

# Wire rope lubrication system

Increases wire rope life and reduces lubrication time, lubricant waste and environmental contamination



## Importance of lubrication

The use of lubricant on a steel wire rope considerably reduces friction and, as a result, it minimizes the following two related factors:

- Abrasion on the wire rope
- Heat generation
- Corrosion

Developed as a service tool, the Lincoln wire rope lubricator is attached periodically to equipment on a monthly, quarterly or other cycle to lubricate wire ropes. Lubrication intervals should be determined according to rope manufacturer specifications.

## Benefits of wire rope lubrication

The life cycle of a steel wire rope that has been periodically lubricated is approximately six to eight times longer than a wire rope that has not been lubricated.

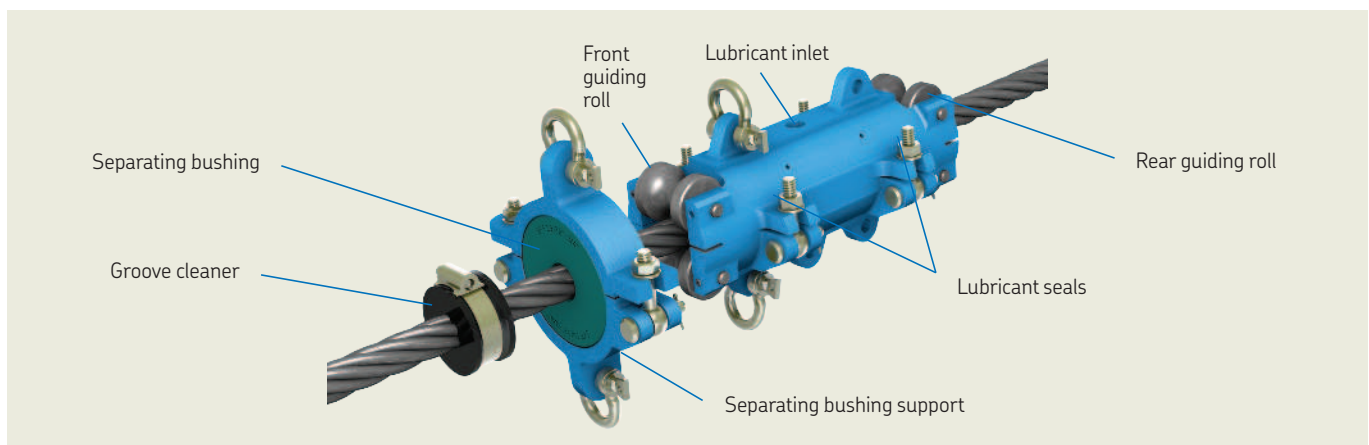
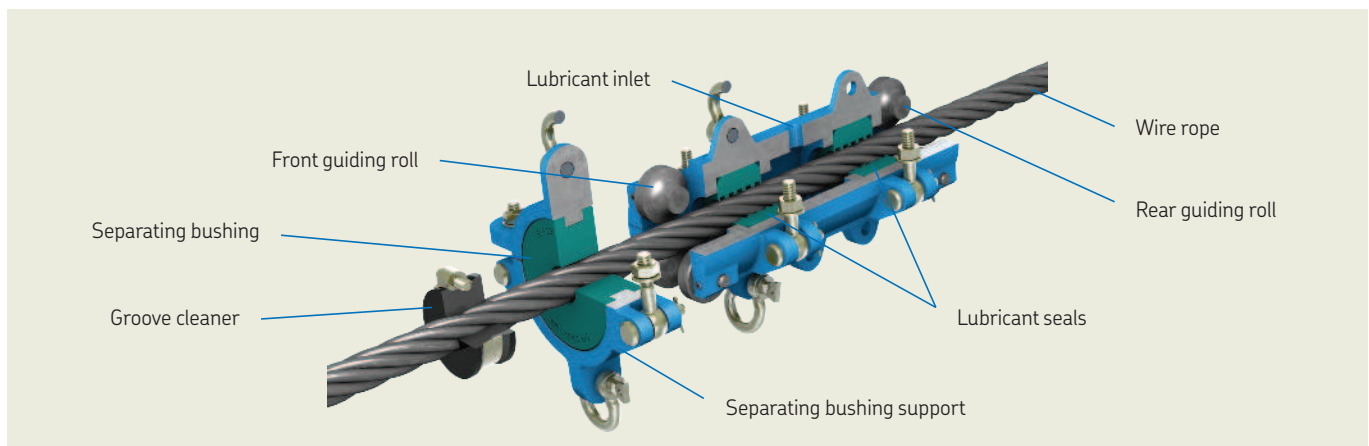
Also, lubricating a wire rope while in service helps to prevent corrosion of the wires. Corrosion can be internal and external, and it often is caused by acids, alkaline waters, salt air, humidity, fumes, and abrasive and industrial environments in general.

