Y920 Pressure transmitter with flush diaphragm intrinsically safe version

Pressure and vacuum measurements, absolute or gauge
Ceramic, TRANSBAR® sensing element
Zero adjustment (± 10 % of range)
Welded construction - reinforced product
Modularity of electrical and hydraulic connections
Stainless steel flush diaphragm
Highly resistant to severe process conditions
Marine version (Bureau Veritas Marine)
LCIE 02 ATEX 6133X

CE 0081

I M1
Ex ia I

II 1 GD
Ex ia IIC T6 or T5
Ex iaD A20 T80°C or T95°C IP6x

Hazardous areas : 0, 1, 2, 20, 21, 22

An all stainless steel construction with flush diaphragm connection makes these transmitters ideally suited for measurements on viscous and heavy fluids suchs as paint, pulp and paper, and most uses in the refrigeration field.
Hydraulic connections : G 1/2, G 3/4, G 1, 1/2 NPT.

Technical Data (20 °C)

Measurement range 0 ... 1.6 bar to 0 ... 600 bar coumpound pressure, gauge or absolute pressure (according to the pressure connection)

Output signal **Y922 :** 0 ... 10 Vdc / **Y924 :** 1 ... 5 Vdc
Y923 : 4 ... 20 mA / **Y926 :** 0 ... 20 mA

Supply voltage
Y922 : 14 ... 28 Vdc
Y923 - Y924 : 11 ... 28 Vdc
Y926 : 8 ... 28 Vdc

Option *Low voltage : 8 ... 28 Vdc* ***(Y923, Y924)***

For intrinsically safe versions Y920, power supply electrical parameters device must be :
$U_{supply} \leq 28$ Vdc ; $I \leq 120$ mA ; $P \leq 0.8$ W

Insulation > 100 MΩ at 250 Vdc. *Option : 500 Vdc*

Maximum input current **Y922 / Y924 :** 6 mA
Y926 : < 25 mA

Load inpedance (+ M / - M)
Y922 : $\geq$ 2.5 kΩ
Y924 : $\geq$ 1 kΩ
Y923 : $R_\Omega \leq (U_{supply}-11)/0.02$
Y923 : $R_\Omega \leq (U_{supply}-8)/0.02$ (low voltage option)
Y926 : $R_\Omega \leq (U_{supply}-6)/0.02$

CE-Conformity EMC Directive 2004/108/CE
in accordance with standards EN61000-4-2, EN61000-4-3, EN 61326-1

Global error (linearity, hysterisis and repeatability) by reference to BFSL
Typically : ± 0.2 % of F.S. / Max. : ± 0.3 % of F.S.
For P = 600 bar :
Typically : ± 0.6 % of F.S. / Max. : ± 1 % of F.S.

Storage temperature - 40 ... + 85 °C (standard version)

Compensated temperature range (zero and sensitivity)
- 10 ... + 55 °C. *Option : - 10 ... + 70 °C*

Operating temperature
Ambiant (Ta) - 15 ... + 70 °C
Ta = +40°C G : T6 D IP65 : T°surface = +80°C
Ta = +70°C G : T5 D IP65 : T°surface = +95°C
(G = Gas/Gaz ; D = Dust/Poussière)

Fluid - 25 ... + 100 °C (Ta ≤ 50 °C)

Zero thermal drift ± 0.025 % F.S./°C max. *Option : ± 0.015 % F.S./°C max.*

Span thermal drift Typically : ± 0.01 %/°C - Max. : ± 0.015 %/°C

Wetted parts Stainless steel flush diaphragm 1.4404 (316 L) + 1 or 2 NBR o'rings

Connection
Electrical : DIN 43650 connector (standard)
Pressure : G1/2 (flush diaphragm), 1 or 2 o'rings
Filling oil : LRS 1, - 15 ... + 150 °C (standard)
LRS 5, - 40 ... + 150 °C
LRS 7, - 20 ... + 80 °C (paint application)
Many options available

