XDC.3... PROPORTIONAL DIRECTIONAL VALVES
CLOSED LOOP POSITION CONTROL

brevini *fluid power*

XDC.3...002	
STANDARD CONNECTORS	CH. I PAGE 19
PROPORTIONAL SOLENOID	CH. VIII PAGE 11
SE.3.AN21.RS...03	CH. IX PAGE 13
AM.3.H...	CH. VIII PAGE 18
AM.5.H...	CH. VIII PAGE 19
BC.3.07...	CH. VII PAGE 12

The valves XDC serie 2 control the direction and the volume of the flow according to the feeding current to the proportional solenoid. The position transducer type LDVT (inductive position transducer) monitors the actual position of the spool.

In the electronic card (type SE.AN.21.RS...serie 3) the error between the actual position and the reference signal is used to obtain a greater precision of the spool positioning, reducing also considerably the hysteresis and the repeatability error of the valve. For a more accurate flow control, 2 or 3-way pressure compensators modular plate design are available.

The shown flow rates are typical for one line operation (e.g. from P to B). By using the valve with the base for capacity doubling type BC.3.07 greater capacity can be obtained.

XDC.3.C.01.N... **XDC.3.C.03.N...** **XDC.3.C.01.P...**

XDC.3.A.01.N... **XDC.3.A.03.N...** **XDC.3.A.01.P...**
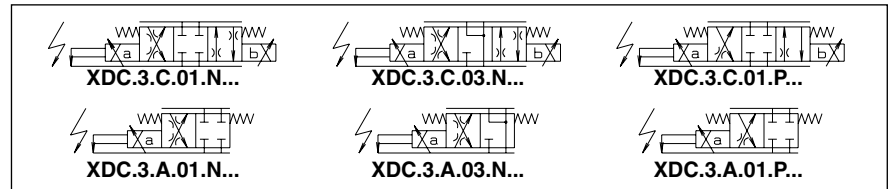
$\mathsf{C}\mathsf{E}$ **Registered mark for industrial environment with reference to the electromagnetic compatibility.**
European norms: EN50082-2 - general safety norm - industrial environment;
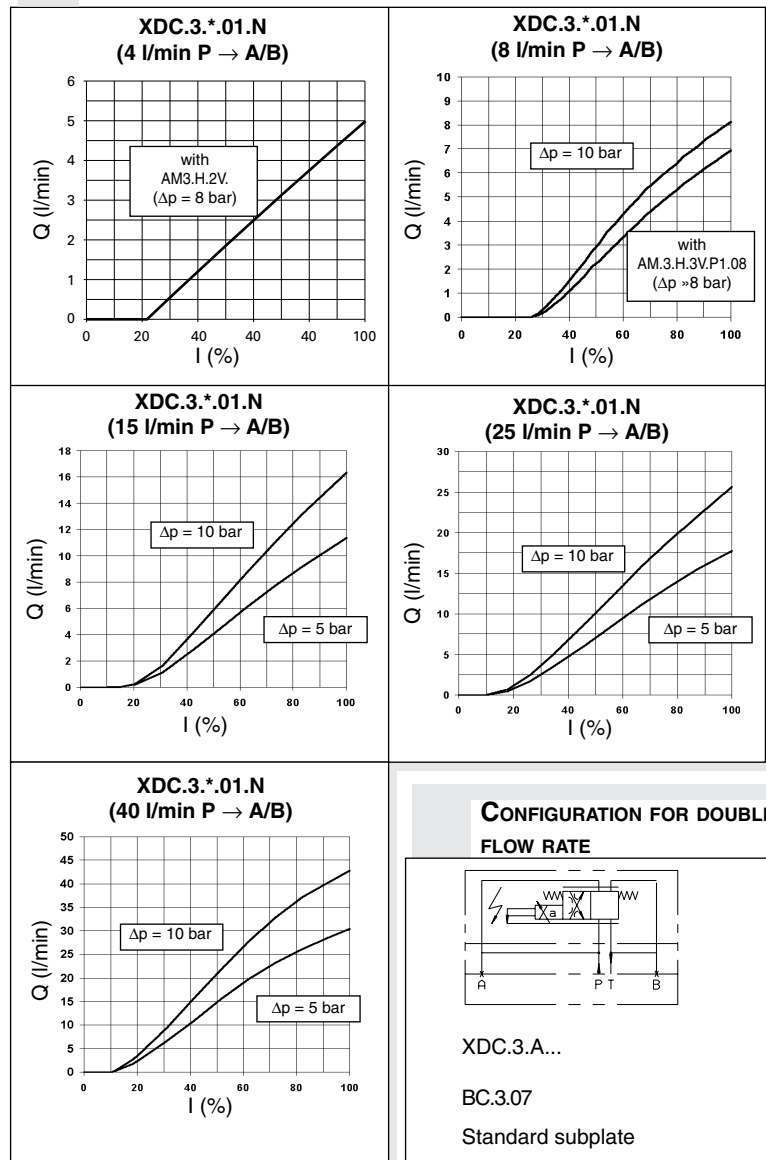EN50081-1 -emission general norm - residential environment

