

Electro-Pneumatic-Valve

EPV 16 ...

Marine-Version



ELECTRO PNEUMATIC VALVE EPV 16 XXX

Manufacturer / Owner of EU-Type Examination Certificate

müller co-ax GmbH
Friedrich-Müller-Straße 1
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Technical description

The electro pneumatic valve EPV is a coaxial valve operated with electro pneumatic auxiliary energy (5/2-way valve):

- Gas safety valve NC (normally closed)
- Gas relief valve NO (normally open)

depending on the version.

Application

The electro-pneumatic valve, EPV, is suitable for shutting off (NC) or blowing off (NO) of gases families 1, 2, 3 and other neutral gaseous media. The EPV product range is 100 % H₂ ready. The „open or closed“ position can be indicated electrically by means of inductive limit switches.

Approval

Marine approvals according
• IGF Code

Test certificates on request for each batch. Approvals according to marine classification societies LR, BV, DNV and others.

ATEX

Inside Valve: Zone 0

Outside Valve: Zone 1 or zone 2 depending on limit switch.

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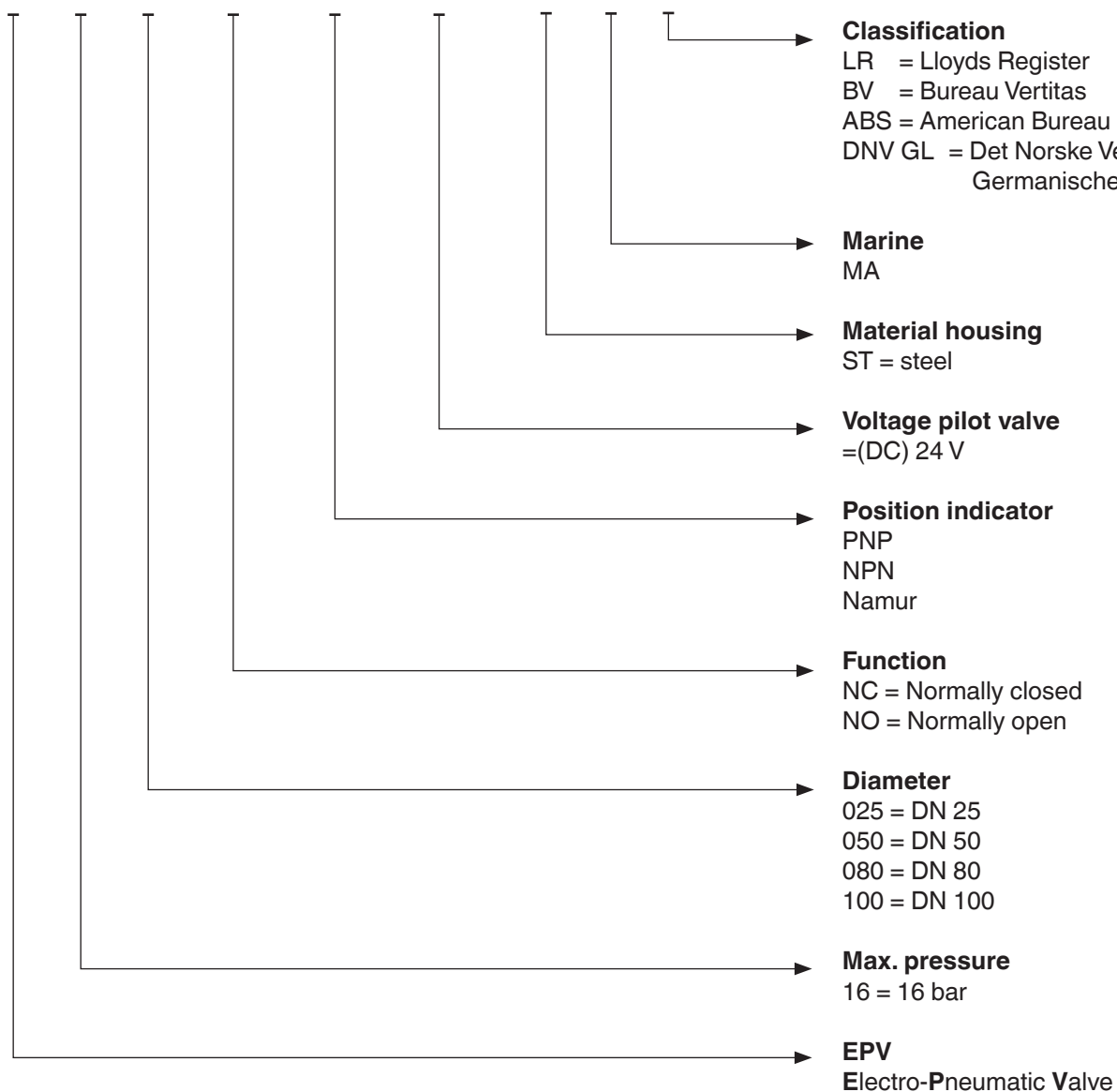
Pilot valve



