Hydraulic reservoir
TMP (polymer reservoir)
TMS (steel reservoir)

RE 95721
Issue: 06.2015
Replaces: July 2013

- Hydraulic reservoir for rotary drives
- Steel or polymer versions
- Total volume 8 liters
- Flow rate up to 90 l/min

Features

- Power supply for one pump and optional second pump
- 6.5 l filling volume for up to 75 l/min throughput (steel reservoir)
- 6 l filling volume for up to 90 l/min throughput (polymer reservoir)
- Robust design for mobile applications with rotary drives
- Light weight (polymer reservoir)
- Compact dimensions
- Reservoir cap with air bleed
- Oil level gauge
- Integrated return line filter

Contents

Type code

01	02	03		04		05	06	07	08
TM			**/**	**10**	**–**				

Design

01	Hydraulic reservoir for mobile applications	**TM**

Version

02	Polymer reservoir	**P**
	Steel reservoir	**S**

Total volume		**TMP**	**TMS**	
03	8 liters	●	●	**08**

Series

04		**10**

Filtration

05	Glass fiber filter, filter grade 10 µm / dirt absorption capacity 12 g	●	–	**G1012**
	Glass fiber filter, filter grade 10 µm / dirt absorption capacity 60 g	–	●	**G1060**

Oil level gauge

06	Visual	●	●	**V**
	Visual and electrical (optional)	●	○	**E**

Suction port for second pump

07	Not available	●	–	**S0**
	Fitted	●	●	**S1**

Ports

08	Plugged (with plastic plug to protect against dirt)	●	●	**L1**

● = Available ○ = On request – = Not available

Preferred series

Type code	Material number
TMP08/10–G1012VS0L1	R902651116
TMP08/10-G1012ES0L1	R902476412
TMP08/10-G1012ES1L1	R902484689
TMP08/10-G1012VS1L1	R902492164
TMS08/10-G1060VS1L1	R902519518

Description

The robust hydraulic reservoirs are designed for rotary drives in open circuits with no or very low differential volumes. Polymer and steel versions are available. Light weight and compact dimensions mean that Rexroth hydraulic reservoirs are optimally adapted to requirements of hydraulics for rotary drives.
The hydraulic reservoir allows the optional supply of a second pump.
An automatic air bleed is integrated into the reservoir cap.
The hydraulic reservoirs are fitted as standard with a visual oil level indicator. The polymer reservoir can also be equipped as necessary with electrical level monitoring.
A return line filter is installed in the reservoir.

