

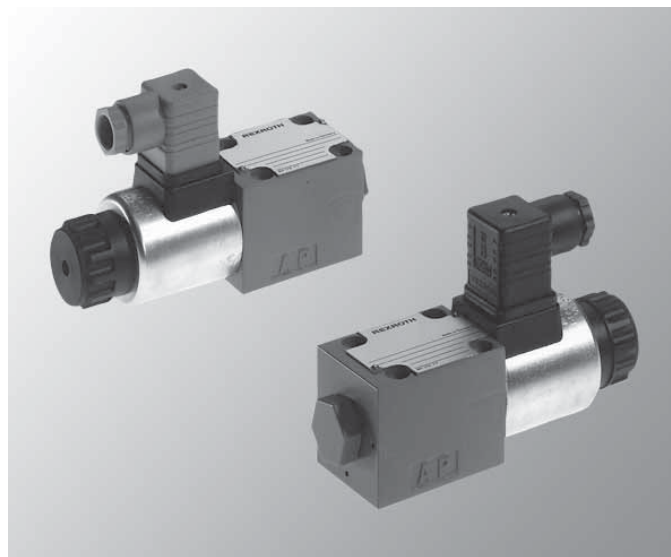
Extracted from RA 22 049/03.00Page 1 of 2
Issue: 01.01See Section 16 for applicable
Preferred/Spotlight part numbers
and unit price.**3/2- and 4/2-way Directional poppet valves
with solenoid operation
Model M-SED 6**

Size 6, Series 1X

Maximum operating pressure 350 bar (5000 PSI)

Maximum flow 25 L/min (6.6 GPM)

- Direct operated directional poppet valves with solenoid operation
- Mounts on standard ISO 4401-3, NFPA T3.5.1 M R1 and ANSI B93.7 D 03 interface
- 10-24 UNC (M5) mounting bolts for 350 bar (5000 PSI) Model
- Leak-free closure in checked position
- Resists silting, even during extended pressure periods
- Solenoids with removable coils
- Coils can be changed without engaging fluid

Model M-3SED 6 ^{UK}_{CK} 1X/350CG24N9K4 with plug-in connector**Ordering code**

M –		SED	6	1X / 350	C	K4 /	*
3 actuator ports = 3						No code = NBR seals	
4 actuator ports = 4						No code = without cartridge	
Poppet valve						check valve, with throttle insert	
Nominal size 6		= 6				P = with cartridge check valve	
Actuator ports		3	4			B12 = orifice – Ø1.2 mm (0.047")	
Symbols						B20 = orifice – Ø2.0 mm (0.079")	
		●	–			B22 = orifice – Ø2.2 mm (0.087")	
						K4 ¹⁾ = Electrical connection	
		●	–			individual connection; with	
						component plug DIN 43 650-AM2,	
		–	●			without plug-in connector	
						N9 = with protected manual override	
		–	●			G24 = Example: 24, 96 V DC	
		● = available					
Series 10 to 19							
(10 to 19: externally interchangeable)							
Operating pressure 350 bar (5000 PSI)							
Wet pin solenoid with removable coil							

¹⁾ Plug-in connectors must be ordered separately.

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 See Section 16 for applicable
 Preferred/Spotlight part numbers
 and unit price.

Technical data
General

Installation	optional		
Ambient temperature range	°C (°F)	-30 to +50 (-22... +122)	
Weight	3/2-way directional poppet valve	kg (lbs)	1.5 (3.306)
	4/2-way directional poppet valve	kg (lbs)	2.3 (5.069)

Hydraulic data

Max. operating pressure	bar (PSI)	see table on page 7 of datasheet
Max. flow	L/min (GPM)	25 (6.60)
Pressure fluid ¹⁾ suitable for NBR and FPM seals ²⁾ only suitable for FPM seals		Mineral oil (HL, HLP) to DIN 51 524 ¹⁾ ; fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) ¹⁾ ; HEPG (polyglycols) ²⁾ ; HEES (synthetic esters) ²⁾ ; other pressure fluids on request
Pressure fluid temperature range	°C (°F)	–30 to +80 (–22... +176) (with NBR seals)
		–20 to +80 (–4... +176) (with FPM seals)
Viscosity range	mm²/s (SUS)	2.8 to 500 (35 to 2320)
Degree of contamination		Maximum permissible degree of contamination of the pressure fluid is to NAS 1638 class 9. We, therefore, recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$.

