

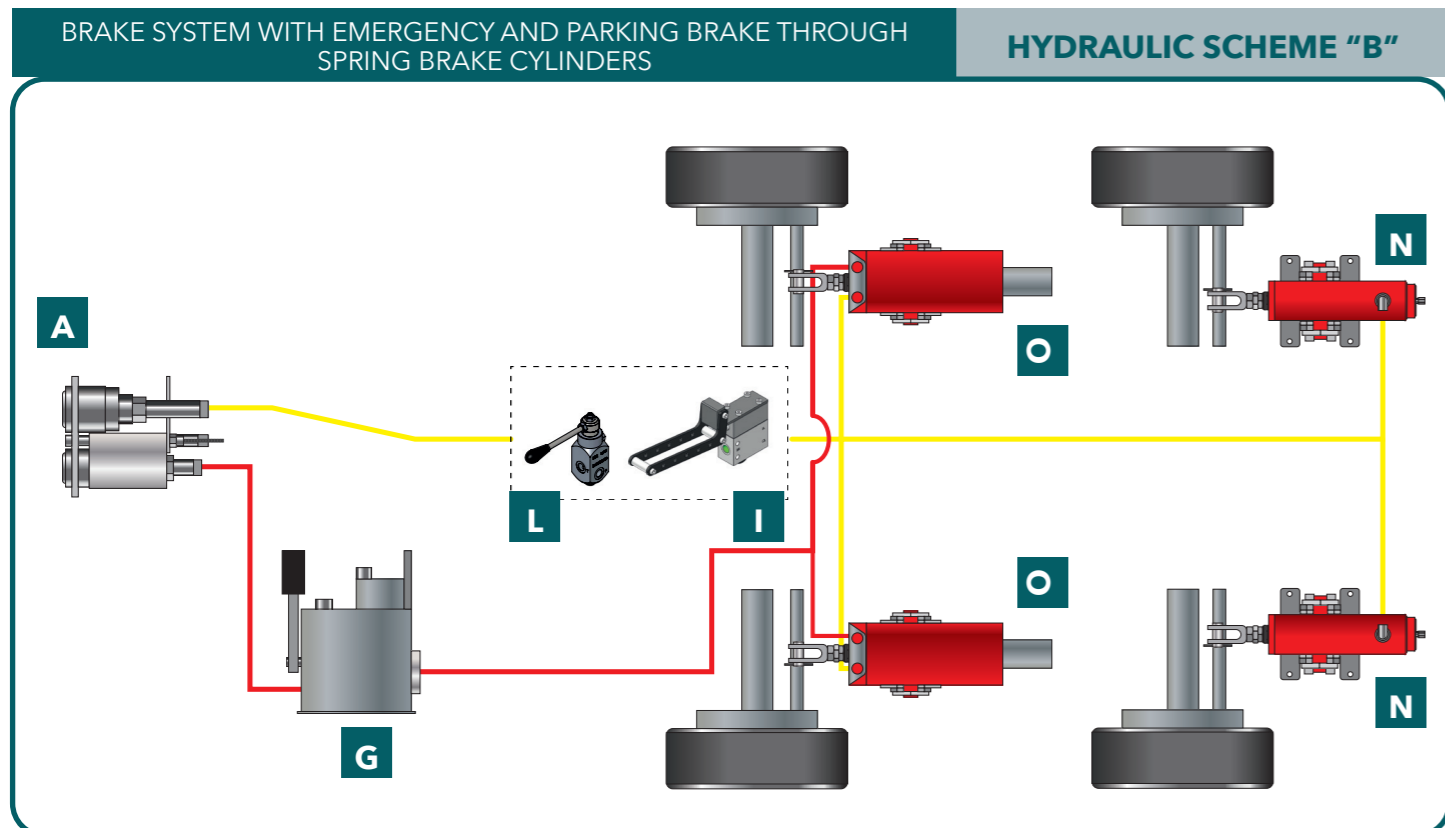