### Lubrication of wire rope:

- Reduces friction
- Protects against corrosion
- Enables lubricant to adhere to each wire and penetrate to the core for long-lasting protection

## Groove cleaner advantages

The groove cleaner was designed to remove dirt and used grease from wire rope before it passes through the wire rope lubricator. This process improves the penetration of new grease and enhances corrosion protection to maximize the service life of wire rope.



The Lincoln wire rope lubrication system eliminates manual lubrication and, in turn, yields improved results. This reliable tool forces lubricant into the wire rope core to reduce friction and heat generation for longer service life.

The wire rope lubrication system applies the right amount of lubricant, distributes it evenly and eliminates over-lubrication waste.

**Advantages:**

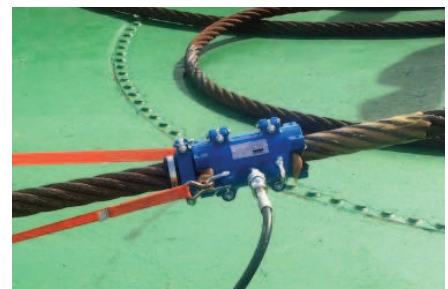
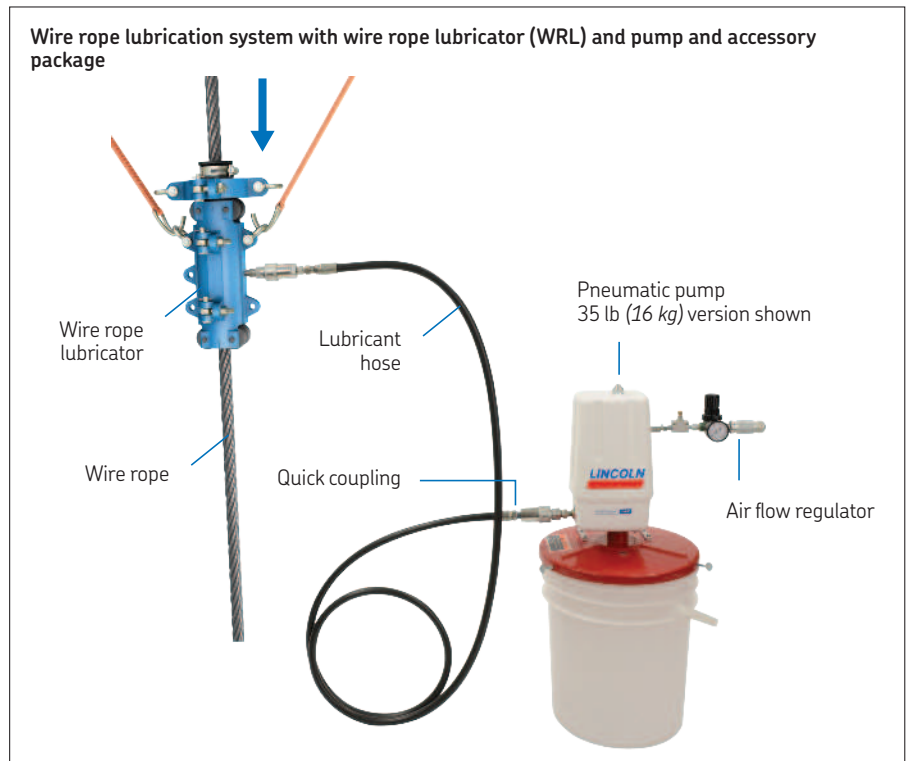
- Fast and efficient – reduces lubrication time by up to 90% vs. manual lubrication
- Increases operator safety
- Easy to use with any wire rope up to 2 in (52 mm)
- Helps to prevent corrosion
- Protects the wire ropes
- Penetrates the wire rope core
- Reduces waste and contamination
- Robust design for harsh environments

**Applications:**

- Traveling cranes
- Wharf cranes
- Ship cranes
- Deck winches
- Ship hoists
- Wire ropes for ROVs (remote-operated vehicles)
- Winding machines in open pit mining
- Mobile cranes
- Oil and gas rigs
- Chains and ropes
- Chair and ski lifts
- Elevators
- Drag ropes

**Industries**

- Marine
- Oil and gas
- Steel



*Newly installed wire rope lubricator on wire rope previously lubricated manually. Note: Even, clean penetrating distribution vs. uneven, messy coverage from previous method.*

# Typical wire rope lubrication system components

## Ordering wire rope lubrication (WRL) systems:

1 Select seal and roll kit to fit the wire rope diameter. Interchangeable kits include seals and rolls to fit wire rope diameters in their respective size ranges.