Electrical data

Voltage type		DC
Available voltages	V	24, 96
Voltage tolerance (nominal voltage)	%	±10
Power consumption	W	30
Duty		continuous
Switching time to ISO 6403		see table below
Switching frequency	cycles/h	up to 15000 operations per hour, see table below
Protection to DIN 40 050		IP 65
Max. coil temperature ³⁾	°C (°F)	...150 (302)

³⁾ Due to the occurring surface temperature of the solenoid coils, the European standards EN563 and EN982 must be taken into account!

When connecting the electrics, the protective conductor (PE \perp) must be connected according to the relevant regulations.

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Issue: 04.03

 See Section 16 for applicable
 Preferred/Spotlight part numbers
 and unit price.

**2/2-, 3/2- and 4/2-way Directional poppet
 valves with solenoid operation
 Model M-SEW 6**

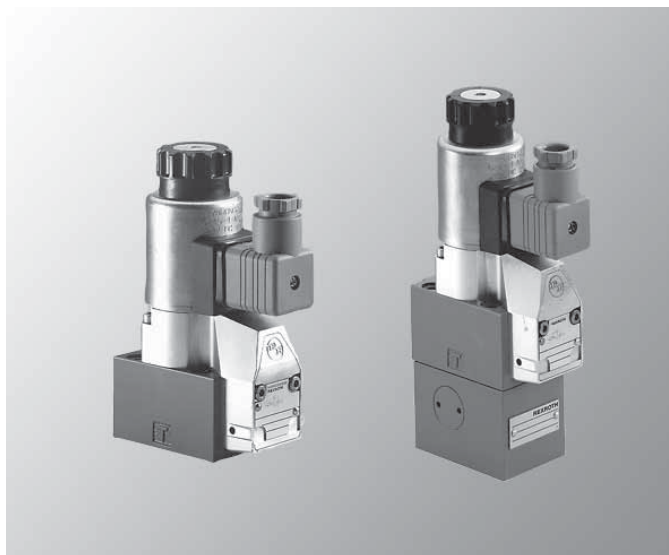
Size 6, Series 3X

Maximum operating pressure

420/630 bar (6100/9150 PSI)

Maximum flow 25 L/min (6.6 GPM)

- Mounts on standard ISO 4401-3, NFPA T3.5.1 M R1 and ANSI B93.7 D 03 interface (except 630 bar version)
- 10-24 UNC (M5) mounting bolts for 420 bar (6100 PSI) Model 1/4-20 UNC (M6) mounting bolts for 630 bar (9150 PSI) Model
- Leak-free closure in checked position
- Resists silting, even during extended pressure periods
- Solenoids with removable coils


 Model M-3SEW 6 U3X/420MG24N9K4 with plug-in connector
 and Model M-4SEW 6 D3X/420MG24N9K4 with plug-in
 connector