Specification	EPV-Valve
Nominal diameter Flange	DN 25 / DN 50 / DN 80 / DN 100 PN 16 EN 1092-1
Max. operating pressure	0 - 16 bar (1600 kPa)
Back pressure proof	Max. 10 bar
Valve	Valve as per EN 16678, Class A, Group 2, single-stage mode EN 16304 Group 2
Function	Normally closed NC Normally open NO
Closing time	DN 25 50 ms DN 50 150 ms DN 80 350 ms DN 100 300 ms
Opening time	DN 25 50 - 3000 ms DN 50 150 - 3000 ms DN 80 350 - 3000 ms DN 100 450 - 3000 ms Option: pneumatic break ≤ 20 s
Medium	Gas families 1, 2, 3 and neutral gaseous media 100 % hydrogen
Ambient temperature	-10 °C to +60 °C
Temperature gas	-10 °C to +60 °C
Pore width filter element	≤ 50 µm
Materials	Housing: Steel zinc plated Inner parts: Stainless steel
ATEX inner space	Zone 0 II 1G Ex e II T5
ATEX outside	Zone 1 / II 2G Ex e II T5 (with inductive limit switch Namur 9 V only) Zone 2 / II 3G Ex e II T5 (with standard inductive limit switch PNP 24 V only)
Emergency shutdown	Manual operation via pilot valve
Degree of protection	IP 65
Limit switch	Standard inductive PNP 24 VDC Inductive Namur 9 VDC, additional amplifier required Inductive NPN 24 VDC
Installation position	from vertically upright to horizontally lying
Specification	Pilot valve
Pilot valve	5/2 way valve
Control air (nominal pressure)	DN 25 4,5 - 8 bar DN 50, DN 80, DN 100 4 - 8 bar
Control air requirements	clean dry compressed air according to ISO 8573-1, Class 3 and 5, or nitrogen, with switching cycles ≥ 2/min. lubrication, dew point 10 °C lower than ambient temperature
Control air connection	G 1/4"
Temperature compressed air	-10 °C to +55 °C
Materials	Stainless steel
Voltage / Frequency	=(DC) 24 V
Rating / Power consumption	3 W

Type key of EPV

EPV 16 XXX XX XXX XXX XXX XX XX



For example: „EPV 16 080 NC PNP 24 VDC ST MA LR“

Functional description

NC valve (Normally closed)

Opening: When electrical voltage is applied to the pilot valve (5/2-way valve), the piston of the coaxial valve is pressurised with the pneumatic auxiliary energy. The tube slide of the valve is opened against the closing spring, the gas can flow.

Closing: When the electrical voltage to the pilot valve is removed, force is exerted on the piston with the aid of the pneumatic auxiliary energy and the closing spring and the tubular slide of the coaxial valve is closed, the gas flow is blocked.

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=(DC) 24 V



Version according Lloyd Register

Type	Order No.	Flange DN	Length [mm]	Weight [kg]
EPV 16025 NO PNP 24 VDC ST MA LR	295931	DN 25	170	11,0
EPV 16025 NO NPN 24 VDC ST MA LR	295932			
EPV 16025 NO Namur 24 VDC ST MA LR	295934			
EPV 16025 NC PNP 24 VDC ST MA LR	295934			
EPV 16025 NC NPN 24 VDC ST MA LR	295936			
EPV 16025 NC Namur 24 VDC ST MA LR	295937			
EPV 16050 NC PNP 24 VDC ST MA LR	295941	DN 50	200	24,0
EPV 16050 NC NPN 24 VDC ST MA LR	293717			
EPV 16050 NC Namur 24 VDC ST MA LR	295942			
EPV 16080 NC PNP 24 VDC ST MA LR	298397	DN 80	260	43,0
EPV 16080 NC NPN 24 VDC ST MA LR	295943			
EPV 16080 NC Namur 24 VDC ST MA LR	295944			
EPV 16100 NC PNP 24 VDC ST MA LR	295945	DN 100	350	72,0
EPV 16100 NC NPN 24 VDC ST MA LR	295946			
EPV 16100 NC Namur 24 VDC ST MA LR	295947			

