

Relay valve 973 0..

973 001 010 0
973 001 020 0



973 011 000 0



Application

With especially large brake cylinder volumes

Purpose

To rapidly increase or decrease the pressure of compressed air equipment and to shorten the response and pressure build-up times in air braking systems

Maintenance

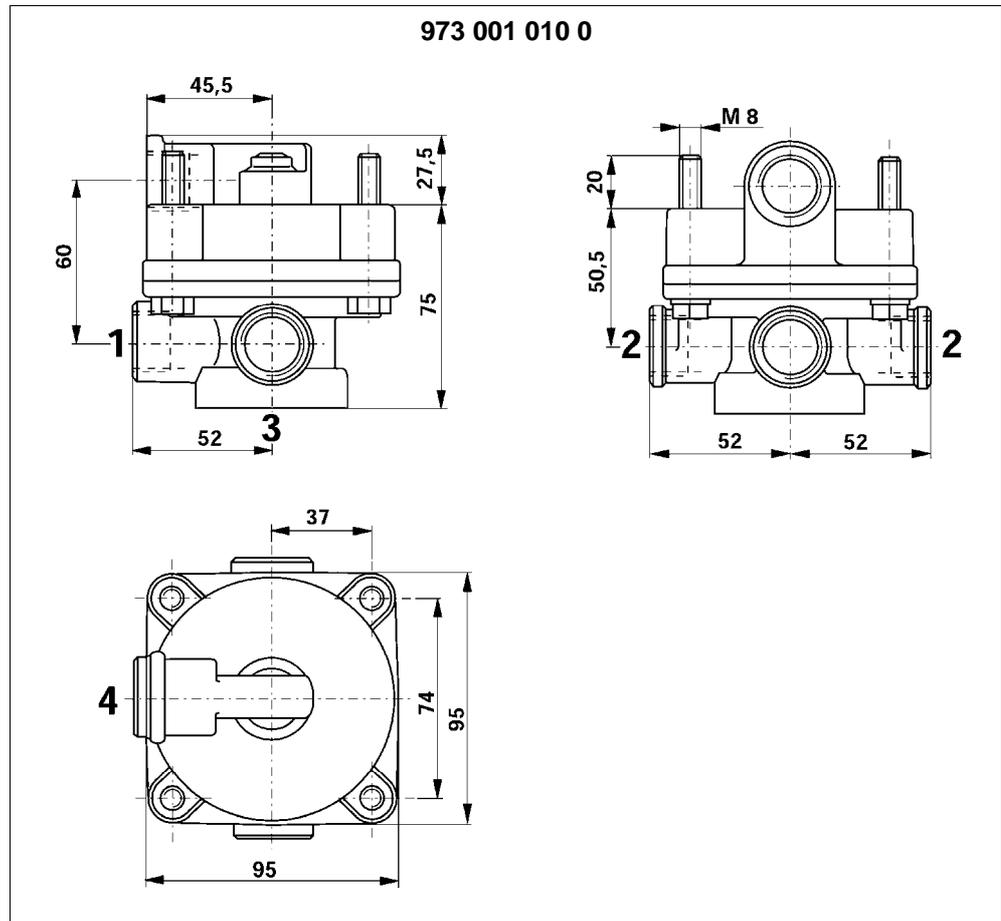
Special maintenance that extends beyond the legally specified inspections is not required.

Installation recommendation

- Install the relay valve so that vent 3 points downward.
- Fasten the relay valve with either two of the four housing fastening bolts M8.

