

SKF



Overview of multi-line oil pumps and pump units

Mechanically operated pumps									
Product	Outlets	Reservoir		Metering quantity per outlet		Operating pressure max		ATEX ¹⁾	Page
		l	gal	cm ³ /min	in ³ /min	bar	psi		
SP/G	2 or 4	on request	on request	0,14–2,9	0.008–0.176	3	44	–	12
RA ... U	1–20	on request	on request	0,07–36	0.004–2.196	63	913	• 2)	14
55i	1–14	1–8	0.26–2.1	0,2–12,7	0.012–0.775	400	5 800	–	16
JM	1–28	2–14; any	0.5–3.7; any	0,17–5,0	0.010–0.305	600	8 700	• 3)	18
SP/PFE	1–5	on request	on request	1,0–75,0	0.061–4.576	4 000	58 000	• 3)	28

¹⁾ on request

²⁾ for gas: II 2G c IICT4 Gb; for dust: II 2D c IIICT 135°C Db

³⁾ for gas: II 2G c IICT4 Gb

Hydraulically operated pump units									
Product	Outlets	Reservoir		Metering quantity per outlet		Operating pressure max			Page
		l	gal	cm ³ /min	in ³ /min	bar	psi		
PD ...	4–10	–	–	0–20	0–1.22	63	913		20
PC	1–28	–	–	1,74–227	0.106–13,852	50	725		22

Electrically operated pumps									
Product	Outlets	Reservoir		Metering quantity per outlet		Operating pressure max		ATEX ¹⁾	Page
		l	gal	cm ³ /min	in ³ /min	bar	psi		
RA... M/RA B	1–20	0,3–15, any	0.8–4; any	0,07–36	0.004–2.196	60	870	• 2)	24
PC	1–28	–	–	1,74–227	0.106–13.85	50	725	–	22
JM	1–28	2–14; any	0.5–3.7; any	0,15–7,95	0.009–0.485	600	8 700	• 3)	18
SP / PFE	1–5	on request	on request	1,0–75,0	0.061–4.576	4 000	58 000	• 3)	28

¹⁾ on request

²⁾ for gas: II 2G c IICT4 Gb; for dust: II 2D c IIICT 135 °C Db

³⁾ for gas: II 2G c IICT4 Gb

Pump

SP/G



Product description

The SP/G rotary-driven, multi-line piston pump features a fixed internal gear ratio of 33:1. Its compact pump design with only two rotating/movable parts is slide operated and requires no rubber seals, springs or additional non-return valves. The SP/G is available as a self-priming pump or as a pump with priming pressure. Designs with two or four outlets are available. The two-outlet version is offered in two different piston sizes respective of delivery volumes. One vibration-proof, stroke-regulating screw per outlet pair enables fine-tuned stroke settings.

Features and benefits

- Virtually maintenance-free, vibration-proof, 24/7 design
- Designed for high ambient temperatures and all standard lubrication oils
- Machine operated; no under- or over-lubrication
- Oil supply from machine sump or from existing oil-circulation system
- Adjustable output
- Available for two drive directions

Applications

- Marine industry; inlet valve seat lubrication for powerful four-stroke engines
- General machine-driven applications



Technical data

Function principle	mechanically operated piston pump
Metering quantity 1)	piston K6: max. 0,042 cm ³ /stroke max. 0.0026 in ³ /stroke piston K7: max. 0,058 cm ³ /stroke max. 0.0035 in ³ /stroke
Group size	2, 4, 6, 8, 10 flow meters
Lubricant	mineral, synthetic, environmentally safe oil; up to 12 to 800 mm ² /s
Operating pressure	3 bar; 43 psi, plus inlet pressure
Inlet pressure	0 or 2 to 6 bar, 0 or 30 to 85 psi
Operating temperature	max. 100 °C; 212 °F
Outlets	2 or 4
Internal ratio	30:1
Drive speed	300-3000 min ⁻¹
Drive direction	left/right
Connection in/outlet	for tube Ø 4 and 6 mm OD
Dimensions	2 outlets: 56 × 88,5 × 44 mm 2.22 × 3.5 × 1.8 in 4 outlets: 69 × 85 × 45 mm 2.7 × 3.4 × 1.8 in
Mounting position	any
Options	customized pre-set volumes

1) With priming pressure increased delivery volume; see technical information



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **951-170-219-EN**

Pump

SP/G

Identification code	SP/G		/	30		
Product series	SP/G					
Outlets	02 = 2 04 = 4					
Gear ratio	30 = 30:1					
Oil inlet design	S = self-priming suctional operation V = pressure tight for overhead reservoirs or priming pump					
Piston size	6 = piston K6, 6 mm OD 7 = piston K7, 7 mm OD					

Pump units for oil

SP/G tube connections	
Order number	Description
Inlet screw unions	
406-001	double-tapered ring for tube Ø 6 mm OD
406-002	socket union M10×1 – tube Ø 6 mm OD
Outlet screw unions	
404-001	double-tapered ring for tube Ø 4 mm OD
404-002	socket union M8×1 tube Ø 4 mm OD

SP/G coupling element with snap ring		
Order number	Description	Item
44-1202-2038	coupling element	1
44-0606-6302	snap ring for coupling element	2



Pump

RA ... U



Product description

The RA multi-line pump is a unique radial piston pump with stackable pump elements. The modular pump design allows up to five pump elements, each with one, two or four outlets. A later outlet reduction or outlet extension is thus possible. The displacement of all outlets from a pump element is adjustable by a common setting device, setting range 33–100%. Several different mechanical or electric motor drives are available.

