

## PNEUMATIC CONTROL VALVES PV25 (EN)

### V25G globe control valves with linear actuators PA series

#### DESCRIPTION

The PV25 control valves are single seated, two-way body constructed with in-line straight connections. The PA pneumatic actuator is rubber diaphragm and multi-springs. Its action can be DA -direct action (air to close) or RA-reverse action (air to open). The PV25 valves have been designed to assure an accurate control in any process condition. Their wide application ranges allows the use of this valve with the most common process fluids such as water, superheated water, steam, air, gas and other non corrosive fluids (group 1).

#### MAIN FEATURES

Single seated, two way, direct or reverse action valve. Valve top flange permanently attached to the body, removal is unnecessary for replacing the actuator. Metal to metal sealing as standard.

**OPTIONS:** Position transmitter 4-20 mA  
Pneumatic pilot positioner  
Electropneumatic pilot positioner  
Air filter regulator  
Top-work manual handwheel  
Stainless steel construction.  
Soft sealing and stellite seat and plug.

**USE:** Saturated and superheated steam.  
Hot and superheated water.  
Air, gases and other noncorrosive fluids.

**AVAILABLE MODELS:** PV25G, PV25S and PV25I  
**RATINGS:** PN16 and PN40  
**VALVE SIZES:** DN15 to DN100

**CONNECTIONS:** Flanged EN1092-1/-2 PN16 - PN40

**ACTUATORS:** PA-205; PA-280; PA-340; PA-435  
**ACTUATOR CONN:** 1/4" NPT-F

**CONTROL SIGNAL:** 0,2 - 1 bar ; 0,4 - 1,2 bar ; 0,4 - 2 bar.

**HOW TO SELECT:** Never size the valve according to the pipe diameter in which it has to be fitted but according to the required actual flow of steam or water. Refer to valve calculation data sheet or consult the factory.

**MAX. AIR SUPPLY PRESSURE:** 3,5 bar  
**AMBIENT TEMPERATURE:** -20°C ...+70°C  
**BONNET :** From -5°C to +220°C (standard)  
Finned for temperature >220°C

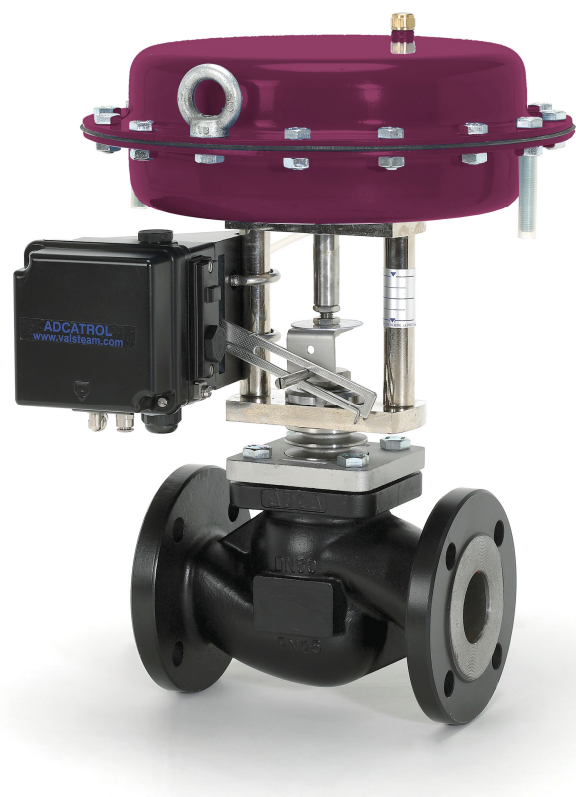
**STEM SEALING:** PTFE/GR V-Rings - up to 220°C (Standard bonnet)  
Graphite - up to 400°C (Finned bonnet)  
Stainless steel bellows

**PLUG CHARACT.:** EQP - Equal percentage  
PL - Linear  
PT - On-Off

**PLUG DESIGN :** Contoured  
V-ported  
Perforated (Low noise, anti-cavitation)  
Microflow

**PORT :** Full port or reduced on request

**COMPLEMENTARY INFORMATION :** See IS PV10.00 E



CE MARKING (PED - European Directive 97/23/EC)			
PN 16	PN 25	PN 40	Category
DN15 to DN50	DN15 to DN40	DN15 to DN32	SEP - art. 3, paragraph3
DN65 to DN100	DN50 to DN100	DN40 to DN80	1 (CE Marked)
--	--	DN100	2 (CE Marked)

