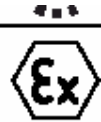


# Pressure Transmitter with Flush Diaphragm ED 520



- Application** Measurement of gauge and absolute pressure for gases and liquids (Level gauging, food industry, sterilizers, pharma industry)
- Construction** Stainless steel 1.4435 flush diaphragm or connection acc. DIN 16288. Connection with cone flush metallic sealing (for food application). External zero point and span adjustment
- Pressure range** 100 mbar ... 400 bar
- Output signal** 0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V DC, 0 ... 10 V DC
- Static error band** ≤ 0,25% FS typ., ≤ 0,15% FS typ.
- Electrical connection** Cable or plug
- Pressure connection** Male thread with cone 1/2" and 1" Male thread without cone 1/2" and 1" Male thread G1/2" DIN 16288
- Type of protection** IP 65, IP 67
- EMC** Protected for industrial environments, conforming to EN 50081-2, EN-50081-1 and EN 50082-2
- Accessory** Test certificate



## Selection Chart

Ordering example		ED 520 / 3 1 4 2 1 1 / 025							
<b>System design</b>	EEEx ib IIC (ATEX) <sup>1)</sup>	ED 520	3	1	4	2	1	1	025
<b>Pressure type</b>	Gauge pressure	EDX 520	3						
	Absolute pressure		4						
<b>Static error band (T<sub>amb</sub> = 25°C)</b>	0,4% FS (T <sub>med</sub> = 25°C), comp. temp. 0 ... 50°C			1					
	0,2% FS (T <sub>med</sub> = 25°C), comp. temp. 0 ... 50°C			2					
	0,4% FS (T <sub>med</sub> = 25°C), comp. temp. -10 ... 80°C			4					
	0,2% FS (T <sub>med</sub> = 25°C), comp. temp. -10 ... 80°C			5					
	0,4% FS (T <sub>med</sub> = 75°C), comp. temp. 50 ... 100°C			7					
	0,4% FS (T <sub>med</sub> = 100°C), comp. temp. 75 ... 125°C			8					
	0,4% FS at specified adjusted temp., T <sub>max</sub> =150°C <sup>2)3)</sup>			A					
0,2% FS at specified adjusted temp., T <sub>max</sub> =150°C <sup>2)3)</sup>			B						
<b>Electrical connect.</b>	Cable 2 m	IP 65 <sup>4)</sup>		1					
	Plug Bendix	IP 65 <sup>4)</sup>		2					
	Plug DIN 41 524 (Binder)	IP 65 <sup>4)</sup>		3					
	Plug DIN 43 650	IP 65 <sup>4)</sup>		4					
	Cable 2 m with relative tube	IP 67 <sup>4)</sup>		9					
<b>Output signal</b>	I <sub>A</sub> = 0 ... 20 mA						1		
	I <sub>A</sub> = 4 ... 20 mA						2		
	U <sub>A</sub> = 0 ... 10 V DC						4		
	U <sub>A</sub> = 0 ... 5 V DC						5		
<b>Pressure connect.</b>	G1/2" with cone (see selection chart)				1				
	G1 with cone (see selection chart)				2				
	Male thread G1/2" DIN 16288 (available for all pressure ranges) <sup>5)</sup>				4				
	G1/2" without cone (available for all pressure ranges) <sup>5)</sup>				8				
	G1 without cone (available for all pressure ranges) <sup>5)</sup>				9				
<b>Diaphragm</b>	Stainless steel 1.4404/316 L						1		
	Hastelloy C-276						2		
	Stainless steel, gold plated <sup>5)</sup>						9		
<b>Pressure range</b>	also other pressure ranges and versions in Pa, psi, H <sub>2</sub> O etc. available								

