

Stabilising module

RE 64614/07.04

1/6

Type RSM2

Nominal size 10

Component series 2X

Maximum operating pressure:

- Actuator connections A, B 420 bar
- Accumulator connection X 350 bar

Nominal flow 80 L/min



HAD 7290/04

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Features

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1	The RSM2 stabilising module reduces pitching movements on wheeled vehicles that effect the vehicle and driver. For this the lifting line is connected to a hydro-pneumatic accumulator, via a switching valve, that absorbs the loads caused by the pitching movements.
2	
2	
3	Applications:
3	– Wheeled loaders
3	– Telescopic handlers
3	The following advantages apply when the RSM2 system is fitted:
4	
5	– Higher transport speeds
	– Higher handling rates
	– Stable steering characteristics
	– Shorter braking distances
	– Higher comfort for the driver
	– Lower mechanical loading of the entire machine
	– Fewer repairs or down times with identical handling rates

Ordering details

RSM2		10	B	2X	/				V	01	*
Stabilising module	Further details in clear text										
Nominal size 10	= 10										
Design	Connections										
Block design	= B										
Component series 20 to 29 (20 to 29: unchanged installation and connection dimensions)	= 2X										
Accumulator pressure limitation	Electrical connections										
Without accumulator pressure limitation	= A000										
Accumulator pressure limitation with EC design test, pressure in bar	= A...										
Accumulator pressure limitation without EC design test, pressure in bar	= B...										
Accumulator loading orifice (defined when optimising the machine)	Supply voltage										
Orifice cross-section → Loading side	= 12..										
Orifice cross-section → Unloading side	= ..04										
	01 = Pipe thread to ISO 228/1										
	V = FKM seals										
	C4 = Plug, 2-pin, Junior Timer										
	K41L = Plug, 2-pin, Junior Timer, and diode P6KE30CA (12 V)										
	K42L = Plug, 2-pin, Junior Timer, and diode P6KE47CA (24 V)										
	G12 = 12 V DC										
	G24 = 24 V DC										

Function, circuit

Design

The stabilising module (1) basically comprises of a housing into which are built:

- Valve spool (2)
- 3/2-way directional valve, solenoid operated (3)
- Pressure relief valve (4)
- Emergency drain screw (5)
- Accumulator loading valve (6)

