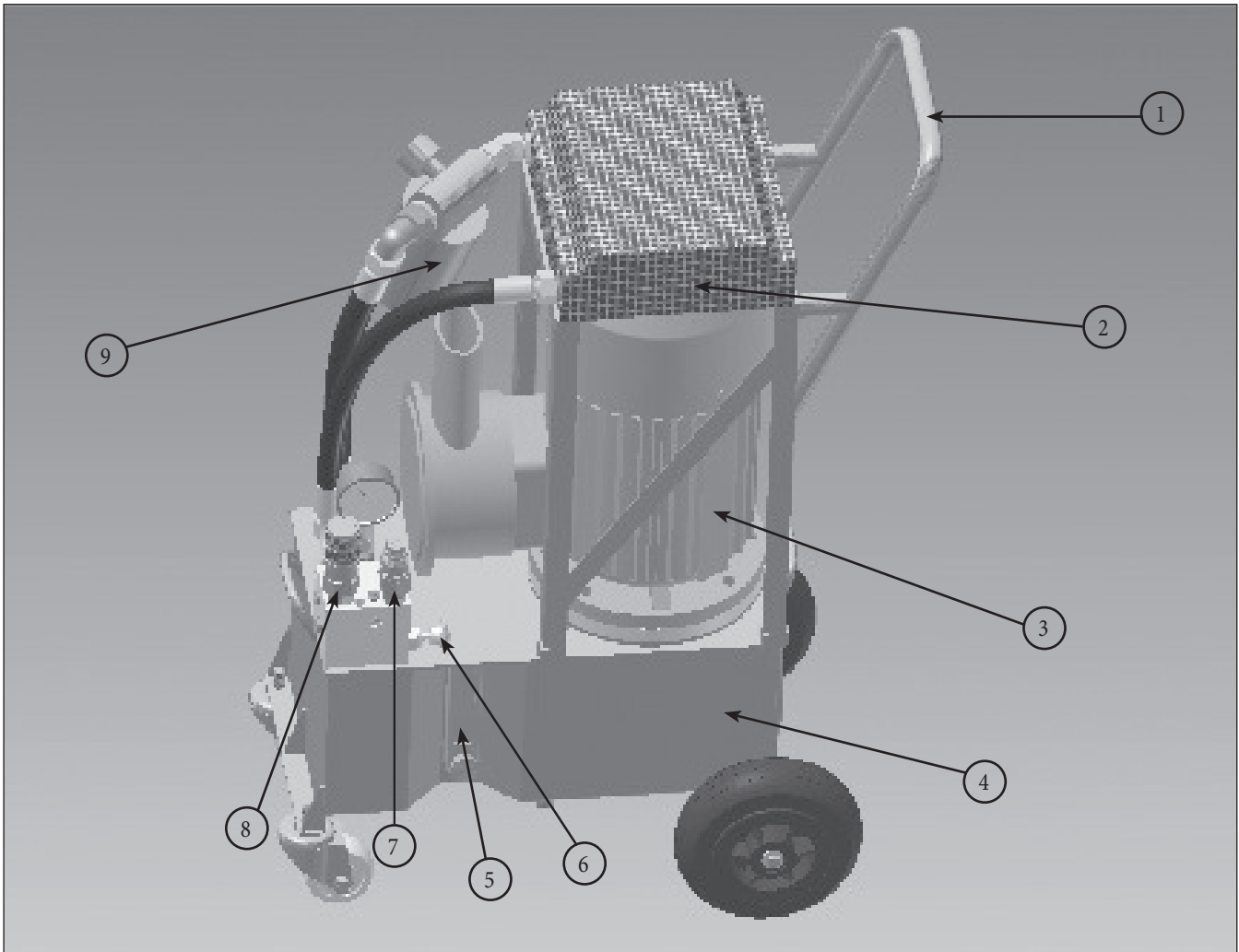
Limited Warranty

Flexco warrants to the original purchaser that this product is free from defects in material and workmanship, and agrees to repair or replace, at Flexco's option, any defective product within 1 year from the date of purchase. This warranty is not transferable. It only covers damage resulting from defects in material or workmanship, and it does not cover conditions or malfunctions resulting from normal wear, neglect, abuse, accident or repairs attempted or made by other than our regional repair center or authorized warranty service center.

