Rexroth
Bosch Group

2/2, 3/2 and 4/2 directional seat valve with solenoid actuation

RE 22049/07.09 1/14
Replaces: 07.06

Type M-.SED

Size 6
Component series 1X
Maximum operating pressure 350 bar *[5100 psi]*
Maximum flow 25 l/min *[6.6 gpm]*

Table of contents

Information on available spare parts:
www.boschrexroth.com/spc

Features

- Direct operated directional seat valve with solenoid actuation
- Porting pattern according to DIN 24340 form A (**without** locating hole)
- Porting pattern according to ISO 4401-03-02-0-05 and NFPA T3.5.1 R2-2002 D03 (**with** locating hole)
- Safe switching also with longer standstill periods under pressure
- Wet-pin DC voltage solenoids with detachable coil (AC voltage possible by means of a rectifier)
- Solenoid coil can be rotated by 90°
- The coil can be changed without having to open the pressure-tight chamber
- Electrical connection as individual connection (for more electrical connections, see RE 08010)
- With concealed manual override, optional
- Inductive position switch (contactless), see RE 24830

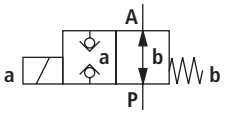
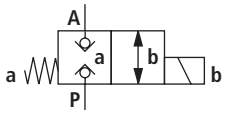
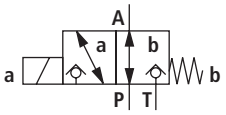
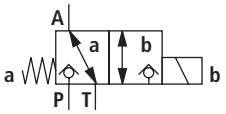
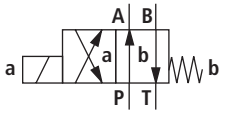
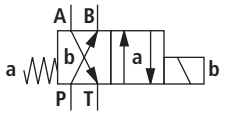
Ordering code

M–	SED	6	–1X/350	C		

2 main ports **= 2**
3 main ports **= 3**
4 main ports **= 4**

Seat valve

Size 6 **= 6**

Symbols	Main ports	2	3	4	
		●	–	–	**= PK**
		●	–	–	**= NK**
		–	●	–	**= UK**
		–	●	–	**= CK**
		–	–	●	**= D**
		–	–	●	**= Y**
		● = Available			

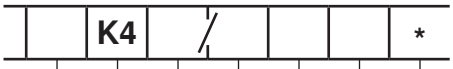
Component series 10 to 19 **= 1X**
(10 to 19: unchanged installation and connection dimensions)

Operating pressure 350 bar *[5100 psi]* **= 350**

Solenoid, wet-pin with detachable coil **= C**

DC voltage 24 V **= G24**
DC voltage 205 V **= G205** [1)]
DC voltage 96 V **= G96**
For further ordering codes for other voltages, see page 6

AC voltage mains (permissible voltage tolerance ± 10%)	**Nominal voltage of the DC voltage solenoid in case of operation with AC voltage**	**Ordering code**
110 V - 50/60 Hz	96 V	**G96**
120 V - 60 Hz	110 V	**G110**
230 V - 50/60 Hz	205 V	**G205**



Further details in the plain text

No code = **without** locating hole
/62 = **with** locating hole and locating pin ISO 8752-3x8-St

No code = NBR seals
V = FKM seals
(other seals upon request)
Attention!
Observe compatibility of seals with hydraulic fluid used!

No code = without check valve insert, without throttle insert
P = with check valve insert
B12 = Throttle Ø 1.2 mm *[0.047 inch]*
B15 = Throttle Ø 1.5 mm *[0.059 inch]*
B18 = Throttle Ø 1.8 mm *[0.071 inch]*
B20 = Throttle Ø 2.0 mm *[0.079 inch]*
B22 = Throttle Ø 2.2 mm *[0.087 inch]*
Other orifices upon request

Spool position monitoring
No code = without position switch
QMAG24 = Monitored spool position “a”
QMBG24 = Monitored spool position “b”
For further details see RE 24830

Electrical connection
K4 [2] **=** without mating connector, individual connection with connector according to DIN EN 175301-803

N9 = **with** concealed manual override
No code = **without** manual override

[1] For connection to the AC voltage mains, a DC voltage solenoid **must** be used, which is controlled via a rectifier (see table page 2).

A mating connector with integrated rectifier can be used (separate order, see page 13).

[2] Mating connectors, separate order, see page 13.

Standard types and units are contained in the EPS (standard price list).

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

general

Weight	– 2/2 directional seat valve	kg *[lbs]*	1.5 *[3.3]*
	– 3/2 directional seat valve	kg *[lbs]*	1.5 *[3.3]*
	– 4/2 directional seat valve	kg *[lbs]*	2.3 *[5.1]*
Installation position			Any
Ambient temperature range		°C *[°F]*	–30 to +50 *[–22 to +122]* (NBR seals) –20 to +50 *[–4 to +122]* (FKM seals)

hydraulic

Maximum operating pressure	bar *[psi]*	See performance limit page 8
Maximum flow	l/min *[gpm]*	25 *[6.6]*
Hydraulic fluid		Mineral oil (HL, HLP) according to DIN 51524 [1]; fast biodegradable hydraulic fluids according to VDMA 24568 (see also RE 90221); HETG (rape seed oil) [1]; HEPG (polyglycols) [2]; HEES (synthetic esters) [2]; other hydraulic fluids upon request
Hydraulic fluid temperature range	°C *[°F]*	–30 to +80 *[–22 to +176]* (NBR seals) –20 to +80 *[–4 to +176]* (FKM seals)
Viscosity range	mm^2/s *[SUS]*	2.8 to 500 *[35 to 2320]*
Maximum permitted degree of contamination of the hydraulic fluid - cleanliness class according to ISO 4406 (c)		Class 20/18/15 [3]

electrical

Type of voltage			Direct voltage	Alternate voltage
Available voltages [4]		V	12, **24**, 42, 96, 110, 205, 220	Only possible via rectifier (see page 13)
Voltage tolerance (nominal voltage)		%	±10	
Power consumption		W	30	
Duty cycle		%	100	
Switching time according to ISO 6403	– ON	ms	40 to 70	
	– OFF	ms	10 to 20 (without rectifier) 30 to 45 (with rectifier)	
Maximum switching frequency	– Operating pressure ≤ 350 bar	1/h	15000	
	– Operating pressure > 350 bar	1/h	3600	
Type of protection according to DIN EN 60529			IP 65 with mating connector mounted and locked	
Maximum surface temperature of the spool [5]		°C *[°F]*	120 *[248]*	