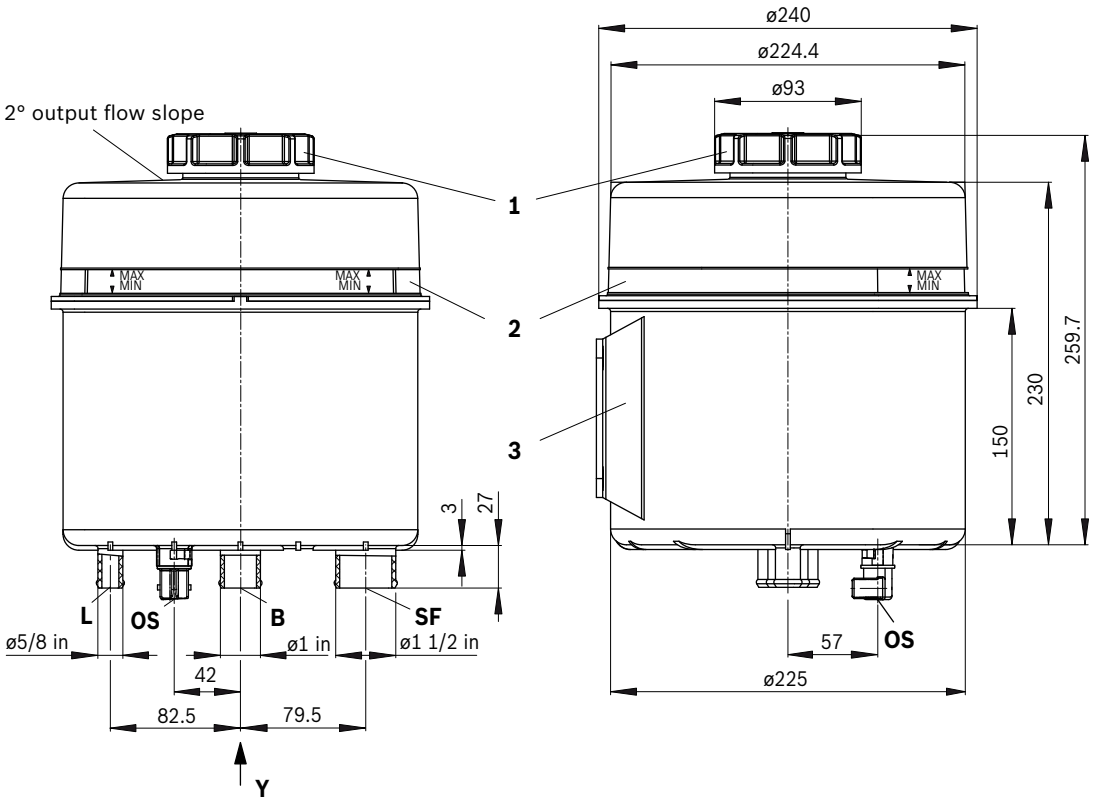
Hydraulic fluid
Prior to project planning, please see our data sheets RE 90220 (mineral oil) and RE 90221 (environmentally acceptable hydraulic fluids) for detailed information regarding the selection of hydraulic fluid and application conditions. For operation with environmentally acceptable hydraulic fluids, restrictions of the technical data are required. Please contact us. When ordering, indicate the hydraulic fluid that is to be used.

Technical Data

Hydraulic reservoir	**Polymer reservoir TMP**	**Steel reservoir TMS**
Material	Polymer, PA66GF25 (UV-stabilized)	Steel, S235JR
Wall thickness	2.5 mm	2 mm
Color	white	Black (painted), RAL 9005
Weight (empty)	1.6 kg	5.6 kg
Maximum flow rate	90 l/min	75 l/min
Total volume	8 l	8 l
Filling volume	6 l	6.5 l
Reservoir air bleed	Fitted	Fitted
Pressure, maximum permissible		
Port B (return line)	2.0 bar absolute	2.5 bar absolute
Port L (drain line)	2.0 bar absolute	2.0 bar absolute
Temperature range	–30 °C to 90 °C	–30 °C to 90 °C
Maximum operating temperature, short-term < 3 min	120 °C	120 °C
Filter		
Filter material	Glass fiber filter	Glass fiber filter
Retention rate (ISO 16889)	β_{10} > 100 Separation rate > 99% for 10 µm particles	β_{10} > 100 Separation rate > 99% for 10 µm particles
Contamination retention capacity (ISO 16889)	12 g	60 g