**VALVE BODY LIMITING CONDITIONS**

V25G - PN16 *		V25I - PN16 *		V25S - PN40 *		V25I - PN40 *	
ALLOWABLE PRESSURES	RELATED TEMP.	ALLOWABLE PRESSURES	RELATED TEMP.	ALLOWABLE PRESSURES	RELATED TEMP.	ALLOWABLE PRESSURES	RELATED TEMP.
16 bar	-10/50 °C	16 bar	-10/50 °C	40 bar	-10 /50° C	40 bar	-10 /50° C
13,3 bar	200 °C	13,4 bar	200 °C	33,3 bar	200 °C	33,7 bar	200 °C
12,1 bar	250 °C	12,7 bar	250 °C	27,6 bar	300 °C	29,7 bar	300 °C
11 bar	300 °C	11,8 bar	300 °C	25,7 bar	350 °C	28,5 bar	350 °C
10,2	350 °C	11,4 bar	350 °C	23,8 bar	400 °C	27,4 bar	400 °C

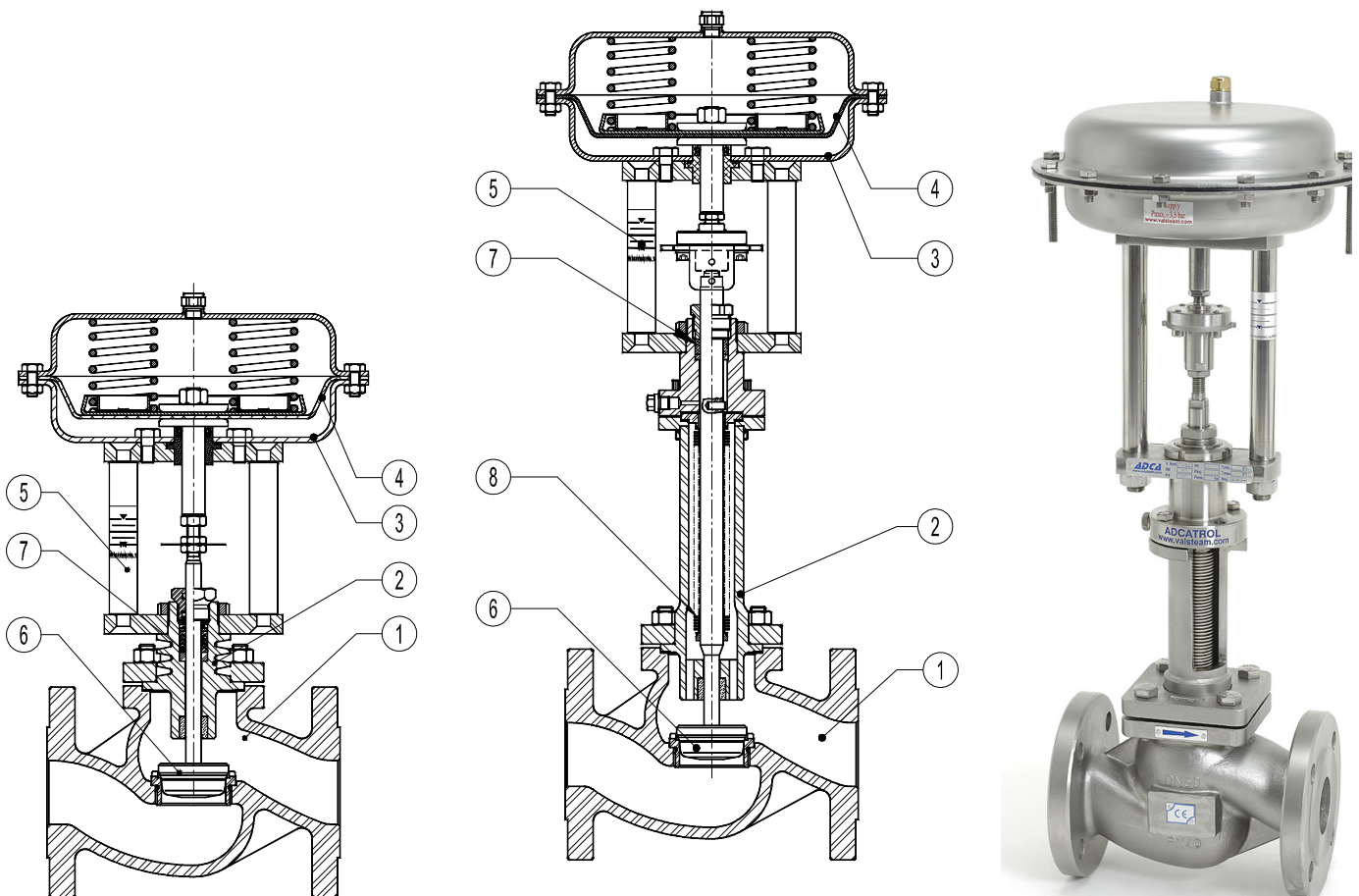
Note: Maximum temperature limited to the valve packing selected. Valves with soft seat , maximum allowable temperature : 200°C