Protection rating (EN 60529) IP65 (DIN connector)
Option : IP67 or IP68 (depending on connection)

Typical response time ≤ 3 ms

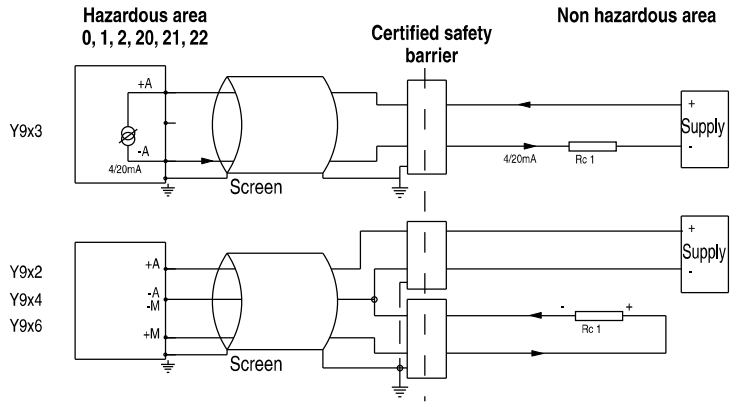
Vibration resistance (EN 60068-2-6) 1.5 mm (10 - 55 Hz), 20 g (55 Hz - 2 kHz)

Shock resistance (EN 60028-2-32) 25 falls from 1 m on concrete ground

Weight From 0.300 to 0.900 kg. Depending on versions.

Baumer

Installation instruction



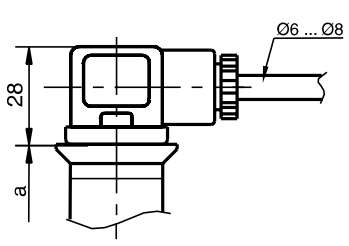
U_{max} = 28 Vdc
I_{max} = 120 mA
P = 0,8 W
$C_a > C_i + C_{cable}$
$L_a > L_i + L_{cable}$
C_i = 30 nF (Y923 - Y926)
C_i = 60 nF (Y922 - Y924)

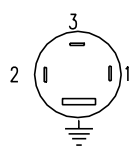
Don't forget the barrier's resistors in the determination of Rc1.
In area 0 or 20, the loop calculation of the association transmitter with safety barrier must be approved by notified organism.

Configuration and dimensions (mm) of the transmitter

Electrical connections

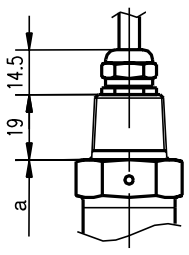
DIN 43650 connector (standard)

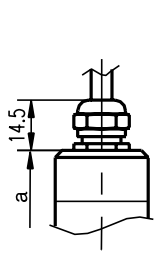


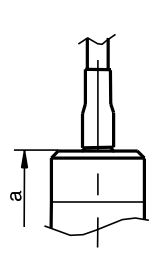


	Y923	Y922/4/6
1	+A	+M
2	-A	-A / -M
3		+A
⏚	Ground	

DIN 43650C Micro plug (8 mm)







	Y923	Y922/4/6
White	+A	
Blue	-A	-A / -M
Red		+A
Yellow		+M
Ground	⏚	

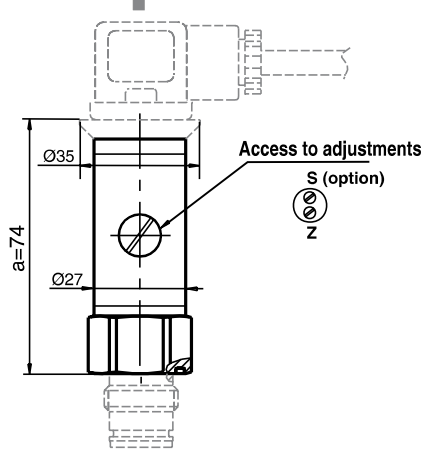
Pig tail cable outlet with 1/2 NPTmale (1.5 m)