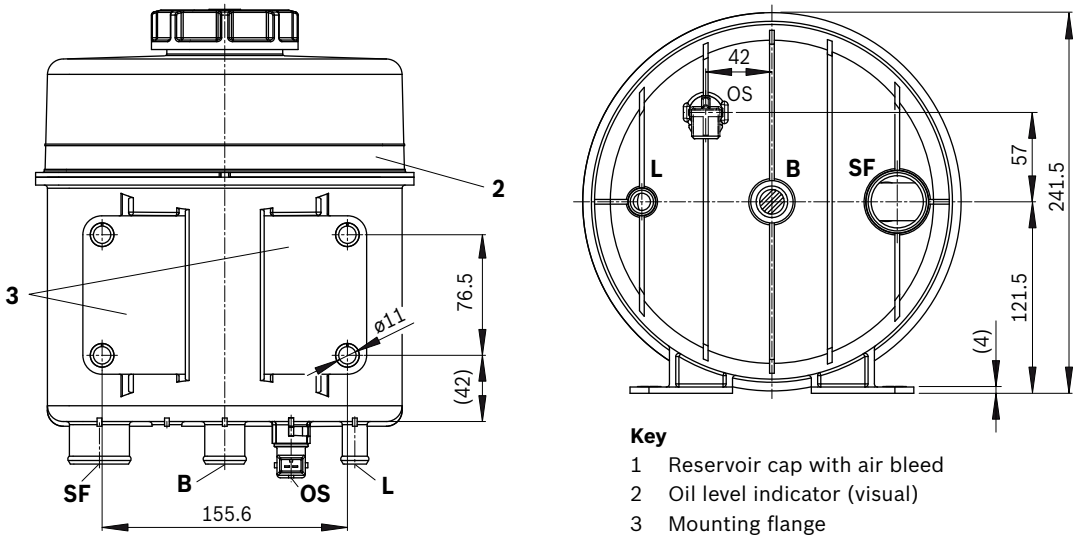
Dimensions of polymer reservoir

With oil level sensor, without suction port for second pump



Rear view with mounting flange

View Y



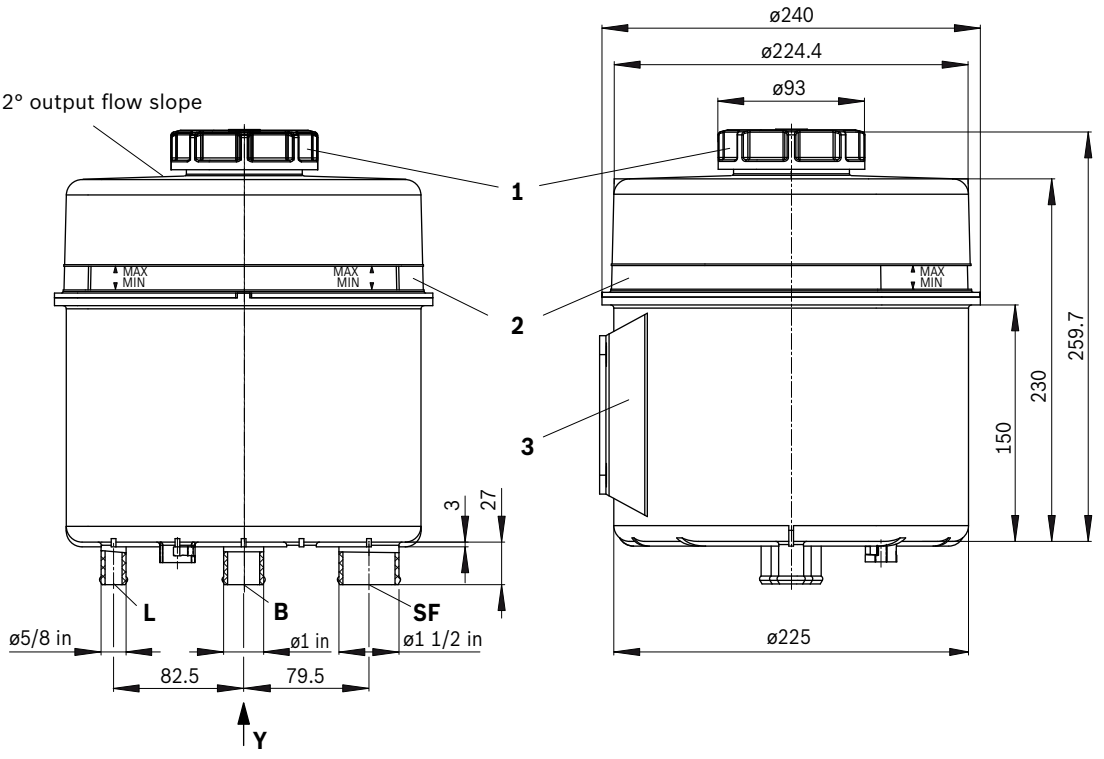
Key

1 Reservoir cap with air bleed
2 Oil level indicator (visual)
3 Mounting flange

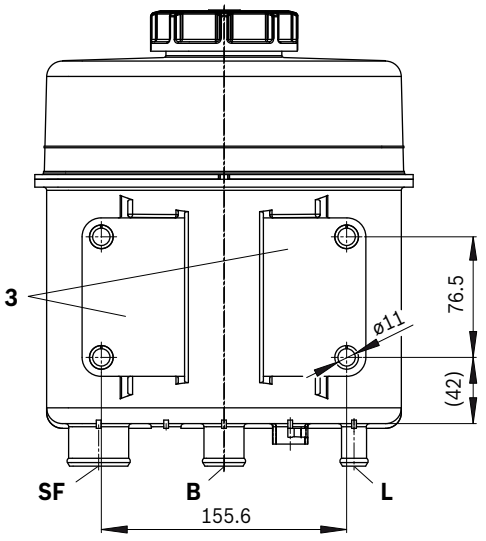
Ports		Socket piece, outer diameter[1)]	Recommended hose clamp		
			Standard	Width	Tightening torque