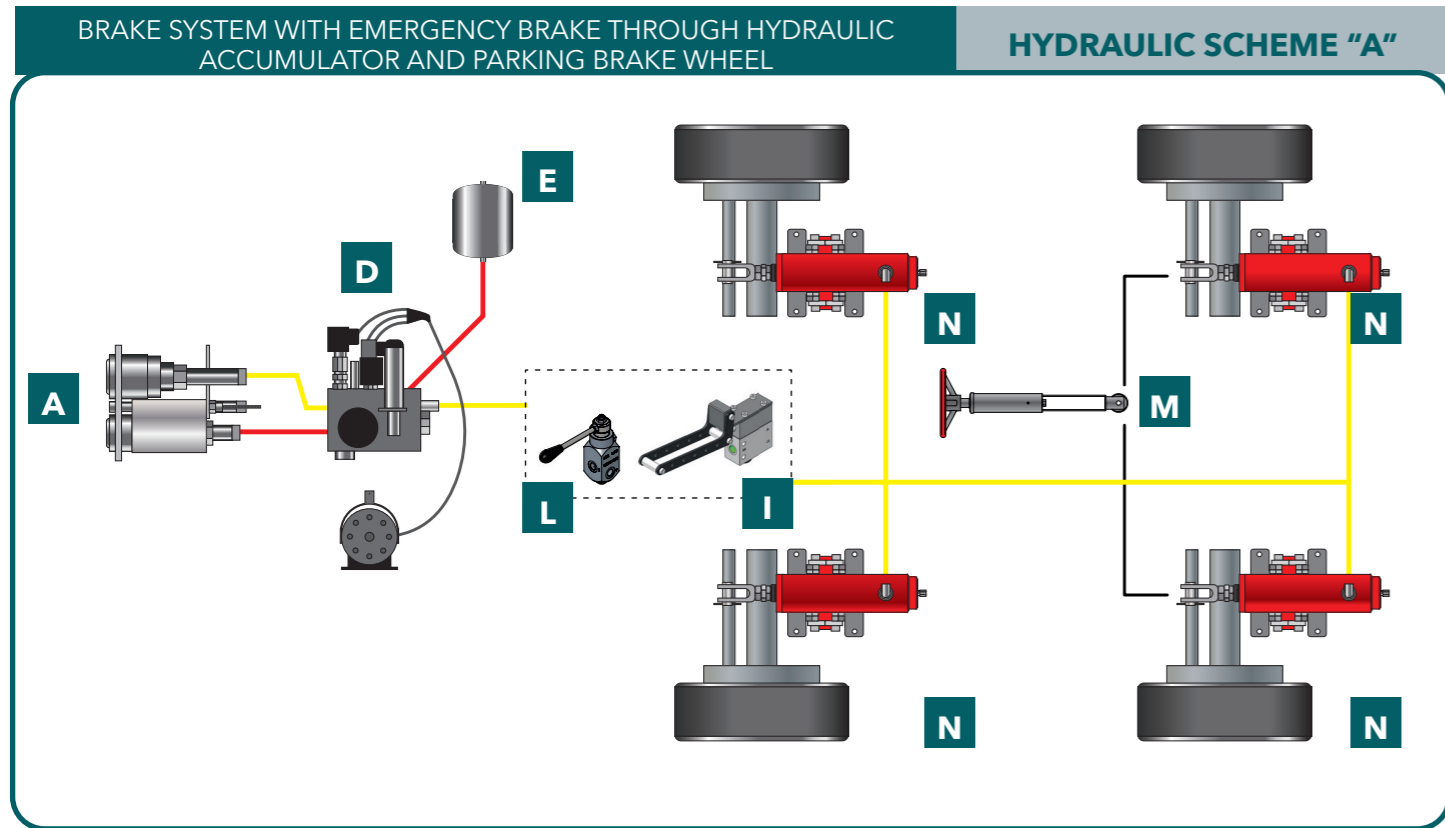
# BRAKING TECHNOLOGY