Features and benefits

- Modular pump-to-point solution for 1 to 20 lubrication points
- Depending on drive speed respective of selected drive ratio, RA pumps cover feed rates of some droplets until 36 cm³/min (2.2 in³/min)
- Drive direction left or right
- Compatible with mineral- and synthetic-based oil
- Vibration-proof, marine and ATEX versions available
- Supplies several different lubrication zones, lubrication points or chain pins

Applications

- Gas compressors and large pumps
- Economic power unit for sealing oil systems
- Marine, valve-seat lubrication on large four-stroke engines

Technical data

Function principle	radial piston pump with stackable pumping elements
Operating temperature	–15 to 80 °C, +5 to +176 °F
Operating pressure	10 to 63 bar, 145 to 915 psi
Outlets	depending on drive speed and oil viscosity 1 to 20 (max. 5 elements with 1, 2 or 4 outlets)
Lubricant	mineral- and synthetic-based oil, 25 to 2 500 mm ² /s
Metering quantity per outlet	0.007–0.02 cm ³ /revolution 0.0004–0.0012 in ³ /revolution
Output per outlet	0.07–36 cm ³ /min 0.004–2.2 in ³ /min
Internal ratio	1:1, 5:1, 10, 5:1, 15:1, 25:1, 75:1, 125:1
Dimensions	min. 113 × 54 × 54 mm max. 220 × 54 × 54 mm min. 4.45 × 2.13 × 2.13 in max. 8.68 × 2.13 × 2.13 in
Drive speed	10 to 1 800 min ^{–1}
Protection class	min. IP 55
Mounting position	any
Options	with manual hand crank for pre-lubrication, customized pre-set volume version with two inlet sections for two different oil types



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publications available on SKF.com/lubrication:

11103 EN, 951-170-230 EN



CAD data

skf-lubrication.partcommunity.com/3d-cad-models/

Pump

RA ... U

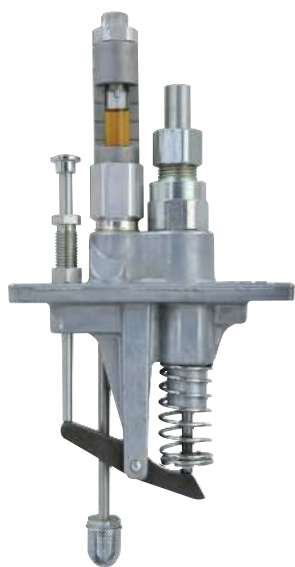
Identification code	RA											0001
Product series						1	2	3	4	5		
RA = radial piston pump												
Drive; rotary												
1UA = coaxial without gear reduction												
3UA = coaxial with gear reduction												
2UB = bevel gear												
Ratio												
00 = 1:1 (only for 1UA drive)												
01 = 10.5:1 (only for 3UA drive)												
05 = 5:1												
15 = 15:1												
25 = 25:1												
75 = 75:1												
13 = 125:1												
Drive location												
/ = coaxial												
A = drive location A (only for 3UA drive)												
B = drive location B (only for 3UA drive)												
Pump elements, define max. 5 elements												
1 = 1 element with 1 outlet												
2 = 1 element with 2 outlets												
4 = 1 element with 4 outlets												
Pre-lubrication												
D = pre-lubrication (only for 2UB drive)												
/ = without pre-lubrication crank												
Drive direction												
R = right (2UB drive with pre-lubrication only)												
L = left												
Design key												
0001 = standard including FPM seals												

Pump units for oil

RA pump elements	
Order number	Description
24-1557-3520	pump element, with 1 outlet
24-1557-3521	pump element, with 2 outlets
24-1557-3522	pump element, with 4 outlets



Pump
55i



Product description

The positive-displacement, single-action 55i pumps are fully adjustable by means of manually modifying the angle of the rocker arm to the cam. The pump operation is a two-stage process. As the camshaft rotates, the cam mechanically forces the pump plunger forward, displacing a measured volume of oil. On the second or return stroke, a spring assists the plunger to return for prime. All pump elements are designed with a pushbutton for manual pre-lubrication.