L	Drain port	5/8 in	DIN 3017-1	9 mm	3 Nm +0.5
B	Return port	1 in	DIN 3017-1	13 mm	5 Nm +0.5
SF	Suction port for fan pump	1 1/2 in	DIN 3017-3	20 mm	7 Nm
OS	Oil level sensor, electric	–	–	–	–

1) For these socket pieces, hose corresponding to the SAE J 517 standard are recommended

Without oil level sensor, without suction port for second pump



Rear view with mounting flange



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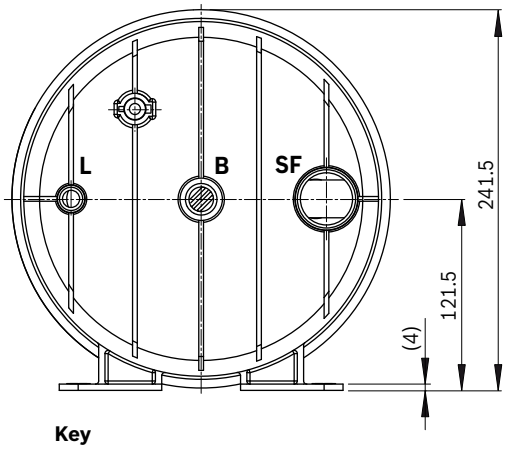