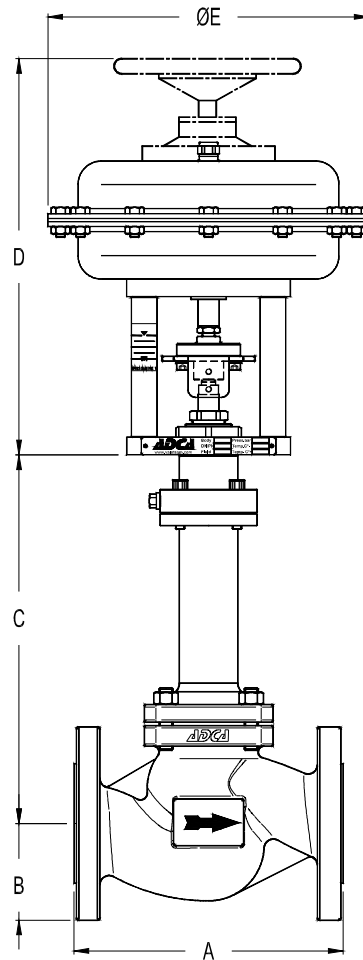
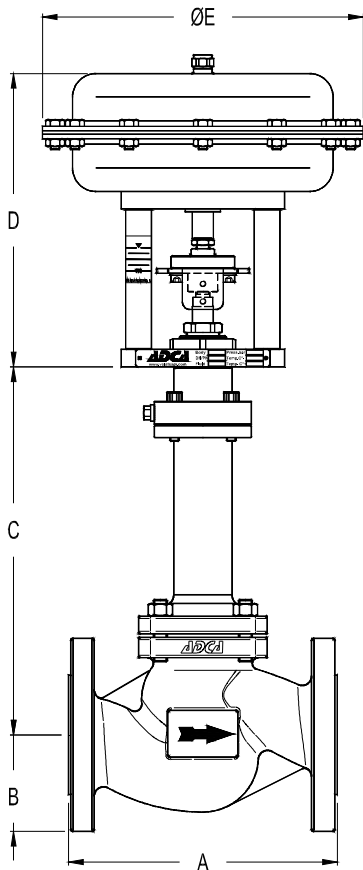
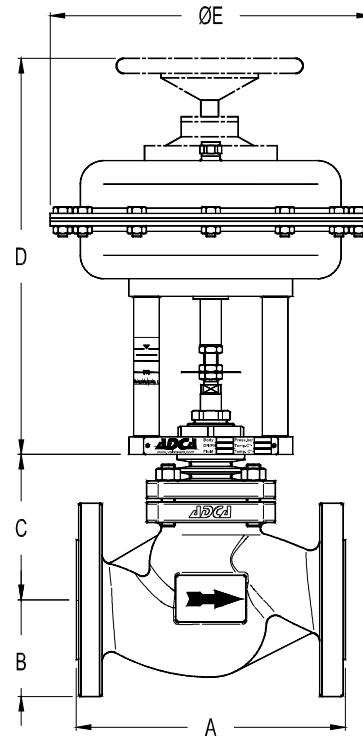
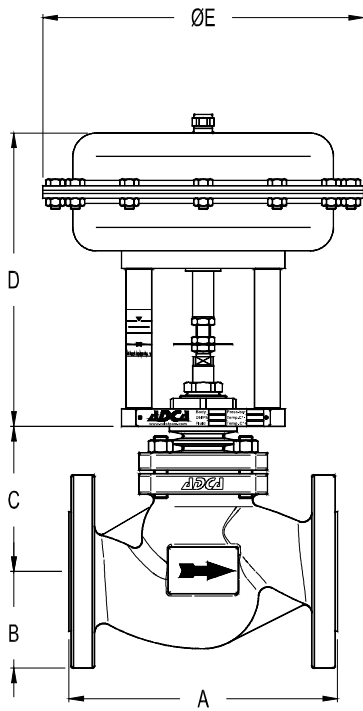
\* Rating according to EN1092-1:2007