Pig tail + PG7 cable gland (1.5 m)

pig tail (1.5m)

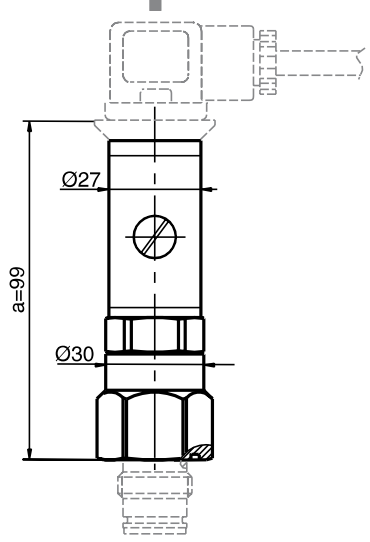
Transmitter body

Type A :
G1/2 (standard),
4 ≤ P ≤ 100 bar



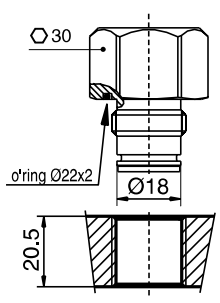
Type B :

G1/2,	P > 100 bar
G3/4,	P ≥ 2,5 bar
G1,	P ≥ 1,6 bar
1/2 NPT,	P ≥ 4 bar



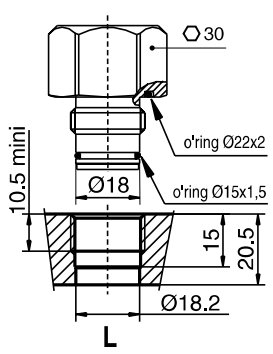
Hydraulic connections

G1/2, 1 o'ring



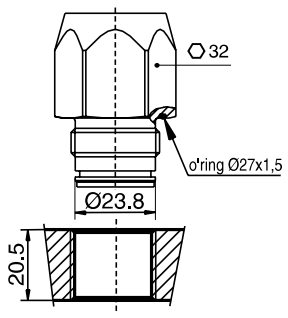
Code : **G**

G1/2, 2 o'ring



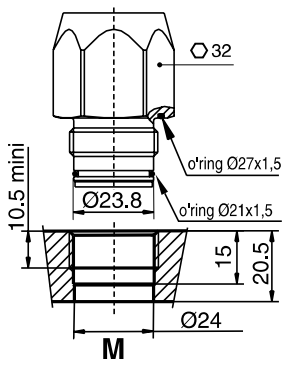
L

G3/4, 1 o'ring



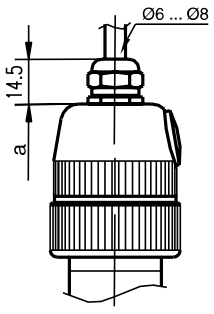
K

G3/4, 2 o'ring



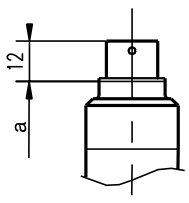
M

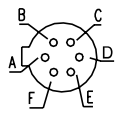
Terminal strip outlet + screwed cap PG7



	Y923	Y922 / 4 / 6
1	+A	+M
2	-A	-A / -M
3		+A
⏚	Ground	

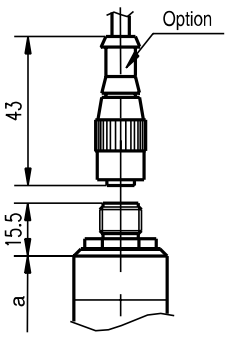
6 contacts HE302 plug

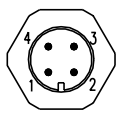




	Y923	Y922 / 4 / 6
A	+A	+A
B		-A / -M
C	-A	+M
D		
E	Ground	
F		

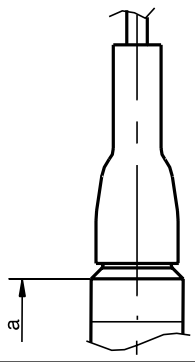
M12 4 contacts plug





	Y923	Y922 / 4 / 6
1	+A	+A
2		+M
3	Ground	
4	-A	-A / -M

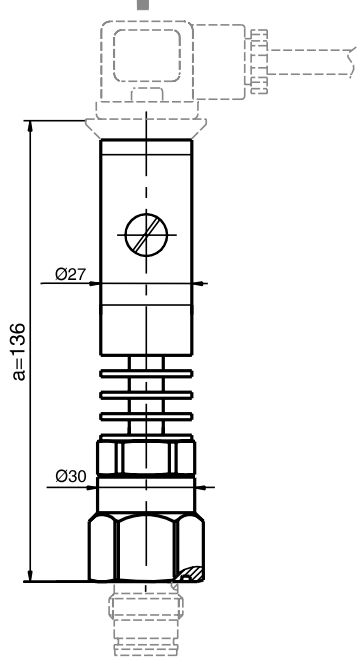
Submersible cable (IP 68)



	Y923	Y922 / 4 / 6
White	+A	+M
Blue	-A	-A / -M
Red		+A
Ground	⏚	