To obtain warranty service, return the product at your expense together with proof of purchase to Flexco or a Flexco authorized distributor.

Main Components

- | | |
|--------------------------------------|---|
| 1. Push handle | 5. Hydraulic fluid level gauge |
| 2. Heat exchanger | 6. On/Off valve |
| 3. MA certified 4.0Kw electric motor | 7. Quick release coupling: Male nipple: high pressure out to Flexco hydraulic tool |
| 4. 22 liter oil reservoir | 8. Quick release coupling: Female coupler: low pressure return from Flexco hydraulic tool |
| | 9. Oil return filter |



Pre-Operative Checklist

This checklist must be checked prior to each use of the Flexco hydraulic power pack. This checklist is to be used as a guideline in conjunction with the maintenance and inspection procedures outlined in this manual. The Flexco hydraulic power pack and related equipment must be thoroughly inspected prior to each use by a trained person. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational procedures. If you do not have such a person in your organization, please contact Flexco or local distributors and they will assist you with training. Do not permit any person who is not fully trained to operate Flexco hydraulic power pack or the associated hydraulic tool. It is recommended that this checklist be maintained as a permanent record.

Work Area Selection

1. Insure Flexco hydraulic power pack is located in a well ventilated area.
2. Never use the Flexco hydraulic power pack in an explosive atmosphere and/or near combustible material that could be ignited by a spark.
3. Insure flammable storage is a least ten feet from Flexco hydraulic power pack.
4. Insure Flexco hydraulic power pack is positioned to minimize the amount of construction dust and debris it receives.
5. Work area is to be kept clear of unauthorized personnel at all times. Place barricades or secure the area in such a manner that no personnel can be injured.

Initial Equipment Status

1. Insure Flexco hydraulic power pack has been properly maintained.
2. Insure hydraulic hoses are properly connected and in good condition.
3. Insure fluid level in hydraulic reservoir is one inch from top.
4. Insure hydraulic heat exchanger is clean and free of dust.

Operating Personnel

1. Operators must be thoroughly trained before operating the Flexco hydraulic power pack and associated equipment. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational procedures.
2. All crew members at the work site must be wearing personal protective equipment as defined by their employer.
3. Do not use the Flexco hydraulic power pack or associated hydraulic equipment when you are tired or fatigued.
4. Do not operate the Flexco hydraulic power pack or associated hydraulic equipment when under the influence of drugs, alcohol, or medication.

Introduction

Your Flexco hydraulic power pack has been engineered to provide long-term performance and safety advantages that no other type can match. However, even a well-designed and well-built hydraulic power pack can malfunction or become hazardous in the hands of inexperienced and/or untrained users. Therefore, read this manual and related equipment manuals thoroughly before operating your Flexco hydraulic power pack to provide maximum safety for all operating personnel, and to get the maximum benefit from your equipment.

Hydraulic Power Pack Specifications

| | |
|--------------------|---|
| Motor rating | 4.0Kw, MA certified |
| Electrical rating | 380/660VAC, 3 phases, 50Hz |
| Weight | 105Kg |
| Operating pressure | 115 bar, 11.5Mpa for tool |
| Back pressure | 7 bar max |
| Reservoir size | 22L |
| Flow rate | 23L/m for tool |
| Coupling | ISO 16028 flat face, quick release coupling Low pressure return: ½" body size High pressure to tool: ¾" body size |
| Filter | Microglass, 10 micron element |
| Heat exchanger | OLEAR cooling core |
| Pump | Single gear pump |
| Hydraulic oil | MA approved #46 oil |
| Hose, 2x 10 meters | MA approved hydraulic hose: Low pressure return: ½" ID High pressure to tool: ¾" ID |

General Safety Rules – Save These Instructions

Signal words

“DANGER” indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury. The signal word is limited to the most extreme situations.