[1] Suitable for NBR and FKM seals

[2] Only suitable for FKM seals

[3] The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents malfunction and at the same time increases the service life of the components.

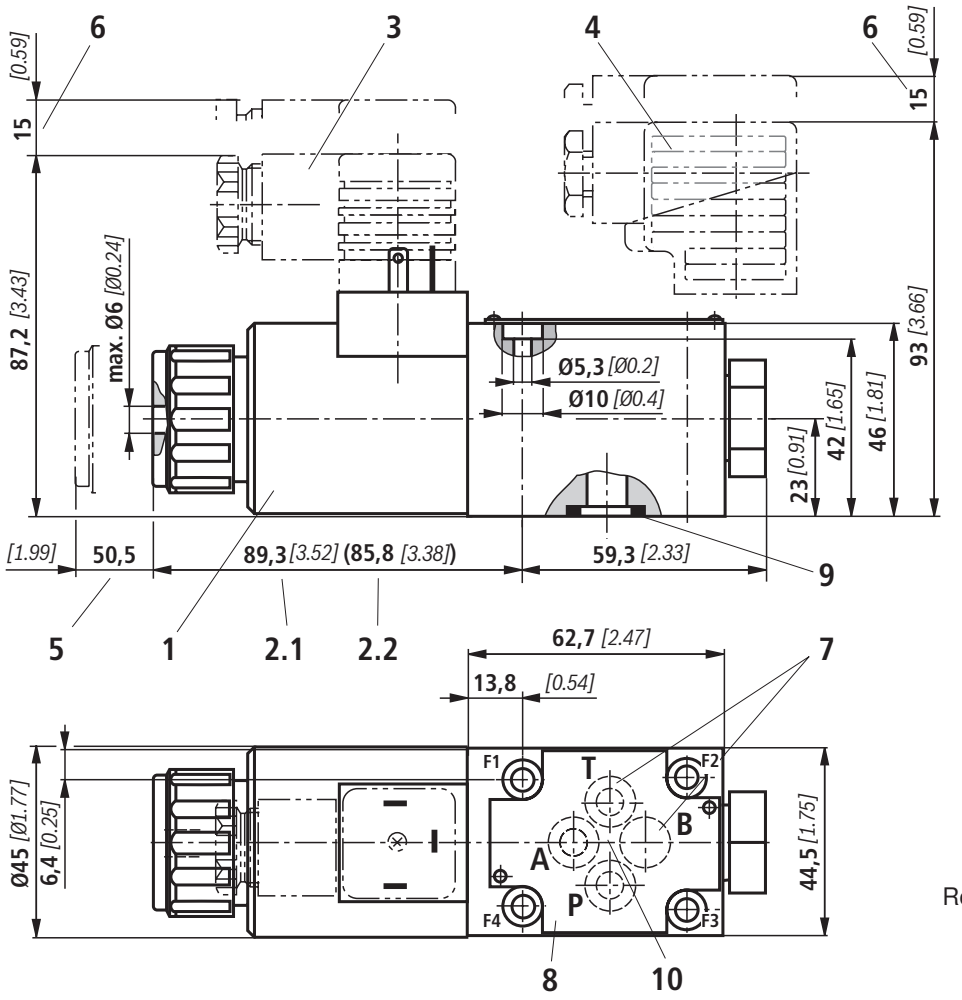
For selecting the filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086, RE 50087 and RE 50088.

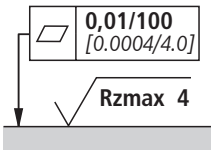
[4] Special voltages upon request

[5] Due to the temperatures occurring at the surfaces of the solenoid coils, the standards ISO 13732-1 and EN 982 need to be adhered to!

When establishing the electrical connection, the protective earth conductor (PE ⏚) has to be connected properly.

Unit dimensions: 2/2 directional seat valve (“PK”) and 3/2 way seat valve (“UK”) (dimensions in mm *[inch]*)





Required surface quality of the valve mounting face

1 Solenoid “a”

2.1 Dimension of valve with concealed manual override “N9”

2.2 Dimension of valve without manual override

3 Mating connector **without** circuitry (separate order, see page 13)

4 Mating connector **with** circuitry (separate order, see page 13)

5 Space required for removing the coil

6 Space required for removing the mating connector

7 **Attention!**
Port B is provided as blind counterbore on 2/2 and 3/2 directional seat valves. With 2/2 directional seat valves, port T is blocked internally.

8 Nameplate

9 Identical seal rings for ports A, B and T;
seal ring for port P

10 Porting pattern according to DIN 24340 form A (**without** locating hole), or ISO 4401-03-02-0-05 and NFPA T3.5.1 R2-2002 D03 (**with** locating hole for locating pin ISO 8752-3x8-St,
material no. **R900005694**, included in scope of delivery)

Subplates see RE 45052.

Valve mounting screws see page 13.