Version according Bureau Veritas

Type	Order No.	Flange DN	Length [mm]	Weight [kg]
EPV 16025 NO PNP 24 VDC ST MA BV	298398	DN 25	170	11,0
EPV 16025 NO NPN 24 VDC ST MA BV	298399			
EPV 16025 NO Namur 24 VDC ST MA BV	298400			
EPV 16025 NC PNP 24 VDC ST MA BV	298401			
EPV 16025 NC NPN 24 VDC ST MA BV	298402			
EPV 16025 NC Namur 24 VDC ST MA BV	298403			
EPV 16050 NC PNP 24 VDC ST MA BV	298404	DN 50	200	24,0
EPV 16050 NC NPN 24 VDC ST MA BV	298405			
EPV 16050 NC Namur 24 VDC ST MA BV	298406			
EPV 16080 NC PNP 24 VDC ST MA BV	293992	DN 80	260	43,0
EPV 16080 NC NPN 24 VDC ST MA BV	298407			
EPV 16080 NC Namur 24 VDC ST MA BV	298408			
EPV 16100 NC PNP 24 VDC ST MA BV	298409	DN 100	350	72,0
EPV 16100 NC NPN 24 VDC ST MA BV	298410			
EPV 16100 NC Namur 24 VDC ST MA BV	298411			

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=(DC) 24 V



Version according DNV GL

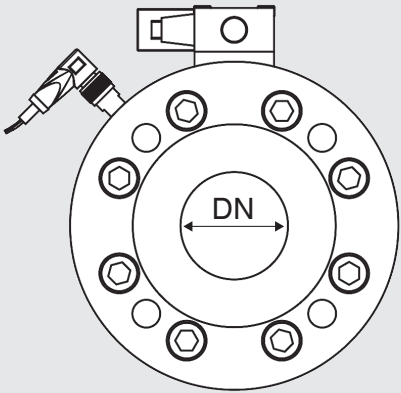
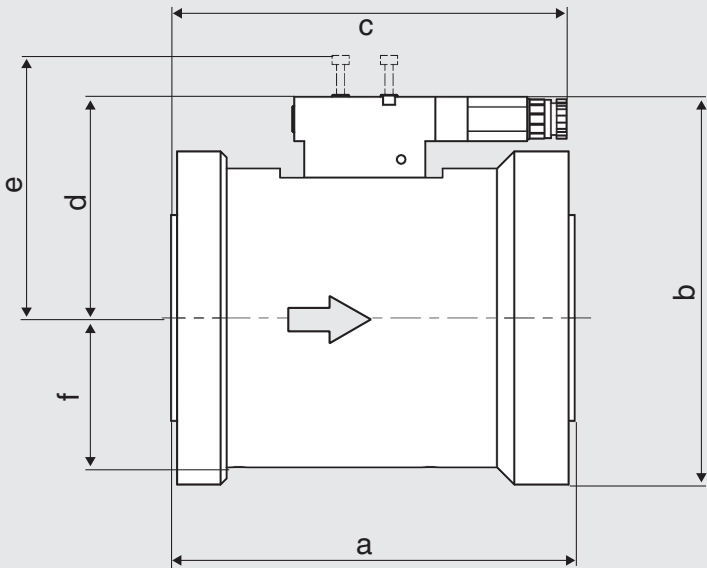
Type	Order No.	Flange DN	Length [mm]	Weight [kg]
EPV 16025 NO PNP 24 VDC ST MA DNVGL	298432	DN 25	170	11,0
EPV 16025 NO NPN 24 VDC ST MA DNVGL	298433			
EPV 16025 NO Namur 24 VDC ST MA DNVGL	298434			
EPV 16025 NC PNP 24 VDC ST MA DNVGL	298435			
EPV 16025 NC NPN 24 VDC ST MA DNVGL	298436			
EPV 16025 NC Namur 24 VDC ST MA DNVGL	298437			
EPV 16050 NC PNP 24 VDC ST MA DNVGL	298438	DN 50	200	24,0
EPV 16050 NC NPN 24 VDC ST MA DNVGL	298439			
EPV 16050 NC Namur 24 VDC ST MA DNVGL	298440			
EPV 16080 NC PNP 24 VDC ST MA DNVGL	298441	DN 80	260	43,0
EPV 16080 NC NPN 24 VDC ST MA DNVGL	298442			
EPV 16080 NC Namur 24 VDC ST MA DNVGL	298443			
EPV 16100 NC PNP 24 VDC ST MA DNVGL	298444	DN 100	350	72,0
EPV 16100 NC NPN 24 VDC ST MA DNVGL	298445			
EPV 16100 NC Namur 24 VDC ST MA DNVGL	298446			