3 Select pump and accessory package to fit the required grease container size.

### Seal and roll kits

Seal and roller kit model	Nominal wire rope diameter <sup>1)</sup>				Seal model <sup>2)</sup>	nominal size	
	minimum		maximum			in	mm
	in	mm	in	mm			
For use with small lubricator 802175							
802185	0.437	11,1	0.496	12,6	802270	7/16	11,1
802188	0.500	12,7	0.559	14,2	802271	1/2	12,7
802191	0.562	14,3	0.621	15,8	802272	9/16	14,3
802194	0.624	15,9	0.683	17,4	802273	5/8	15,8
802197	0.687	17,5	0.785	19,4	802274	11/16	17,5
802200	0.749	19	0.796	20,2	802275	3/4	19
802203	0.812	20,6	0.871	22,1	802276	13/16	20,6
802206	0.874	22,2	0.933	23,7	802277	7/8	22,2
802249	0.937	23,8	0.996	25,3	802278	15/16	23,8
802209	1	25,4	1.059	26,9	802279	1	25,4
For use with large lubricator 802180							
802251	1.063	27	1.122	28,5	802280	1 1/16	27
802221	1.124	28,6	1.183	30,1	802281	1 1/8	28,6
802253	1.187	30,2	1.246	31,7	802282	1 3/16	30
802212	1.249	31,8	1.309	33,3	802283	1 1/4	31,8
802255	1.313	33,3	1.372	34,8	802284	1 5/16	33,3
802224	1.374	34,9	1.433	36,4	802285	1 3/8	34,9
802257	1.437	36,5	1.496	38	802286	1 7/16	36,5
802227	1.499	38,1	1.559	39,6	802287	1 1/2	38,1
802259	1.562	39,7	1.621	41,2	802288	1 9/16	39,7
802230	1.625	41,3	1.684	42,8	802289	1 5/8	41,3
802261	1.687	42,9	1.746	44,4	802290	1 11/16	42,9
802233	1.750	44,5	1.809	46	802291	1 3/4	44,5
802263	1.813	46	1.872	47,5	802292	1 13/16	46
802215	1.874	47,6	1.933	49,1	802293	1 7/8	47,6
802265	1.937	49,2	1.996	50,7	802294	1 15/16	49,2
802218	2	50,8	2.059	52,3	802295	2	50,8

<sup>1)</sup> See WRL installation guide, form number 801975A section J3 3A, for wire rope measuring instructions to ensure correct fit  
<sup>2)</sup> Recommended spare parts

### Pump and accessory packages

Model	Size	
	lb	kg
802238	35	16
802239	120	54
802240	400	180
European bucket size		
802330 <sup>1)</sup>	55	25
802330-E <sup>2)</sup>	55	25

Pump and accessory package includes the Lincoln series 20 50:1 grease pump, air filter, regulator, gauge, flow control, WRL sling with ratchet, grease quick disconnects and adapter fittings.  
<sup>1)</sup> Model for ordering in the US.  
<sup>2)</sup> Model for ordering in Germany.

2 Choose wire rope lubricator body or bodies to fit the seal and roll kit selection.

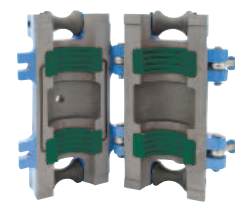
### WRL body models

Model	Description	Wire rope diameter	
		in	mm
802175	Small	7/16-1	11-26
802180	Large	1 1/8-2	28-52

### WRL body



### WRL body with seal and roll kit installed



### WRL seal and roll kit



# Groove cleaner helps extend wire rope service life

Groove cleaner



Designed to complement the Lincoln wire rope lubricator, the groove cleaner removes dirt and used grease from the rope before it passes through the lubricator. Utilizing the cleaner improves the penetration of new grease and enhances corrosion protection to extend wire rope service life.

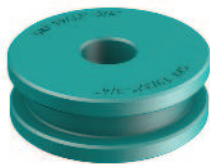
Each groove cleaner is produced individually based on rope specifications to make sure that the device profile matches accurately with the strands.