ORDERING CODE

XDC — Proportional directional valve with closed loop position control

3 — CETOP 3/NG6

* — **A** = Single solenoid
C = Double solenoid

** — Type of spool (null position)

01 = ⊞   03 = ⊞

* — Flow path control (see hydraulic symbols
N = symmetrical
P = meter in (only with 01 spool)

* — Flow rating l/min (Δp 10 bar)
A = 4 l/min
1 = 8 l/min
2 = 15 l/min
3 = 25 l/min
6 = 40 l/min ◄— In order to reduced the unloading pressure for rated flow version at 40 l/min we advise to use the 3 way type AM.5.H.3V... hydrostat.

F — Max. current at solenoid: 1.76 A

S1 — No variant (without connectors)*

2 — Serial No.

8

Notice:
in order to control the valve XDC3...serie 2 it need to use the electronic card SE.AN.21.RS...serie 3, in exclusive way (See Ch. IX).

(*) All variants are considered without connectors. The connectors must be order separately.
See Ch. I Page 19

INPUT SIGNAL CURVES - FLOW RATE

XDC.3.*.01.N (4 l/min P → A/B)
with AM3.H.2V. (Δp = 8 bar)

XDC.3.*.01.N (8 l/min P → A/B)
Δp = 10 bar
with AM.3.H.3V.P1.08 (Δp »8 bar)

XDC.3.*.01.N (15 l/min P → A/B)
Δp = 10 bar
Δp = 5 bar

XDC.3.*.01.N (25 l/min P → A/B)
Δp = 10 bar
Δp = 5 bar

XDC.3.*.01.N (40 l/min P → A/B)
Δp = 10 bar
Δp = 5 bar

CONFIGURATION FOR DOUBLE FLOW RATE

XDC.3.A...

BC.3.07

Standard subplate

OPERATING SPECIFICATIONS OF VALVE WITH TRANSDUCER

Max. operating pressure ports P/A/B	350 bar
Dynamic pressure port T	210 bar
Static pressure port T	210 bar
Nominal flow	8 / 15 / 25 / 40 l/min
Duty cycle	Continuous 100% ED
Type of protection (depending on the connectors used)	IP 65
Performance curves	See diagrams
Fluid viscosity	$10 \div 500 \ mm^2/s$
Fluid temperature	-20°C ÷ 75°C
Ambient temperature	-20°C ÷ 70°C
Max. contamination level class 7 to 9 in accordance to NAS 1638 with filter $\beta_{10} \geq 75$	
Weight XDC.3.A... (single solenoid)	1,94 Kg
Weight XDC.3.C... (double solenoid)	2,55 Kg

Max. current	**1.76 A**
Solenoid coil resistance at 20°C (68°F)	4.55 Ω
Solenoid coil resistance when hot	7.34 Ω
Hysteresis P/A/B/T with pressure compensator AM.3.H.3V...	<1%
Transient function with stepped electrical input signals $\Delta p = 5$ bar (P/A)	
0 ÷ 100%	65 ms
100% ÷ 0	75 ms
Repeatibility	<0,5%
Frequency response -3db (Input signal ±25% Vmax)	10 Hz