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Dimensions [mm]



Type	Flange DN	Flange Diameter [mm]	Dimensions [mm]						
Version		Ø	a	b	c		d	e	f
				NC/NO	NC	NO	NC/NO	NC/NO	
EPV 16025	DN 25	115	170	145	174	199	87	117	54
EPV 16050	DN 50	165	200	194	200	234	111	141	74
EPV 16080	DN 80	200	260	233	260	260	133	163	95
EPV 16100	DN 100	230	350	272	350	350	157	187	110

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Spare parts / Accessories	Ordering No.
Pilot valve EPV stainless steel	296723
Limit switch EPV (PNP)	296725
Limit switch EPV (Namur)	296726
Limit switch EPV (NPN)	296724
Pneumatic brake EPV	296727

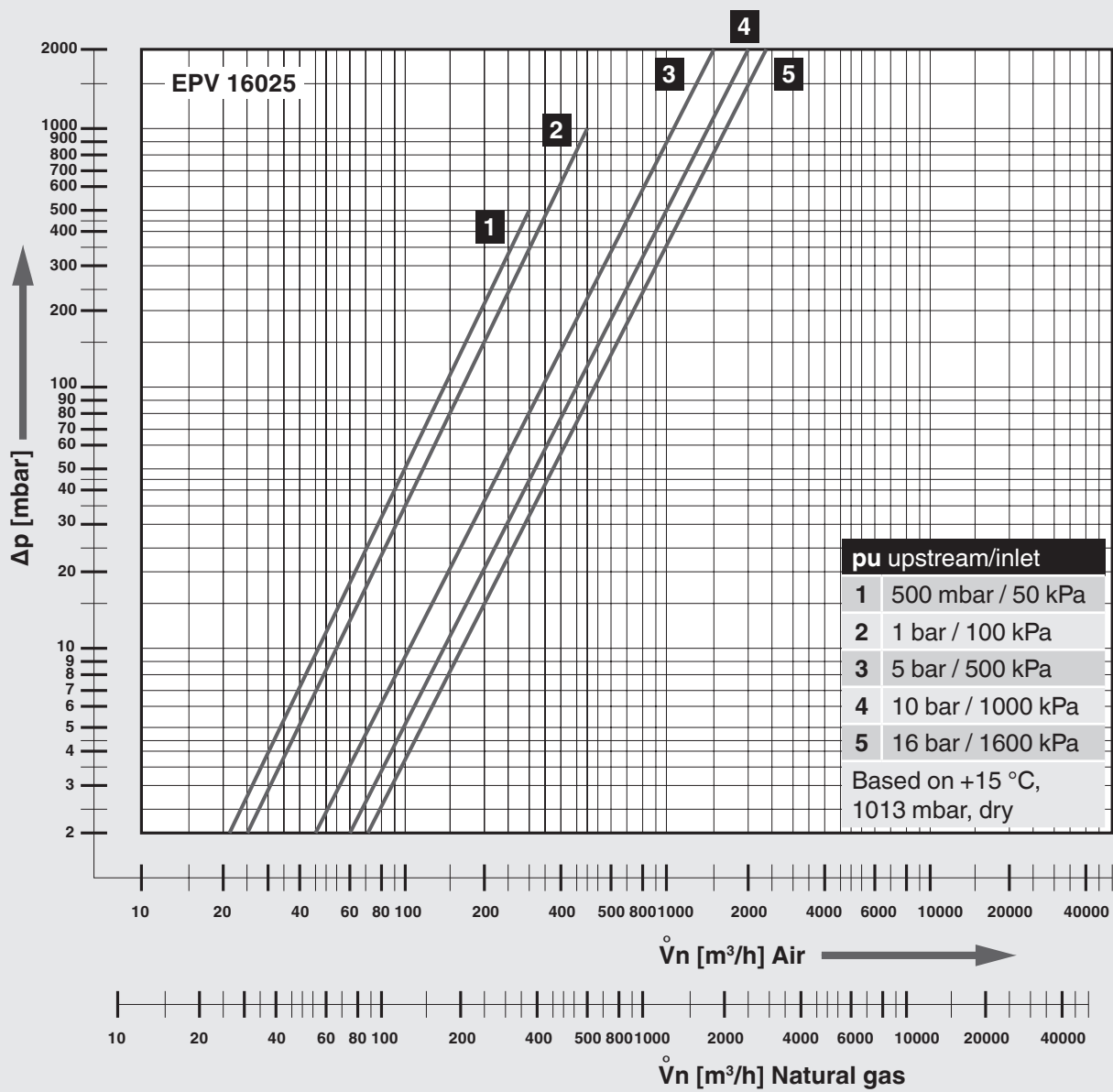
Electro-Pneumatic-Valve
EPV 16025 ...