“WARNING” indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

“CAUTION” indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury. It may also be used to alert against unsafe practices.

International Safety Symbol



This international safety symbol is used to identify and call attention to specific safety matters.

Safety Information

To Avoid Severe Personal Injury or Property Damage, read carefully and understand the following Safety Precautions.

1. SAFETY LABELS

WARNING

These labels warn you of potential hazards that could cause injury. Read them carefully. If a label comes off or becomes illegible, contact Flexco for replacement information.

2. SAFETY RULES

WARNING

Operators must be thoroughly trained before operating the Flexco hydraulic power pack and associated equipment. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding safe operational procedures.

Follow the Pre-Operative Checklist before using the equipment.

DANGER

Never use the Flexco hydraulic power pack in an explosive atmosphere and/or near combustible material that could be ignited by a spark.

WARNING

Work area is to be kept clear of unauthorized personnel at all times. Place barricades or secure the area in such a manner that no personnel can be injured.

WARNING

Keep all clothing and all body parts clear of moving parts.

CAUTION

Always connect the **low pressure return** hose connections prior to connecting the **high pressure** hose connections.

General Safety Rules

WARNING

Never exceed the flow or pressure for which the hydraulic equipment is rated.

WARNING

Do not touch a hot muffler, or motor.

WARNING

Do not adjust the Flexco hydraulic power pack while it is running.

WARNING

Never adjust or service the associated hydraulic equipment during operation or while connected to the Flexco hydraulic power pack.

CAUTION

Know how to stop the Flexco hydraulic power pack quickly in case of emergency.

WARNING

Never disconnect hydraulic hoses or fittings while the Flexco hydraulic power pack is running.

DANGER

Do not use the Flexco hydraulic power pack or associated hydraulic equipment when you are tired or fatigued.

DANGER

Do not operate the Flexco hydraulic power pack or associated hydraulic equipment when under the influence of drugs, alcohol, or medication.

WARNING

At the end of operation, secure the Flexco hydraulic power pack and the associated hydraulic equipment to prevent unauthorized use. Never assume you will find the equipment in the same condition in which you left it.

WARNING

Only trained personnel are authorized to do repairs.

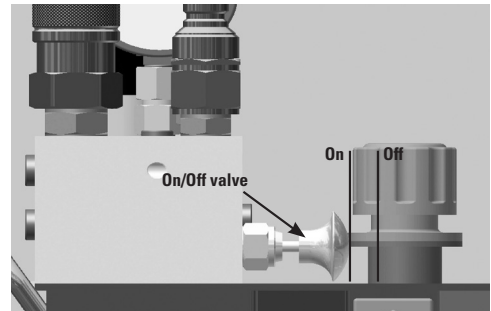
Operational Instructions

The Flexco Immediate Need power pack is designed and engineered to operate in the most challenging conditions. The portable power pack is designed for immediate need splicing operating conditions, such as typical underground coal mine splicing. The power pack is equipped with rugged steel frame, high clearance casters, hydraulic pump and MA certified explosion proof motor.



WARNING: DO NOT OPERATE THE POWER PACK CONTINUOUSLY OVER 20 MINUTES. TURN OFF POWER PACK WHEN IT'S NOT BEING USED. FAILURE TO COMPLY COULD RESULT IN EQUIPMENT DAMAGE.

Prior to operation, make sure the spring loaded On/Off valve is in "ON" position. The picture to the right shows the On/Off valve in "ON" position.



