3/2 Directional control valves
Actuation: electromagnetic
Direct solenoid operated poppet valves
Port size: G 1/4 or 1/4 NPT

Working from 0 bar up

Short switching times

Suited for fine vacuum down to 1,33·10^{-3} mbar·l/s

For AC solenoid systems with integrated rectifier (40 to 60 Hz)

The solenoids are applicable in the protection class EEx m, EEx me, EEx md for zones 1, 2 (gases), 21, 22 (dust), ATEX cat. II 2 GD, EEx nA, for zones 2 (gases), 22 (dust), ATEX cat.II 3 GD
Additional protection class (FM, CSA) XP



Technical data

Medium:
For neutral gaseous and liquid fluids*
*With contaminated fluids, upstream installation of a dirt trap recommended.

Operation:
Solenoid direct operated poppet valves

Mounting position:
Optional, preferably with solenoid on top

Nominal size:
2 to 5

Connection:
Internal thread G 1/4

Operating pressure:
0 to 18 bar

Operating temperature:
-25* to +60°C
*Please consult our technical service for use below +2°C

Solenoid:
See solenoid table

Materials:

Housing: Brass
Seat seal: NBR (Perbunan)
Inner parts: Steel 1.4104, brass

Ordering information

See page 2

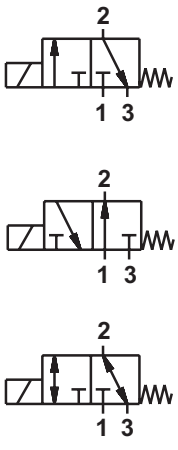
Further versions upon request

For fluid temperatures from -40 to +180°C
Seat seals FKM, EPDM, FFKM, PTFE, Rubin

Assembled oil and grease-free

Connectors

See data sheet N/UK **7.7.**002



Option selector

960X✶X✶.✶✶✶✶.✶✶✶.✶✶

Nominal size	Number code
2; 3; 4; 5	2, 3, 4, 5

Material	Number code
NBR (Perbunan)	0
EPDM	1
FKM (Viton)	2
FFKM (Kalrez) / O-ring FKM	4

Solenoids	Number code
See solenoids	

Frequecy (Hz)	Number code
at DC	00
at AC (40 to 60 Hz)	50

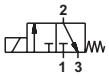
Voltage (V)	Number code
24	024
230	230

Ordering example

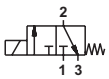
3/2 directional control valve, nominal size 2, normally closed, port size G 1/4, solenoid group A IP 00, voltage 24 V DC
Type: 9600210.0246.024.00

General information

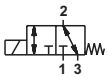
Switching function: normally closed

Symbol	Type * Valve	Solenoid group	Port size	Nominal size	Operating pressure (bar) Min.	Max.	Flow (l/min)	Weight (kg)	Dimensions No.
	**9600210**	13B	G 1/4	2	0	10	120	0,32	1
	9603210	13B	1/4 NPT						
	9600240	13D	G 1/4	2	0	18	120	0,52	1
	9600320	13C	G 1/4	3	0	6	200	0,32	1
	9603320	13C	1/4 NPT						
	9600340	13D	G 1/4	3	0	14	200	0,52	1
	9603340	13D	1/4 NPT						
	9601430	16C	G 1/4	4	0	8	350	0,52	2
	9604430	16C	1/4 NPT						
	9601440	16D	G 1/4	4	0	10	350	0,52	1
	9601540	16D	G 1/4	5	0	7	450	0,52	2

Switching function: normally open

Symbol	Type *1) Valve	Solenoid group *2)	Port size	Nominal size	Operating pressure (bar) Min.	Max.	Flow (l/min)	Weight (kg)	Dimensions No.
	**9602210**	13B	G 1/4	2	0	9	100	0,5	3
	9605210	13B	1/4 NPT						
	9602340	**13**D	G 1/4	3	0	9	160	0,7	3
	9605340	**13**D	1/4 NPT						
	9602440	16D	G 1/4	4	0	6	300	0,7	3
	9605440	16D	1/4 NPT						

Switching function: supply port 1, 2 or 3

Symbol	Type *1) Valve	Solenid group *2)	Port size	Nominal size	Operating pressure (bar) Min.	Max.	Flow (l/min)	Weight (kg)	Dimensions No.
	9600210	13D	G 1/4	2	0	7	120	0,32	1
	9603210	13D	1/4 NPT						

*1) When ordering please indicate solenoid, voltage and current type (frequency).
*2) Technical data and ordering information see following pages.

Accessories

Cable gland
protection class EEx e, EEx d (ATEX),
Ms nickel plated brass



Connectors



EEx e 0588819 (for solenoid 42xx / 46xx M20 x 1,5)	0570275
EEx d 0588851 (for solenoid 46xx M20 x 1,5)	0663303 (with rectifier)
EEx d, EEx e 0588925 (for solenoid 46xx 1/2-14 NPT)	