DN 25

$\Delta p/V$ Flow diagram



Flow diagram



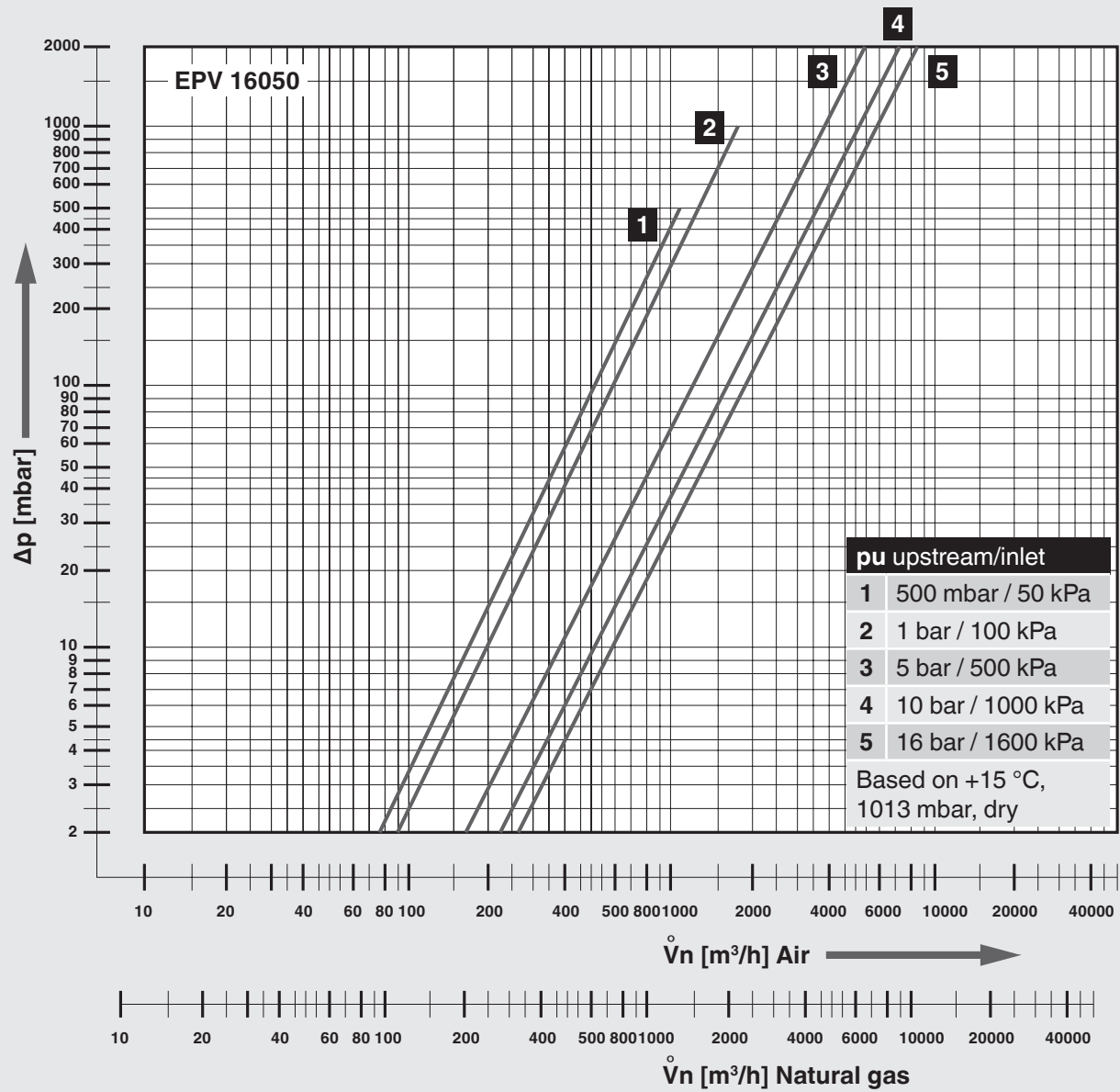
Electro-Pneumatic-Valve
EPV 16050 ...