Features and benefits

- Easy adjustment of flow rate
- Pushbutton for pre-lubrication and system de-aeration
- Modular box lubricator mounting for ease of maintenance
- Pumps with suction tube for oil suction from the lubricator box or with direct feed by overhead reservoir
- With or without sight glass for visual flow indication
- For operating viscosity up to 1 700 mm²/s

Applications

- Gas engines
- Reciprocating compressors
- High-pressure oil, total-loss lubrication systems



Technical data

Function principle	camshaft-operated piston pump
Metering quantity	K 3/16: 0,20 cm ³ , 0.0122 in ³ K 1/4: 0,302cm ³ , 0.0184 in ³ K 3/8: 0,68 cm ³ , 0.0415 in ³
Outlets	1 to 7
Lubricant	mineral- or synthetic-based oil, viscosity max. 1 700 mm ² /s
Operating pressure	K 3/8: max. 240 bar, 3 500 psi K 1/4: max. 400 bar, 6 000 psi
Operating temperature	-20 to +70 °C, -4 to + 158 °F
Reservoir	1,4 to 3,8 l, 0.37 to 1.0 gal depends on outlet quantity
Internal ratio	37.5:1; 60:1; 112.5:1
Drive speed	<20 min ⁻¹ ; depends on box lubricator
Electrical motor drives	for pumps with 112.5:1 and 300:1 ratio only
Connection outlet	1/8 NPTF
Dimensions	min. 127 × 88 × 35 mm max. 127 × 132 × 35 mm min. 5 × 3 15/32 × 1 3/8 in max. 5 × 5 3/16 × 1 3/8 in outer parts when installed in box lubricator
Mounting position	vertical
Options	pumping elements without sight glass lubrication sentries to control the oil-level and camshaft rotation, oil-level regulator



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication:
FORM 442834 EN

Pump

55i

Identification code

55i

Product series

55i = camshaft-operated piston pump

Reservoir

3 = 1,4 l, 3 pint, max. 3 single pumps
4 = 1,9 l, 4 pint, max. 5 single pumps
8 = 3,8 l, 8 pint, max. 7 single pumps

Drive / gear ratio / available reservoir size / speed

Designation	Drive	Ratio	Reservoir	Speed
			l pt	min ⁻¹
A = rotary drive, internal gear and ratchet	right or left	37,5:1	1,9 4.8 3,8 9.6	700
B = internal ratchet and external lever	right or left	75 teeth	1,9 4.8 3,8 9.6	1100
C = internal super gear, pulley,machine drive	right or left	112,5:1	1,9 4.8 3,8 9.6	1200
D = external gear drive, specific OEM frame	right or left	60:1	1,9 4.8	1200

Single Pumps

Designation	Piston Ø	Inlet	Sight glass	Operating pressure max.	Metering quantity per stroke max.	Order number spare part
	mm inch			bar psi	drops cm ³ in ³	
1 = vacuum feed	6,4 1/4	suction tube	•	400 6 000	9 0,302 0.0184	880550
2 = vacuum feed	9,5 3/8	suction tube	•	240 3 500	21 0,680 0.0415	880560
3 = pressure inlet, manifold feed	4,8 3/16	1/8 NPTF	•	400 6 000	6 0,200 0.0122	880553
4 = pressure inlet, manifold feed	6,4 1/4	1/8 NPTM	•	400 6 000	9 0,302 0.0184	880551
5 = pressure inlet, manifold feed	9,5 3/8	1/8 NPTM	•	240 3 500	21 0,680 0.0415	880561
6 = direct feed	6,4 1/4	1/8 NPTF	-	400 6 000	9 0,302 0.0184	880552
7 = direct feed	9,5 3/8	1/8 NPTF	-	240 3 500	21 0,800 0.0488	880554

Pump units for oil

55i accessories

Description

Order number

lubricator flow switch; monitors model 55i lubricant flow

880463

lube sentry; monitors camshaft rotation and reservoir level

880555

lube sentry; same as model number: 880555, except suction is 1/2 inch shorter, for pre-warning

880556

oil-level regulator; automatically fills lubricator reservoir from header reservoir

880496

cover plate; gasket

350654

cover plate assembly

250132

cover plate screws

70224

armored sight glass kit

276517

Pump unit

JM



Product description

The multi-line JM oil lubrication pump is a high-pressure pump that provides a maximum continuous operating pressure of 600 bar (8 700 psi). Its modular design features unique, adjustable, dual-piston pumping elements (separate dosing and high-pressure booster piston) in combination with an optical drip indicator that delivers outstanding reliability.

Depending on the application, the pump can be machine or electrically driven. The JM pump is available in a pressure-tight design that is suitable for use with overhead lubrication oil tanks. It can deliver all mineral oils with an operating viscosity between 25 and 3 000 mm²/s.

Features and benefits

- Designed for 24/7 operation
- Three piston sizes cover output from 0,17 to 5,0 cm³/min (0.01 to 0.29 in³/min) per outlet
- Individual outlet settings between 25 and 100%
- Pressure-tight design available
- Can be monitored according to API 618 standards
- Most reliable replacement for all standard box lubricators

Applications

- Reciprocating gas compressors, mainly in an ATEX environment
- Pump-to-point lubrication of packings and cylinders
- Petro-chemical and food and beverage industry

