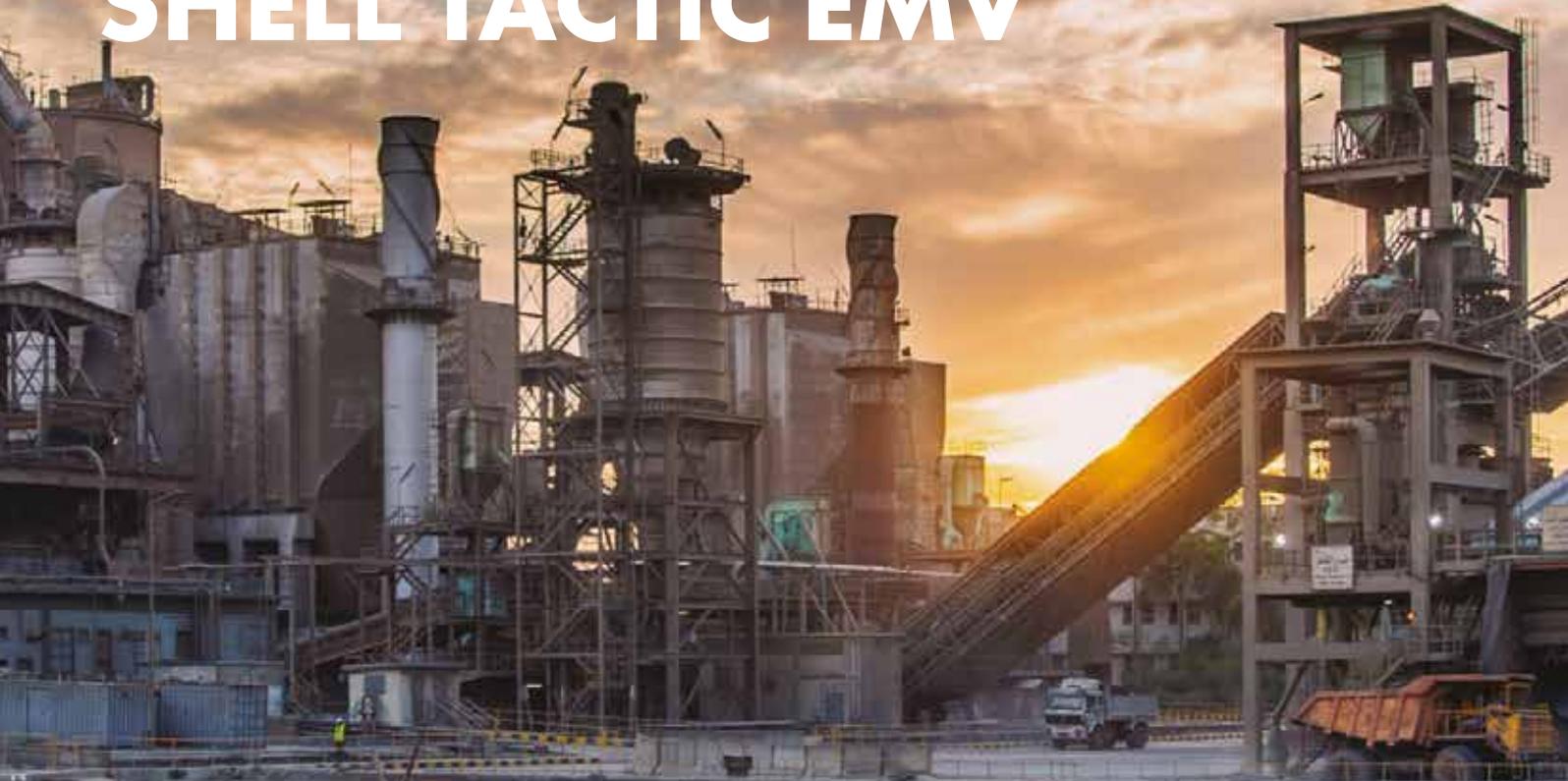




# A TECHNICAL GUIDE TO SHELL TACTIC EMV



**SHELL**  
LUBRICANT  
SOLUTIONS



# CONTENTS

Introduction	3
Benefits of optimised relubrication intervals	4
Contamination prevention strategies	5
Workplace safety and efficiency gains	7
Product overview	8
Dispensing rates and inspection protocols	9
Remote mounting systems	10
Remote installation guidelines	11
Installation kits – Beam and cage mounts	12
Electric motor lubrication solutions	14
Pump lubrication solutions	15
Conveyor pulley lubrication solutions	16
Fan lubrication solutions	17
Inspection guidelines	18
Servicing guidelines	19
Contact us	20

The information provided in this guide is of a general nature only. Potential Shell Tactic EMV lubricator users should seek advice tailored to their particular circumstances from their Shell representative. Shell Lubricant Solutions is not liable for any costs, losses or damages, whether direct or indirect, arising from any reliance upon this document.