Before Operating The Power Pack



WARNING: ONLY TRAINED PERSONNEL SHALL OPERATE THIS EQUIPMENT. A TRAINED PERSON IS ONE WHO HAS READ AND THOROUGHLY UNDERSTANDS THIS INSTRUCTION MANUAL AND RELATED EQUIPMENT MANUALS AND, THROUGH TRAINING AND EXPERIENCE, HAS SHOWN KNOWLEDGE REGARDING SAFE OPERATIONAL PROCEDURES.



WARNING: FOLLOW THE PRE-OPERATIVE CHECKLIST IN THE FRONT OF THIS MANUAL BEFORE OPERATING.

1. Thoroughly read the associated hydraulic equipment instruction manuals for complete safety, operating and maintenance information before operating.
2. Obey all the safety labels provided on your hydraulic tool and Flexco power pack. These labels warn you of potential hazards that can cause death or serious injury. If a label comes off or becomes hard to read, contact Flexco for replacement information.
3. Construction area is to be kept clear of unauthorized personnel. Place barricades or secure the area in such a manner that no personnel can be injured.
4. Position the Flexco power pack to minimize the amount of construction debris and dust it receives.

Checking the Hydraulic System

1. Check hydraulic reservoir as follows.
 - a. Fluid level should be one inch from the top of tank.
2. Before making any hydraulic connections, inspect all hydraulic lines, couplings and hoses for leaks and risks of rupture as follows:



WARNING: LIQUID UNDER HIGH PRESSURE CAN PIERCE THE SKIN, CAUSING DEATH OR SERIOUS INJURY. IN CASE OF INJURY, GET IMMEDIATE MEDICAL ATTENTION.

- a. Inspect each hydraulic line, couplings, and hose for breaks, cracks, worn spots, bulges, chemical attack, kinks or any other damage. Never try to stop any detected leak with any body parts. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic oil.
- b. Replace a damaged line, fitting or hose immediately. Never repair the part.

Operational Instructions

3. The Flexco power pack uses ISO 16028 flat-face quick-release couplings that are durable and easy to clean. Wipe the mating surfaces of the couplings with a clean rag prior to making connection. They are always fitted such that the male nipple gives oil and the female coupler receives oil.



WARNING: INSURE HYDRAULIC HOSES ARE PROPERLY CONNECTED AND IN GOOD CONDITION.

- a. Connect the **low pressure return hose** (½" ID) to the Flexco power pack:
 - Connect the male nipple (hose) to the female coupler at the power pack.
 - Connect the female coupler (hose) to the male nipple at the hydraulic tool.
- b. Then connect the **high pressure hose** (¾" ID) to the Flexco power pack:
 - Connect the male nipple (hose) to the female coupler at the power pack.
 - Connect the female coupler (hose) to the male nipple at the hydraulic tool.
- c. When making connections, do not over stretch the hoses or bend them at a sharp angle.
- d. To prevent unwanted disconnection, turn the female coupler locking collar about quarter turn to lock the connection.
- e. To disconnect the hose, turn the female coupler locking collar and align the half circle machined groove to the safety ball on the coupler body. Then pull the locking collar to release the connection.

Starting And Operating The Flexco power pack



CAUTION: DO NOT OPERATE THE FLEXCO POWER PACK WITH THE TOOL DISCONNECTED.

1. Start the motor by turning electric supply and/or motor starter to “on” position.
2. Insure ON/OFF flow valve is at “on” position.



WARNING: WHEN OPERATING THE FLEXCO POWER PACK, OBSERVE ALL SAFETY PRECAUTIONS DESCRIBED IN THE FLEXCO POWER PACK AND HYDRAULIC TOOL INSTRUCTION MANUALS. FAILURE TO COMPLY COULD RESULT IN DEATH, SERIOUS INJURY AND/OR EQUIPMENT DAMAGE.

