Feinmess-Rohrfedermanometer NG 160, ±0,6% v.E.
Test pressuge gauge DS 160, ±0.6% FS

017.1.160

Rel. 20171006

Feinmess-Rohrfedermanometer nach EN 837-1
Genauigkeit ±0,6% v.E. (Güteklasse 0,6)
Gehäusedurchmesser NG 160
Anschluss G 1/2 B radial unten aus Edelstahl
Skala mit Feinteilung.
Schneidenzeiger mit Mikrometergetriebe, verstellbar

Test pressure gauge as per EN 837-1
Accuracy ±0.6% FS (Accuracy class 0.6)
Case diameter DS 160
Connection 1/2" BSP male, bottom, stainless steel
Dial with fine graduation
Knife micrometric pointer, adjustable

Feinmessmanometer **017.1.160** werden als Referenz bei Druckvergleichsmessungen zu Kalibrierzwecken eingesetzt. Sie finden jedoch auch dort Anwendung, wo es auf eine besonders hohe Genauigkeit und Reproduzierbarkeit der Messwerte ankommt. Sie sind für flüssige oder gasförmige, nicht kristallisierende Medien mit niedriger Viskosität geeignet, die Edelstahl AISI 316 nicht angreifen.

Gehäusedurchmesser: NG 160.
Messbereiche: siehe Tabelle.
Anschluss: G 1/2 B radial unten
Zeiger: ausgewogener Messerzeiger mit Nullpunktkorrekturschraube.
Skala: Aluminium, Grund weiß, Bedruckung schwarz, mit Feinteilung (siehe Tabelle).
Mediumberührte Teile: Edelstahl AISI 316.
Gehäuse: Bajonettringgehäuse aus Edelstahl AISI 304 mit Druckentlastungsstopfen.
Deckscheibe: Sicherheitsverbundglas.
Anzeigegenauigkeit: ±0,6% v.E.

Messbereich [bar] Pressure range [bar]	Teilung Graduation	Bezifferung Figures
0…1	0,005	0,1
0…1,6	0,01	0,1
0…2,5	0,02	0,5
0…4	0,02	0,5
0…6	0,05	0,5
0…10	0,05	1
0…16	0,1	1
0…25	0,2	5
0…40	0,2	5
0…60	0,5	5
0…100	0,5	10
0…160	1	10
0…250	2	50
0…400	2	50
0…600	5	50
0…1000	5	100
-1…0	0,005	0,1

*Test pressure gauges **017.1.160** are used as reference at pressure comparison measurements for calibration purposes. They are used also in applications, where accuracy and repeatability of measured values are very important. They can be used with fluid or gaseous media, with low viscosity and compatible with stainless steel AISI 316.*

***Case diameter:** DS 160 (6").*
***Pressure ranges:** see table.*
***Pressure port:** 1/2" BSP mal bottom.*
***Pointer:** balanced knife pointer with micrometric adjusting screw.*
***Dial:** Aluminium, white background, black figures, with fine graduation (see table).*
***Wetted parts:** Stainless steel AISI 316.*
***Case:** Bajonet type case in stainless steel AISI 304 with blow-out disc on the back side.*
***Window:** Laminated safety glass.*
***Accuracy:** ±0.6% FS.*

Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93
Киргизия (996)312-96-26-47
Россия (495)268-04-70
Казахстан (772)734-952-31

Bourdon Tube Test Pressure Gauges

01.15, 01.16, 01.17

Type 01.15: ±0.6% FS

Type 01.16: ±0.6% FS Solid Front

Type 01.17: ±0.25% FS Solid Front

EN 837-1

These instruments have been designed for laboratories, instrument testing or recalibration facilities and in other applications where accuracy and repeatability are of primary importance. Whenever is requested the conformity to safety normatives EN 837-1 and ANSI B40.1 is possible to use the models 01.16 and 01.17: these intruments have a solid separating wall in stainless steel, placed between the dial and the elastic element and an integral blow out back that is released from the case whenever a pressure is created inside the case, due to leaks or accidental ruptures of the elastic element. Thay can be used with fluids or gasses that do not have high viscosity and do not cristallize. The wetted parts in beryllium copper of model 01.17 permits higher accuracy, while the ones in AISI 316L of models 01.15 and 01.16 permits to use them in worse working conditions determined by aggressive ambients or process fluids. Each instrument is supplied with a calibration certificate that guarantee the traceability to the National and International master primary instruments. Upon request we can supply the calibration certificate issued by an Internationally recognized laboratory of PTB (DKD Calibration Service).