# AN INTRODUCTION TO **SHELL TACTIC EMV LUBRICATION SOLUTIONS**

**At Shell, we understand the importance of preventive maintenance programmes for helping successful businesses to reduce operational costs and downtime.**

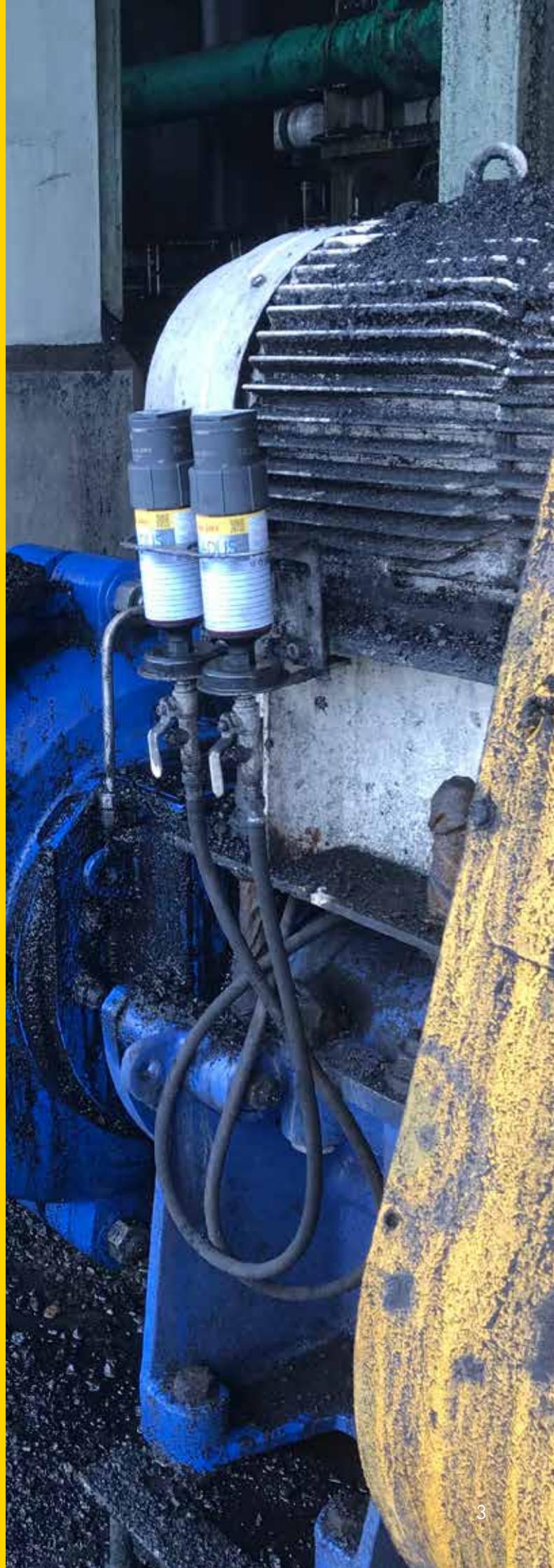
Shell Tactic EMV automated lubrication systems are designed to provide enhanced equipment protection and, thereby, extend bearing service life and deliver excellent reliability compared with manually lubricated bearings.

As industrial production grows in response to increased demand, a reliable supply of clean lubricant becomes more critical for optimal bearing service. Insufficient lubrication may result in premature bearing failure leading to increased maintenance costs and lost production time.

Shell Tactic EMV lubrication solutions are designed to provide enhanced protection and reliability for critical components, especially where frequent manual maintenance is impractical.

However, automatic lubrication systems alone do not provide a complete solution. Shell Tactic EMV systems must be combined with straightforward implementation methods and realistic management plans to help establish practical and sustainable solutions.

This technical guide has been written to help Shell Tactic EMV lubricator users to develop robust and practical lubrication programmes.



# BENEFITS OF OPTIMISED RELUBRICATION INTERVALS

The optimal method of delivering grease to rolling-element bearings is generally the addition of small grease volumes at appropriate intervals. This can be more easily and reliably achieved using automated delivery systems than manually.

Bearings operating in harsh environments demand continuous lubrication. Under such conditions, manual lubrication becomes labour intensive and often impractical or uneconomic.

When manual lubrication programmes fail to provide regular lubrication because of a lack of resources or safe equipment access, the absence of fresh grease can lead to lubrication starvation and contaminant entry, and eventually premature bearing failure.



## ADVANTAGES OF AUTOMATED LUBRICATION

The risks associated with overlubrication and lubricant starvation vary according to various factors, including the bearing size, type, speed, temperature and vibration, and the operating environment.

Automated delivery systems inject small amounts of grease at short intervals, which helps to ensure that sufficient fresh grease is consistently available for bearing lubrication and seal purging. This grease-delivery method reduces the likelihood of lubricant starvation or overlubrication while reducing maintenance workloads (Figure 1).

## HOW THE SHELL TACTIC EMV LUBRICATOR WORKS

The Shell Tactic EMV system dispenses small grease volumes at set intervals for each lubricator that can vary from 20 minutes to 18 hours 12 minutes (see page 9).

Lubricator time settings are based on factors including the bearing size, type, speed, temperature and vibration, and the operating environment. These factors, along with site-specific requirements relating to equipment access opportunities and time-based maintenance cycles, are used to establish practical programmes for the management of groups of individual lubricators.