3. DO NOT attempt to make any equipment adjustments during operation.

Stopping The Power Pack

At the end of operation, secure the equipment to prevent unauthorized use. Never assume you will find the equipment in the same condition that you left it. Proceed as follows:

1. Turn off the motor by turning electric supply and/or motor starter to “off” position.

Inspections And Maintenance

General Maintenance Rules

Proper maintenance of the Flexco power pack and related hydraulic equipment consists of adhering to all the guidelines given in this chapter and in the Pre-Operative Checklist in the front of this manual. Proper maintenance is required to maintain the system in good condition, which is defined as each part being free of damage or functional defects.



WARNING: SHUT DOWN THE FLEXCO POWER PACK BEFORE DOING ANY MAINTENANCE OR REPAIRS.



WARNING: DO NOT ADJUST OR REMOVE HYDRAULIC COMPONENTS, LINES, OR COUPLINGS WHILE THE FLEXCO POWER PACK IS RUNNING OR WHENEVER THE HYDRAULIC FLUID IS HOT.



WARNING: LIQUID UNDER HIGH PRESSURE CAN PIERCE THE SKIN, CAUSING DEATH OR SERIOUS INJURY. IN CASE OF INJURY, GET IMMEDIATE MEDICAL ATTENTION.

1. Review and follow all the safety rules given in the General Safety Rules section before attempting any maintenance.
2. Only authorized personnel should be allowed in the maintenance area. Authorized personnel are the trained people as defined below.
3. Repairs must be made only by trained personnel. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding safe operational procedures.
4. All authorized maintenance personnel must wear the appropriate personal protective equipment as defined by their employer.

Hydraulic System Inspection And Maintenance

1. Check to see that the hydraulic fluid is clean, and change the oil and filter at recommended intervals to extend the life of the Flexco power pack. Refer to the maintenance schedule.
2. Clean debris from heat exchanger daily.
3. Before making any hydraulic connections, inspect all hydraulic lines, couplings and hoses for leaks and risks of rupture as follows:
 - a. Inspect each hydraulic line, fitting, and hose for breaks, cracks, worn spots, bulges, chemical attack, kinks or any other damage. Never try to stop any detected leak with any body parts. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic oil.
 - b. Replace a damaged line, coupling or hose immediately. Never repair the part.
4. The Flexco power pack uses flush-face quick-release couplings that are durable and easy to clean. Wipe the mating surfaces of the couplings with a clean rag prior to making connection. They are always fitted such that the male coupling gives oil.

Inspections And Maintenance

Electrical Inspection And Maintenance

The electrical system requires the following visual inspections before each use of the Flexco power pack:

1. Fuses must be secured in their holders.
2. All terminal connections must be intact.
3. Insure the fan blade is clean and free to rotate.

Maintenance Schedule

The following table summarizes the type and frequency of maintenance required. Follow the manufacturer's instructions for proper lubrication and detailed maintenance. For repairs, contact the nearest authorized dealer.

| TYPE OF MAINTENANCE | SERVICE FREQUENCY |
|--|-------------------|
| Check and clean obstructions from motor fan air intake | Daily |
| Check and clean obstructions from heat exchanger | Daily |
| Check that reservoir oil level is within one inch below filler cap—add if required | Daily |
| Check that hydraulic oil is clean | Daily |
| Check and clean obstructions from motor cooling fins and external surfaces | 100 hrs. |
| Replace reservoir filter and oil | 250 hrs. |
| Clean suction screen in reservoir | 250 hrs. |
| Check motor coupling | 250 hrs. |
| Grease wheel bearings | 500 hrs. |

Trouble Shooting

The following chart is intended to assist with troubleshooting the Flexco power pack. While not all inclusive, the chart outlines the most common causes of a problem and the recommended course of action. The troubleshooting guide for the associated hydraulic tool is in the manual specifically for that equipment.