Functional and constructive characteristics.

01.15.1 all stainless steel

Accuracy class: 0,6 as per EN 837-1.
Ambient temperature: -25...+65 °C.
Process fluid temperature: -40...+150 °C.
Calibration temperature: +20 °C.
Working pressure: max 75% of the full scale value.
Overpressure: 30% of the full scale value.
Protection: IP 55 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: AISI 316L st.st. seamless tube.
Welding: AISI 316L TIG.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Window: glass, 4 mm thick.
Movement: stainless steel with internal limit stops for minimum and maximum pressure.
Dial: aluminium, white with black markings and anti-parallax mirror band.
Pointer: balanced, anti-parallax knife-edge micrometer adjustable.
Gaskets: EPDM.

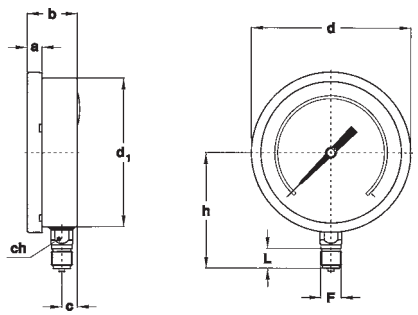
01.16.1 all stainless steel, solid front

Blow out disk: AISI 304 st.st.
Window: laminated safety glass.
Other features: as type 01.15.1.

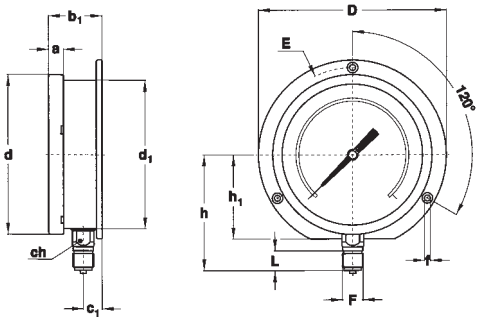
01.17.1 high precision, solid-front

Accuracy class: 0,25 as per EN 837-1.
Ambient temperature: +15...+65 °C.
Process fluid temperature: max +65 °C.
Calibration temperature: +20 °C.
Working pressure: max 75% of the full scale value.
Overpressure (referred to the full scale value)**:** 25% for pressure ranges - 60 bar; 15% for pressure ranges ³ 100 bar.
Protection: IP 55 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: beryllium copper.
Welding: silver alloy.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Blow out disk: AISI 304 st.st.
Window: laminated safety glass.
Movement: high precision type.
Dial: aluminium light green with, black markings and anti-parallax mirror band.
Pointer: balanced, anti-parallax knife-edge micrometer adjustable.
Gaskets: EPDM.

01.15: TYPE , DIMENSIONS AND WEIGHTS



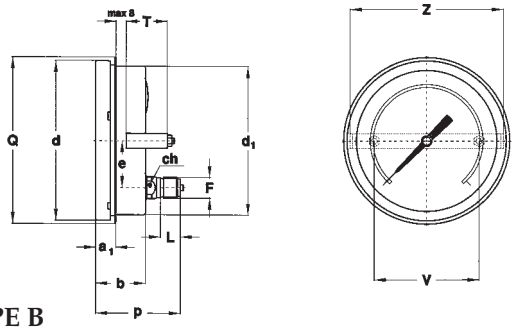
TYPE A
stem mounting;
lower connection.



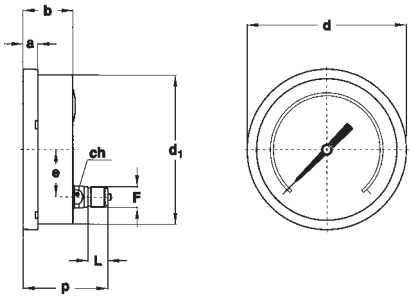
TYPE C
surface mounting, back flange;
lower connection.

