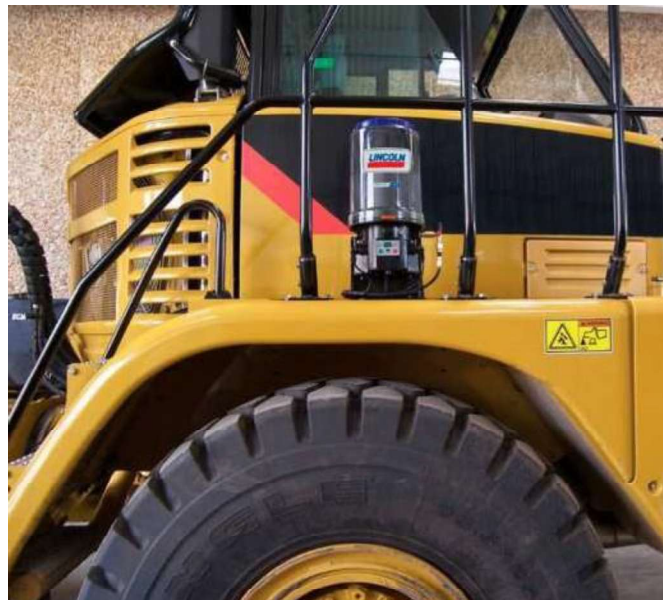


Pump unit

P 223/P 233



Description

Similar to the P 203 series, the P 223/233 pumps feature an integrated control printed circuit board (P C B) with metering device monitoring and can drive up to three pump elements. The P233 provides supplementary Datalogger function for data transfer to Quickdata 2.0 diagnostic software. Versatile, compact and economical, the P 233 pump is enhanced with low-level control, printed circuit board MDF01 / 02 with attached Datalogger module and a keypad with display.

Features and benefits

- Datalogger P 233 shows system settings and events including general data, pumping times, programming, operating times, malfunction and low-level indication
- Using Quickdata 2.0 diagnostic software, data can be read out via laptop and infrared interface

Applications

- Mobile applications
- Track tamping machines
- Stationary systems
- Vehicles and construction machines

Technical data

Function principle	electrically operated piston pump
Operating temperature	-25 to +70 °C; -13 to +158 °F
Operating pressure	350 bar; 5 075 psi
Lubricant	grease: up to NLGI 2 oil: viscosity 40-1500 mm ² /s
Outlets	up to 3
Metering quantity	depending on pump element; per outlet: 0,7-4,0 cm ³ /min; 0.042-0.24 in ³ /min
Reservoir	2, 4, 8, and 15 l; 0.53, 1.05, 2.11 and 3.96 gal
Connection main line	G 1/4
Operating voltage	12/24 V DC; 110/240 V AC (±10%); 50 / 60 Hz
Protection class	IP 6K9K
Dimensions	min 230 × 224 × 367 mm max 230 × 250 × 729 mm min. 9.06 × 8.82 × 14.45 in max. 9.06 × 9.84 × 28.70 in
Mounting position with follower plate without follower plate	any upright



NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication

P 223/P 233

Identification code

Product design

for grease with 1-3 outlets and V DC motor

P223 = pump without Datalogger

P233 = pump with Datalogger

Reservoir size

2 = 2 l; 0.52 gal

4 = 4 l; 1.06 gal

8 = 8 l; 2.11 gal

15 = 15 l; 3.96 gal

Reservoir type ¹⁾

XN = closed, 2 l; 0.52 gal

XNFL = flat, 2 l; 0.52 gal

XNBO = with lid, 2, 4, 8 or 15 l; 0.52; 1.06, 2.11 or 3.96 gal

XL = low-level control, 2, 4 or 8 l; 0.52; 1.06, 2.11 gal

XLBO = low-level control, with lid;

2, 4, 8 or 15 l; 0.52; 1.06, 2.11 or 3.96 gal

YNBO = for oil, with lid, 4, 8 or 15 l; 1.06, 2.11 or 3.96 gal

YLBO = for oil, low-level control, with lid; 4 or 8 l; 1.06 or 2.11 gal

Pump elements 1-3 (choose max 3 pump elements)

= without pump elements

1K5 = 2,0 cm³/min; 0.12 in³/min; piston Ø 5 mm

1K6 = 2,8 cm³/min; 0.17 in³/min; piston Ø 6 mm

1K7 = 4,0 cm³/min; 0.24 in³/min; piston Ø 7 mm, with bypass bore

1KR = 0,7-3,0 cm³/min, 0.042-0.18 in³/min; adjustable, piston Ø 7 mm

1B7 = 2,0 cm³/min; 0.12 in³/min; piston Ø 7 mm, with bypass check valve

1C7 = 4,0 cm³/min; 0.24 in³/min; piston Ø 7 mm ²⁾

Operating voltage

12 = 12 V DC

24 = 24 V DC

AC = 110 / 240 V AC ±10%, 50 / 60 Hz

Connections

2A = 2 connections:

1 on the left top power supply, illuminated pushbutton (operational test and additional lubrication and fault indication ^{3) 4)})

1 on the right top piston detector, divider monitoring, bayonet plug 4/2

3A = 3 connections:

1 on the left bottom power supply, square-type plug

1 on the left top illuminated pushbutton and fault indication ^{3) 4)})

1 on the right top piston detector, divider monitoring, bayonet plug 4/2-pole

Type of connection ⁵⁾

1 = square plug, power supply DIN 43650

2 = M 12 plug

5 = bayonet plug 4-pole, DIN 72585-1, MF01/MDF01 ³⁾

6 = bayonet plug 7/5-pole, MF02/MDF02 ⁴⁾

Connections from the pump to external devices

00 = without socket, without cable; only with type of connection 2A5

14 = bayonet socket with cable (10 m; 33 ft), 4-core; only with type of connection 2A5

15 = bayonet socket with cable (10 m; 33 ft), 7/5-core; only with type of connection 2A6/3A6

Control printed circuit board (P C B) 12/24 V DC

MF01 = with microprocessor and membrane keypad, contact 15/30 bridged

MF02 = with microprocessor and membrane keypad, contact 15/30 not bridged; only with type of connection 2A6

MDF01 = with microprocessor and membrane keypad and Datalogger, contact 15/30 bridged

MDF02 = with microprocessor and membrane keypad and Datalogger, contact 15/30 non bridged; only with type of connection 2A6

¹⁾ high-/low-level control can not be combined with the integrated control unit P C B

²⁾ designation for pump elements for supplying of paste for chisel (c=chisel)

³⁾ for MF01 / MDF01

⁴⁾ for MF02 / MDF02

⁵⁾ other types of connection on request possible

Accessories

P 223/P 233

Pump elements ¹⁾

Order number	Description	Material	Piston	Nominal output ⁶⁾	
			Ø mm	cm ³ /min	in ³ /min
600-78018-1	pump element L5 ²⁾	steel, gasnitro-carburized	5	0,5	0.03
600-26875-2	pump element K5	steel, gasnitro-carburized	5	1,8	0.11
600-26876-2	pump element K6	steel, gasnitro-carburized	6	2,8	0.17
600-26877-2	pump element K7	steel, gasnitro-carburized	7	4	0.24
655-28716-1	pump element KR	steel, gasnitro-carburized	7	0,7-3,3	0.04-0.02
600-28750-1 ³⁾	pump element C7	steel, gasnitro-carburized	7	4	0.24
600-29303-1	pump element K5 DN	steel, nickel-plated ⁵⁾	5	1,8	0.11
600-29304-1	pump element K6 DN	steel, nickel-plated ⁵⁾	6	2,8	0.17
600-29305-1	pump element K7 DN	steel, nickel-plated ⁵⁾	7	4	0.24
600-29185-1 ⁴⁾	pump element B7 DN	steel, nickel-plated ⁵⁾	7	1,8	0.11

¹⁾ male thread M 22 × 1,5; female thread G 1/4

²⁾ L5 only permitted for application of NLGI 00 lubrication grease

³⁾ pump element for supplying of chisel paste

⁴⁾ with bypass check valve

⁵⁾ for application in beverage industry

⁶⁾ The stated nominal outputs per minute and pump element refer to NLGI 2 lubrication greases at an ambient temperature of + 20 °C [68 °F] and a pressure of 100 bar [1450 psi] at the outlet of the pump element. Deviating operating conditions or deviating pump configuration result in a changed motor speed of 20 rpm and thus in a change of the output per time unit

Return-line connector with filler fitting, screw type

Order number	Description	Filling nipple	Thread	Tube	Reservoir
				Ø mm	
504-30698-1	return-line connector	straight	R 1/4	6	2 l
504-36071-5	return-line connector	straight, with adapter	R 1/4	6	2 l flat-type, 4 and 8 l
504-36071-6	return-line connector-line	90°	R 1/4	6	2 l flat-type, 4 and 8 l
304-16543-1	adapter		M 22 × 1,5 × G 1/4		

Reservoir conversion sets

Order number	Designation
Reservoir conversion set 2l to 4l	
544-32787-1	2XN to 4XN
544-32022-1	2XN to 4XNBO
Reservoir conversion set 2l to 8l	
544-32788-1	2XN to 8XN
544-32023-1	2XN to 8XNBO