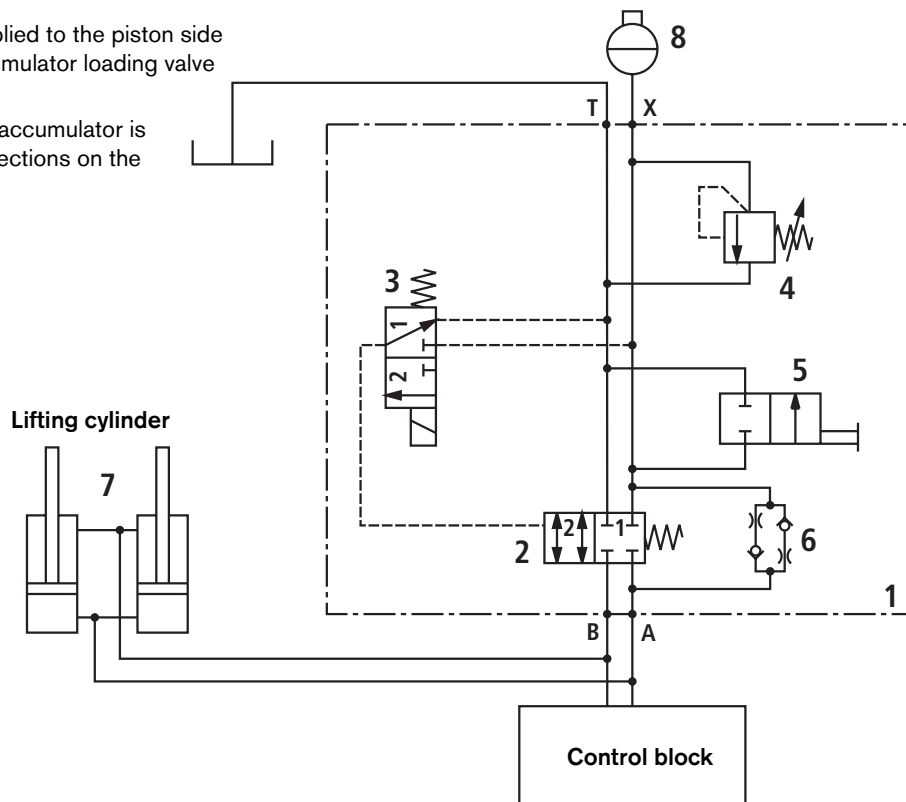
Function

If the lifting cylinder (7) has pressure applied to the piston side then pressure is also applied to the accumulator loading valve (6) as well as the accumulator (8).

The loading and unloading speed of the accumulator is defined via the selectable orifice cross-sections on the accumulator loading valve (6).

The damping valve can be automatically activated via the travel speed. The 3/2-way directional valve (3) is switched into the switched position 2. The valve spool (2) is switched to the switched position 2 and connects the piston side of the lifting cylinder (7) with the accumulator (8) as well as the rod side of the lifting cylinder (7) to tank.

The pressure relief valve (4) prevents unpermissible high pressures in the accumulator.
(Set pressure < permissible accumulator pressure).



Parking the vehicle, maintenance and service work

Via the emergency drain screw (5) (shown in the circuit as a mechanically operated 2/2-way directional valve) it is possible to unload the accumulator so that the above mentioned work can be carried out.

The accumulator loading orifice components are subject to

a degree of wear. They should be checked and if necessary replaced after approx. 200.000 load cycles.

⚠ Attention:

The safety technical requirements of the vehicle have to be taken into account! The lifting system must firstly be secured against lowering.

Regularity requirements and safety guidelines

Accumulators are required for the RSM2 stabilisation system. If, due to the operation situation of the machine, the danger exists that the accumulator's permissible pressure limit can be exceeded, then a pressure relief valve has to be fitted. For this system regularity requirements and those from the authorities may have to be complied with.

For this purpose the RSM2 is fitted with a pressure relief valve. This can also be a design tested valve which complies with the pressure component directive 97/23/EC (see ordering details).

If a RSM2 is ordered **without** a pressure relief valve (example: RSM2-10 B2X/A000...), Rexroth assumes that the appropriate pressure safety function has been foreseen by the vehicle manufacturer or that accumulator pressure overloads are prevented in a different manner within the vehicle's design.

In addition for the vehicle other national and international regulations may apply.

The entire responsibility lies with the vehicle manufacturer.

Installation guidelines

- The number of accumulators is dependent on the lifting cylinder size. Accumulators have to be ordered separately.
- The pressure relief setting (safety valve for the pressure vessel) **must** be lower than the permissible accumulator pressure.

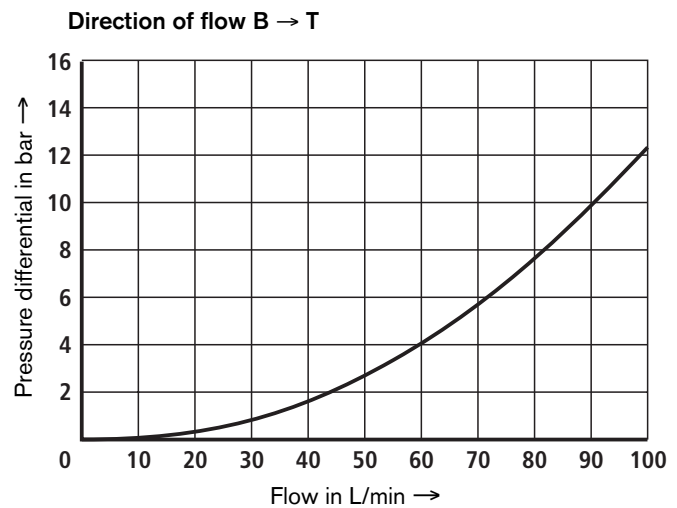
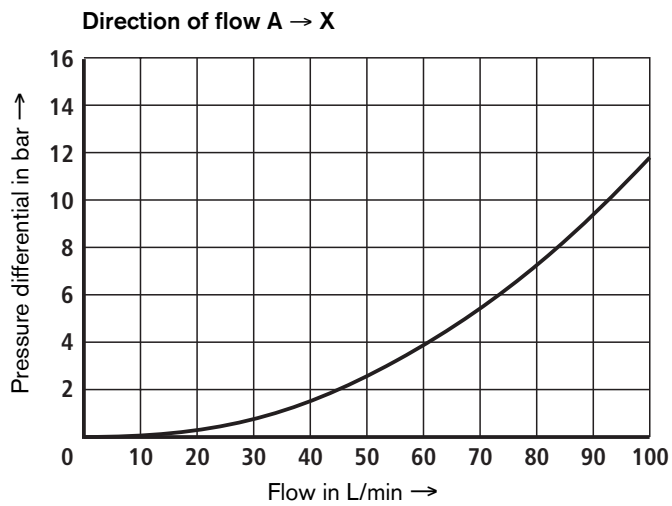
⚠ Attention:

- Before carrying out any maintenance work the accumulators must be unloaded (zero pressure).
- For this, unscrew the plug then rotate the valve spindle, located under the plug (3A/F), 2 turns anti-clockwise. The lifting system must firstly be secured against lowering.

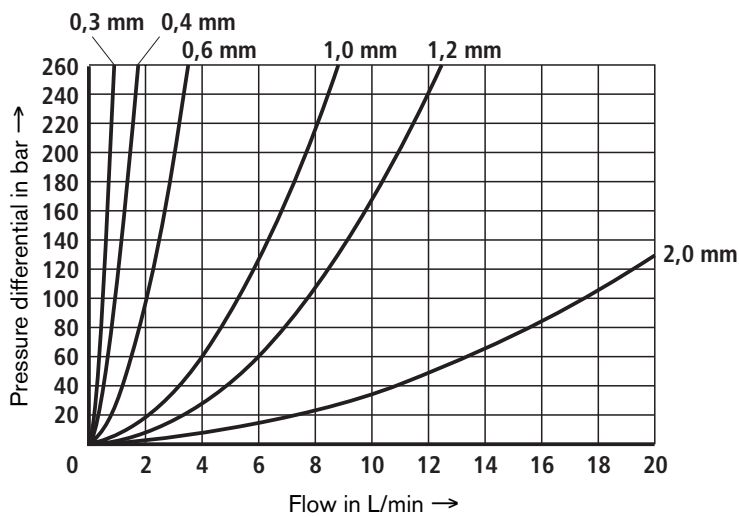
Technical data (for applications outside these parameters, please consult us!)

General			
Installation			Optional
Ambient temperature range	°C		– 20 ... + 80
Weight	kg		4.7
Hydraulic			
Operating pressure	Ports A, B	bar	420
	Port X	bar	350
	Port T	bar	30
Max. nominal flow	Ports A, X	L/min	80
Pressure fluid			Mineral oil (HL, HLP) to DIN 51524; Other pressure fluids on request!
Pressure fluid temperature range	°C		– 20 ... + 80
Viscosity range	mm ² /s		10 ... 380
Max. permissible degree of pressure fluid contamination Cleanliness class to ISO 4406 (c)			Class 20/18/15
Electrical			
Control voltage	V		12; 24
Power consumption (solenoid)	W		14.4