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Installation dimensions

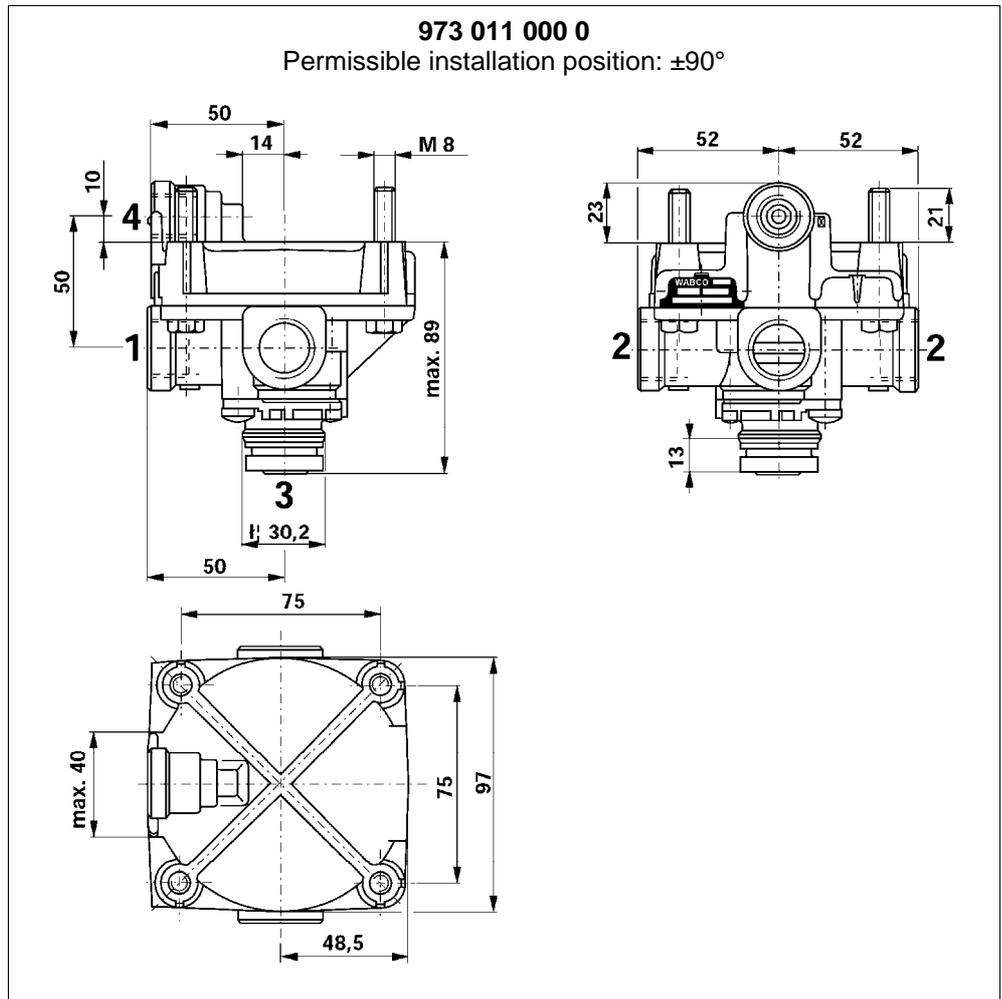


Connections

1	Energy supply	2	Energy delivery	3	Exhaust	4	Control port
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Installation dimensions



Connections

1 Energy supply 2 Energy delivery 3 Exhaust 4 Control port

Technical data

Order number	973 001 010 0	973 001 020 0	973 011 000 0
Max. supply pressure	22 bar		13 bar
Output pressure p_2	8 bar		10 bar
Control pressure p_4	8 bar (Max. operating pressure: 10 bar)	8 bar	10 bar
Port threads	M 22x1.5 - 14 deep	1 = M 22x1.5 - 14 deep 2, 4 = M 16x1.5 - 14 deep	1, 2 = M 22x1.5 - 13 deep 4 = M 16x1.5 - 12 deep
Operating temperature range	-40 °C to +80 °C		
Weight	1.1 kg		0.62 kg

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through vent 3. If the actuating pressure at port 4 is fully evacuated, the pressure in chamber B pushes pistons (a) to their upper neutral position and the outlet (c) opens. The downstream brake cylinders are evacuated fully through vent 3.

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Overload protection Relay valve 973 011 201 0