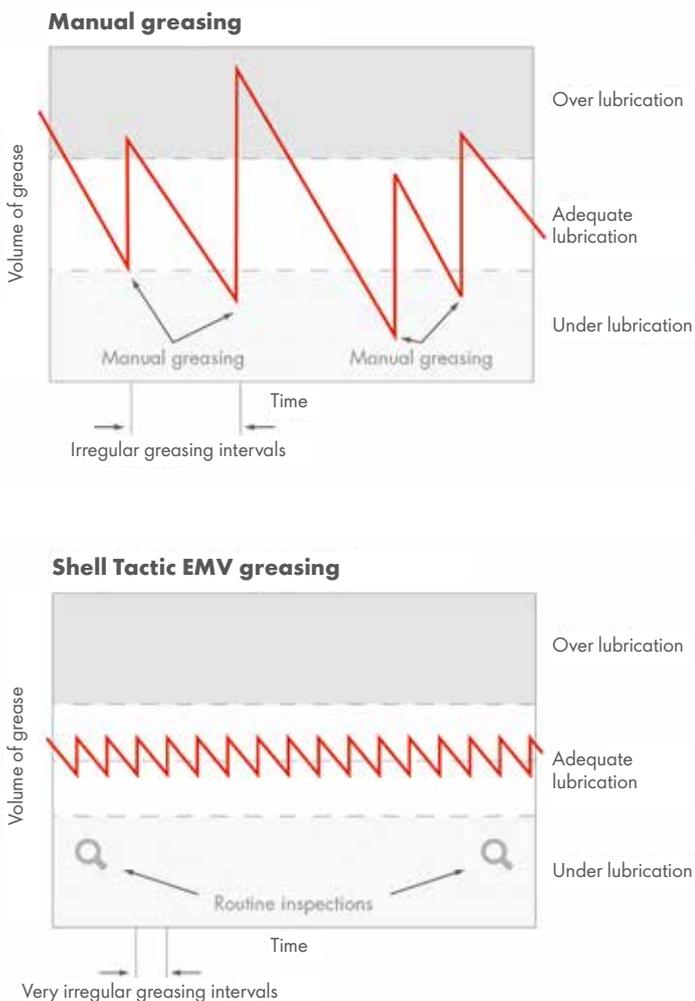


Figure 1. Manual (top) and automatic greasing (bottom) comparison.



# CONTAMINATION PREVENTION STRATEGIES

The consistent and regular purging of fresh grease through seals helps to prevent the entry of damaging contaminants.

## **Bearings operating in harsh environments are often subject to contamination by solid particulates and moisture.**

For solid contaminants, the rate of wear increases with the contaminant particle size, concentration and hardness. Smaller particles lead to abrasive wear, whereas larger particles can cause indentations in bearing raceways that can then become initiation points for fatigue wear.

Shell Tactic EMV lubrication programmes use greasing practices to help prevent the introduction of contaminants. This provides a long-term financial benefit through longer bearing service life and less downtime.

Different bearing configurations and operating environments lead to different lubrication requirements and, therefore, different Shell Tactic EMV system configurations. Three of the commonly accepted methods to help reduce the contamination of rolling element bearings with SKF Taconite Seals or labyrinth-type seals follow.

- 1.** Where the threat of contaminant entry is high and for larger bearings, the use of individual, dedicated Shell Tactic EMV lubricators for the bearing lubrication point and the seal purge point(s) is most common (Figure 2).
- 2.** For smaller bearings running at relatively low speeds, the application of a single lubricator to the bearing lubrication point only, set to dispense at an elevated rate, can provide sufficient fresh grease for bearing relubrication and seal purging.
- 3.** As an alternative strategy, manual and automated lubrication programmes can be combined by using Shell Tactic EMV lubricators to help achieve a constant purge of fresh grease through seals while maintaining periodic manual lubrication for bearing points.

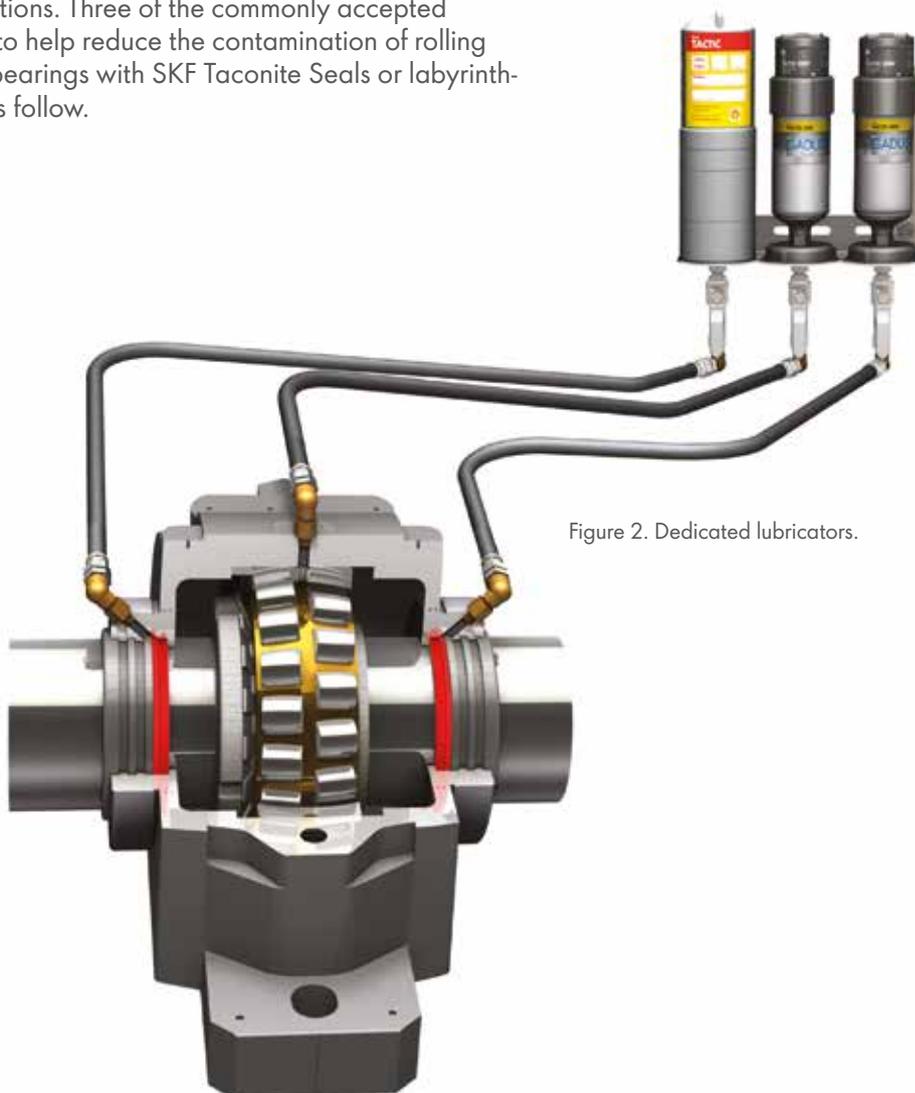


Figure 2. Dedicated lubricators.