Type	F	a	b	b_1	c	c_1	d	d_1	f	h	h_1	D	E	ch	L	Weight
A	1/2" BSP or NPT	15	50,5	-	15,5	-	161	149,6	-	117	-	-	-	22	20	0,94 Kg.
C	1/2" BSP or NPT	15	-	54	-	19	161	149,6	6	117	85	190	175	22	20	1,07 Kg.

(dimensions : mm.)



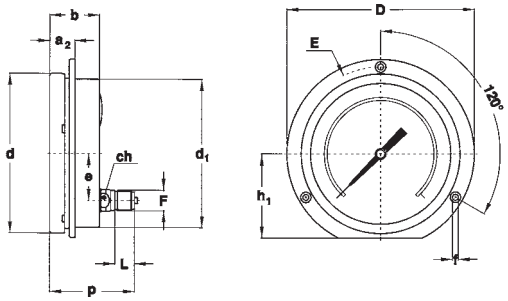
TYPE B
flush mounting, "U"-Clamp;
back connection.



TYPE D
stem mounting;
back connection.

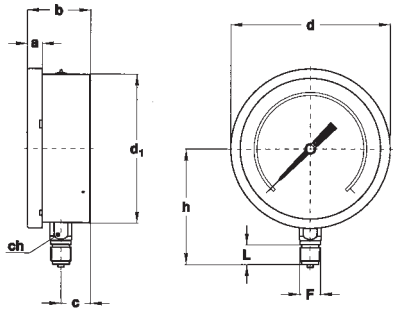
Type	F	a	a_1	a_2	b	d	d_1	e	f	h_1	p	D	E	Q	T	V	Z	ch	L	Weight
B	1/2" BSP or NPT	-	20,5	-	50,5	161	149,6	47,8	-	-	85,5	-	-	164	41,5	106	155	22	20	1,07 Kg.
D	1/2" BSP or NPT	15	-	-	50,5	161	149,6	47,8	-	-	85,5	-	-	-	-	-	-	22	20	0,94 Kg.
E	1/2" BSP or NPT	-	-	25,5	50,5	161	149,6	47,8	6	85	85,5	190	175	-	-	-	-	22	20	1,06 Kg.

(dimensions : mm.)

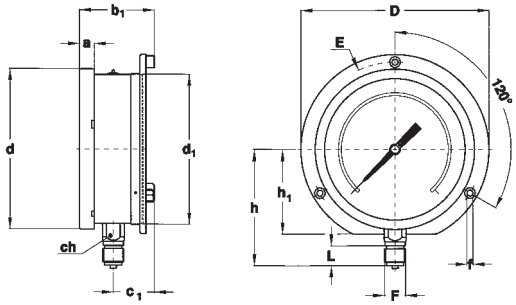


TYPE E
flush mounting, front flange;
back connection.

01.16, 01.17: TYPE, DIMENSIONS AND WEIGHTS



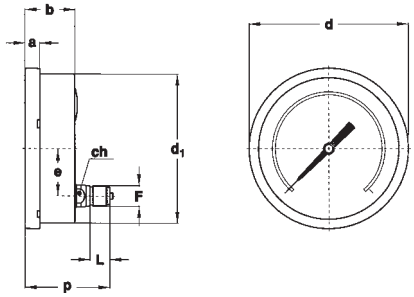
TYPE A
stem mounting,
lower connection.



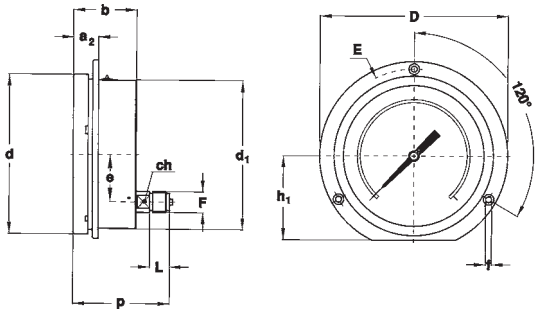
TYPE C - (only for model **01.16**)
surface mounting, back flange;
lower connection.