Ordering code

M -		SEW		6	3X /		M	K4 /		*
3 actuator ports = 3										Further details to be written in clear text
4 actuator ports = 4										
Poppet valve										No code = NBR seals V = FPM seals (other seals on request) ⚠ Attention! The compatibility of the seals and pressure fluid has to be taken into account!
Nominal size 6 = 6										
Actuator ports		2	3	4						No code = Without cartridge check valve, without throttle insert P = With cartridge check valve B10, 12 = Orifice Ø mm (in.) Throttle used when flow exceeds the power limit of the valve; inserted in the P port
Symbols										
		—	●	—						K4 ^{1;2)} = Electrical connection Individual connection, with component plug DIN 43 650-AM2, without plug-in connector
		—	●	—						
		—	—	●						N9 = With protected manual override G24 = Example: 12, 24, 96 V DC
		—	—	●						
				● = available						1) Plug-in connectors must be ordered separately. For additional connector information, see datasheet RA 08 006. 2) For the connection to an AC supply a DC solenoid must be used which is controlled via a rectifier.
Series 30 to 39 = 3X										
(30 to 39: externally interchangeable)										
Operating pressure 420 bar (6100 PSI) (10-24/M5 mounting bolts)										= 420
Operating pressure up to 630 bar (9150 PSI) (1/4-20/M6 mounting bolts)										
										= 630
Solenoid (air gap) with removable coil										
										= M

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 See Section 16 for applicable
 Preferred/Spotlight part numbers
 and unit price.

Technical data
General

Installation	optional		
Max. ambient temperature	°C (°F)	+50 (+122)	
Weight	2/2-way poppet valve	kg (lbs)	1.5 (3.31)
	3/2-way poppet valve	kg (lbs)	1.5 (3.31)
	4/2-way poppet valve	kg (lbs)	2.3 (5.1)

Hydraulic data

Max. operating pressure	bar (PSI)	see table on page 7
Max. flow	L/min (GPM)	25 (6.6)
Pressure fluid 1) suitable for NBR and FPM seals 2) only suitable for FPM seals		Mineral oil (HL, HLP) to DIN 51 524 1); Fast bio-degradable pressure fluids to VDMA 24 568 (also see RA 90 221); HETG (rape seed oil) 1); HEPG (Polyglycols) 2); HEES (synthetic esters) 2); other pressure fluids on request
Pressure fluid temperature range	°C (°F)	–30 to +80 (–22 to +176) (with NBR seals)
		–20 to +80 (–4 to +176) (with FPM seals)
Viscosity range	mm²/s (SUS)	2.8 to 500 (35 to 2318)
Degree of contamination		Maximum permissible degree of contamination of the pressure fluid is to NAS 1638 class 9. We, therefore, recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$.

Electrical data

Model of voltage		DC
Available voltages	V	12, 24, 96
Voltage tolerance (nominal voltage)	%	±10
Power consumption	W	30
Duty		continuous
Switching time to ISO 6403		see table below
Switching frequency	cycles/h	15000
Protection to DIN 40 050		IP 65
Max. coil temperature ³⁾	°C (°F)	150 (302)

³⁾ Due to the surface temperatures which occur on the solenoid coils, the European standards EN563 and EN982 must be taken into account!

When connecting electric power, the protective conductor (PE \perp) must be connected according to the relevant regulations.

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 See Section 16 for applicable
 Preferred/Spotlight part numbers
 and unit price.

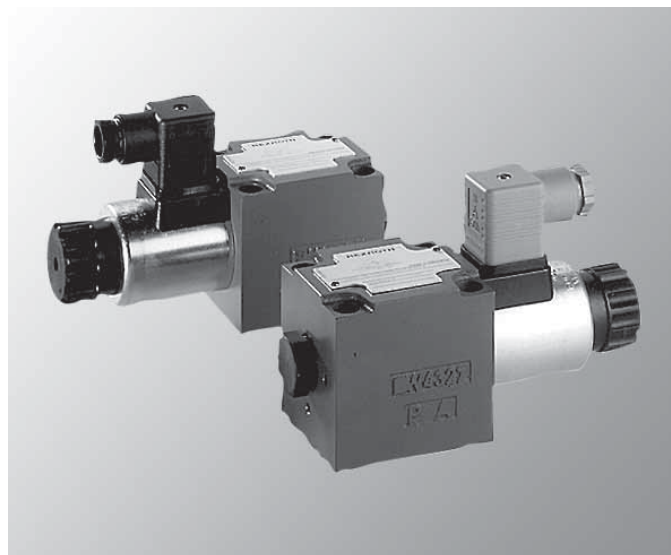
**3/2- and 4/2-way Directional poppet valves
 with solenoid operation
 Model M-.SED 10**

