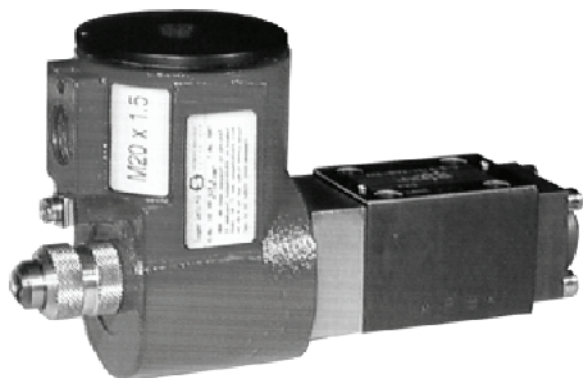


**Solenoid Valves, 6 mm
for Explosion-Hazard Areas
Direct Acting, Series EExd-WED ...**



- 160 bar, 18 l/min
- Protection class EEx d IIC T4 ... T6 in accordance with EN 50014 and 50018
- Slip-on coil design, coils can be changed without opening hydraulic envelope
- With manual override
- Certificate of Conformity No. PTB 98 ATEX 1008
- With ISO 4401 / CETOP R35H size 3, NFPA D03, DIN 24 340 A6 interface

1. Description

Series EExd-WED...-6 spool valves are direct acting units. The main valve components are a steel body, a spring-centered spool and wet armature solenoids with pressure-tight core tube and a slip-on coil which is certified for use in explosion-hazard areas. The coil slips over the core tube and is retained by a knurled nut. The solenoid housing

is made of cast iron with spray painted finish. The solenoid armature is of the oil-immersed type. The solenoid housing is threaded M20 x 1,5 for a cable entry gland (which also must be certified to EN 50018) is not supplied with the valve and, if required, must be ordered as a

separate item: Cable entry gland type AGRO 1820. 16.26 M20 x 1,5 (for cable ø11...13). The spool is offset by the solenoid force and brought back to its deenergised position by return or centering springs. For the detented model EExd-WED-42-C-6, the maximum flow rate is limited to 10 l/min.

2. Symbols

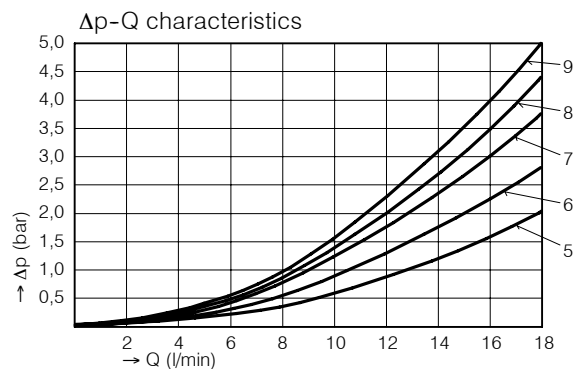
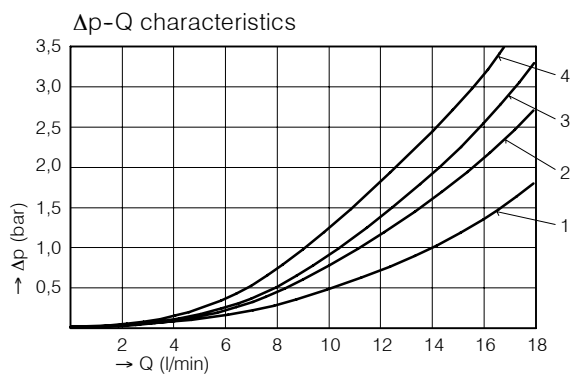
4/2 FUNCTIONS	4/2 FUNCTIONS WITH 4/3 SPOOLS	4/2 FUNCTIONS WITH 4/3 SPOOLS	4/3 FUNCTIONS
EExd-WED-42-A-6 1	EExd-WED-42-AD-6 7	EExd-WED-42-BD-6 13	EExd-WED-43-D-6 19
EExd-WED-42-B-6 2	EExd-WED-42-AG-6 8	EExd-WED-42-BG-6 14	EExd-WED-43-G-6 20
 3	EExd-WED-42-AH-6 9	EExd-WED-42-BH-6 15	EExd-WED-43-H-6 21
EExd-WED-42-C-6 4	EExd-WED-42-AJ-6 10	EExd-WED-42-BJ-6 16	EExd-WED-43-J-6 22
Crossover transients 5	 11	 17	For other spools please consult BUCHER 23