Model	Type	F	a	b	b_1	c	c_1	d	d_1	f	h	h_1	D	E	L	ch	Weight
01.16	A	1/2" BSP or NPT	15	64	-	30	-	161	150,5	-	117	-	-	-	20	22	1,13 Kg.
01.16	C	1/2" BSP or NPT	15	-	75,5	-	40,5	161	150,5	6	117	85	190	175	20	22	1,26 Kg.
01.17	A	1/2" BSP or NPT	15	64	-	29	-	161	150,5	-	117	-	-	-	20	24	1,19 Kg.
01.17	C	1/2" BSP or NPT	15	-	75,5	-	40,5	161	150,5	6	117	85	190	175	20	24	1,323 Kg.

(dimensions : mm.)



TYPE D
stem mounting;
back connection.



TYPE E
flush mounting, front flange;
back connection.

Model	Type	F	a	a_2	b	d	d_1	e	f	h_1	p	D	E	L	c	Weight
01.16	D	1/2" BSP or NPT	15	-	64	161	150,5	47,8	-	-	96	-	-	20	17	1,03 Kg.
01.16	E	1/2" BSP or NPT	-	25,5	64	161	150,5	47,8	6	85	96	190	175	20	17	1,13 Kg.
01.17	D	1/2" BSP or NPT	15	-	64	161	150,5	47,8	-	-	97,5	-	-	20	17	1,10 Kg.
01.17	E	1/2" BSP or NPT	-	25,5	64	161	150,5	47,8	6	85	97,5	190	175	20	17	1,22 Kg.

(dimensions : mm.)

Bourdon Tube Test Pressure Gauges
Types 01.15, 01.16 and 01.17 - DN 150

01.15, 01.16, 01.17

HOW TO ORDER

	CODES & DESCRIPTIONS
01	01- bourdon tube pressure gauges
17	15 - all stainless steel MN15 16 - all stainless steel, solid-front MN16 17 - high precision, solid-front MN17
1	
D	A - lower connection - stem mounting B - lower connection - flush mounting, "U" -Clamp C - lower connection - surface mounting, back flange D - back connection - stem mounting E - back connection - flush mounting, front flange
G	G - DS150
2	1 - up to 2,5 bar 2 - from 4 to 40 bar 3 - over 40 bar
0/10 bar	see ranges table
41M	21M - 1/4" BSP M 23M - 1/4" NPT M 41M - 1/2" BSP M 43M - 1/2" NPT M
A40	see options table

ACCESSORIES

AISI 316 ANCC valve for pressure up to 100 bar, with process connection flanged ø 40 mm and pressure gauge connection 1/4" BSP F . Employed for point to point pressure measurement.

RANGES

RANGE	Minor graduations	Figure intervals	bar	kPa	MPa	psi
-1...0	0,005	0,1	✦			
0...0,6	0,002	0,05	✦		✦	
0...1	0,005	0,1	✦		✦	
0...1,6	0,005	0,1	✦		✦	
0...2,5	0,01	0,2	✦		✦	
0...4	0,02	0,2	✦		✦	
0...6	0,02	0,5	✦		✦	
0...10	0,05	1	✦		✦	✦
0...16	0,05	1	✦		✦	✦
0...25	0,1	2	✦		✦	
0...30	0,1	2	✦		✦	✦
0...40	0,2	2	✦		✦	
0...60	0,2	5	✦	✦	✦	✦
0...100	0,5	10	✦	✦		✦
0...160	0,5	10	✦	✦		✦
0...250	1	20	✦	✦		
0...300	1	30	✦	✦		✦
0...400	2	20	✦	✦		✦
0...600	2	50	✦	✦		✦
0...1000	5	100	✦**(1)**			✦
0...2000	10	100				✦
0...3000	10	200				✦
0...4000	20	200				✦
0...6000	20	500				✦
0...10000	50	1000				✦
0...15000	50	1000				✦**(1)**

(1) Available only for mod. 01.17.