## SEAL PURGING EXAMPLE

Automatic lubrication of SKF Taconite Seals helps to provide constant protection against contaminant ingress.

Regular lubrication at the grease entry point creates a positive purge of grease that passes through the seal and exits the bearing housing, thereby preventing contaminant entry (Figure 3).

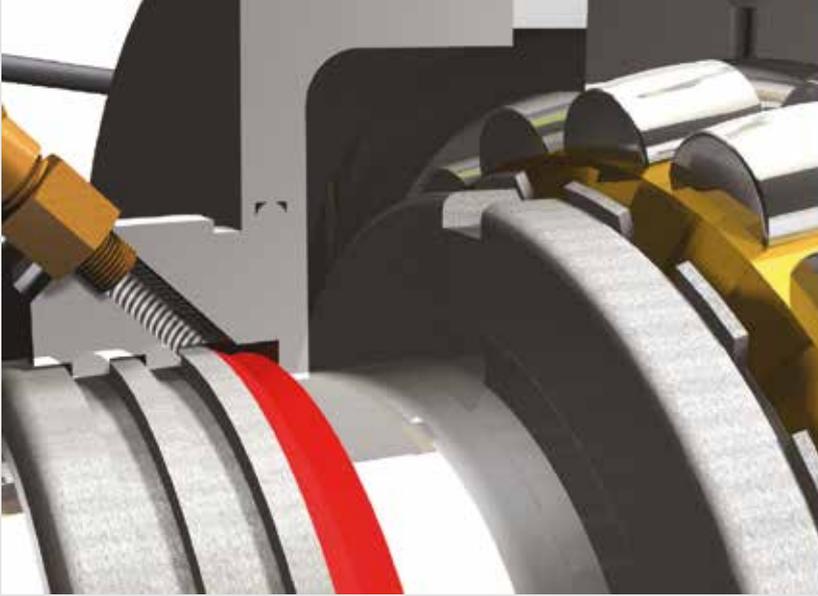


Figure 3. Grease entry point and seal purge point for a typical SKF Taconite Seal arrangement.

Figure 4 shows a successfully purged seal using a Shell Tactic EMV system. The ring of grease around the exit point of the SKF Taconite Seal provides evidence that, although the grease is exiting the bearing housing, contaminant ingress is being prevented.



Figure 4. Successfully purged seal.

# WORKPLACE SAFETY AND EFFICIENCY GAINS

Shell Tactic EMV automatic lubricators can contribute positively to workplace safety and efficiency.

Opportunities for safety improvements include the relocation of lubrication points away from operating machinery, the elimination of working at height and a general reduction in manual greasing labour.

However, it is important to note that using an automatic lubrication system does not mean that the equipment inspection frequency should be reduced. In fact, the proper use of automated systems can liberate time for preventive maintenance tasks such as routine equipment inspections, filter and breather maintenance, and oil cleanliness management.



## HERE ARE THREE WAYS TO HELP IMPROVE WORKPLACE SAFETY AND SAVE TIME.

MAINTENANCE CHALLENGE	SOLUTION	BENEFIT
<p><b>1.</b> Lubrication points behind safety cages or guards</p>	<p>Remote mounting of Shell Tactic EMV lubricators at safe access locations makes inspection and servicing possible while equipment is operating.</p> <p>This removes the reliance on valuable maintenance shutdown intervals.</p>	<ul style="list-style-type: none"> <li>■ Time saved by                             <ul style="list-style-type: none"> <li>■ servicing lubricators while equipment is operating, not during shutdowns</li> <li>■ not having to complete isolations to access lubricators</li> <li>■ eliminating the need to remove and reinstate cages and guards</li> </ul> </li> <li>■ Safety improvements through eliminating                             <ul style="list-style-type: none"> <li>■ the work required to remove guards and cages</li> <li>■ manual handling of cages and guards</li> </ul> </li> </ul>
<p><b>2.</b> Access to lubrication points located at heights or in confined spaces</p>	<p>Shell Tactic EMV systems lubricate points that would otherwise demand frequent working at height or confined-space entry.</p>	<ul style="list-style-type: none"> <li>■ Time saved by reducing the need to gain working-at-height permission and confined-space permits and access</li> <li>■ Reduced requirement for equipment such as elevated work platforms</li> <li>■ Less demand on personnel and equipment associated with confined-space entry</li> <li>■ Fewer risks associated with working at height and in confined spaces.</li> </ul>
<p><b>3.</b> Minimising repetitive manual tasks</p>	<p>Converting from manual to automated grease delivery using Shell Tactic EMV lubricators helps to minimise the highly repetitious use of manual grease guns.</p>	<ul style="list-style-type: none"> <li>■ Time savings through no need for manually applied strokes with a grease gun</li> <li>■ Improved safety from reduced manual workloads and physical demands</li> </ul>