Technical data

Function principle	cam-operated piston pump in modular design, rotary or electrically operated
Metering quantity per stroke	0,017–0,2 cm ³ , 0.001–0.012 in ³
Outlets	1 to 28
Lubricant	mineral- or synthetic-based oil, 25 to 3000 mm ² /s
Operating pressure	max. 600 bar, 8700 psi
Operating temperature	0 to +40 °C, +32 to +104 °F
Protection class	min. IP 55F, ATEX available
Reservoir	per module 2 l, 0.5 gal
Internal ratio	1:1, 35.1:1, 62.8:1, 83.2:1, 100.9:1, 125.7:1
Drive speed main shaft n ₂	10 to 25 min ⁻¹
Metering quantity per outlet	0.17–5.0 cm ³ /min, 0.01–0.305 in ³ /min
Drive	3-phase motor or mechanical
Outlet connections	G 1/4, tube Ø 6 or 8 mm OD
Dimensions	min. 315 × 200 × 260 mm max. 1 455 × 200 × 260 mm min. 12.4 × 7.87 × 10.24 in max. 57.3 × 7.87 × 10.24 in
Mounting position	horizontal, level surface
Options	pressure-tight design for overhead reservoirs, additional oil reservoir with heater and oil-level sensor, camshaft rotation sensor, oil flow pulse transmitters in ATEX



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication:
951-170-019; 951-180-073; 14600; 1-3007

Pump unit

JM

Identification code	JM		-		3M		-						A		AG07
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Product series

Oil reservoir ¹⁾ and number of outlets

02 = 2 l, 0.53 gal, max. 4 outlets
04 = 4 l, 1.1 gal, max. 8 outlets
06 = 6 l, 1.6 gal, max. 12 outlets
10 = 10 l, 2.6 gal, max. 20 outlets
12 = 12 l, 3.2 gal, max. 24 outlets
14 = 14 l, 3.7 gal, max. 28 outlets
14 .. 24 = twin version with drive M, max. 28 outlets

Oil reservoir

A = pressure tight, feed by overhead reservoir ¹⁾
B = ventilated

Drive type

3M = E-motor operated including gear reduction ²⁾

Gear ratio ¹⁾

39 = 35.1:1
57 = 62.8:1
78 = 83.2:1
98 = 100.9:1
13 = 125.7:1

Drive

A = left
B = right
M = middle (left max. 24 outlets, right max. 24 outlets)

Metering quantity, selection of pump element size

1 = 0,025–0,10 cm³, 0.0015–0.006 in³
2 = 0,05–0,20 cm³, 0.003–0.012 in³
3 = 0,017–0,07 cm³, 0.001–0.004 in³
0 = mixed design, please specify

Outlets

01 = 1 outlet
....
28 = total number of outlets

Connection outlet for tube Ø OD

W = 8 mm solderless
X = 8 mm solderable
Y = 6 mm solderless
Z = 6 mm solderable
- = G 1/4 female, stainless steel

Modification index

A = standard

Design key ¹⁾

0001 = basic design
4068 = ATEX II 2G c IICT4 Gb

Motor code ¹⁾

AG07 = E-motor 1 000 min⁻¹; 1 500 min⁻¹ on request available
protection class: IP 55F

Pump units for oil

¹⁾ For supply via additional or overhead reservoir (max. installation height of 10 m; 5 m in conjunction with an additional reservoir in steel design)
²⁾ For direct machine-operated versions, please consult technical support

Pump unit

PDYY, PDYC and PDYS



Product description

Designed for high-speed cylinder lubrication on two-stroke engines, the PDY... pumps use an existing oil supply system or drive pump unit. Engine electronics trigger the pre-loaded pumps by activating the solenoid valve. The exact stroke volume can be synchronized with the moving engine piston, and ignition timing can be adjusted to reach various piston stress areas with oil. PDYY and PDYC pumps feature a baseplate configuration with 6 or 8 outlets. PDYS pumps have double-stroke functionality for use on small-bore engines with only 4 outlets per cylinder.

Features and benefits

- Accurate, timed oil metering quantities within a millisecond
- Load-dependent, lubrication standard
- Modular design for easy assembly and service
- Prevents over-lubrication, deposits, excess smoke and CO₂
- Provides up to 40% oil savings
- Retrofit solutions available

Applications

- Marine industry
- General industry
- Chains or compressors

Technical data

Function principle	electrically/hydraulically operated multi-outlet pump
Metering quantity	40 to 310 mm ³ 0.0024 to 0.019 in ³
Outlets	PDYS: 4 PDYY, PDYC: 6 or 8
Lubricant	mineral-based oil up to SAE50; 25 to 2 000 mm ² /s
Drive oil	PDYS: supply unit with lubricating oil PDYY, PDYC: mineral-based system oil up to SAE30
Operating pressure	45 to 55 bar; 650 to 800 psi
Operating temperature	+5 to 70 °C; +41 to 158 °F
Injection time	PDYS, : <5 ms; PDYY, PDYC: <8 ms
Power supply	24 V DC
Protection class	IP 65
Mounting position	PDY/Y/C/S outlets on top
Dimensions	max. 270 × 261 × 180 mm max. 10.6 × 10.3 × 7.1 in
Options	oil drive units with redundant pumps according to the marine standard



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publications available on SKF.com/lubrication:
PDYY; System CLU4: **951-130-314 EN**
PDYC; System CLU4C: **951-160-012 EN**
PDYS; System CLU5: **951-170-210 EN**