OPTIONS

DESCRIPTION	CODE
Carrying case (3)	**A40**
Nace version for pressure ranges - 40 bar (1)	**E30**
S.I.T. Certificate for pressure ranges	**CE1**
S.I.T. Certificate for vacuum ranges	**CE3**
Oxygen service (2)	**P02**
AISI 316 ANCC valve	**V16**

(1) option not available for 01.17;
(2) available only for 01.16 - 01.17;
(3) available only for lower connection, stem mounting

Bourdon Tube Test Pressure Gauges

01.15, 01.16, 01.17

Type 01.15: ±0.6% FS

Type 01.16: ±0.6% FS Solid Front

Type 01.17: ±0.25% FS Solid Front

EN 837-1

These instruments have been designed for laboratories, instrument testing or recalibration facilities and in other applications where accuracy and repeatability are of primary importance. Whenever is requested the conformity to safety normatives EN 837-1 and ANSI B40.1 is possible to use the models 01.16 and 01.17: these intruments have a solid separating wall in stainless steel, placed between the dial and the elastic element and an integral blow out back that is released from the case whenever a pressure is created inside the case, due to leaks or accidental ruptures of the elastic element. Thay can be used with fluids or gasses that do not have high viscosity and do not cristallize. The wetted parts in beryllium copper of model 01.17 permits higher accuracy, while the ones in AISI 316L of models 01.15 and 01.16 permits to use them in worse working conditions determined by aggressive ambients or process fluids. Each instrument is supplied with a calibration certificate that guarantee the traceability to the National and International master primary instruments. Upon request we can supply the calibration certificate issued by an Internationally recognized laboratory of PTB (DKD Calibration Service).

Functional and constructive characteristics.

01.15.1 all stainless steel

Accuracy class: 0,6 as per EN 837-1.
Ambient temperature: -25...+65 °C.
Process fluid temperature: -40...+150 °C.
Calibration temperature: +20 °C.
Working pressure: max 75% of the full scale value.
Overpressure: 30% of the full scale value.
Protection: IP 55 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: AISI 316L st.st. seamless tube.
Welding: AISI 316L TIG.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Window: glass, 4 mm thick.
Movement: stainless steel with internal limit stops for minimum and maximum pressure.
Dial: aluminium, white with black markings and anti-parallax mirror band.
Pointer: balanced, anti-parallax knife-edge micrometer adjustable.
Gaskets: EPDM.

01.16.1 all stainless steel, solid front

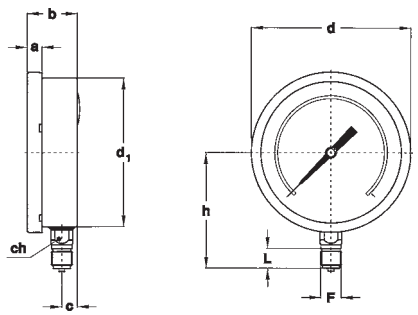
Blow out disk: AISI 304 st.st.
Window: laminated safety glass.
Other features: as type 01.15.1.

01.17.1 high precision, solid-front

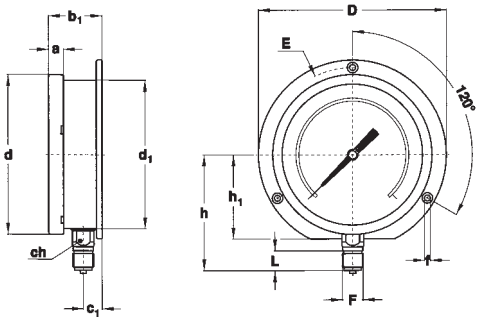
Accuracy class: 0,25 as per EN 837-1.
Ambient temperature: +15...+65 °C.
Process fluid temperature: max +65 °C.
Calibration temperature: +20 °C.
Working pressure: max 75% of the full scale value.
Overpressure (referred to the full scale value)**:** 25% for pressure ranges - 60 bar; 15% for pressure ranges ³ 100 bar.
Protection: IP 55 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: beryllium copper.
Welding: silver alloy.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Blow out disk: AISI 304 st.st.
Window: laminated safety glass.
Movement: high precision type.
Dial: aluminium light green with, black markings and anti-parallax mirror band.
Pointer: balanced, anti-parallax knife-edge micrometer adjustable.
Gaskets: EPDM.

All instruments are supplied with calibration certificate referred to master primary instrument.