Application

Especially with drum-brake vehicles

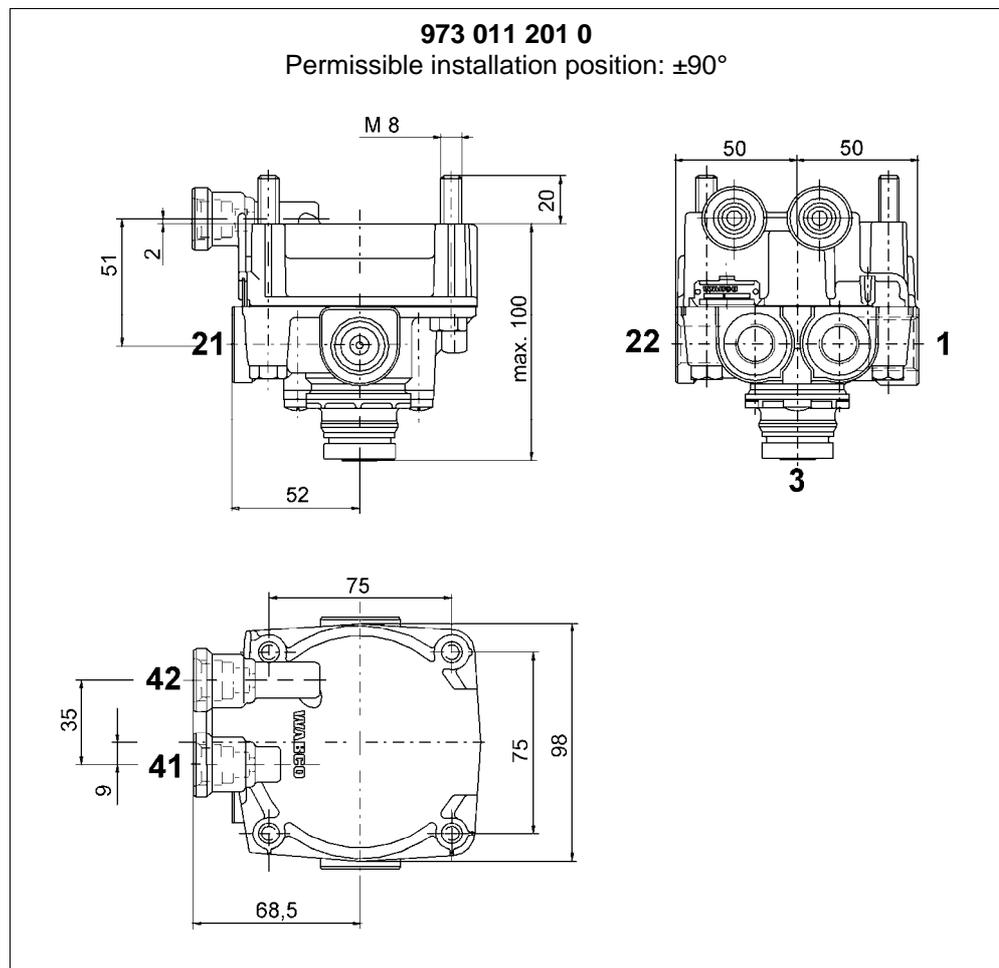
Purpose

For the protection of the wheel brake from overload (added force) when service and parking brake are actuated simultaneously,

Quick charge and venting of the spring brake cylinders (Tristop® cylinders).

Trailer EBS E **with** PEM: The overload relay valve is already integrated in the pneumatic extension module (PEM).