Pump unit

PDYY, PDYC and PDYS

Identification code

-

Product series

PDYY = electrically/hydraulically operated pump; (CLU4)
PDYC = electrically/hydraulically operated pump; compact design (CLU4C)
PDYS = electrically/hydraulically operated pump; small design (CLU5)

Outlets

04 = 4 outlets
06 = 6 outlets
08 = 8 outlets

Engine bore size

35 = 35 cm, 13.78 in
40 = 40 cm, 15.75 in
...
96 = 96 cm, 37.79 in
XX = engine size independent

Accumulator

A = 0,75 l, 0.2 gal for PDYY
B = 0,32 l, 0.085 gal, for PDYC
X = without

Metering quantity per stroke

PDYS:
40 = 40 mm³; 0.0024 in³
60 = 60 mm³; 0.0037 in³
PDYY, PDYC:
90 = 90 mm³; 0.0055 in³
110 = 110 mm³; 0.0067 in³
150 = 140 mm³; 0.0092 in³
...
310 = 310 mm³; 0.019 in³

Outlet connection for tube Ø OD

A = 6 mm C = 10 mm
B = 8 mm / = without outlet connection

Design key

0201 = basic version without bracket
4XXX = special version

Solenoid valve

24DC = voltage 24 V DC

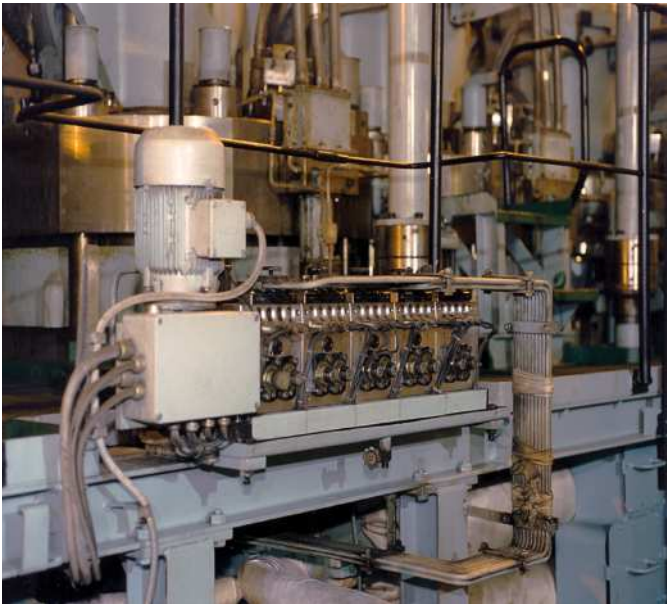
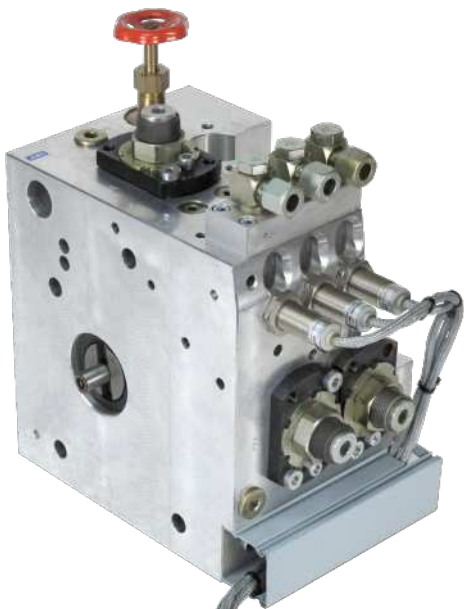
Pump units for oil

PDYY, PDYC and PDYS accessories		
Order number	Pump	Description
161-140-050+924	PDY/Y/C	solenoid valve
161-140-056+924	PDYS	solenoid valve
24-1884-2324	PDY/Y/C	pressure sensor
24-1884-2397	PDYS	pressure sensor
24-2578-2041	PDYC	accumulator: 0,32 l; 0.085 gal
24-2578-2044	PDYY	accumulator: 0,75 l; 0.2 gal



Pump unit

PC



Product description

Designed for total-loss lubrication systems with significant oil volume requirements, the PC pump unit features from 1 to 28 outlets. Delivery volume can be sub-divided using a progressive-type metering device, enabling the pump to cover up to 224 lubrication points. This all-in-one pump unit consists of a frequency-controlled E-motor with gear reduction, pump modules with pumping elements for six pre-defined settings, optical/electrical flow controls, additional sensors for low level and optional drive speed, safety valves and connections for heating oil. Its integrated shut-off valves, one per module, allow the use of different lubricating oil and/or pumping element replacement during operation. The terminal box with pre-wired sensors contains a pushbutton for pre-lubrication.