Insulation class wire	H
Weight of solenoid	0,6 Kg

Operating specifications are valid for fluids with 46 mm²/s viscosity at 40°C, using the SE3AN21RS... serie 3 ARON electronic control unit powered to 24V.
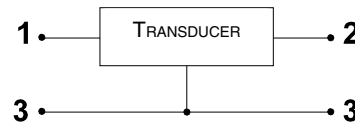
AMPLIFIER UNIT AND CONTROL

SE.3.AN.21.RS...serie 3 - Electronic card EUROCARD format for control of the proportional valve equipped with transducer

**AM.3.H.2V.P1 / AM.3.H.3V.P1
AM.5.H.3V.P1 (*)**

Hydrostats 2 or 3 way
(*) for rated flow XDC3 version at 40 l/min) only

TRANSDUCER ELECTRICAL CONNECTIONS

1 = Supply 18VDC ÷ 36VDC
3 = Mass
2 = Output 2V ÷ 10V
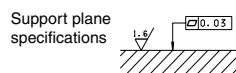
POSITION TRANSDUCER SPECIFICATION

Electrical measuring system	LVDT
Nominal stroke	6 mm
Electrical connection	M12x1
Insulation	
(depending on the connector used)	IP65
Frequency response	500 Hz
Linearity tolerance	±1%

PROPORTIONAL
SOLENOID

OVERALL DIMENSIONS

233.9   (XDC.3.A)
300.5   (XDC.3.C)

OR Ø10x1.5/90SH
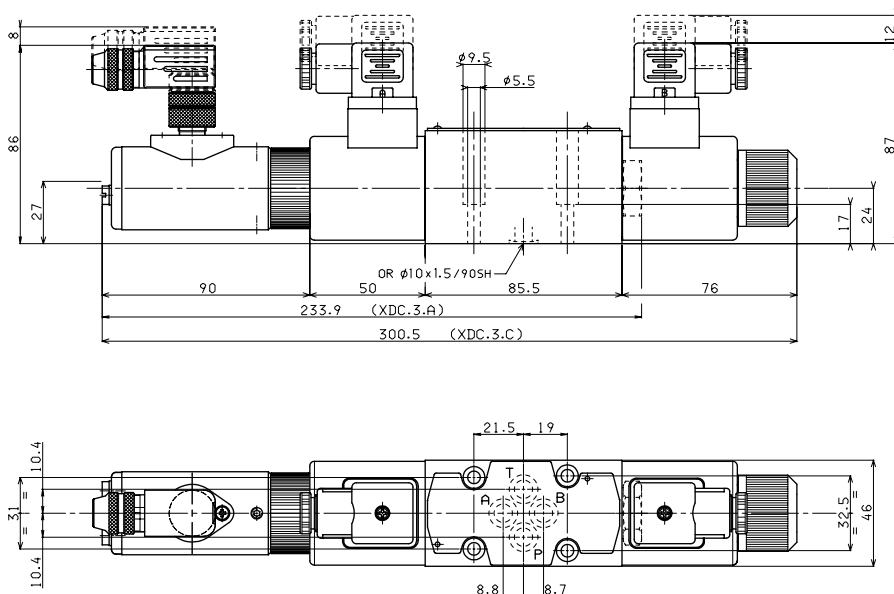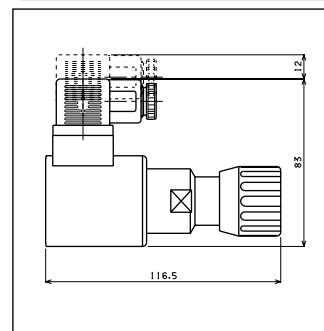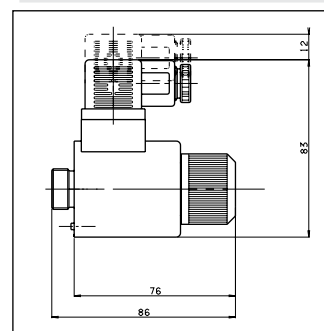
Fixing screws UNI 5931 M5x25
(min. 8.8 material screws are recommended)
Tightening torque 4 ÷ 5 Nm / 0.4 ÷ 0.5 Kgm

Support plane
specifications

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SOL_XDC - 01/2000/e