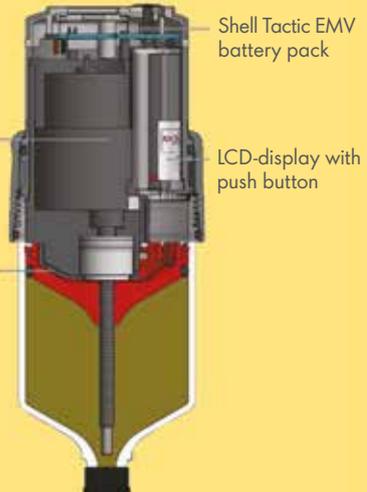
# PRODUCT OVERVIEW

GENERAL SPECIFICATION AND GREASE TYPES		
Available products	Shell Tactic EMV drive unit (for all greases and canister sizes) Shell Tactic EMV Gadus S5 T460 1.5 Shell Tactic EMV Gadus S5 V100 2 Shell Tactic EMV Gadus S3 V220C 2 Shell Gadus S5 V460 2 Shell Gadus S5 V460 1.5	Shell Gadus S5 V220 2 Shell Gadus S3 V460D 2 Shell Gadus S3 V550L 1 Shell Gadus S3 V220C 1 Shell Gadus S3 T100 2 Shell SRS 2000 Extreme
Available canister sizes	Depending on the grease, canisters may be available in 120- or 250-cm <sup>3</sup> sizes. The most popular size for electric motors is 120 cm <sup>3</sup> ; for other applications it is 250 cm <sup>3</sup> .	
Drive units	Lubricant canisters and battery packs are compatible with the first-, second- and third-generation Shell Tactic EMV drive units.	
Packaging	Products come in boxes of 10 units.	
Time settings	1, 2, 3, ... through to 12 months in monthly increments. 1, 2, 3,... through to 26 weeks in weekly increments.	
Dispensing rates	From 0.3 to 35.7 cm <sup>3</sup> /d, depending on the time setting and the canister size	
Pressure output	7.5 bar (108 psi)	
Operating temperature	-40°C to 60°C* average ambient temperature for the unit drive. Mounting remotely from the application can be used to reduce the ambient temperature. The dispensing rate is not affected by temperature.	
Remote installation	Up to 5 m** of grease line with a 10-mm internal diameter	
Product dimensions	<b>Single units</b> <ul style="list-style-type: none"> <li>■ Drive unit: diameter (including cover) 75 mm; length 102 mm</li> <li>■ 120-cm<sup>3</sup> canister: diameter 66 mm; length 106.8 mm</li> <li>■ 250-cm<sup>3</sup> canister: diameter 66 mm; length 156.8 mm</li> </ul> <b>Mounted units</b> <ul style="list-style-type: none"> <li>■ Drive unit + 120-cm<sup>3</sup> canister: diameter 75 mm; length 178 mm</li> <li>■ Drive unit + 250-cm<sup>3</sup> canister: diameter 75 mm; length 228 mm</li> </ul>	
Accessories and thread type	All canisters have a ¼-in. BSP male (M) thread. All Shell Tactic EMV drive units come with a support flange and a wet cap as standard. All canisters include a new set of batteries as standard.***	

\*A lithium battery pack is required when operating at temperatures below -20°C

\*\*Factors such as low ambient temperatures or difficult-to-pump grease types may restrict the maximum recommended grease line to less than 5 m.

\*\*\*Customers need to request lithium batteries, otherwise canisters come with alkaline batteries as standard.

COMPONENTS AND CONSTRUCTION		
		<p><b>REUSABLE PARTS</b></p> <p>The Shell Tactic EMV drive system and push-on protection cap are reusable. The system automatically performs a self-test when each new battery set is inserted. The drive should also be inspected for physical damage before each new grease canister is used.</p>
		<p><b>SINGLE-USE PARTS</b></p> <p>Shell Tactic EMV grease canisters are factory filled in a controlled environment to help avoid the inclusion of contaminants. A new battery set is supplied with each grease canister and should be exchanged when a fresh grease canister is applied.</p>



# DISPENSING RATES AND INSPECTION PROTOCOLS

Weekly and monthly increments can be set for Shell Tactic EMV lubricators (Tables 1 and 2) so that they can be adapted to the service scheduling requirements of most operations without compromising on lubricant dispensing rates.

The Shell Tactic EMV drive system combines an LCD screen and lights to communicate its operational status to maintenance personnel (Table 3). A flashing red light means that a lubricator requires attention.

SETTING, MONTHS	1	2	3	4	5	6	7	8	9	10	11	12
250-cm <sup>3</sup> canister, cm <sup>3</sup> /d	8.3	4.2	2.8	2.1	1.7	1.4	1.2	1.0	0.93	0.83	0.76	0.69
120-cm <sup>3</sup> canister, cm <sup>3</sup> /d	4.0	2.0	1.3	1.0	0.8	0.67	0.57	0.5	0.44	0.4	0.36	0.33
Time between cycles, hrs:mins	1:30	3:00	4:36	6:06	7:36	9:06	10:36	12:12	13:42	15:12	16:42	18:12



0.26 cm<sup>3</sup>/cycle    0.53 cm<sup>3</sup>/cycle

Table 1. Dispensing settings, rates and intervals (months).