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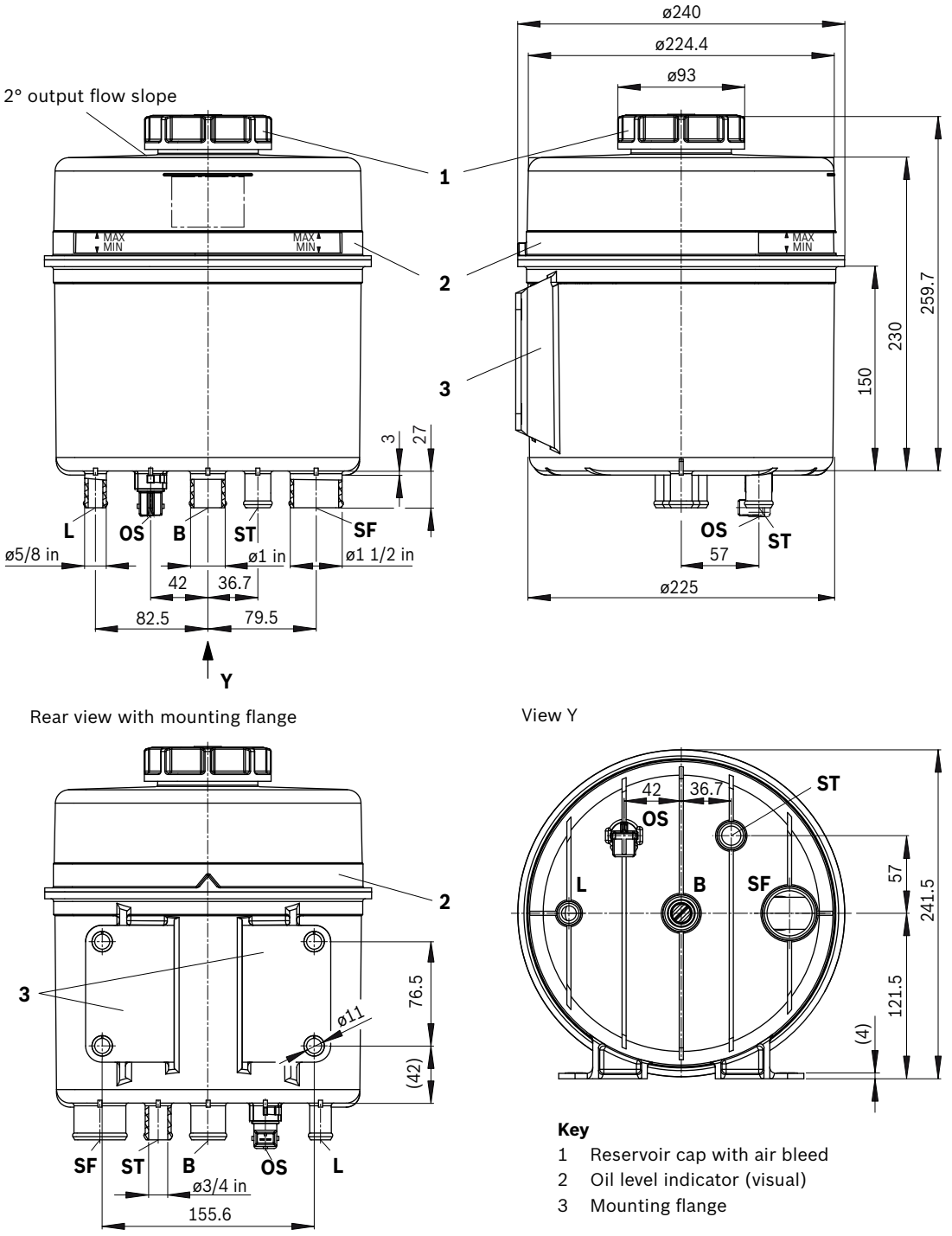
With oil level sensor, with suction port for second pump



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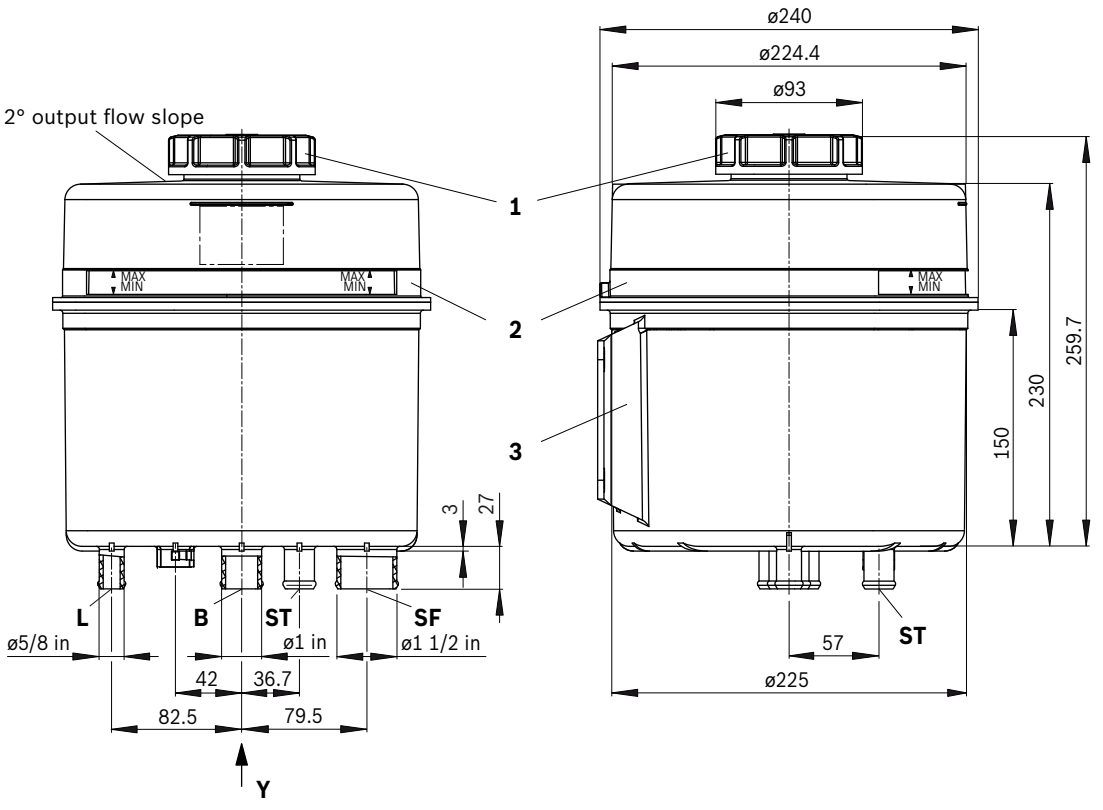
SF	Suction port for fan pump	1 1/2 in	DIN 3017-3	20 mm	7 Nm
ST	Suction port, second pump	3/4 in	DIN 3017-3	18 mm	4 Nm
OS	Oil level sensor, electric	–	–	–	–