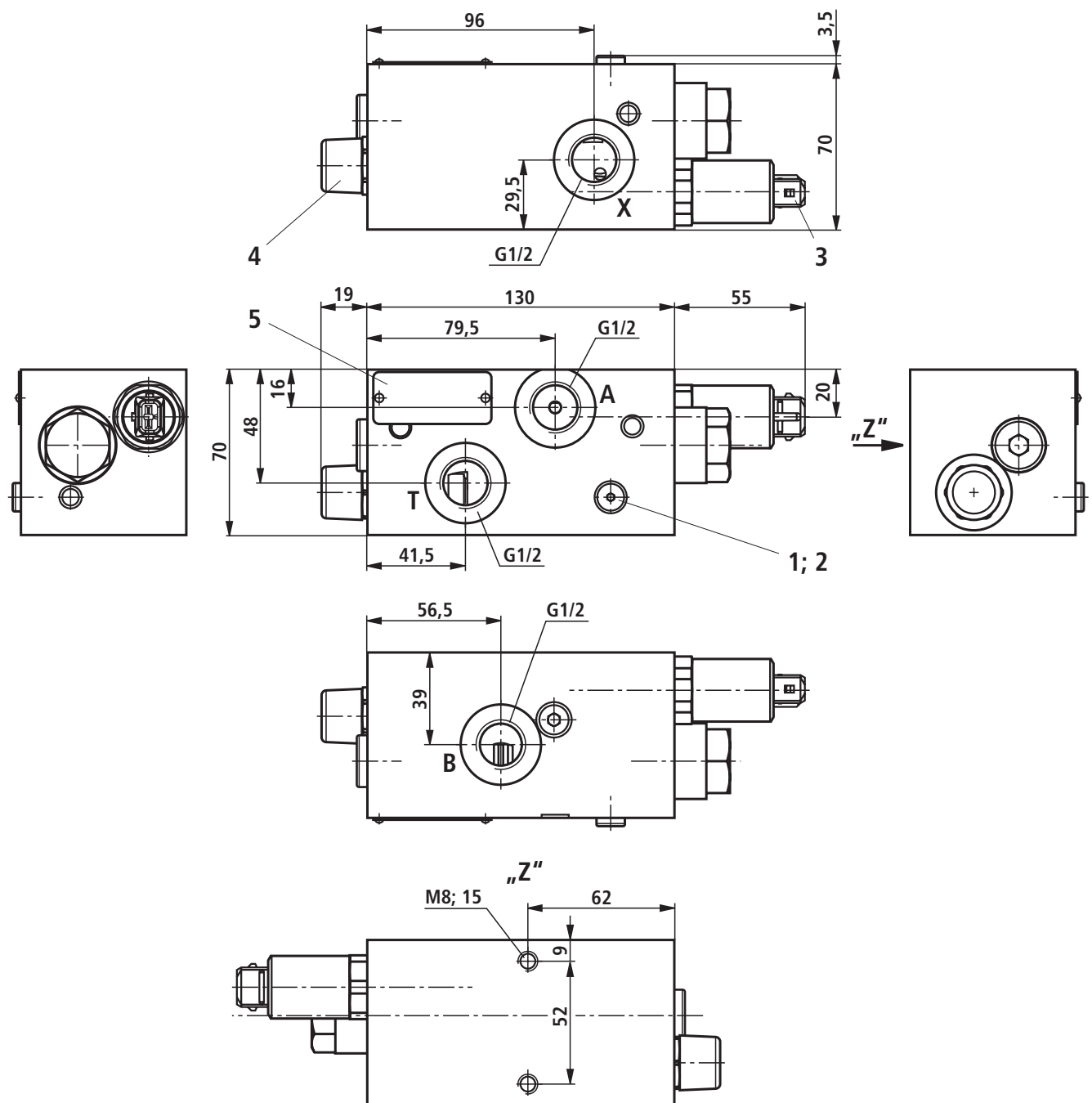
Characteristic curves (measured with HLP68, $\vartheta_{oil} = 40\text{ °C} \pm 5\text{ °C}$)



Δp - q_v -characteristic curves for selecting the accumulator loading orifice



Unit dimensions (in mm)



1 Emergency lowering screw,
 $M_A = 7 \text{ Nm}$
 (see notes on page 3 regarding
 installation)

2 Valve spindle located under
 Pos.1 3A/F, $M_A = 3.5 \text{ Nm}$

3 Electrical connection
 Plug, 2-pin
 Type Junior Timer (AMP)

4 Pressure relief valve

5 Name plate

Port sizes

A, B, T, X = G 1/2

Notes

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