Features and benefits

- Accurate, robust lubrication pump assembly
- Load-dependent, variable-speed operation as standard
- E-motor with electrically operated air fan enables wide speed range
- Ease of operation, maintenance and assembly
- Assembly brackets for hanging or standing position
- 24/7 operation in arctic and tropical conditions

Applications

- Marine industry

Technical data

Function principle	modular electrically or hydraulically operated piston pump unit in marine standard, with non-flow sensors and oil-heating connections
Metering quantity per outlet	1,74–227 cm ³ /min, 0.1–14 in ³ /min
Outlets	1 to 28
Lubricant	mineral oil up to SAE 5012 to 2 000 mm ² /s
Lubricant supply	by overhead reservoir, max. inlet pressure 2 bar, 30 psi
Operating pressure	max. 50 bar, 725 psi
Operating temperature	+5 to 45 °C, +41 to 113 °F
Internal ratio	4.83; 14.5; 19; 29; 38; 51; 62 : 1
Output per Outlet	0,27–1,1 cm ³ , 0.016–0.067 in ³
Electrical connection Sensor	24 V DC
Hydraulic drive option	100 cm ³ /revolution, 60–360 min ⁻¹ for i = 4.81:1 and 7.25:1 only
Protection class	IP 55F
Connection	inlet: G 1 1/4 outlet: G 1/4 for tube Ø10 mm OD
Dimensions	min. 610 × 513 × 320 mm max. 610 × 1 580 × 320 mm min. 24 × 20,2 × 25,6 in max. 24 × 62,2 × 25,6 in
Mounting position	horizontal
Options	version with mainshaft revolution; sensor; sensors NPN instead of NAMUR



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **951-170-208**

Pump unit

PC

Identification code	PC							A	1		C				
Product series															
Size															
2 = 2 modules, max. 8 outlets								5 = 5 modules, max. 20 outlets							
3 = 3 modules, max. 12 outlets								6 = 6 modules, max. 24 outlets							
4 = 4 modules, max. 16 outlets								7 = 7 modules, max. 28 outlets							
Mounting plate position															
B = top (floor)															
R = rear (rear wall)															
Drive type															
1M = worm drive with electric motor															
1Y = worm drive with hydraulic motor															
Pump location and front label design															
VM = front side mounted, multi level, 1 upper level, 1 lower level, 2 upper level ...															
VS = front side mounted, single level, 1, 2, 3, 4 ... x															
HM = rear side mounted, multi level, x ... 4 upper level, 4 lower level, 3 upper level															
....															
HS = rear side mounted, single level, x ... 4, 3, 2, 1															
Gear reduction															
14 = 14,5:1 for drive type 1M								51 = 51:1 for drive type 1M							
19 = 19:1 for drive type 1M								62 = 62:1 for drive type 1M							
29 = 29:1 for drive type 1M								05 = 4,83:1 for drive type 1Y							
38 = 38:1 for drive type 1M								07 = 7,25:1 for drive type 1Y							
Drive position															
A = motor at left															
Pump element															
1 = piston Ø10 mm															
Outlets															
01 = 1 outlet; 28 = 28 outlets															
Outlet connection for tube Ø OD															
C = 10 mm															
Design key															
A0001 = basic version, electric motor with GL approval, NAMUR sensor incl. terminal box, colour Munsel 7,5 BG7/2															
A0002 = basic version, with tachometer															
A0003 = basic version, sensor type NPN instead of NAMUR															
A4002 = basic version, sensor type NPN instead of NAMUR, without terminal box															
A4003 = basic version, sensor type NPN instead of NAMUR, without terminal box, with revolution sensor															
A4004 = basic version, including oil troy and mounting bracket															
A4005 = same as A0003, with revolution sensor															
Motor code															
AS07 = 3-phase standard motor 255/460 V 60 Hz, n = 1 740 min ⁻¹ , IP 55F															
HM00 = hydraulic motor Danfoss OMR100															

PC accessories	
Order number	Description
24-0404-2493	gasket set with seals spare pumping element filter assembly, 100 mμ filter element only
24-1557-3560	
24-1751-2760	
24-0651-3519	

Pump unit

RA ... M/RA B



Product description

The RA radial piston pump features a modular design that enables use of up to five stackable pump elements, and outlet reduction or expansion can be accomplished easily. Displacement of all outlets from a pump element is adjustable by a common setting device and features a setting range of 33-100%. The RAB series pump have a pre-assembled oil reservoir.

Features and benefits

- Pump-to-point solution for 1 to 20 lubrication points
- Covers feed rates of certain droplets 36 cm³/min
- Compatible with mineral and synthetic oils
- Vibration-proof, marine and ATEX versions available

Applications

- Gas compressors and large pumps
- General industry, total loss, sealing and small oil-circulation applications
- Marine



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publications available on SKF.com/lubrication:
11103 EN, 951-170-230 EN



