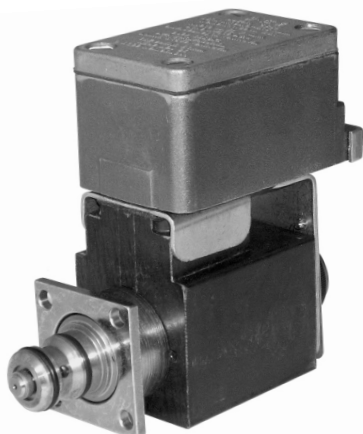


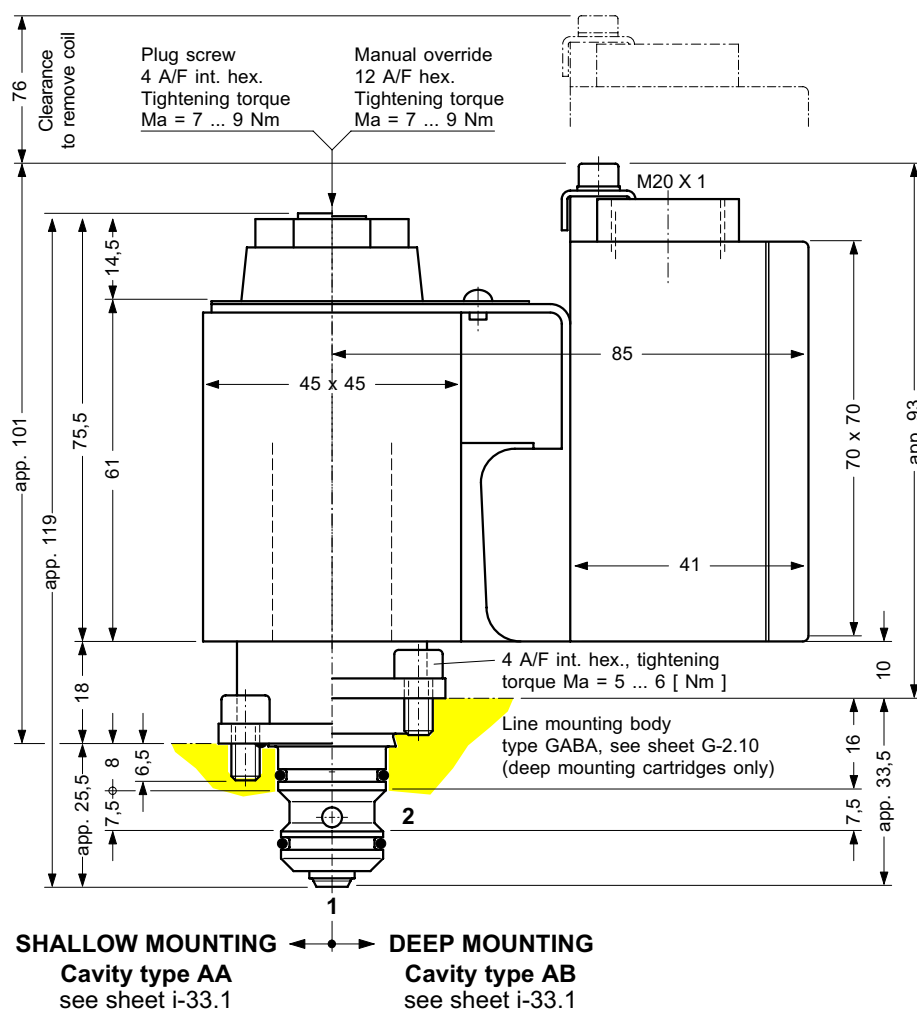
## W-2.21 a 2/2 Seat Valves, 6 mm Push-in Cartridge Design Direct Acting for Explosion-hazard Areas

Series EEx-W1C ...  
20 l/min, 315 bar

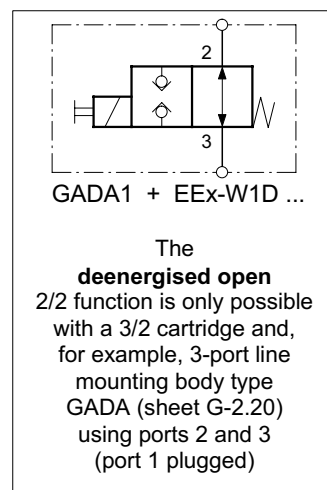
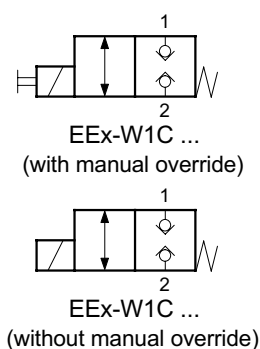
- Bidirectional seat-valve closure
- Guided valve stem and cone
- Corner power: 20 l/min at 315 bar
- **EEx- classification: EEx me II T4**
- Coils can be changed without opening the hydraulic envelope
- Optional shallow or deep mounting



### DIMENSIONS



### SYMBOL



### DESCRIPTION

Series EEx-W1C ... 2/2 seat valves are push-in cartridge units with square retaining flanges.