DN 50

$\Delta p/V$ Flow diagram



Flow diagram



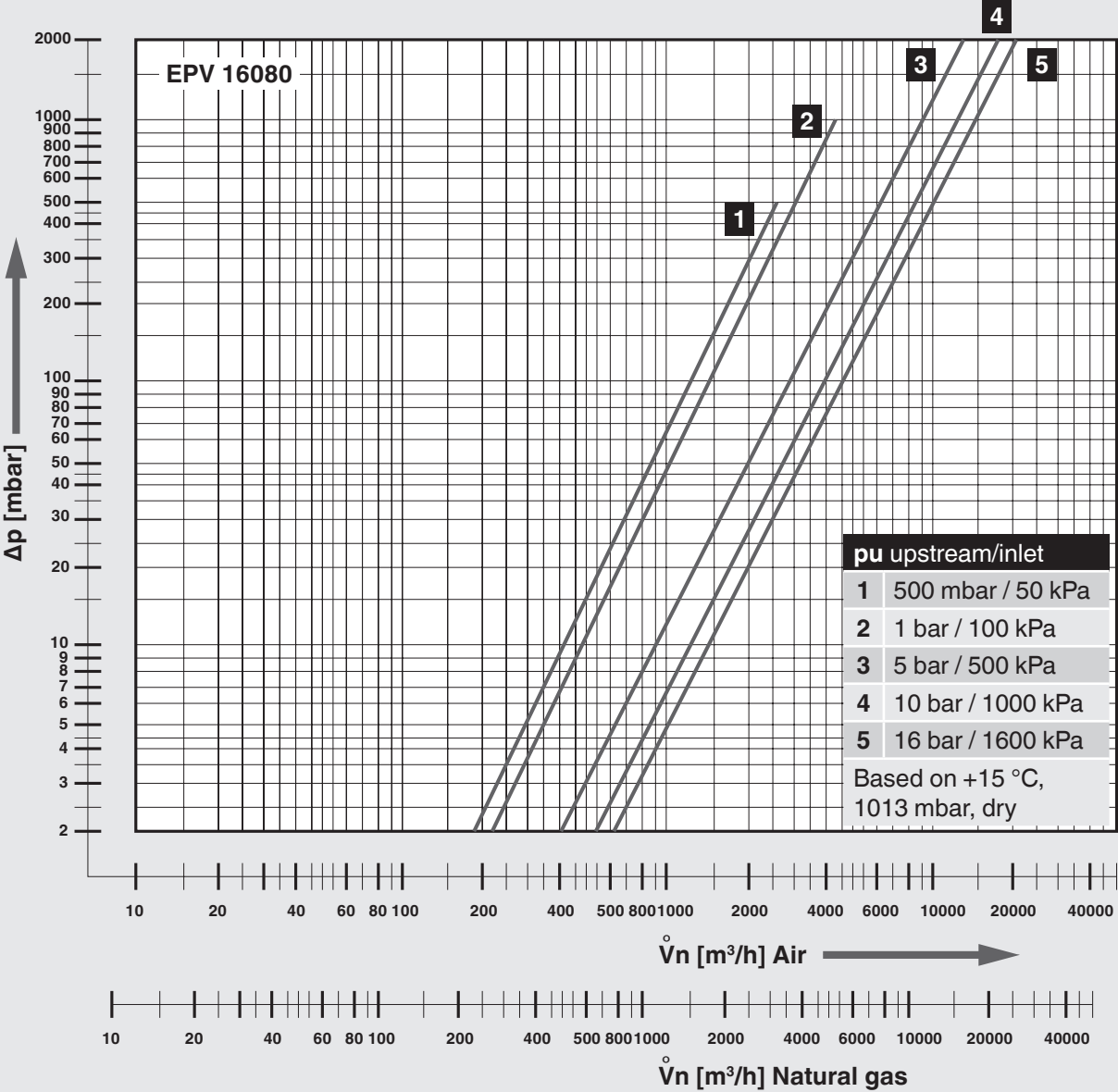
Electro-Pneumatic-Valve
EPV 16080 ...