Size 10, Series 1X

Maximum operating pressure 350 bar (5000 PSI)

Maximum flow 40 L/min (10.6 GPM)

- Direct operated directional poppet valve with solenoid actuation
- Mounts on standard ISO 4401-5, NFPA T3.5.1 M R1 and ANSI B 93.7 D 05 interface subplates to datasheet RA 45 054 (separate order)
- Leak-free closure in checked position
- Switching is ensured even when under pressure for long periods of time
- Solenoid coil can be rotated by 90°
- Coils can be changed without engaging fluid
- Individual electrical connection
- With protected manual override, standard “N9”


 Model M-3SED 10 ^{UK}_{CK}1X/350CG24N9K4 with plug-in connector

Ordering code

M		SED		10		1X / 350		C		K4 /		*	
3 actuator ports = 3													
4 actuator ports = 4													
Poppet valve													
Nominal size 6				= 10									
Actuator ports		3	4										
Symbols													
		●	—	= UK									
		●	—	= CK									
		—	●	= D									
		—	●	= Y									
		● = available											

Further details to be written in clear text

No code = NBR seals

No code = without cartridge check valve,

P = with cartridge check valve

Electrical connection

K4 ¹⁾ = individual connection; with component plug DIN 43 650-AM2, without plug-in connector

N9 = with protected manual override

G24 = Example: 24, 96 V DC

C = Wet pin solenoid with removable coil

350 = Operating pressure 350 bar (5000 PSI)

1X = Series 10 to 19 (10 to 19: externally interchangeable)

¹⁾ Plug-in connectors must be ordered separately.

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Issue: 01.01

 See Section 16 for applicable
 Preferred/Spotlight part numbers
 and unit price.

Technical data
General

Installation	optional		
Ambient temperature range	°C (°F)	-30 to +50 (-22 to +122)	
Weight	3/2-way directional poppet valve	kg (lbs)	2.6 (5.7)
	4/2-way directional poppet valve	kg (lbs)	3.9 (8.6)

Hydraulic data

Max. operating pressure	bar (PSI)	see table on page 7
Max. flow	L/min (GPM)	40 (10.60)
Pressure fluid ¹⁾ suitable for NBR and FPM seals ²⁾ only suitable for FPM seals		Mineral oil (HL, HLP) to DIN 51 524 ¹⁾ ; fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) ¹⁾ ; HEPG (polyglycols) ²⁾ ; HEES (synthetic esters) ²⁾ ; other pressure fluids on request
Pressure fluid temperature range	°C (°F)	−30 to +80 (−22 to +176) (with NBR seals)
		−20 to +80 (−4... +176) (with FPM seals)
Viscosity range	SUS (mm²/s)	2.8 to 500 (35 to 2320)
Degree of contamination		Maximum permissible degree of contamination of the pressure fluid is to NAS 1638 class 9. We, therefore, recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$.

Electrical data

Voltage type		DC
Available voltages	V	24, 96
Voltage tolerance (nominal voltage)	%	±10
Power consumption	W	30
Duty		continuous
Switching time to ISO 6403		see table below
Switching frequency	cycles/h	up to 15000 operations per hour, see table below
Protection to DIN 40 050		IP 65
Max. coil temperature ³⁾	°C (°F)	...150 (302)

³⁾ Due to the occurring surface temperature of the solenoid coils, the European standards EN563 and EN982 must be taken into account!

When connecting the electrics, the protective conductor (PE \perp) must be connected according to the relevant regulations.