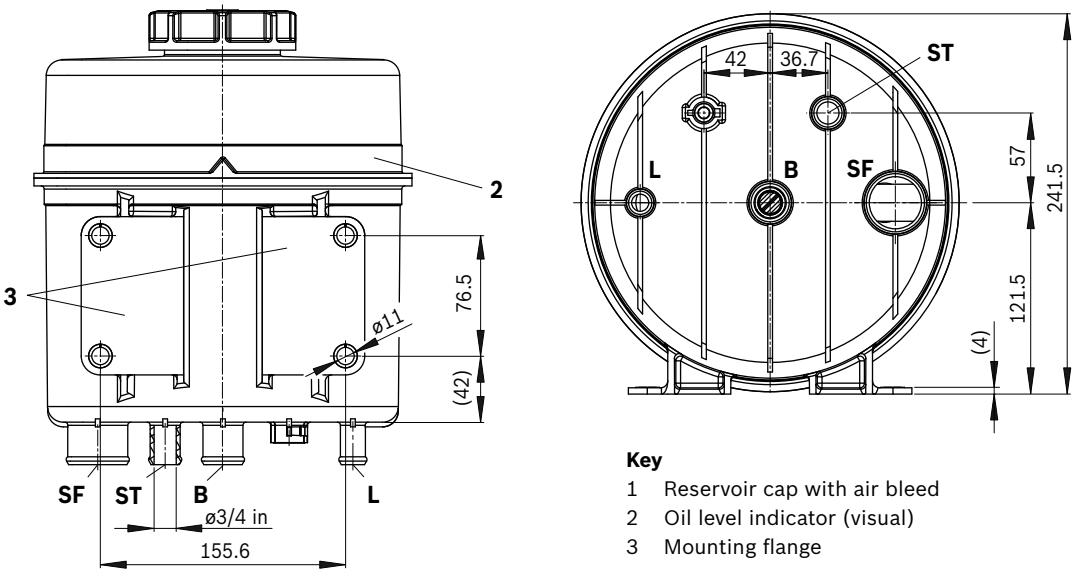
1) For these socket pieces, hose corresponding to the SAE J 517 standard are recommended

Without oil level sensor, without suction port for second pump



Rear view with mounting flange

View Y



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2 Oil level indicator (visual)
3 Mounting flange