Quick filling connector

Order number	Description	Connection	Filter
544-36961-1	filler fitting with protective cap	G 1/4	-
504-32125-1	coupling plug with protective cap	G 1/4	-
233-10765-3	protective cap; for replacement	G 1/4	-
540-36753-5	filler fitting assembly	M22 × 1,5	-
540-31800-1	filler fitting	M22 × 1,5	-
504-36071-7	filler fitting	M22 × 1,5	-

Fuse holder with fuse

Order number	Description	Current load
237-13321-8	fuse holder	5 A
237-13426-1	fuse holder	8 A

Bracket for fixing pump and main metering device

Order number	Description
307-19644-1	bracket P203

Accessories

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Pressure relief valves

Order number	Designation	Description	Relief pressure		Connection pressure line
			bar	psi	
624-28891-1	SVTS-200-1/4-D6	pressure relief valve (PRV)	200	2 900	screw type fitting D6
624-28894-1	SVTS-350-1/4-D6	PRV with emergency lubrication fitting, left-hand	350	5 075	screw type fitting D6
624-28896-1	SVTS-350-1/4-D6+NIP00L	PRV with emergency lubrication fitting, right-hand	350	5 075	screw type fitting D6
624-28897-1	SVTS-350-1/4-D6+NIP00R	PRV	350	5 075	screw type fitting D6
624-28895-1	SVTS-350-1/4-D8	PRV	350	5 075	screw type fitting D8
624-28861-1	SVTSV-200-R 1/4-6	PRV	200	2 900	push-in type D6
624-28858-1	SVTSV-350-R 1/4-6+NIP00R	PRV with emergency lubrication fitting, right-hand	350	5 075	push-in type D6
624-28860-1	SVTSV-350-R 1/4-6	PRV	350	5 075	push-in type D6
624-28867-1	SVTSV-350-R 1/4-6+NIP00L	PRV with emergency lubrication fitting, left-hand	350	5 075	push-in type D6
624-28859-1	SVTSV-270-R 1/4-1/8NPTF+NIP00R	PRV with emergency lubrication fitting, right-hand	270	3 915	thread 1/8 NPT female
226-14105-5	S2520-1/4-1/4-25 nipple	adapter for connection of 2 l flat-type or 4 and 8 l reservoir			
624-29087-1	SVTSV-200-R 1/4-6	PRV kit with grease return to the reservoir	200	2 900	push-in type D6
624-28931-1	SVTSV-350-R 1/4-6	PRV kit with grease return to the reservoir	350	5 075	push-in type D6
524-32231-1	redesign-kit: grease return fitting for SVTSV+SVTE	grease return fitting for existing pressure relief valve	–	–	–
624-29426-1	SVKSV-350-1/4-D6+pressure gauge	pressure gauge 0–400 bar with PRV SVKSV-350-1/4-D6	350	5 075	–

Valve insert for pressure relief valves as replacement

Order number	Description	Relief pressure	
		bar	psi
235-14343-3	valve insert	350	5 075
235-14343-2	valve insert	270	3 915
235-14343-7	valve insert	250	3 625
235-14343-1	valve insert	200	2 900
235-14343-5	valve insert	120	1 740
235-14343-4	valve insert	80	1 160

Push-button illuminated

Order number	Description	Voltage	Light
664-85388-8	round	12/24 VDC	green
664-85388-9	round	12/24 VDC	red
664-85421-9	round	12/24 VDC	yellow
236-10280-6	rectangular	24 VDC	green

Connection socket and cable ¹⁾

Order number	Description	Cable		Protection class
		m	ft	
544-32850-1	connection socket with gasket and screw, black	–	–	IP65
544-33843-1	connection socket with gasket and screw, grey	–	–	IP65
664-36862-8	connection cable with connection socket, black	6	20	IP67
664-36078-7	connection cable with connection socket, black	10	30	IP67
664-36078-9	connection cable with connection socket, grey	10	30	IP67
664-36862-2	connection cable ADR with connection socket, grey	10	30	IP65
664-36862-1	connection cable ADR with connection socket, black	10	30	IP65
664-34167-2	connection cable with bayonet socket (7/5 pole)	10	30	IP 6K9K
664-34428-3	connection cable with bayonet socket (7/7 pole)	10	30	IP 6K9K
664-34167-6	connection cable with bayonet socket (4/3 pole)	10	30	IP 6K9K
664-34167-9	connection cable with bayonet socket (4/4 pole)	10	30	IP 6K9K

¹⁾ The type of connection sockets and cable depend on the equipment of the pump. Please refer to the assembly instruction of the respective pump.