Order code	Pressure range	Conn.	Order code	Pressure range	Conn.
125	0 ... 100 mbar	G1	115	0 ... 60 bar	G1/2
135	0 ... 150 mbar	G1	125	0 ... 100 bar	G1/2
A56	0 ... 200 mbar	G1	135	0 ... 150 bar	G1/2
145	0 ... 250 mbar	G1	A56	0 ... 200 bar	G1/2
155	0 ... 400 mbar	G1	145	0 ... 250 bar	G1/2
A66	0 ... 500 mbar	G1	155	0 ... 400 bar	G1/2
165	0 ... 600 mbar	G1			
005	0 ... 1 bar	G1	D06	0 ... -100 mbar	G1
005	0 ... 1,6 bar	G1	D25	0 ... -200 mbar	G1
A15	0 ... 2 bar	G1	A15	0 ... -500 mbar	G1
045	0 ... 2,5 bar	G1	H55	-100 ... 100 mbar	G1
065	0 ... 4 bar	G1	H75	-200 ... 200 mbar	G1
A25	0 ... 5 bar	G1	H85	-500 ... 500 mbar	G1
065	0 ... 6 bar	G1	D85	0 ... -1 bar	G1
075	0 ... 10 bar	G1	H05	-1 ... 1 bar	G1
075	0 ... 10 bar	G1/2	S25	-1 ... 3 bar	G1
065	0 ... 15 bar	G1/2	S35	-1 ... 5 bar	G1
A35	0 ... 20 bar	G1/2	S45	-1 ... 9 bar	G1
065	0 ... 24 bar	G1/2			
105	0 ... 40 bar	G1/2			

<sup>1)</sup>Version 4 ... 20 mA only (with IP 42)

<sup>2)</sup>Temperature adjustments

For temperature adjustments (medium) other than 25°C, the temperature has to be indicated by the order code /9007/xxx. Ordering example: adjustment at 125°C, order code /9007/0125.

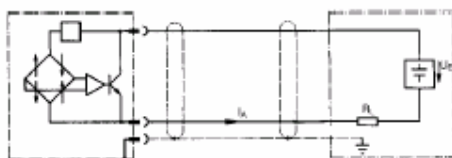
The compensated temperature range is ±25°C of the adjusted temperature. If the temperature is above 125°C, the range will always be 100°C to 150°C.

<sup>3)</sup>Not available for ED 520/xxx.x4x. <sup>4)</sup>Not available for EEx. <sup>5)</sup>Not available for ED 520/x/x.x.xxx

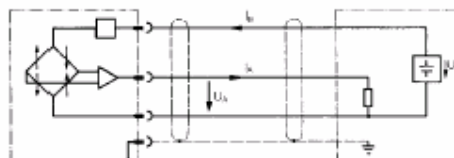
Special Designs see D6.901 E / Accessories see D6.911.1 E

Electrical Connection (Pin assignments and cable colours see D0.320 E)

I<sub>A</sub> = 4 ... 20 mA



I<sub>A</sub> = 0 ... 20 mA, U<sub>A</sub> = 0 ... 5 V, U<sub>A</sub> = 0 ... 10 V



# Pressure Transmitter with Flush Diaphragm ED 520

## Technical Data

Pressure range 1	0 ... +P	bar		0.1	0.16...0.25	0.4...0.6	1...1.6	2...4	5...10	16...25	40...60	100...160	200...400
Maximum Pressure	P max.	bar		4	4	6	10	15	30	75	100	250	600
Deviation of characteristic curve (T <sub>amb</sub> = 25°C)	ED 520/x1, 4, 7 and 8, xA ED 520/x2 and 5, xB	± % FS	≤	0.25 typ./0.4 max. (see diagram D0.320)									
Hysteresis and reproducibility		± % FS	≤	0.15 typ./0.2 max. (see diagram D0.320)									
TC zero point		± % FS/10 K	≤	0.5	0.35								0.2
TC sensitivity		± % FS/10 K	≤	0.2									
Operating temp. (medium) comp./hot. comp.		°C		according selection chart									
Housing temperature		°C		-20 ... 80									
Storage temperature		°C		-40 ... 80									
Supply voltage U <sub>B</sub>	I <sub>A</sub> = 0 ... 20 mA I <sub>A</sub> = 4 ... 20 mA U <sub>A</sub> = 0 ... 5 V DC U <sub>A</sub> = 0 ... 10 V DC	V DC		15 ... 30 10 ... 30 9 ... 30 14 ... 30									
Reverse polarity protection for supply voltage U <sub>B</sub>				yes									
Short circuit proof output				yes									
Overvoltage protection				yes									
Load (R <sub>L</sub> + R <sub>line</sub> )	I <sub>A</sub> = 0 ... 20 mA I <sub>A</sub> = 4 ... 20 mA U <sub>A</sub> = 0 ... 5 V DC U <sub>A</sub> = 0 ... 10 V DC	Ohm	≤	500 1000 (see diagram D0.320) 5 10									
Zero point adjusting range		± % FS		2									
Insulation resistance at 750 V DC		MOhm	≥	1.2									
Type of protection (DIN 40 050, IEC 144)				according selection chart									
EMC emission (EN 50 081-1 und -2)				fulfilled									
EMC immunity (EN 50 082-2)				fulfilled									
IEC 1000-4-2 / EN 61000-4-2		level 3 (8 kV)		fulfilled									
IEC 1000-4-3 / EN 50140		level 3 (10 V/m)		fulfilled									
IEC 1000-4-4 / EN 61000-4-4		level 4 (14 kV)		fulfilled									
IEC 1000-4-6 / EN 50141		level (10 kV)		fulfilled									
Vibration test DIN IEC 68				fulfilled									
Weight		kg		0.50									