DN 80

$\Delta p/V$ Flow diagram



Flow diagram



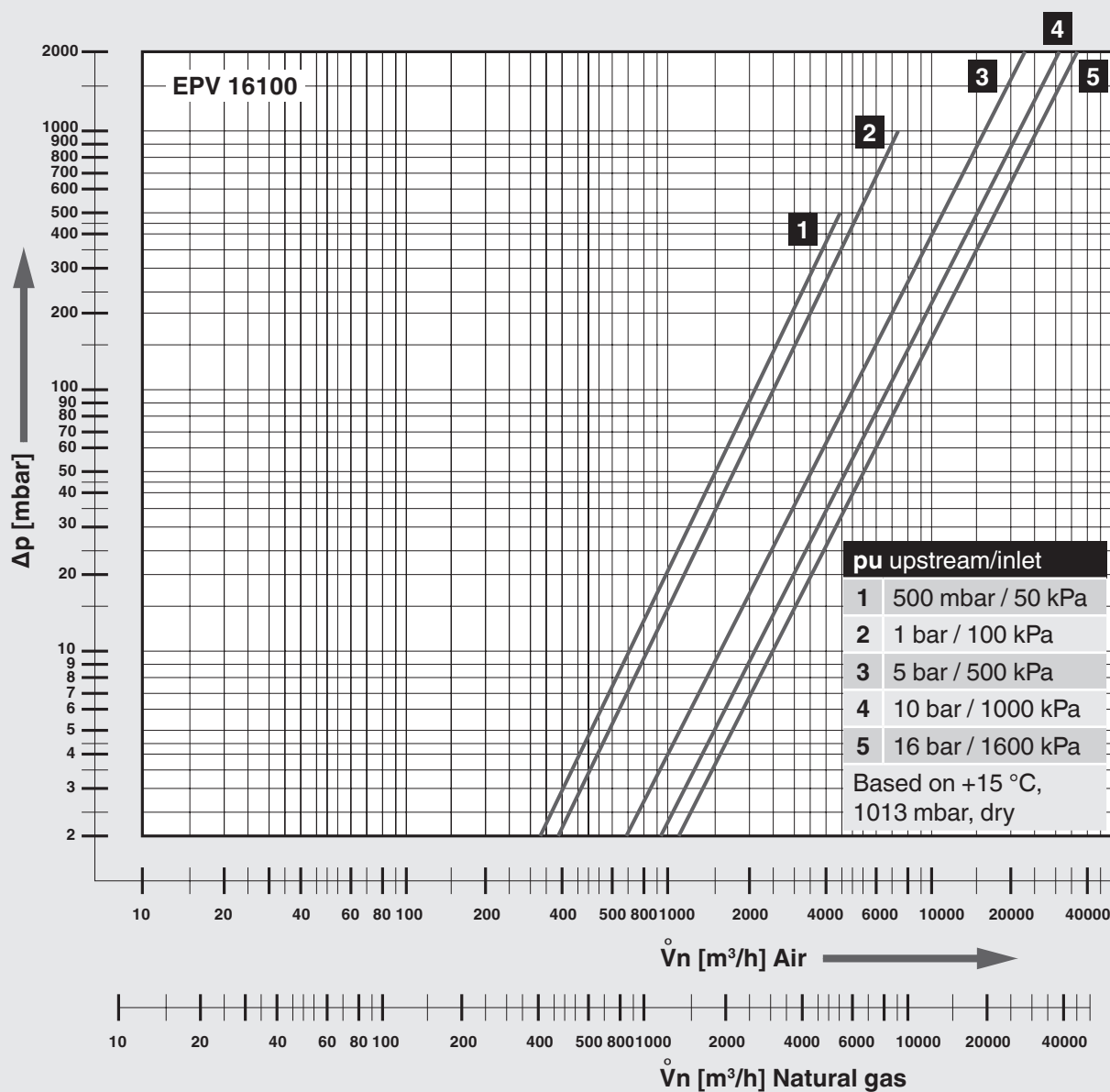
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DN 100

$\Delta p/V$ Flow diagram

DUNGS®
Combustion Controls

Flow diagram



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