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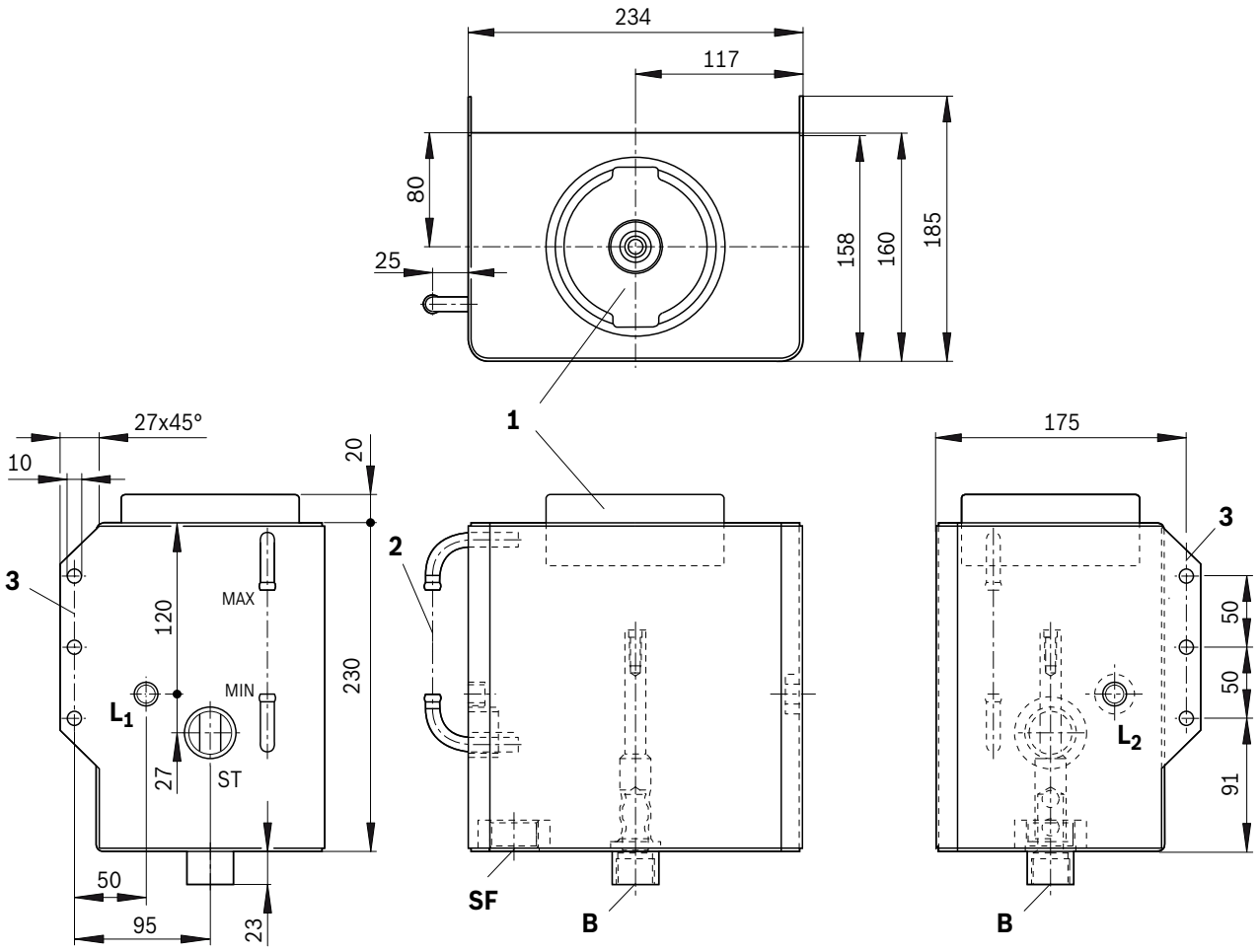
ST	Suction port, second pump	3/4 in	DIN 3017-3	18 mm	**4 Nm**

1) For these socket pieces, hose corresponding to the SAE J 517 standard are recommended

Dimensions of steel reservoir



Key

1 Reservoir cap with air bleed
2 Oil level gage (visual)
3 Mounting flange

Ports		Standard	Thread
L_1	Drain port	ISO 6149	M14 × 1.5
L_2	Drain port	ISO 6149	M14 × 1.5
B	Return port	ISO 6149	M26 × 1.5
SF	Suction port for fan pump	ISO 6149	M33 × 2
ST	Suction port, second pump	ISO 6149	M33 × 2

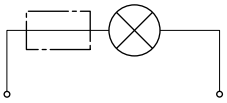
Oil level sensor

Function

The oil level sensor opens as the level drops.