**MATERIALS**

POS.	DESIGNATION	MATERIAL V25G - V25S	MATERIAL V25I
1	Valve Body	ASTM A216WCB / 1.0619 ; GP240GH / 1.0619	CF8M / 1.4408
2	Bonnet	CF8 / 1.4308	CF8 / 1.4308
3	Actuator (Steel)	S235JRG2 / 1.0038	S235JRG2 / 1.0038
	Actuator (Stainless steel)	AISI304 / 1.4301	AISI304 / 1.4301
4	*Diaphragm	NBR 70	NBR 70
5	Yoke (Steel)	C45E / 1.1191	C45E / 1.1191
	Yoke (Stainless steel)	AISI304 / 1.4301	AISI304 / 1.4301
6	*Valve plug	PTFE/GR ; St.Steel	PTFE/GR ; St.Steel
7	*Standard packing	PTFE/GR	PTFE/GR
8	*Metal bellows	AISI316Ti / 1.4571	AISI316Ti / 1.4571

\* Available spare parts





DIMENSIONS - VALVE BODY						
DN	A (mm)	B (mm)	C (mm)			
			BONNET			
			STANDARD	FINNED	EXTENDED	BELLOWS
15	130	48	85	150	150	290
20	150	53	85	150	150	290
25	160	58	90	170	170	295
32	180	70	110	190	190	280
40	200	75	115	195	195	285
50	230	83	125	215	215	285
65	290	93	175	275	275	392
80	310	100	175	275	275	392
100	350	118	190	310	310	400

DIMENSIONS - ACTUATOR			
Type	ø E (mm)	D (mm)	WEIGHT Kgs
		DN15-100 DA/RA	
PA-205	210	235	5,7
PA-280	275	240	8,8
PA-340	335	265	14,3
PA-435	430	295	24,5



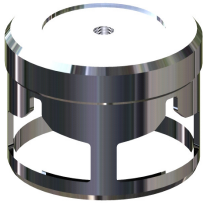
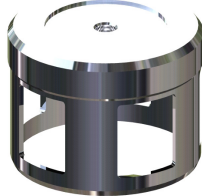
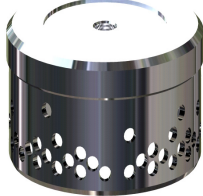

PV25 DA - Direct action from DN15 to DN200, PV25 RA - Reverse action from DN15 to DN100

FLOW RATE COEFFICIENTS									
	SIZES								
	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
<b>Kvs</b>	3,8	5,1	9,4	15,4	22,2	40,1	63,4	89,7	136,7

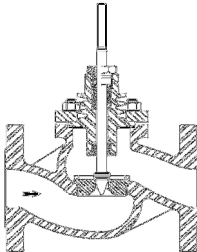
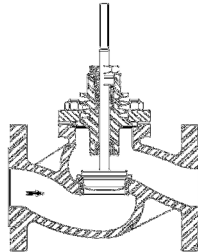
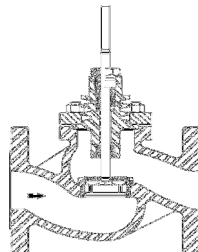
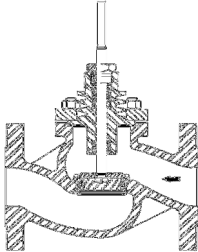
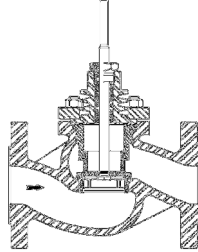
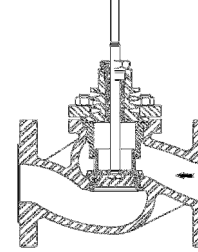
Kvs in m<sup>3</sup>/h , see data sheet IS PV10.00 E ; For conversion Kvs = Cv(US) x 0,855