Type C :

high temperature option
T° ≤ 150°C

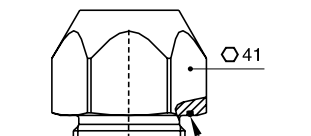


Body transmitter dimension according to the electrical connection (a in mm)

a (mm)	Type A	Type B	Type C
DIN 43650 connector	74	99	136
Micro DIN 43650C connector	74	99	136
Pig tail	78.5	103.5	140.5
Pig tail + PG7 cable gland	78.5	103.5	140.5
Pig tail calble outlet with 1/2 NPT	78	103	140
Terminal strip outlet + screwed cap	113	138	175
6 contacts HE302 plug	83.5	108.5	145.5
M12, 4 contacts plug	77	102	139
Submersible cable, IP68[1]	81.5	106.5	143.5

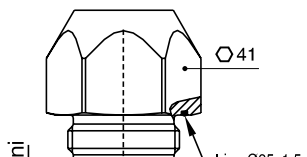
[1] no access to adjustments

G1, 1 o'ring



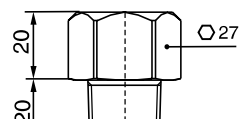
F

G1, 2 o'ring



N

1/2 NPT



E5

Measuring Ranges

Pressure range															
	coumpound	-1+0.6[1]	-1+1.5[2]	-1+3	-1+5	-1+9	-1+15	-1+24	-1+39	—	—	—	—	—	—
	pressure	1.6[1]	2.5[2]	4	6	10	16	25	40	60	100	160	250	400	600
Measurement range		1.75	2.75	4,4	6,6	11	17.6	27.5	44	66	110	176	275	440	660
Max. over pressure		3	4	8	12	20	32	50	80	120	200	320	500	600	800
Burst pressure		6	7	12	18	30	48	75	120	180	300	480	600	800	1000

[1] filetage G 1 uniquement.
[2] filetages G 3/4 et G 1 uniquement.