## Construction and Function

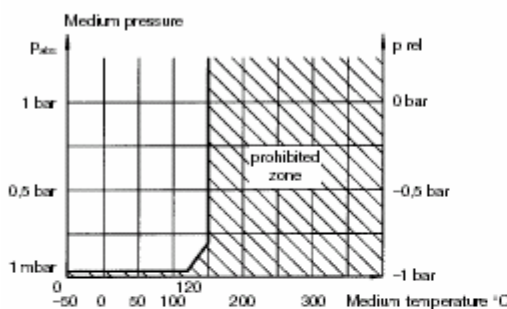
Pressure transmitter ED 520 consists of a pressure connection section with welded stainless steel diaphragm and a stainless steel case for housing the electronic circuit and the electrical connection. The piezoresistive pressure sensor is mounted directly behind the diaphragm (except for the types ED 520/xAx and ED 520/xBx). For applications with very aggressive mediums, the cone and diaphragm are gold plated. The pressure being measured is transmitted by the external diaphragm and the silicon oil filling to the measuring diaphragm of the piezoresistive silicon

sensor. An amplifier converts the pressure sensor's signal to the desired signal level. The G1 and G½ pressure connector with cone makes metallic seals and is suitable for food application. For less critical applications the use of other seals are intended.

The zero point and span can be adjusted externally by a screwdriver.

## Medium pressure

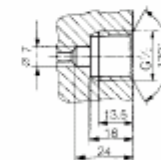
Admissible medium pressure as a function of medium temperature



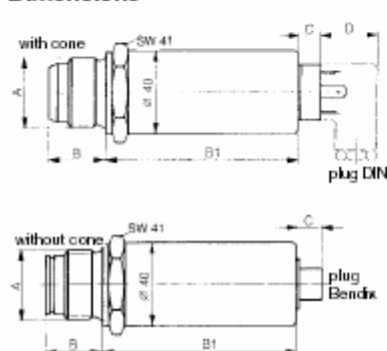
## Dimension Chart

A	B	B1	B1 ED 520/xAx.xxx ED 520/xBx.xxx	C Plug DIN	C Plug Bendx	C Plug Blinder	D Plug DIN
G½ with cone	23	101	119,5	10	20	12	30,5
G1 with cone	27	97	121,5	10	20	12	30,5
G½ without cone	20,5	101	119,5	10	20	12	30,5
G1 without cone	20,5	97	121,5	10	20	12	30,5
G½ 16 288	20	90	119,5	10	20	12	30,5

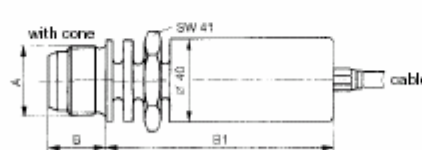
Screw hole with thread chamber for DIN 16 288



## Dimensions



ED 520/xAx.xxx  
ED 520/xBx.xxx



Mounting example