VALVE STROKE IN mm									
	SIZES								
	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
<b>Stroke</b>	20	20	20	20	20	20	30	30	30

Perforated plug and on-off valves may have different strokes, please see literature or consult factory.

PLUG DESIGN					
Microflow Linear PL	Contoured Equal % or Linear EQP - PL	V - Ported Equal percentage EQP	V - Ported Linear PL	Perforated Equal percentage EQP	Perforated Linear PL
					

V-Ported and perforated plugs are also available in balanced pressure version.

VALVE DESIGN - FLOW DIRECTION					
Microflow Linear PL	Contoured Equal % or Linear EQP - PL	V - Ported EQP - PL	V - Ported Perforated EQP - PL	V-Ported Balanced EQP - PL	Perforated Balanced EQP - PL
					

**MAX. PERM.PRESS.DROP IN bar - N.C.(fluid to open) -Reverse action actuator (air signal to open)**

ACTUATOR	CONTROL SIGNAL	SIZES								
		DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
PA-205	0,2 ÷ 1 bar	6	6	5	—	—	—	—	—	—
	0,4 ÷ 1,2 bar	10	10	7	—	—	—	—	—	—
	0,4 ÷ 2 bar	12	12	9	—	—	—	—	—	—
PA-280	0,2 ÷ 1 bar	28	26	16	8	6	3,5	—	—	—
	0,4 ÷ 1,2 bar	40	38	20	12	10	5	—	—	—
	0,4 ÷ 2 bar	50	45	25	16	12	6,5	—	—	—
PA-340A	0,2 ÷ 1 bar	60	60	50	20	12	10	—	—	—
	0,4 ÷ 1,2 bar	80	80	60	30	16	13	—	—	—
	0,4 ÷ 2 bar	100	100	80	40	20	18	—	—	—
PA-340B	0,2 ÷ 1 bar	—	—	—	—	—	—	4	2,5	1
	0,4 ÷ 1,2 bar	—	—	—	—	—	—	5	3,5	1,5
	0,4 ÷ 2 bar	—	—	—	—	—	—	6	4	2
PA435A	0,2 ÷ 1 bar	—	—	—	—	40	25	—	—	—
	0,4 ÷ 1,2 bar	—	—	—	—	48	30	—	—	—
	0,4 ÷ 2 bar	—	—	—	—	55	45	—	—	—
PA435B	0,2 ÷ 1 bar	—	—	—	—	—	—	6	5	3
	0,4 ÷ 1,2 bar	—	—	—	—	—	—	8	7	5
	0,4 ÷ 2 bar	—	—	—	—	—	—	10	8	6
	0,4 ÷ 2,5 bar	—	—	—	—	—	—	16	15	12

\* For valve size DN125 and above please consult catalogue IS PV25G.125 E.

The pressure drop values are referred to closed valves. They have been verified by a control signal coming from an electro-pneumatic converter with an enduring minimum signal of 0,2 bar.

The actuator press. drops given with closed valve for the actuator signal 0,4 - 2 bar are also valid for ON-OFF service with air supply at 2,5 bar. Special spring drops available on request.

The pressure drop values must be used within the body rating limits.

For electric actuator selection please consult catalogue IS EL.20.00 E or our technical department.

If higher differential pressures are required please consult PA45 pneumatic actuators catalogue.