3. Main characteristics

Designation		4/2 and 4/3 solenoid actuated spool valves
Design		direct acting
Mounting method		manifold mounting
Size		nominal 6 mm, ISO 4401 size 3 interface
Weight	kg	with 1 solenoid: 3,4 / with 2 solenoids: 5,4
Mounting attitude		horizontal recommended (vertical mounting makes air bleeding difficult)
Flow direction		see symbols
Operating pressure range	bar	max. 160 in P, A and B / max. 15 in T
Flow rate, Q _{max}	l/min	18, 10 for detented models
Fluids		HL and HLP hydraulic oils to DIN 51 524; for other fluids, please consult BUCHER
Fluid temperature range	°C	-25 ... +80
Ambient temperature	°C	-25 ... +50
Viscosity range	mm ² /s (cSt)	10 ... 500, recommended 15 ... 250
Minimum fluid cleanliness level		18/14 to ISO 4406 / CETOP RP70H; 8 ... 9 to NAS 1638
Solenoid type		pressure-tight wet armature design
Nominal voltages	VAC VDC	115 / 230 50 ... 60 Hz 24
Nominal voltage tolerance	%	+ 10 / - 5
Nominal power consumption	W VA	Solenoid type 2 A 67: 24 VDC = 7 Solenoid type 2 C 67: 115 / 230 VAC = 12
Relative duty cycle	%	100
Max. core tube pressure (static)	bar	15
Enclosure protection		EExd IIC T4...T6
Protection type and design		IP 65 to EN 50014 and 50018
Electrical connection		Valves (and solenoids) have M20 x 1.5 cable gland thread but are shipped without gland or cable. If required, gland must be ordered separately. Cable entry gland type AGRO 1820.16.26 M20 x 1.5 Coils must be protected by a fuse whose maximum permissible rating is three times the nominal coil current.

4. Performance graphs

Measured with oil viscosity 33 mm²/s (cSt) coil at steady-state temperature, 5% under-voltage



	P → A	B → T	P → B	A → T	P → T	P, A+B → T
A spool	1	2	3	4	--	--
D spool	2	7	3	8	--	--
G spool	3	1	2	5	--	--
H spool	4	4	4	8	--	2
J spool	8	9	8	9	6	--

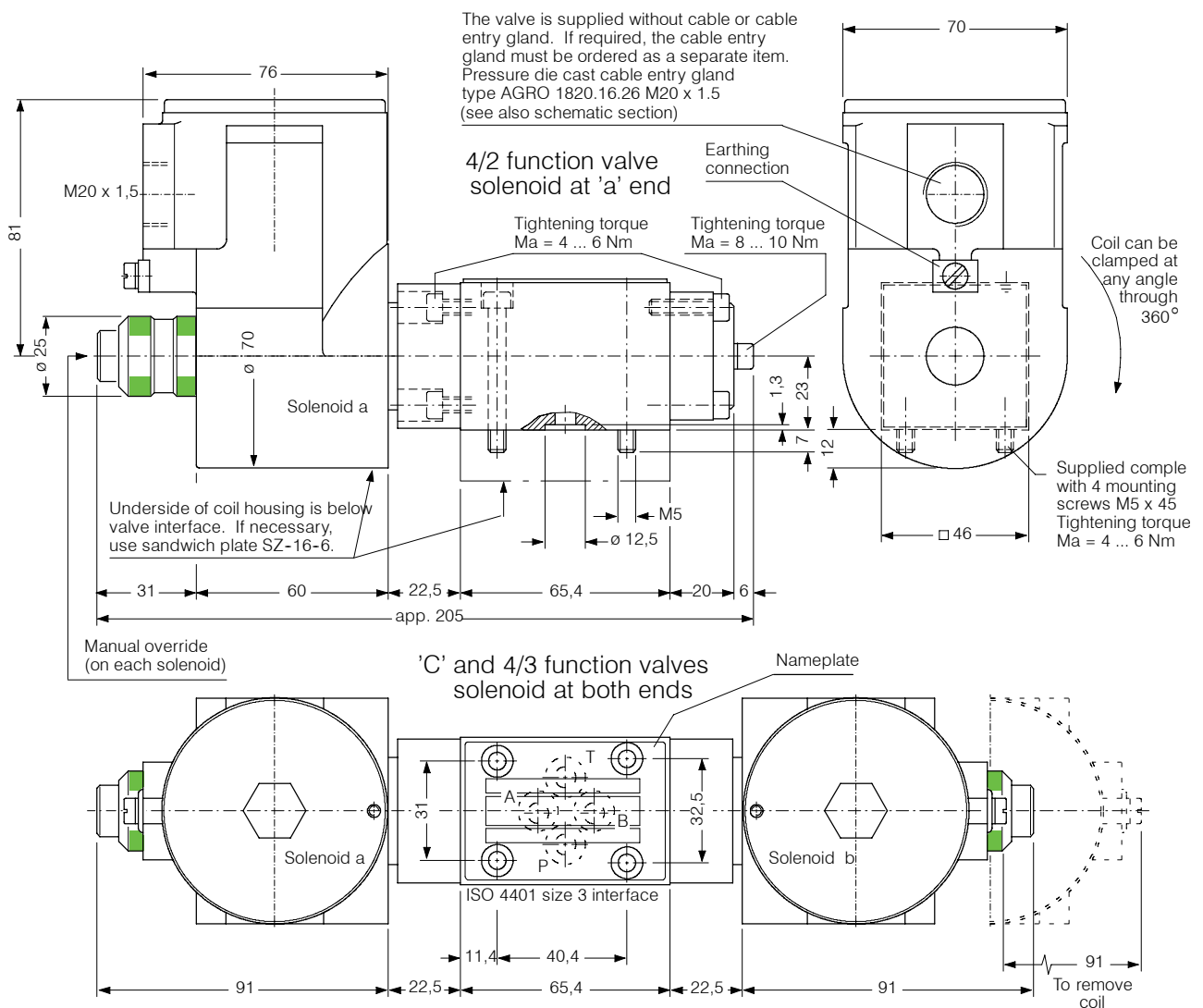
The quoted maximum flow rates apply when symmetrical flows pass through the valve. For non-symmetrical flows, the maximum flow rates are substantially reduced, in worst cases to only 25% of the above values.