CAD data
skf-lubrication.partcommunity.com/3d-cad-models/

Technical data

Function principle	radial piston pump with stackable pumping elements, mechanically or electrically operated
Outlets	1 to 20 (max. 5 elements with 1, 2 or 4 outlets)
Metering quantity per outlet	0,007–0,02 cm ³ /revolution 0.0004–0.001 in ³ /revolution
Output per outlet	0,07–36 cm ³ /min 0.004–2.2 in ³ /min
Internal ratio	1:1, 5:1, 10, 5:1, 15:1, 25:1, 75:1, 125:1
Lubricant	mineral- and synthetic-based oil, 25 to 2 500 mm ² /s
Reservoir	3, 7, 15 l and more, 0.8, 1.8, 4 gal and more
Operating pressure	10 to 63 bar, 145 to 913 psi depending on drive speed and oil viscosity
Operating temperature	–15 to 80 °C, +5 to 176 °F electrically operated: –15 to 40 °C; +5 to +104 °F
Protection class	min. IP 55
Drive speed	10 to 1 800 min ⁻¹
Connection in/outlet	G 1/8
E-motor drive	with 3-phase motor
Drive direction	left/right
Dimensions	without reservoir: min. 113 × 54 × 54 mm max. 220 × 54 × 54 mm min. 4.45 × 2.13 × 2.13 in max. 8.68 × 2.13 × 2.13 in with reservoir: min. 400 × 333 × 140mm max. 650 × 441 × 288 mm min. 15.7 × 13.1 × 5.5 in max. 25.6 × 17.4 × 11.3 in any, RAB versions vertical with manual hand crank for pre-lubrication, customized pre-set volume, reservoir options with further accessories
Mounting position	
Options	

Pump unit

RA ... M

Identification code	RA			/							R	0001		07
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Product series

RA = radial piston pump

Drive; rotary

1M = coaxial without gear reduction
3M = coaxial with gear reduction
2M = bevel gear

Ratio

00 = 1:1 (only for 1M drive)
01 = 10.5:1 (only for 3M drive)
05 = 5:1
15 = 15:1
25 = 25:1
75 = 75:1
13 = 125:1

Drive location

/ = standard

Pump elements, define max. 5 elements

1 = 1 element with 1 outlet
2 = 1 element with 2 outlets
4 = 1 element with 4 outlets

Pre-lubrication

D = pre-lubrication (only for 2M drive)
/ = without pre-lubrication crank

Drive direction

R = right

Design key

0001 = standard including FPM seals

Motor Code 1)

AF = standard multi-range motor, 1 500 min⁻¹, for 230–400 VAC/50 Hz
AK = standard multi-range motor, 1 500 min⁻¹, for 290–500 VAC/50 Hz
AO = standard multi-range motor, 1 500 min⁻¹, for 400–690 VAC/50 Hz

Protection class 1)

07 = IP 55

Pump units for oil

1) further models on request

RAB

Identification code	RA	B															R	0001		07
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Product series	1	2	3	4	5
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RA B= radial piston pump with reservoir
Reservoir 1)
03 = 3 l, 0.8 gal
07 = 7 l, 1.85 gal
15-2 = 15 l, 3.96 gal

Fill-level switch
X = without
V = inclusive

Drive, E-motor
1M = coaxial without gear reduction
2M = coaxial with gear reduction
3M = bevel gear

Ratio
00 = 1:1 (only for 1M drive)
01 = 10.5:1 (only for 3M drive)
05 = 5:1
15 = 15:1
25 = 25:1
75 = 75:1
13 = 125:1

Drive location
/ = standard for 1M and 2M
A = 3M only

Pump elements max. 5 elements
1 = 1 element with 1 outlet
2 = 1 element with 2 outlets
4 = 1 element with 4 outlets

Pre-lubrication
DR = pre-lubrication (only for 2M drive)
/ = without pre-lubrication crank

Drive direction
R = right

Design key
0001 = standard incl. FPM seals

Motor code 1)
AF = standard multi-range motor, 1 500 min⁻¹, for 230–400 V AC/50 Hz
AK = standard multi-range motor, 1 500 min⁻¹, for 290–500 V AC/50 Hz
AO = standard multi-range motor, 1 500 min⁻¹, for 400–690 V AC/50 Hz

Protection class 1)
07 = IP 55

1) further models on request

Pump unit

RA ... accessories

RA ... U drive assembly	
Description	Order number
coaxial 1:1	24-0701-3000
coaxial 5:1	24-0701-3070
coaxial 5:1 with pre-lubrication	24-0701-3080
bevel gear,10,5:1, position A	24-0701-3001
bevel gear,10,5:1, position B	24-0701-3002
coaxial 15:1	24-0701-3071
coaxial 15:1 with pre-lubrication	24-0701-3081
coaxial 25:1	24-0701-3072
coaxial 25:1 with pre-lubrication	24-0701-3082
coaxial 75:1	24-0701-3073
coaxial 75:1 with pre-lubrication	24-0701-3083
coaxial 125:1	24-0701-3074
coaxial 125:1 with pre-lubrication	24-0701-3084
spacer ring, only oil, for ratio 1:1	24-1721-2000
spacer ring, only grease	24-1721-2001