SETTING, WEEKS		1	2	3	4	5	6	7	8	9	10	11	12	13
250-cm <sup>3</sup> canister	cm <sup>3</sup> /d	35.7	17.9	11.91	8.93	7.14	5.95	5.10	4.46	3.97	3.57	3.25	2.98	2.75
	Time between cycles, hrs:mins	0:20	0:40	1:00	1:20	1:40	2:00	2:21	2:41	3:01	3:21	3:41	4:01	4:22
120-cm <sup>3</sup> canister	cm <sup>3</sup> /d	17.1	8.57	5.71	4.29	3.43	2.86	2.45	2.14	1.90	1.71	1.56	1.43	1.32
	Time between cycles, hrs:mins	0:21	0:42	1:03	1:24	1:45	2:06	2:27	2:48	3:09	3:30	3:51	4:12	4:33
SETTING, WEEKS		14	15	16	17	18	19	20	21	22	23	24	25	26
250-cm <sup>3</sup> canister	cm <sup>3</sup> /d	2.55	2.38	2.23	2.10	1.98	1.88	1.79	1.70	1.62	1.55	1.49	1.43	1.37
	Time between cycles, hrs:mins	4:42	5:02	5:22	5:42	6:02	6:23	6:43	7:03	7:23	7:43	8:03	8:24	8:44
120-cm <sup>3</sup> canister	cm <sup>3</sup> /d	1.22	1.14	1.07	1.01	0.95	0.9	0.86	0.82	0.78	0.75	0.71	0.69	0.66
	Time between cycles, hrs:mins	4:54	5:15	5:36	5:57	6:18	6:39	7:00	7:21	7:42	8:03	8:24	8:45	9:06

Table 2. Dispensing settings, rates and intervals (weeks).

STATUS	SCREEN	LIGHTS	ACTION
<b>Dwell</b> Lubricator is between dispensing cycles	Shows <b>TIME</b> and <b>VOLUME</b> settings	Single <b>GREEN</b> flash every 7 seconds	Inspect lubricator. Mark and date the position of the piston to confirm inspection.
<b>Run</b> Lubricator is dispensing grease		Single <b>GREEN</b> flash every second	Inspect lubricator. Mark and date the position of the piston to confirm inspection.
<b>Purge</b> Grease is being dispensed			The purge feature has been activated by holding the SET button for 10 seconds. Approximately 6 cm <sup>3</sup> of grease will be dispensed unless interrupted by pressing the SET button once.
<b>Canister empty</b> Canister expected to be empty		Double <b>RED</b> flash every 2 seconds	Service the lubricator using a new canister and battery set.
<b>Overload</b> Excessive resistance to grease flow		Double <b>RED</b> flash every 7 seconds	Manually purge the point to clear the blockage. Investigate possible causes and rectify. Then restart the lubricator by turning it off and then on. If OL status recurs, seek technical support.
<b>Low battery</b> Battery set is damaged or depleted		Double <b>RED</b> flash every 2 seconds	Replace battery set.

Table 3. Quick reference to screen and light combinations.

# REMOTE MOUNTING SYSTEMS: SIMPLE TO INSTALL USING BASIC HAND TOOLS

## A FULL-LENGTH PROTECTION COVERS

Covers to help protect lubricators from solid and liquid contaminants

## D STAINLESS STEEL BRACKET

The example shown here is the heavy-duty C-section bracket design that provides extra protection to lubricators.

## E STAINLESS STEEL BEAM CLAMPS

Simple to use beam clamps. Supplied with case-hardened cup head set screws and stainless-steel assembly screws

## F SUPPORT FLANGES AND COVER CLIPS

Support flanges provide robust support against damage from impacts or vibration. Cover clips improve contamination control and retain full-length covers.

## G HEAVY-DUTY HOSE

Supplied with a  $\frac{3}{8}$ -in. internal diameter and easy-to-use push-lock-type swivel hose ends

## B MANUAL PURGE POINT

Used for convenient addition of supplementary grease, line purging and grease blockage clearing

## C ELBOWS

Elbow fittings are full bore with  $\frac{1}{4}$ -in. BSP threads



## BASIC TOOL REQUIREMENTS

The following basic hand tools are the recommended minimum tool set for installing Shell Tactic EMV mounting systems (power tools are not required):

- $\frac{5}{16}$ -in. T-handle hex (Allen) key
- 150- and 200-mm shifting spanners
- High-strength thread locking and sealing compound
- Grease gun and grease for line purging
- Hose cutters (open blades are **not** recommended)
- Permanent marker

For large installation projects, additional, specific tools can improve installation efficiency. Contact Shell Lubricant Solutions for further advice.



# REMOTE INSTALLATION GUIDELINES



For maximum pressure to the lubrication point, direct mounting is preferred. However, this is not practical in all circumstances. In many cases, remote mounting provides safe and convenient access or prevents lubricator damage. Remote installation is recommended under the following circumstances:

1. to prevent protective guards or safety cages from having to be removed to allow access
2. where it is difficult or unsafe to access the lubrication point while the equipment is running
3. when the bearing is subject to high vibration or temperature that may damage the lubricator
4. when the lubrication point is exposed to excessive amounts of water or impact from solid materials.

When remote installation of the Shell Tactic EMV is planned, the following guidelines should be followed:

- Identify a safe point of access to mount the stainless-steel bracket.
- Use a grease line with a  $\frac{3}{8}$ -in. internal diameter.
- Restrict the grease line length to 5 m.\*
- Use only full-bore hose ends and elbow fittings (Figure 5).
- Route the grease line under or around cages, not through them.
- Prime the grease lines and fittings with grease and pre-grease the bearing.
- Test the grease delivery path to ensure that bearing and seal points can receive grease freely.\*\*
- Protect lubricators with full-length covers to suit the operating environment.
- Include manual purge points.
- Protect the grease lines from damage using spiral wrap.



Figure 5. Use full-bore hose ends and elbow fittings.

\* Factors such as low ambient temperatures or difficult to pump grease types may restrict the maximum recommended grease line to less than 5 m.

\*\* Use a grease gun. Do not use a powered grease gun because it will not be possible to detect any high back-pressure.