**MAX. PERM.PRESS.DROP IN bar - N.O.(fluid to open) -Direct action actuator (air signal to close)**

ACTUATOR	CONTROL SIGNAL	SIZES								
		DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
PA-205	0,2 ÷ 1 bar	16	16	12	5	—	—	—	—	—
	0,4 ÷ 2 bar	25	24	16	7,5	—	—	—	—	—
PA-280	0,2 ÷ 1 bar	—	—	19	10	8	4	—	—	—
	0,4 ÷ 2 bar	—	—	25	20	16	7	—	—	—
PA-340A	0,2 ÷ 1 bar	—	—	—	17	16	10	—	—	—
	0,4 ÷ 2 bar	—	—	—	28	26	25	—	—	—
PA-340B	0,2 ÷ 1 bar	—	—	—	—	—	—	5	3,5	1,5
	0,4 ÷ 2 bar	—	—	—	—	—	—	8	7	3
PA435B	0,2 ÷ 1 bar	—	—	—	—	—	—	8	5	3
	0,4 ÷ 2 bar	—	—	—	—	—	—	16	10	7,5

\* For valve size DN125 and above please consult.

The actuator pressure drops given with closed valve, are obtained with the following air pressures supply:

Actuator signal 0,2 to 1 bar : air supply 1,2 bar ; Actuator signal 0,4 to 2 bar : air supply 2,5 bar

The actuator press. drops given with closed valve for the actuator signal 0,4- 2 bar are also valid for ON-OFF service with air supply at 2,5 bar. Special spring drops available on request.

The pressure drop values must be used within the body rating limits.

For electric actuator selection please consult catalogue IS EL.20.00 E or our technical department.



**ORDERING CODES V25**

VALVE CODES		V	.25	G						.X.
<b>Actuator Type (1)</b>										
Pneumatic Actuator		P								
Electric Actuator		E								
<b>Group Designation</b>										
Globe valve, two way, straight body		V								
<b>Valve Model</b>										
ASTM A216 WCB body, stainless steel trim			.25	G						
ASTM A216 WCB body, stainless steel trim			.25	S						
CF8M body, stainless steel trim			.25	I						
<b>Stem Sealing</b>										
PTFE/GR-V-Rings / Standard bonnet									1	
Virgin PTFE V-Rings / Standard bonnet									2	
Graphite / Standard bonnet									3	
Graphite / Finned bonnet									4	
Bellows									8	
<b>Valve Plug</b>										
EQP (equal percentage) - Soft (PTFE-GR)									1	
EQP (equal percentage) - Metal AISI316 / 1.4401									3	
EQP (equal percentage) - Stellite									4	
PL (linear) - Soft (PTFE/GR)									6	
PL (linear) - Metal AISI316 / 1.4401									7	
PT (on-off) - Soft (PTFE/GR)									9	
PT (on-off) - Metal AISI316 / 1.4401									10	
<b>Pipe Connection</b>										
Flanged EN1092-2 PN16										L
Flanged EN1092-1 PN40										N
<b>Size</b>										
DN15										15
DN20										20
...										
<b>Actuator</b>										(1)
<b>Extras (3)</b>										E

ACTUATOR CODES ( pneumatic )		P.				
<b>Group Designation</b>						
Multi-spring , pneumatic linear actuator		P.				
<b>Actuator Size</b>						
205			1			
280			3			
340 A - From DN15 to DN50			5			
340 B - From DN65 to DN100			6			
435 A - From DN15 to DN50			7			
435 B - From DN65 to DN100			8			
<b>Actuator</b>						
Direct Action						D
Reverse Action						R
<b>Actuator Construction</b>						
Steel construction (painted) - standard						(2)
Stainless steel construction						I
<b>Control Signal</b>						
0,2 - 1 bar (3/15 psi)						15
0,4 - 1,2 bar (6/18 psi)						18
0,4 - 2 bar (6/30 psi)						30

→ To be introduced on ".X.", if supplied in combination with the valve.  
 Example:  
 V25G valve model EQP soft plug, PTFE/GR stem sealing DN50 complete with reverse action actuator signal 0,4-1,2bar, size340A steel.

Code: PV.25G.11L50.5R18

REMARKS:  
 (1)- Indicate actuator type.  
 (2)- Omitted if the standard actuator is selected.  
 (3)- To be used only when a non-standard combination valve is supplied.  
 ADCATROL control valves are identified by a serial number on a nameplate, located on the actuator yoke.  
 Always order spares by using that serial number. If the valve has non-standard extras the serial number has also an E (extras).