01.15: TYPE , DIMENSIONS AND WEIGHTS



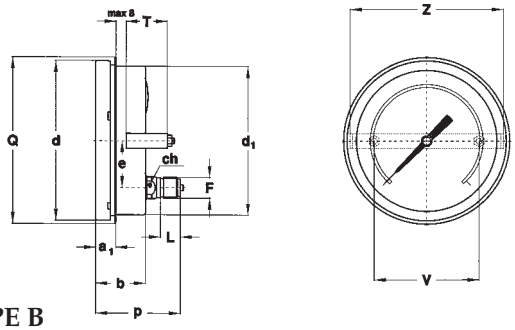
TYPE A
stem mounting;
lower connection.



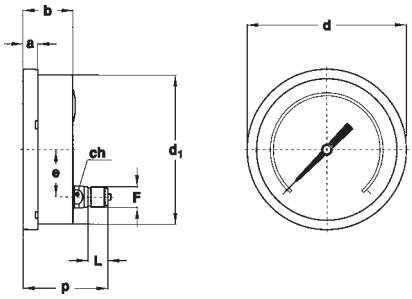
TYPE C
surface mounting, back flange;
lower connection.

Type	F	a	b	b_1	c	c_1	d	d_1	f	h	h_1	D	E	ch	L	Weight
A	1/2" BSP or NPT	15	50,5	-	15,5	-	161	149,6	-	117	-	-	-	22	20	0,94 Kg.
C	1/2" BSP or NPT	15	-	54	-	19	161	149,6	6	117	85	190	175	22	20	1,07 Kg.

(dimensions : mm.)



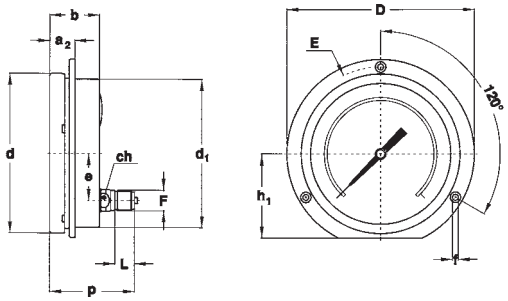
TYPE B
flush mounting, "U"-Clamp;
back connection.



TYPE D
stem mounting;
back connection.

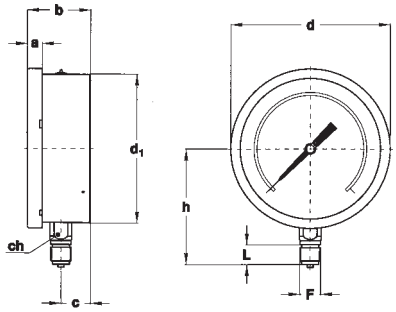
Type	F	a	a_1	a_2	b	d	d_1	e	f	h_1	p	D	E	Q	T	V	Z	ch	L	Weight
B	1/2" BSP or NPT	-	20,5	-	50,5	161	149,6	47,8	-	-	85,5	-	-	164	41,5	106	155	22	20	1,07 Kg.
D	1/2" BSP or NPT	15	-	-	50,5	161	149,6	47,8	-	-	85,5	-	-	-	-	-	-	22	20	0,94 Kg.
E	1/2" BSP or NPT	-	-	25,5	50,5	161	149,6	47,8	6	85	85,5	190	175	-	-	-	-	22	20	1,06 Kg.

(dimensions : mm.)

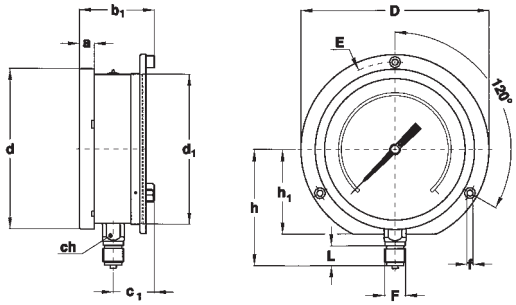


TYPE E
flush mounting, front flange;
back connection.

01.16, 01.17: TYPE, DIMENSIONS AND WEIGHTS



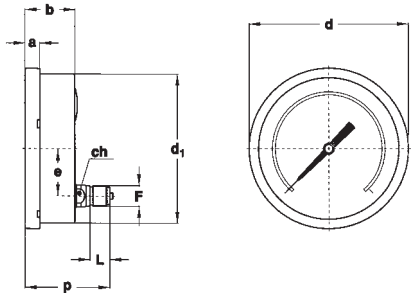
TYPE A
stem mounting,
lower connection.