CAUTION: IF THE PROBLEM WITH THE MOTOR IS NOT CERTAIN, ALWAYS FOLLOW THE MANUFACTURER'S WARRANTY POLICY BEFORE ANY OTHER REPAIR OR MAINTENANCE IS ATTEMPTED.

| Symptom | Cause and Corrective Action |
|---|--|
| Flexco power pack won't operate Flexco hydraulic tool—motor operating normally. | <p>Low fluid level in reservoir—fill to required level.</p> <p>No hydraulic oil pressure caused by:</p> <ul style="list-style-type: none">a. On/Off Flow Valve—if the valve is off, there can be no pressure.b. Flexco power pack pressure relief setting is too low for the hydraulic tool being used—check hydraulic tool requirement. <p>No hydraulic oil flow caused by:</p> <ul style="list-style-type: none">a. Power pack has been turned off—turn to "ON" position.b. Hose is disconnected—check hose connections.c. Coupling key sheared—inspect and replace.d. Damaged pump—inspect and replace. <p>Flow restriction caused by:</p> <ul style="list-style-type: none">a. Kinked or damaged hoseb. Poor connection in either a hose or steel line. <p>Coupling between motor and pump damaged—replace the following items as required:</p> <ul style="list-style-type: none">a. Coupling spider worn outb. Pump or motor key sheared. <p>Improper motor wiring.</p> <p>Pump or motor defective—contact the nearest authorized service center.</p> |
| Flexco power pack is operating hydraulic tool slowly or erratically—motor operating normally. | <p>Low fluid level in reservoir—fill to required level.</p> <p>One or more of the following flow restrictions:</p> <ul style="list-style-type: none">a. Hose kinked or damagedb. System filter clogged—fluid going through bypass.c. Suction filter clogged—fluid going through bypass.d. Heat exchanger clogged. <p>Erratic pressure caused by:</p> <ul style="list-style-type: none">a. Contamination in fluid—drain fluid then inspect and replace filters and fluid.b. Air in fluid—inspect for oil leaks and repair to correct. |

Trouble Shooting

| Symptom | Cause and Corrective Action |
|---|--|
| Flexco power pack is operating hydraulic tool slowly or erratically—motor operating normally (continued). | <p>Oil viscosity too heavy for cold climate—contact your local supplier or Flexco for information.</p> <p>Pump or motor damaged or worn—contact your nearest authorized service center.</p> <p>System relief valve malfunctioning:</p> <ul style="list-style-type: none">a. Stuck partially open <p>Flexco power pack pressure relief setting is too low for the hydraulic tool being used—check tool pressure requirement.</p> <p>Extension hoses too long:</p> <ul style="list-style-type: none">a. Hoses over 10 meters long add sufficient friction to the hydraulic system to slow down the hydraulic tool slightly.b. Where possible, use as few quick disconnects as possible.c. An increase in system pressure may be required to compensate for long hose runs. Consult your local supplier or Flexco for information. <p>Hydraulic oil flow too low—factory set at 23L/m</p> |
| System overheats—motor operating normally. | <p>Low fluid level in reservoir—fill to required level.</p> <p>Air in fluid—inspect for oil leaks and repair to correct.</p> <p>Severe operating conditions caused by:</p> <ul style="list-style-type: none">a. Extremely high ambient temperature—use a higher viscosity hydraulic oil. Consult your local supplier or Flexco for details.b. Extended duty cycle—operate Flexco power pack intermittently to provide sufficient cooling periods. <p>Heat exchanger not functioning efficiently because:</p> <ul style="list-style-type: none">a. Air intake or internal parts of heat exchanger clogged/dirty—clear debris as required. |
| Oil is foaming. | <p>Low fluid level in reservoir—fill to required level.</p> <p>Water in oil.</p> <p>Pump shaft seal worn out causing air to be drawn into pump.</p> <p>Air leak in suction line.</p> <p>Improper type of hydraulic oil—as an original equipment manufacturer, Flexco power pack is equipped with MA approved #46 hydraulic oil, consult your local supplier or Flexco for details.</p> |
| Motor does not start. | <p>Power turn off</p> <p>Defective motor</p> <p>Electrical wire is disconnected</p> |

Visit www.flexco.com for other Flexco locations and products, or to find an authorized distributor.

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