The solenoid coil slips over the core tube and can be secured at any angle through 360°.

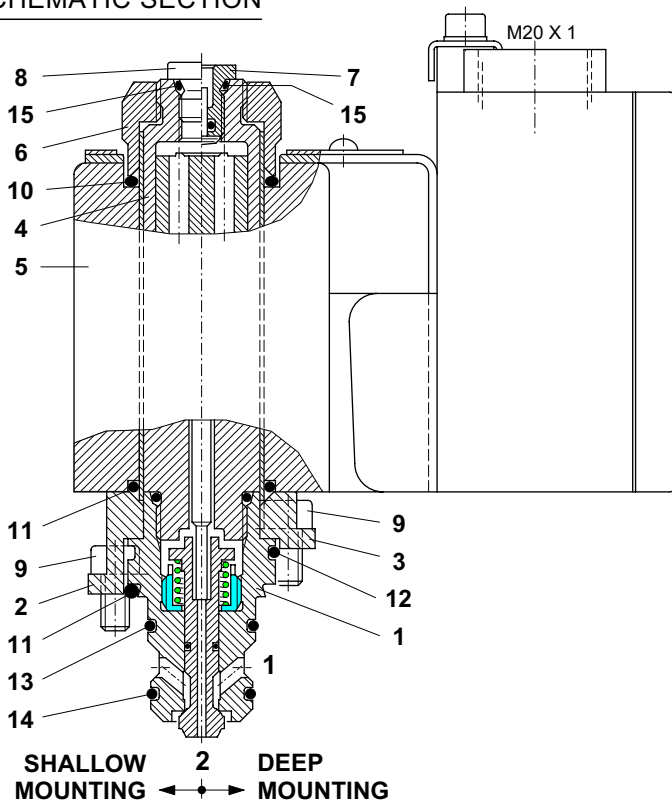
A 2/2 cartridge can also be fitted into a 3/2 cavity (types AC, AD), in which case port 3 has the same function as port 2.

For block designers, we offer the advantage of alternative **shallow** or **deep** mountings.

Depending on the mounting depth, the valves are equipped with **18 mm** or **10 mm** wide flanges respectively.

Form tools for cavity types AA, AB, AC and AD are available for sale or hire.

## SCHEMATIC SECTION



## COMPONENTS / SERVICE PARTS

It.	Qty.	Description	
1	1	Cartridge body	∅ 26 x 40,4
2	1	Flange (shallow mtg.)	40 x 40 x 18
3	--	Flange (deep mtg.)	40 x 40 x 10
4	1	Core tube, complete	∅ 21 x 81
5	1	Coil EEx-me II T4, type K14 (AC)	
		Coil EEx-me II T4, type D14 (DC)	
6	1	Knurled nut EEx-W1	∅ 29 x 16
7	1	Manual override HN-H, complete	12 A/F x 14
8	1	Plug screw	M 8 x 1 DIN 908
9	4	Hex. skt. screw M 5 x 10 8.8	DIN 912
	1	Seal kit no. DS-263, comprising *):	
10	1	O-ring no. 118	∅ 21,89 x 2,62 N90
11	2*)	O-ring no. 116	∅ 18,72 x 2,62 N70
12	--	O-ring no. 021	∅ 23,52 x 1,78 N90
13	1	O-ring no. 016	∅ 15,60 x 1,78 N90
14	1	O-ring no. 015	∅ 14,00 x 1,78 N90
15	1	O-ring no. 010	∅ 6,07 x 1,78 V75

\*) = part of seal kit no. DS-263  
 ▲ = available as service part

↑ EEx-W1C ... (DEEP MOUNTING)  
 ↑ EEx-W1C ... (SHALLOW MOUNTING)

TO ORDER SERVICE PARTS, STATE:

- complete unit model code from the nameplate, including the design number
- data sheet number, including issue date
- part item number from above list
- part description from above list
- quantity required

## INSTALLATION AND SERVICING

MUST BE CARRIED OUT WITH CARE, AND BY QUALIFIED PERSONNEL ONLY

When changing seals, the new seals should be thoroughly oiled or greased before fitting them to the valve.