# INSTALLATION KITS – BEAM AND CAGE MOUNTS

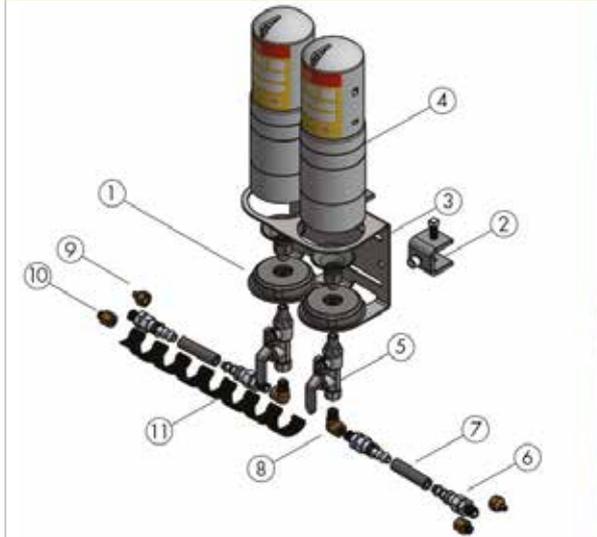
A range of installation kits is available to facilitate high-quality remote installation of Shell Tactic EMV lubricators. The most common installation kits use stainless-steel beam clamps and cage hangers to attach them to beam sections and square-mesh safety cages respectively.

## HEAVY-DUTY BEAM CLAMP MOUNT INSTALLATION KITS

Heavy-duty beam clamp mount installation kits are available in one- or two-point configurations and are used where heavy-duty protection systems are to be mounted to beam sections. Figure 6 shows the typical bill of materials for the two-point version.



### EXAMPLE INSTALLATION KIT CONTENTS



#### BILL OF MATERIALS

1. 1 × two-point C-section stainless-steel bracket
2. 2 × 65-mm stainless-steel beam clamp
3. 2 × support flange 1/4-in. BSP
4. 2 × full-length cover 250 mm long
5. 2 × manual purge kit
6. 4 × push-lock hose tails 1/4-in. BSP M
7. 4-m long, 3/8-in. internal diameter grease line
8. 2 × 90° brass elbows, 1/4-in. BSP
9. 2 × reducer, 1/4-in. BSP F to 1/8-in. BSP M
10. 2 × adaptor, 1/4-in. BSP F to 1/4-in. BSP M
11. 0.5 m of spiral wrap

Figure 6. Example of a beam-mount installation kit bill of materials.



## HEAVY-DUTY CAGE MOUNT INSTALLATION KITS

Heavy-duty cage mount installation kits are available in one- or two-point configurations. They are used where a heavy-duty protection system is required to be hung on safety cages with square cage mesh down to a  $25 \times 25$  mm mesh size. Figure 7 shows the typical bill of materials for the two-point version.

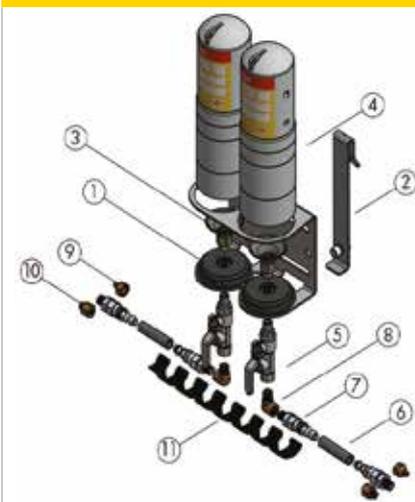
800007049



800007070



### EXAMPLE INSTALLATION KIT CONTENTS



#### BILL OF MATERIALS

1. 1 × two-point C-section stainless steel bracket
2. 2 × cage hanger arms
3. 2 × support flange 1/4-in. BSP
4. 2 × full-length cover, 250 mm long
5. 2 × manual purge kit
6. 4-m-long, 3/8-in. internal diameter grease line
7. 4 × push-lock hose tails 1/4-in. BSP M
8. 2 × 90° brass elbows, 1/4-in. BSP
9. 2 × reducer, 1/4-in. BSP F to 1/8-in. BSP M
10. 2 × adaptor 1/4-in. BSP F to 1/4-in. BSP M
11. 0.5 m of spiral wrap

Figure 7. Example of a cage-mount installation kit bill of materials.



# ELECTRIC MOTOR LUBRICATION SOLUTIONS

For electric motor lubrication, the following factors are generally relevant to the development of the lubrication solution.

## LUBRICATION ASSESSMENT CRITERIA

- Motor manufacturer's recommendations
- Motor speed
- Grease trap/escape port design, access and condition
- Operating conditions
- Lubricant characteristics
- Bearing types
- Safe access requirements
- Desired lubricator service schedule
- Duty cycle
- Motor orientation (vertical or horizontal)

## INSTALLATION EXAMPLES

APPLICATION: **Electric motor**  
LUBRICATOR: **Shell Tactic EMV 250 cm<sup>3</sup>**  
INSTALLATION KIT: **800007048**



APPLICATION: **Electric motor**  
LUBRICATOR: **Shell Tactic EMV 120 cm<sup>3</sup>**  
INSTALLATION KIT: **800007048**



APPLICATION: **Electric motor**  
LUBRICATOR: **Shell Tactic EMV 250 cm<sup>3</sup>**  
INSTALLATION KIT: **Direct**





# PUMP LUBRICATION SOLUTIONS

For pump lubrication, the following factors are generally relevant to the development of the lubrication solution.