Switching times

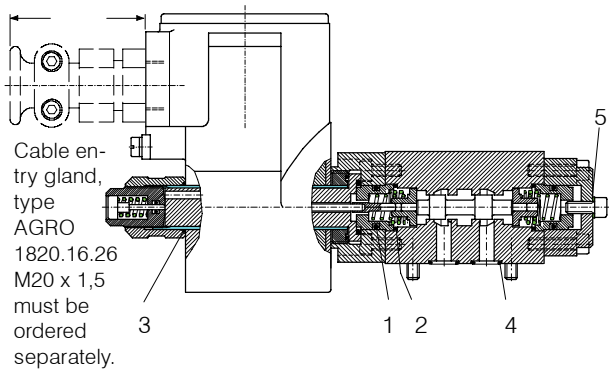
Solenoid ON	90 ms
Solenoid OFF	40 ms

These are guideline values only, and can be significantly affected by flow rate, pressure and oil viscosity.

5. Dimensions



6. Schematic section



Seal kit no. DS-156, comprising *):

Itm.	Qty.	Qty.	Description	Size
1	2*)	2	O-ring no. 112	Ø 12,37 x 2,62 N90
2	2*)	2	O-ring no. 016	Ø 15,60 x 1,78 N90
3	2*)	1	O-ring no. 017	Ø 17,17 x 1,78 N90
4	4*)	4	O-ring no. 012	Ø 9,25 x 1,78 N90
5	-	1*)	Copper ring	Ø 5/9 x 1 DIN 7603 A

4/2 Valves (1 solenoid)
4/3 Valves (2 solenoids)

7. Installation and servicing

All installation and servicing must be carried out with care, and by qualified personnel only. When changing seals, the new seals must be thoroughly oiled or greased before fitting them to the valve. Use the correct tightening torques when fitting screws.

8. Ordering code

Ex. EExd - W E D - 43 - G - 6 - - - - - 24 VDC

EExd = protection class EEx d IIC T4...T6
W = directional valve
E = electrically actuated
D = direct acting
42 = 4 way, 2 positions
43 = 4 way, 3 positions
A = 4/2 function, solenoid at 'a' end
B = 4/2 function, solenoid at 'b' end
C = 4/2 function, solenoid at both end (detented model)
AD, AG, AH or AJ = 4/2 function with 4/3 spool, solenoid at 'a' end
BD, BG, BH or BJ = 4/2 function with 4/3 spool, solenoid at 'b' end
D, G, H or J = 4/3 function
6 = ISO size 3 interface
(blank) = Nitrile seals (Standard)
V = Viton seals
Special seals - please consult BUCHER
1 ... 9 = design number (omit when ordering new units)
Voltage and current plainly specified

9. Related data sheets

Old no.	New no.	
i - 00	400-P-010101-E	Table of interface equivalents
i - 31	400-P-030501-E	DIN 24 340 size A6 interface

Certificate of Conformity No. PTB 98 ATEX 1008 for coil

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