Nominal voltage	Breakdown voltage
12 V / 24 V	≥ 200 V (DC)

▼ **Circuit diagram**



Indicator light not included in the scope of delivery.

Note

Contact protection measures recommended for non-resistive loads.

Mating Connector

On the version with electrical oil level sensor, the mating connector is not included in the scope of delivery.

▼ **Order designation:**

Material number	R900313533	R901022127
Litz wire cross-section	0.5 to 1 mm²	0.5 to 1 mm²
Insulation diameter of individual seals	1.2 to 2.1 mm	2.2 to 3 mm

Oil level check

Regular visual inspection of the oil level by means of a light source is recommended.

Maintenance

The service life of the hydraulic pump is heavily dependent on the quality of the hydraulic fluid in the reservoir. Our advice is to have the hydraulic fluid and the filter changed after every 2000 operating hours or at least once per year.

Spare part filter:

Hydraulic reservoir	Material number
TMP08/10–G1012. . .	R928019283
TMS08/10–G1060. . .	R928018948

Installation instructions

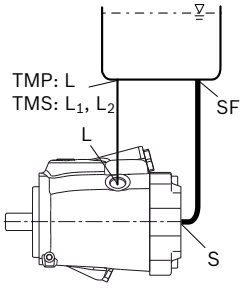
Piping of hydraulic reservoir to pump:

Connection Hydraulic reservoir	Connection Pump/oil cooler
L, L_1/L_2	Highest positioned case drain port for pump
SF	Suction line for pump
B	Return line for oil cooler

If using the reservoir with a second pump, its suction line can be connected to the **ST** port.

Installation position (recommended)

The minimum oil level in the reservoir should always be above the pump. In order to guarantee optimum suction properties for the pump, the suction line must always be routed so that it is descending from the reservoir to the pump.



Notes

- The polymer reservoir TMP must be protected against external strains (e.g. rock fall or climbing aid) and chemical contamination.
- The installation position must be selected so that the reservoir will not be damaged in an accident (crash-proof installation).
- The reservoir mounting must withstand all foreseeable loads.
- Except at the mounting points, no mechanical loads are to be exerted on the reservoir.
- The permissible temperatures must not be exceeded.
- It must be ensured that escaping hydraulic fluid is unable to come into contact with ignition sources (hot vehicle components, sparks).
- For example, the reservoir could be dropped and damaged during transportation. Reservoirs that have been dropped are not approved for operation.

General instructions for project planning

- The project planning, installation and commissioning of a hydraulic reservoir require the involvement of qualified skilled persons.
- The working ports and function ports can only be used to accommodate hydraulic lines.
- Manufacturer's instructions for the tightening torques of the used fittings must be observed!
- No faulty components are to be used. If the components should fail or demonstrate faulty operation, repairs must be performed immediately.
- During and for a short time after operation, the case temperature of the reservoir may increase. Take suitable safety measures (e.g. wear protective clothing).
- The product is not approved as a component for the safety concept of a general machine according to DIN EN ISO 13849.
- The sensor for electrical level monitoring cannot be retrofitted.
- Surge movements of the oil can cause oil to leak via the reservoir air bleed, which can cause an oil film on the reservoir surface.

Intended use

- Rexroth hydraulic reservoirs are designed for rotary drives in an open circuit.
- When designing the system, make sure the maximum oil level is not exceeded even at high temperatures (e.g. by temperature expansion of the oil).
- When cleaning the reservoir (e.g. by water jet), make sure no water enters the reservoir through the reservoir air bleed.
- In case of continuous irradiation with UV light (e.g. sunlight), UV protection for the reservoir is necessary.
- The warranty by Rexroth only applies to the delivered configuration. In case of extensions or conversions, the warranty will become void.

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