RA ... M drive assembly	
Description	Order number
coaxial 1:1	24-0701-3004
coaxial 5:1	24-0701-3035
coaxial 5:1 with pre-lubrication	24-0701-3036
bevel gear,10,5:1, position A	24-0701-3003
bevel gear,10,5:1, position B	24-0701-3004
coaxial 15:1	24-0701-3037
coaxial 15:1 with pre-lubrication	24-0701-3038
coaxial 25:1	24-0701-3039
coaxial 25:1 with pre-lubrication	24-0701-3040
coaxial 75:1	24-0701-3041
coaxial 75:1 with pre-lubrication	24-0701-3042
coaxial 125:1	24-0701-3043
coaxial 125:1 with pre-lubrication	24-0701-3044
spacer ring, only oil, for ratio 1:1	24-1721-2000
spacer ring, only grease	24-1721-2001

RA tie rod ¹⁾ for ratio 1:1; 10,5:1; 15:1; 25:1; 75:1	
Description	Order number
for 1 pump element	44-0717-2060
for 2 pump elements	44-0717-2061
for 3 pump elements	44-0717-2062
for 4 pump elements	44-0717-2063
for 5 pump elements	44-0717-2064
washer, 6.4 DIN125 ¹⁾	DIN125-B6.4-ST
nut ¹⁾	DIN934-M6-8

RA tie rod ¹⁾ for ratio 5:1; 125:1	
Description	Order number
for 1 pump element	44-0717-2069
for 2 pump elements	44-0717-2070
for 3 pump elements	44-0717-2071
for 4 pump elements	44-0717-2072
for 5 pump elements	44-0717-2073
washer, 6.4 DIN125 ¹⁾	DIN125-B6.4-ST
nut ¹⁾	DIN934-M6-8

RA pump elements for oil and grease	
Description	Order number
for 1 outlet	24-1557-3520
for 2 outlets	24-1557-3521
for 4 outlets	24-1557-3522

RA accessories	
Description	Order number
cover	24-0413-3490
cap nut	95-0006-0917
hand crank	24-0801-2070

¹⁾ two required per pump



Pump unit
SP/PFE



Product description

The SP/PFE multi-line pump is designed for very high system pressures. Its drive parts are located in the pump housing and are pre-filled with high-viscosity gear oil. The special, guided-roller tappet drives the pump element arrangement in a 100% axial direction and eliminates side forces. Each exchangeable pumping element contains a precise, volume-regulating device with scaling, a high-pressure, non-return valve and a high-pressure outlet adapter for up to 4 000 bar (58 000 psi).

Due to the pump's unique design, lubrication oil can be connected from an overhead reservoir directly to the pump elements without the use of additional oil-level controllers.

Features and benefits

- Designed for continuous 24/7 operation
- Modular pump design enables use of up to five pumping elements
- Pressure-tight design; suitable for overhead reservoir connection
- Rack arrangement with additional pumps, filter and flow control equipment available

Applications

- Petro-chemical industry



Technical data

Function principle	Rotary-operated, cam-operated piston pump; with pressure-tight design for overhead reservoirs
Metering quantity per outlet	0–0,14 cm ³ /stroke 0–0.0085 in ³ /stroke
Outlet	1 to 5
Lubricant	mineral- or synthetic-based oil, < 230 mm ² /s
Operating pressure	max. 4 000 bar; 58 000 psi
Operating temperature	+15 to +40 °C, +59 to 104 °F
Internal ratio	1:1
Material	3-phase motor and flanged gearbox available
Drive speed main shaft ¹⁾	10 to 500 min ⁻¹
E-motor drive ¹⁾	10 to 500 min ⁻¹
Connection outlet	gland and sleeve for pipe 3/8 × 1/8
Connection inlet/leak oil outlet	M 14 × 1,5
Dimensions	287 × 350 × 130 cm 512 × 350 × 130 cm 11.3 × 13.8 × 5.1 in 20.15 × 13.8 × 5.1 in
Mounting position	vertical, pump body upright
Options	Available as ATEX package with E-motor drive arrangement , rack mounting, flow monitoring devices

¹⁾ please specify your requirements



NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publications available on SKF.com/lubrication:
14600EN

Pump unit

SP/PFE

Identification code

SP / PFE - - C

Product series

SP/PFE

Housing

1 = housing for 1 up to 2 pump elements
2 = housing for 1 up to 5 pump elements

Pump elements

1 = 1 pump elements
2 = 2 pump elements
3 = 3 pump elements
4 = 4 pump elements
5 = 5 pump elements

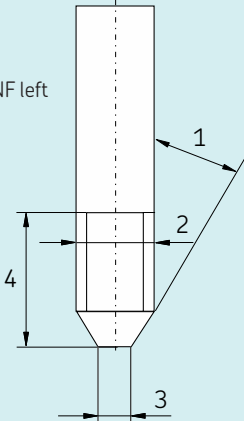
Modification index

C = actual version for p_{max} 4 000 bar, (58 000 psi), rotary-operated, double-sided drive shaft, ratio 1:1

Accessories SP/PFE pump outlets -
high-pressure pipe connection required

Dimensions

- 1 = 29° ± 30'
- 2 = 3/8 in 24 NF left
- 3 = Ø 5,5 mm
- 4 = 19 mm



SP/PFE accessories

Order number	Description	Operating pressure max.	
		bar	psi
744-000-0107	high-pressure pump head complete	4 000	58 000
24-2317-2017	high-pressure piston and body only	4 000	58 000