The groove cleaner unit consists of a groove cleaner device, as well as separating bushings and a separating bushing support to minimize wear. The cleaner is manufactured from thermoplastic polyurethane elastomer (TPU) for durability.

Groove cleaner and separating bushing kit



Separating bushing



Separating bushing support



## Advantages:

- Extends service life of wire rope
- Improves penetration of new grease
- Enhances corrosion protection
- Easy to install and use

Lubrigun pump



## Lubrigun air-operated piston pump

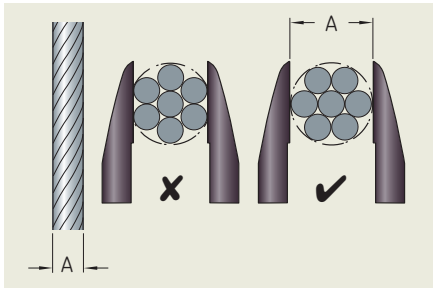
Available for all common drum sizes, the performance-proven Lubrigun pump features a powerful displacement air motor. Its light-weight, zinc head casting resists corrosion, and its double-acting design provides high pressure and uniform delivery on both up and down strokes.

### Technical data

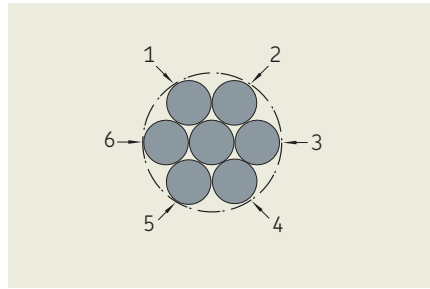
Operating temperature	-30 to +200 °F (-34 to +93 °C)
Operating pressure	7 500 psi (515 bar)
Inlet air pressure	29 to 145 psi (2 to 10 bar)
Metering quantity per cycle	0.35 in <sup>3</sup> (5,7 cm <sup>3</sup> )
Pressure ratio	50:1

# Groove cleaner and separating bushing identification codes

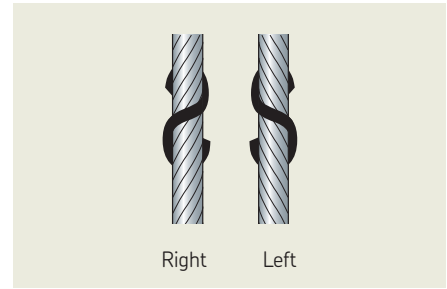
For the correct selection of a groove cleaner and separating bushing, the user must determine the accurate dimensions and type of wire. We recommend the following steps:



Measure the real diameter (A) of the wire rope with a caliper.



Identify the number of outer strands.



Determine the lay (right or left) of the wire rope strands.

4 Choose the separating bushing that fits with the nominal diameter of the wire rope.

Separating bushing						
Order no.	Code	Nominal wire rope diameter				Description
		minimum		maximum		
		in	mm	in	mm	
802332	S - 19/32" - 3/4"	19/32	15.1	3/4	19	For wire rope diameters 19/32" - 3/4"
802333	S - 3/4" - 29/32"	3/4	19.1	29/32	23	For wire rope diameters 3/4" - 29/32"
802334	S - 29/32" - 1 1/16"	29/32	23.1	1 1/16	27	For wire rope diameters 29/32" - 1 1/16"
802335	S - 1 1/16" - 1 7/32"	1 1/16	27.1	1 7/32	31	For wire rope diameters 1 1/16" - 1 7/32"
802336	S - 1 7/32" - 1 3/8"	1 7/32	31.1	1 3/8	35	For wire rope diameters 1 7/32" - 1 3/8"
802337	S - 1 3/8" - 1 17/32"	1 3/8	35.1	1 17/32	39	For wire rope diameters 1 3/8" - 1 17/32"
802338	S - 1 17/32" - 1 11/16"	1 17/32	39.1	1 11/16	43	For wire rope diameters 1 17/32" - 1 11/16"
802339	S - 1 11/16" - 1 27/32"	1 11/16	43.1	1 27/32	47	For wire rope diameters 1 11/16" - 1 27/32"
802340	S - 1 27/32" - 2"	1 27/32	47.1	2	51	For wire rope diameters 1 27/32" - 2"

5 The separating bushing is fastened by the support. This is common for all the separating bushings.

Separating bushing support						
Order no.	Code	Nominal wire rope diameter				Description
		minimum		maximum		
		in	mm	in	mm	
802341	F - 19/32" - 2"	19/32	15.1	2	50,8	For wire rope diameters 19/32" - 2" without 13 ft (4 m) ratchet sling
802342	FS - 19/32" - 2"	19/32	15.1	2	50,8	For wire rope diameters 19/32" - 2" with 13 ft (4 m) ratchet sling

6 The groove cleaner is designed and manufactured in accordance with the exact size of the wire rope. In order to request the product, the client must provide the rope specification, or send a sample. To ensure an effective cleaning, the groove cleaner must be tightened with a breeze T-bolt (included).