## LUBRICATION ASSESSMENT CRITERIA

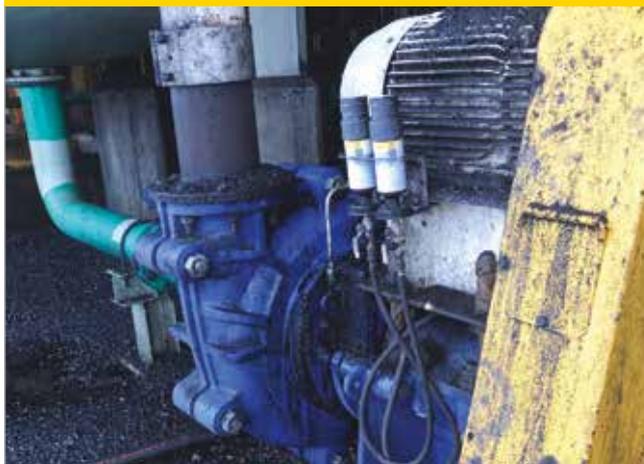
- Pump manufacturer's recommendations
- Seal types
- Washdown procedures
- Operating conditions
- Lubricant characteristics
- Bearing types and grease entry points
- Safe access requirements
- Desired lubricator service schedule
- Duty cycle
- Typical bearing operating temperatures

## INSTALLATION EXAMPLES

APPLICATION: Pump bearings  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: Direct



APPLICATION: Slurry pump labyrinth seals  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 800007048



APPLICATION: Slurry pump bearings and labyrinth seals  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 800007048



APPLICATION: Slurry pump labyrinth seals  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 800007048





# CONVEYOR PULLEY LUBRICATION SOLUTIONS

For conveyor pulley bearing lubrication, the following factors are generally relevant to the development of the Shell Tactic EMV lubrication solution.

## LUBRICATION ASSESSMENT CRITERIA

- Bearing types and speeds
- Operating conditions
- Safe access requirements
- Grease performance characteristics
- Location of grease entry points on bearing housings
- Seal types
- Desired lubricator service schedule

## INSTALLATION EXAMPLES

APPLICATION: Conveyor pulley tail bearings  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 800007048



APPLICATION: Head pulley bearing and seal  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 800007048



APPLICATION: Drive pulley bearing and seals  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 1 × 800007070 and 1 × 800007049



APPLICATION: Bend pulley bearing and seal  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 800007070





# FAN LUBRICATION SOLUTIONS

For fan bearing lubrication, the following factors are generally relevant to the development of the lubrication solution.

## LUBRICATION ASSESSMENT CRITERIA

- Bearing types and speeds
- Operating conditions
- Safe access requirements
- Grease performance characteristics
- Grease base-oil viscosity
- Location of grease entry points on bearing housings
- Seal types
- Desired lubricator service schedule
- Bearing temperatures

## INSTALLATION EXAMPLES

APPLICATION: Fan jack shaft bearings  
LUBRICATOR: Shell Tactic EMV 120 cm<sup>3</sup>  
INSTALLATION KIT: Direct



APPLICATION: Fan jack shaft bearings  
LUBRICATOR: Shell Tactic EMV 250 cm<sup>3</sup>  
INSTALLATION KIT: 2 × 800007048





# INSPECTION GUIDELINES

Planned, periodic inspection of Shell Tactic EMV automatic lubricators is strongly recommended. Inspections should be conducted by a competent person at predetermined intervals. A permanent marker should be used to date mark the lubricant piston position.



Remove the lubricator cover.



If practical, leave the lubricator in its mounted position to complete the inspection.



Confirm the lubricator's status via the LCD screen or any flashing lights. However, the screen provides immediate confirmation of status without observing the lights.



Check, mark and date the position of the piston. Compare the actual and expected piston positions.



Refit the lubricator cover.



Check the condition of the fittings and grease lines. Repair or raise work orders as required.



# SERVICING GUIDELINES

The servicing guidelines for Shell Tactic EMV lubricators are summarised below. Site-specific operating conditions and equipment access limitations may require an alternative procedure. If so, site responsible personnel should adapt these guidelines to meet the specific requirements. The key points that must not be overlooked are always to exchange the battery set when attaching a new grease canister and always to clearly record the service date on the lubricant canister.

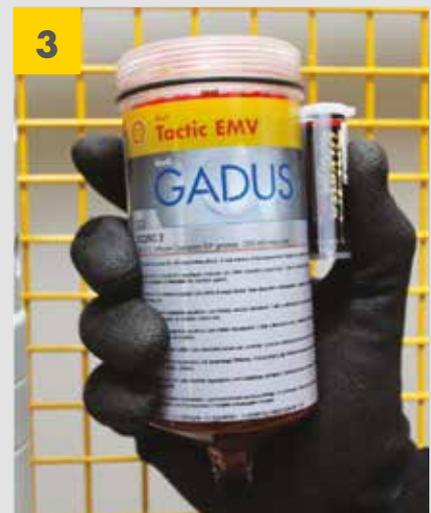
Additionally, it is important to note that replacing the battery set automatically restarts the lubricator; there is no need to turn the lubricator on and off again during servicing.



Confirm the lubricator's status by observing the display screen and grease piston level. LC on the display screen indicates the end of the service cycle.



Do not turn the lubricator off. Remove the lubricator, disassemble it and then remove the battery set using the eject trigger.



Select a new grease canister and battery set for the service. Ensure that the selected grease type is correct.



Insert the new battery set, attach the new canister and reassemble the lubricator. An automatic self-test will run.



The lubricator will start automatically. Observe the first run cycle (RU will be displayed). Then confirm that the setting is correct.



Record the installation and next service dates on the canister and remount at the lubrication point.



For more information, please contact your Shell Lubricant Solutions representative. Technical help desk 1-800-237-8645  
[www.shell.us/lubricants](http://www.shell.us/lubricants)