HYDRAULIC BRAKING SYSTEMS  
FOR TRAILERS



The experience acquired in designing and installing pneumatic braking systems, together with the availability of proven and reliable programs for design and calculation, make SIVAT the ideal partner for hydraulic brake system applications too.



## ITEMS

	<b>A</b> DOUBLE MR COUPLING COD. ID145 00000
	<b>Z</b> PROPORTIONAL REDUCING VALVE COD. ID815 00000
	<b>D</b> EMERGENCY BRAKE VALVE WITH CABLING COD. ID315 00001
	<b>G</b> BRAKE RELEASE PUMP WITH HANDLE COD. ID955 00000
	<b>I</b> AUTOMATIC LOAD SENSING VALVE COD. ID555 00000
	<b>L</b> MANUAL PROPORTIONAL LOAD SENSING VALVE COD. ID51503000 - 30 bar COD. ID51504400 - 44 bar COD. ID51505400 - 54 bar COD. ID51506600 - 66 bar COD. ID51507600 - 76 bar
	<b>L</b> MANUAL LOAD SENSING VALVE COD. ID513 G3810
	<b>M</b> CONVERTER COD. ID921 00000
	<b>Z</b> PRESSURE LIMITER COD. ID801 00000
	<b>E</b> HYDRAULIC ACCUMULATOR COD. ID91X XXXXX
	<b>M</b> PARKING BRAKE WHEEL COD. L.14.02
	<b>N</b> BRAKE CYLINDER MR COD. ID720201X0 - Ø20 COD. ID720251X0 - Ø25 COD. ID720281X0 - Ø28 COD. ID720301X0 - Ø30 COD. ID720321X0 - Ø32 COD. ID720351X0 - Ø35 COD. ID720381X0 - Ø38  X: 1 = Yoke 5 = Slotted hole yoke

## DESCRIPTION AND OPERATION

### HYDRAULIC SCHEME "A"

#### 1- Driving condition

Supplementary line (SL) pressure: 15-35 bar

Control line (CL) pressure: 0 bar

Trailer brakes are released

#### 2- Service brake system

When the tractor brakes, the pressure in the control line (CL) works on the service brake cylinders.

#### 3- Automatic emergency braking

When the trailer is disconnected from the tractor, the pressure in the supplementary line (SL) drops down; the emergency brake valve puts in communication the pressure accumulator with the braking cylinders activating the emergency brake system.

The emergency brake valve integrates a function to remove the emergency brake action in order to permit the movement of the trailer when it is not connected to the tractor.

In case of low pressure into the accumulator, the trailer sends an alarm through an electric signal. If the ISO 7638 connector is not connected to the tractor vehicle, the trailer brakes remain applied.

#### 4- Parking brake

The parking brake is applied through a mechanical linkage driven by the parking brake wheel.

### HYDRAULIC SCHEME "B"

#### 1- Driving condition

Supplementary line (SL) pressure: 15-35 bar

Control line (CL) pressure: 0 bar

Trailer brakes are released

#### 2- Service brake system

When the tractor brakes, the pressure in the control line (CL) works on the service brake cylinders.

#### 3- Automatic emergency braking

When the trailer is disconnected from the tractor, the pressure in the supplementary line (SL) drops down, activating the spring brakes.

#### 4- Parking brake

When the trailer is disconnected from the tractor the automatic braking function acts as parking brake. To remove temporary the braking action it is possible to install a tank with a manual pump that can increase the pressure in the supplementary line. The parking brake will be applied again once the pressure is removed.

	<b>O</b> SPRING BRAKE CYLINDER MR COD. ID73020110 - Ø20 COD. ID73025110 - Ø25 COD. ID73028110 - Ø28 COD. ID73030110 - Ø30 COD. ID73032110 - Ø32 COD. ID73035110 - Ø35
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$$v_2 = v_1 \cdot \sqrt{\frac{F_M + F_1 + F_2/4}{F_M + F_1 + F_2}}$$

$$d_m = \frac{v_m^2 - v_e^2}{25,92 (s_e - s_b)} \text{ m/s}$$

Sivat has been working since 2000 in the branch of braking and auxiliary systems for motor vehicles and trailers, both for agricultural and road transport applications.

Sivat has been for years exclusive partner of KNORR-BREMSE and partner of ZF WABCO for OEM of trailers and motor vehicles for the Italian market.

**get in touch with us**



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