Installation dimensions

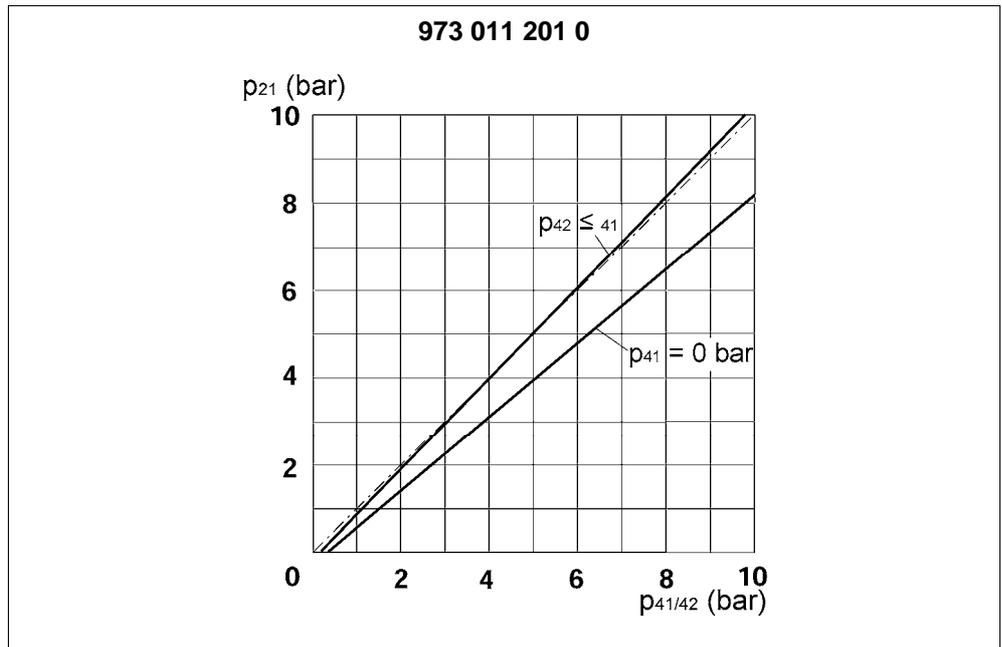


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Technical data

Order number	973 011 201 0
Max. supply pressure	12 bar
Max. control pressure $p_{41/42}$	10 bar
Port threads	1 = M 22x1.5 ($M_{max.} = 53 \text{ Nm}$) M 16x1.5 ($M_{max.} = 34 \text{ Nm}$)
Operating temperature range	-40 °C to +80 °C

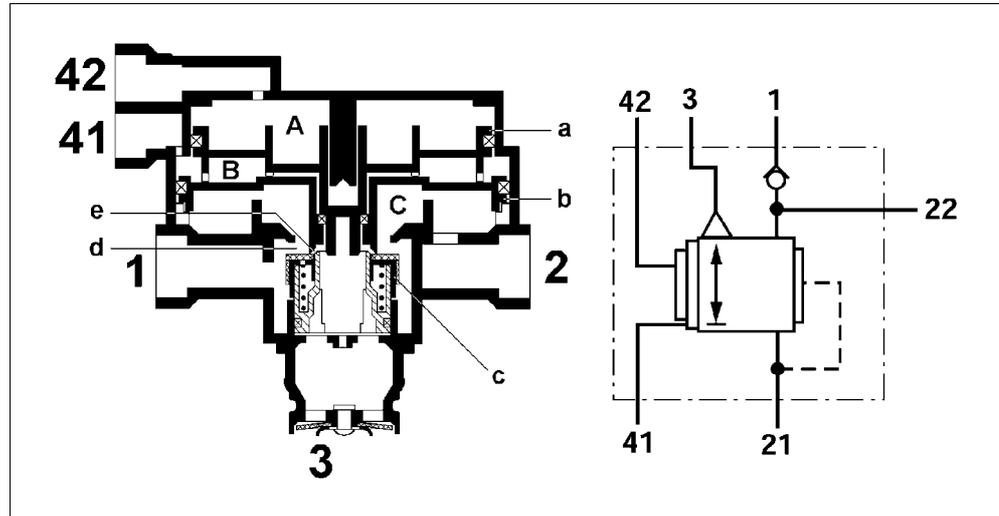
Diagram



Legend			
p_{21}	Output pressure	$p_{41/42}$	Control pressure

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Operation



In driving position, chamber B is continuously supplied with compressed air through port 41 from the double release valve or PREV. The pressurized piston (b) keeps outlet (f) closed and through the depressed valve stem (c) keeps inlet (e) open. Port 21 receives the full pressure from the reservoir through port 1. After the check valve is open, the spring brake cylinders connected to port 21 are supplied with compressed air and the spring brakes are released.

When using the service brake system the compressed air goes via port 42 in chamber A and pressurizes piston (a). Because of the counter-forces in chambers B and C, the pressure has no effect on the operation of the relay valve.

Chamber B is fully evacuated by using the red pull button on the PREV or the double release valve. The released piston (b) is pushed up by the supply pressure in chamber C. Outlet (f) thereby opens, while inlet (e) is closed by the rising valve (c). The spring brake actuators are evacuated via outlet (f) and the exhaust 3.

When in addition the service brake system is used, the compressed air goes via port 42 in chamber A and pressurizes piston (a). As chamber C is evacuated, this piston (a) goes down. Outlet (f) opens and inlet (e) opens. The compressed air pending at port 1 goes via chamber C and port 21 in the spring-type brake actuators. The spring brake is thereby released but only to the extent that the service brake pressure rises. Therefore, there is no compounding of the two braking forces.

As soon as the pressure building up in chamber (C) becomes greater than the pressure present in chamber A, piston (b) goes up. Inlet (e) closes and the relay valve is in the neutral position.

When the service brake is released (with parking brake still being actuated), chamber A is evacuated once again. The pressure in chamber C is greater, forcing piston (b) up. Outlet (f) opens and the spring brakes are connected with vent 3.