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Issue: 04.03

See Section 16 for applicable
Preferred/Spotlight part numbers
and unit price.**3/2- and 4/2-way Directional poppet valves
with solenoid operation
Model M-.SEW 10**

Size 10, Series 1X

Maximum operating pressure

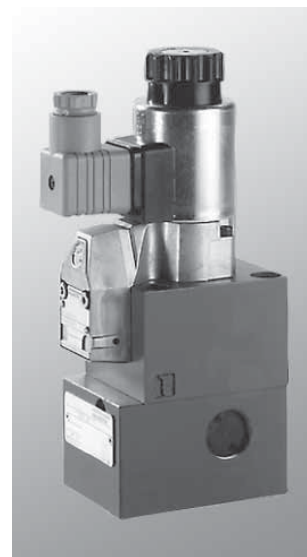
420/630 bar (6100/9135 PSI)

Maximum flow 40 L/min (10.5 GPM)

- Directly operated directional poppet valve with solenoid operation
- Porting pattern to DIN 24 340 form A, ISO 4401 and CETOP-RP 121 H, subplates to data sheet RA 45 054 (separate order)
- Leak-free closure in checked position
- Resists silting, even during extended pressure periods
- Solenoid coil can be rotated by 90°
- Single electrical connection
- With manual override, standard



Model M-3SEW
10 U1X/
420MG24N9Z45



Model M-4SEW
10 D1X/
420MG24N9Z45

Ordering code

M	SEW	10	1X	M	K4	*
3 actuator ports = 3						
4 actuator ports = 4						
Poppet valve						
Nominal size 6 = 10						
Actuator ports	2	3	4			
Symbols						
	—	●	—	= U		
	—	●	—	= C		
	—	—	●	= D		
	—	—	●	= Y		
	● = available					
Series 10 to 19 (10 to 19: externally interchangeable)				= 1X		
Operating pressure up to 420 bar (6100 PSI)				= 420		
Operating pressure up to 630 bar (9150 PSI)				= 630		
Further details to be written in clear text						
No code = NBR seals						
V = FPM seals						
⚠ Attention!						
The compatibility of the seals and pressure fluid must be taken into account!						
No code = Without cartridge check valve or orifice insert						
P = With cartridge check valve insert						
B10, 12 = Orifice Ø mm (in.)						
Throttle used when flow exceeds the power limit of the valve; inserted in the P port						
Electrical connectors						
K4 ¹⁾ = without angled plug connector						
no code = without manual override (24 V only)						
N9 = with protected manual override						
G24 = 24, 96 V DC						
M = removable air gap solenoid						

¹⁾ Plug-in connectors must be ordered separately.

For additional information, see datasheet RA 08 006.

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Issue: 04.03

 See Section 16 for applicable
 Preferred/Spotlight part numbers
 and unit price.

Technical data
General

Mounting position	optional		
Ambient temperature, max.	°C (°F)	50 (122)	
Weight (approx.)	3/2-way poppet valve	kg (lbs)	2.0 (4.40)
	4/2-way poppet valve	kg (lbs)	3.5 (7.71)

Hydraulic

Operating pressure, max.	bar (PSI)	420/630 (6100/9135)
Flow, max.	L/min (GPM)	40 (10.60)
Hydraulic fluid ¹⁾ Suitable for NBR and FPM seals ²⁾ Only suitable for FPM seals	Mineral oil (HL, HLP) to DIN 51 524 ¹⁾ ; Fast bio-degradable pressure fluids to VDMA 24 568 (also see RA 90 221); HETG (rape seed oil) ¹⁾ ; HEPG (Polyglycol) ²⁾ ; HEES (synthetic ester) ²⁾ ; other fluids on request	
Fluid temperature range	°C (°F)	NBR seals: –30 to +80 (–22 to +172)
		FPM seals: –20 to +80 (–4 to +176)
Viscosity range	mm²/s (SUS)	2.8 to 500 (35 to 2320)
Maximum degree of contamination	Class 18/15 according to ISO 4406. We therefore recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$.	

Electrical

Type of supply	DC	
Available voltages	V	24, 96
Voltage tolerance (nominal voltage)	%	±10
Power requirement	W	30
Duty cycle	100 %	
Operating time to ISO 6403	see table	
Shifting frequency	Cycles/h	15000
Type of protection to DIN 40 050	IP 65	
Coil temperature range	°C (°F)	up to 150 (302)