Use the correct tightening torque for the retaining screws

## MAIN CHARACTERISTICS

Type	2/2 directional seat valve for explosion-hazard areas
Design	direct acting seat type
Mounting method	push-in cartridge with retaining flange
Size	nominal 6 mm cavity type AA / AB
Mass	1,05 kg
Mounting attitude	unrestricted
Flow direction	see symbol
Operating pressure v.	... 315 bar at ... 1,200 cycles/hr.
Switching frequency	... 210 bar at 1,000 ... 10,000 cycles/hr.
Switching power limits	to Q max. = 20 l/min at p = 315 bar
Fluids	hydraulic oils HL and HLP to DIN 51 524 other fluids by arrangement
Min. fluid cleanliness	18/14 to ISO 4406 / CETOP RP70H 8 ... 9 to NAS 1638
Fluid temperature range	see "Apparatus Cert. No. Ex 89Y5111X"
Viscosity range	3 ... 300 cSt
Flow rate Q max.	20 l/min

when fitting the cartridge.

Use the correct tightening torque when fitting the manual override assembly, item 7, or the plug screw, item 8.

## Electrical data for EEx-W1C ... -6 :

Solenoid type	EEx-classification	Voltage	Power rating	Standards
D 14	EEx me II T4	24 VDC	40 W	EN 50014
K 14 *)	EEx me II T4	230 VAC		EN 50019
				EN 50028

Valves (and solenoids) are supplied **without** cable and **without** M20 × 1.5 cable gland

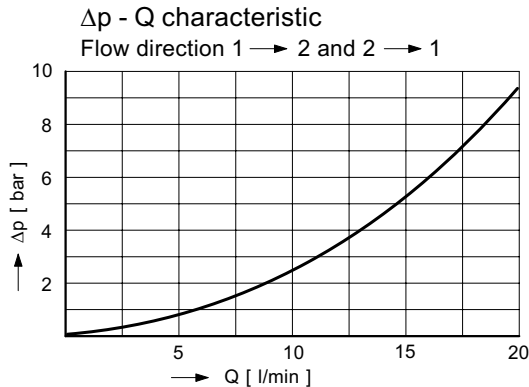
Suitable cable: min. ∅ 6 / max. ∅ 12, 3-core x 1.5 mm<sup>2</sup>

EEx- classification	EEx me II T4
Enclosure protection	IP 66
Standards	EN 50014 / 50019 / 50028
Solenoid	wet-armature type with core tube and slip-on coil
Nominal voltages	24 VDC
	230 VAC 50 ... 60 Hz
Voltage tolerance	± 5 %
Max. core tube pressure	315 bar (static)
Duty cycle	100 %

Coils must be protected by a fuse whose maximum permissible rating is three times the nominal coil current.

\*) = with integral rectifier/varistor

## PERFORMANCE DATA Oil viscosity 33 cSt



### Switching times

Flow direction 1 → 2

Solenoid ON	80 ... 220 ms
Solenoid OFF	10 ... 160 ms

These times are strongly influenced by flow rate, pressure and viscosity, as well as by the dwell time under pressure.

### Note on operational reliability

In accumulator systems, the user must ensure that the maximum permitted flow rate of 20 l/min for EEx-W1C ... models is not exceeded in either flow direction. See also the orifice flow chart on data sheet i-01.

### MODEL CODE KEY (see also the separate Quick-selection Tables)

Ex. 

EEx	-	W1	C	B	A	1
-----	---	----	---	---	---	---

24 VDC
--------

- EEx = EEx- classification EEx me II T4 (for explosion-hazard areas)
- W1 = directional seat valve, 2/2 function  
deenergised: 1-to-2, 2-to-1 closed
- C = 2/2 solenoid valve with standard valve stem and cone

Seals		Special ***	Shallow / deep Mounting	
Nitrile 90 Shore	Viton 85 Shore			
B	G	M	shall.	solenoid operated with manual override (not suitable for line mounting body)
C	H	N	deep	
D	I	O	shall.	
E	K	P	deep	

\*\*\* specify special seal requirements on order

- A ... Q = **standard** model per relevant data sheet
  - Z ... R = special features by arrangement
  - 1 ... 9 = design number (omit when ordering new units)
- Voltage and current plainly specified

### RELATED DATA SHEETS

- i - 01 Orifice flow chart
- i - 32 Form tool hire programme for cartridge cavities
- i - 33.1 Cavity types AA and AB for 2/2 seat valves
- Quick-selection table
- Certificate of conformity no. BASEEFA 02ATEX 0199X
- W - 2.22 3/2 seat valves for explosion-hazard areas, solenoid actuated
- W - 2.23 2/2 ... 4/4 seat valves for explosion-hazard areas, in size 03 manifold mounting body, solenoid actuated
- W - 2.55 2/2 seat valves for explosion-hazard areas, in size 03 stack mounting body, solenoid actuated
- G - 2.10 Line mounting body GABA (G 3/8") for 2/2 seat valves (deep mounting)

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