Groove cleaner element with breeze T-bolt clamp For rope strands with <b>left</b> lay					Groove cleaner element with breeze T-bolt clamp For rope strands with <b>right</b> lay				
Order no.	Code	Wire rope diameter		No. of rope strands	Order no.	Code	Wire rope diameter		No. of rope strands
		in	mm				in	mm	
802343	GC-16x6-L	0.63	16	6	802344	GC-16x6-R	0.63	16	6
802345	GC-16x8-L	0.63	16	8	802346	GC-16x8-R	0.63	16	8
802347	GC-18x6-L	0.71	18	6	802348	GC-18x6-R	0.71	18	6
802349	GC-18x8-L	0.71	18	8	802350	GC-18x8-R	0.71	18	8
802351	GC-20x6-L	0.79	20	6	802352	GC-20x6-R	0.79	20	6
802353	GC-20x8-L	0.79	20	8	802354	GC-20x8-R	0.79	20	8
802355	GC-22x6-L	0.86	22	6	802356	GC-22x6-R	0.86	22	6
802357	GC-22x8-L	0.86	22	8	802358	GC-22x8-R	0.86	22	8
802359	GC-24x6-L	0.94	24	6	802360	GC-24x6-R	0.94	24	6
802361	GC-24x8-L	0.94	24	8	802362	GC-24x8-R	0.94	24	8
802363	GC-26x6-L	1.02	26	6	802364	GC-26x6-R	1.02	26	6
802365	GC-26x8-L	1.02	26	8	802366	GC-26x8-R	1.02	26	8
802367	GC-28x6-L	1.10	28	6	802368	GC-28x6-R	1.10	28	6
802369	GC-28x8-L	1.10	28	8	802370	GC-28x8-R	1.10	28	8
802371	GC-30x6-L	1.18	30	6	802372	GC-30x6-R	1.18	30	6
802373	GC-30x8-L	1.18	30	8	802374	GC-30x8-R	1.18	30	8
802375	GC-32x6-L	1.26	32	6	802376	GC-32x6-R	1.26	32	6
802377	GC-32x8-L	1.26	32	8	802378	GC-32x8-R	1.26	32	8
802379	GC-34x6-L	1.34	34	6	802380	GC-34x6-R	1.34	34	6
802381	GC-34x8-L	1.34	34	8	802382	GC-34x8-R	1.34	34	8
802383	GC-36x6-L	1.41	36	6	802384	GC-36x6-R	1.41	36	6
802385	GC-36x8-L	1.41	36	8	802386	GC-36x8-R	1.41	36	8
802387	GC-38x6-L	1.49	38	6	802388	GC-38x6-R	1.49	38	6
802389	GC-38x8-L	1.49	38	8	802390	GC-38x8-R	1.49	38	8
802391	GC-40x6-L	1.57	40	6	802392	GC-40x6-R	1.57	40	6
802393	GC-40x8-L	1.57	40	8	802394	GC-40x8-R	1.57	40	8
802395	GC-42x6-L	1.65	42	6	802396	GC-42x6-R	1.65	42	6
802397	GC-42x8-L	1.65	42	8	802398	GC-42x8-R	1.65	42	8
802399	GC-44x6-L	1.73	44	6	802400	GC-44x6-R	1.73	44	6
802401	GC-44x8-L	1.73	44	8	802402	GC-44x8-R	1.73	44	8
802403	GC-46x6-L	1.81	46	6	802404	GC-46x6-R	1.81	46	6
802413	GC-46x8-L	1.81	46	8	802414	GC-46x8-R	1.81	46	8
802405	GC-48x6-L	1.89	48	6	802406	GC-48x6-R	1.89	48	6
802407	GC-48x8-L	1.89	48	8	802408	GC-48x8-R	1.89	48	8
802409	GC-50x6-L	1.97	50	6	802410	GC-50x6-R	1.97	50	6
802411	GC-50x8-L	1.97	50	8	802412	GC-50x8-R	1.97	50	8

[skf.com/WRL](http://skf.com/WRL) | [skf.com/lubrication](http://skf.com/lubrication) | [lincolnindustrial.com](http://lincolnindustrial.com)

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