Options

Specific cleaning (gas application). ***Code 0829***
Oxygen application.***Code 0765***
Lightning protection. ***Code 0809***
Marine version. ***Code 0808***
Supply voltage (low - ***Code 2181***)
Compensated temperature range (- 10 ... + 70 °C). ***Code 2158***
Zero thermal drift : ± 0.015 % of range/°C max. ***Code 2159***
Span adjustment ± 10 % of range. ***Code 2151***
Span adjustment ± 50 % of range (except for 0 + 1.6 and 0 + 600 bar). ***Code 2152***
Calibration of sensor with certificate : Q1060
Stainless steel surface mounting brackets. ***Code 0409***
Other hydraulic connections ***consult us***
Additional length of cable ***consult us***
Filling oil : LRS5, LRS7***consult us***
Other units : kPa (code D), MPa (code E), kg/cm² (code F), psi (code H), mbar (code N) ***consult us***

Other electrical connections :

- DIN 43650C micro plug (IP65). ***Code 2165***
- Pig tail (1.5 m) (IP65). ***Code 2160***
- Pig tail (1.5 m) + PG7 cable gland (IP65, IP67). ***Code 2161***
- Pig tail cable outlet with 1/2 NPT male (1.5 m) (IP65). ***Code 2162***
- Terminal strip outlet + screwed cap (IP65, IP67). ***Code 2166***
- Terminal strip outlet + cap with M20x150 thread and gland (IP65, IP67). ***Code 2167***
- 6 contacts HE302 plug (IP65). ***Code 2163***
- M12, 4 contacts plug (IP65). ***Code 2164***
- Submersible cable (IP68 version). ***Code 2168***

Ordering - Y920

		Y92xxxxxxx
Model	**1´...3´ digit**	
Intrinsically safe		Y92
Output signal	**4´ digit**	
0...10 Vdc		2
4...20 mA		3
1...5 Vdc		4
0...20 mA		6
Hydraulic connection flush diaphragm	**5´...6´ digit**	
G 1/2", 1 o'ring NBR		3G
G 1/2", 2 o'rings NBR		3L
G 3/4", 1 o'ring NBR		3K
G 3/4", 2 o'rings NBR		3M
G 1", 1 o'ring NBR		3F
G 1", 2 o'rings NBR		3N
G 1/2", 1 o'ring CR		4G
G 1/2", 2 o'rings CR		4L
G 3/4", 1 o'ring CR		4K
G 3/4", 2 o'rings CR		4M
G 1", 1 o'ring CR		4F
G 1", 2 o'rings CR		4N
G 1/2", 1 o'ring EPDM		5G
G 1/2", 2 o'rings EPDM		5L
G 3/4", 1 o'ring EPDM		5K
G 3/4", 2 o'rings EPDM		5M
G 1", 1 o'ring EPDM		5F
G 1", 2 o'rings EPDM		5N
G 1/2", 1 o'ring FKM (Viton®)		9G
G 1/2", 2 o'rings FKM (Viton®)		9L
G 3/4", 1 o'ring FKM (Viton®)		9K
G 3/4", 2 o'rings FKM (Viton®)		9M
G 1", 1 o'ring FKM (Viton®)		9F
G 1", 2 o'rings FKM (Viton®)		9N
1/2" NPT (without o'ring)		E5
Pressure range	**7´...9´ digit**	
See codes in tables		xxx
Pressure type	**10´ digit**	
Absolute		A
Relative		R

Viton® is a registered trademark of DuPont Dow Elastomers

[5] for low temperature applications (- 40 °C)

code	Range in bar Vacuum pressure, Pressure				
B72	-1	+	0.6[1]	–	R
B74	-1	+	1.5[2]	–	R
B76	-1	+	3	–	R
B77	-1	+	5	–	R
B79	-1	+	9	–	R
B81	-1	+	15	–	R
B82	-1	+	24	–	R
B1L	-1	+	39	–	R
B16	0	+	1.6[1]	A	R
B18	0	+	2.5[2]	A	R
B19	0	+	4	A	R
B20	0	+	6	A	R
B22	0	+	10	A	R
B24	0	+	16	A	R
B26	0	+	25	A	R
B27	0	+	40	A	R
B29	0	+	60	A	R
B31	0	+	100	A	R
B33	0	+	160	A	R
B35	0	+	250	A	R
B38	0	+	400	A	R
B39	0	+	600	A	R

[1] G 1 connection only
[2] G3/4 and G 1 connections only