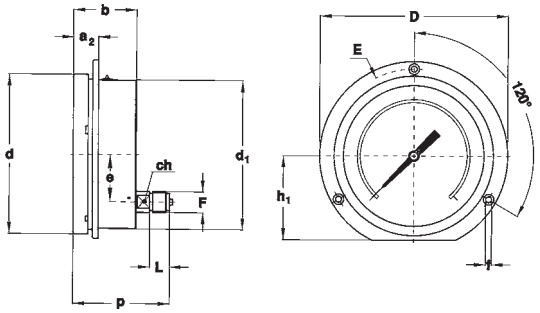
TYPE C - (only for model **01.16**)
surface mounting, back flange;
lower connection.

Model	Type	F	a	b	b_1	c	c_1	d	d_1	f	h	h_1	D	E	L	ch	Weight
01.16	A	1/2" BSP or NPT	15	64	-	30	-	161	150,5	-	117	-	-	-	20	22	1,13 Kg.
01.16	C	1/2" BSP or NPT	15	-	75,5	-	40,5	161	150,5	6	117	85	190	175	20	22	1,26 Kg.
01.17	A	1/2" BSP or NPT	15	64	-	29	-	161	150,5	-	117	-	-	-	20	24	1,19 Kg.
01.17	C	1/2" BSP or NPT	15	-	75,5	-	40,5	161	150,5	6	117	85	190	175	20	24	1,323 Kg.

(dimensions : mm.)



TYPE D
stem mounting;
back connection.



TYPE E
flush mounting, front flange;
back connection.

Model	Type	F	a	a_2	b	d	d_1	e	f	h_1	p	D	E	L	c	Weight
01.16	D	1/2" BSP or NPT	15	-	64	161	150,5	47,8	-	-	96	-	-	20	17	1,03 Kg.
01.16	E	1/2" BSP or NPT	-	25,5	64	161	150,5	47,8	6	85	96	190	175	20	17	1,13 Kg.
01.17	D	1/2" BSP or NPT	15	-	64	161	150,5	47,8	-	-	97,5	-	-	20	17	1,10 Kg.
01.17	E	1/2" BSP or NPT	-	25,5	64	161	150,5	47,8	6	85	97,5	190	175	20	17	1,22 Kg.

(dimensions : mm.)

Bourdon Tube Test Pressure Gauges
Types 01.15, 01.16 and 01.17 - DN 150

01.15, 01.16, 01.17

HOW TO ORDER

	CODES & DESCRIPTIONS
01	01- bourdon tube pressure gauges
17	15 - all stainless steel MN15 16 - all stainless steel, solid-front MN16 17 - high precision, solid-front MN17
1	
D	A - lower connection - stem mounting B - lower connection - flush mounting, "U" -Clamp C - lower connection - surface mounting, back flange D - back connection - stem mounting E - back connection - flush mounting, front flange
G	G - DS150
2	1 - up to 2,5 bar 2 - from 4 to 40 bar 3 - over 40 bar
0/10 bar	see ranges table
41M	21M - 1/4" BSP M 23M - 1/4" NPT M 41M - 1/2" BSP M 43M - 1/2" NPT M
A40	see options table

ACCESSORIES

AISI 316 ANCC valve for pressure up to 100 bar, with process connection flanged ø 40 mm and pressure gauge connection 1/4" BSP F . Employed for point to point pressure measurement.

RANGES

RANGE	Minor graduations	Figure intervals	bar	kPa	MPa	psi
-1...0	0,005	0,1	✦			
0...0,6	0,002	0,05	✦		✦	
0...1	0,005	0,1	✦		✦	
0...1,6	0,005	0,1	✦		✦	
0...2,5	0,01	0,2	✦		✦	
0...4	0,02	0,2	✦		✦	
0...6	0,02	0,5	✦		✦	
0...10	0,05	1	✦		✦	✦
0...16	0,05	1	✦		✦	✦
0...25	0,1	2	✦		✦	
0...30	0,1	2	✦		✦	✦
0...40	0,2	2	✦		✦	
0...60	0,2	5	✦	✦	✦	✦
0...100	0,5	10	✦	✦		✦
0...160	0,5	10	✦	✦		✦
0...250	1	20	✦	✦		
0...300	1	30	✦	✦		✦
0...400	2	20	✦	✦		✦
0...600	2	50	✦	✦		✦
0...1000	5	100	✦**(1)**			✦
0...2000	10	100				✦
0...3000	10	200				✦
0...4000	20	200				✦
0...6000	20	500				✦
0...10000	50	1000				✦
0...15000	50	1000				✦**(1)**

(1) Available only for mod. 01.17.

OPTIONS

DESCRIPTION	CODE
Carrying case (3)	**A40**
Nace version for pressure ranges - 40 bar (1)	**E30**
S.I.T. Certificate for pressure ranges	**CE1**
S.I.T. Certificate for vacuum ranges	**CE3**
Oxygen service (2)	**P02**
AISI 316 ANCC valve	**V16**

(1) option not available for 01.17;
(2) available only for 01.16 - 01.17;
(3) available only for lower connection, stem mounting

Test Pressure Gauge, all stainless steel construction "SOLID FRONT", Accuracy 0.25% DS 150

01.25

These instruments have been designed for laboratories, instrument testing or recalibration facilities and to be used in other applications where accuracy and repeatability are of primary importance. These intruments have a solid separating wall in stainless steel, placed between the dial and the elastic element and an integral blow out back that is released from the case whenever a pressure is created inside the case, due to leaks or accidental ruptures of the elastic element. The process fluids should be gases or liquids, they must not have high viscosity and must not cristalize. The wetted parts in AISI 316L allow to use them in the worst working conditions determined by aggressive medium and environment. Each instrument is supplied with a LR-GERMANY calibration report that guarantees the traceability to the National and International master primary instruments. Upon request we can supply the calibration certificate issued by an Internationally recognized laboratory, traceable to international standard.

Functional and constructive characteristics.

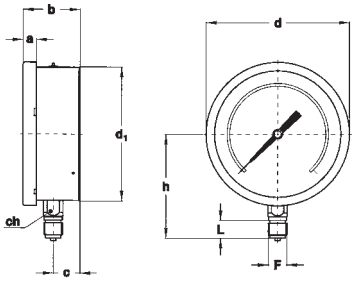
01.25.1 high precision, solid-front

Accuracy class: 0,25 as per EN 837-1.
Ambient temperature: -20...+65 °C.
Process fluid temperature: max +65 °C.
Calibration temperature: +20 °C.
Thermal drift: taking 20 °C as the calibartion temperature, will be within 0,3 of F.S.V. of the full scale value for a temperature change of ± 10 °C.
Working pressure: max 75% of the full scale value.
Overpressure (referred to the full scale value)**:** 25%for ranges up to 100 bar; 15% for ranges over 100 bar.
Protection: IP 55 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: AISI 316L seamless tube.
Welding: in AISI 316L TIG.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Blow out disk: AISI 304 st.st.
Window: laminated safety glass.
Movement: bronze; high precision type.
Dial: white aluminium with black markings and anti-parallax mirror band.
Pointer: balanced, anti-parallax knife-edge micrometer adjustable.
Gaskets: EPDM.

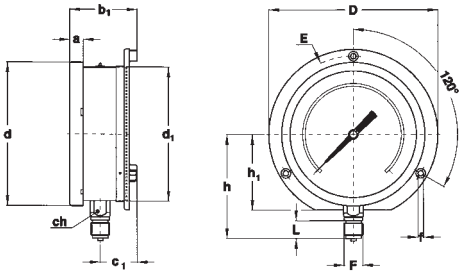
RANGES

Range	Minor graduation	Figure interval	bar	kPa	MPa	psi
0...1	0,005	0,1	✦		✦	
0...1,6	0,005	0,1	✦		✦	
0...2,5	0,01	0,2	✦		✦	
0...4	0,02	0,2	✦		✦	
0...6	0,02	0,5	✦		✦	
0...10	0,05	1	✦		✦	✦
0...16	0,05	1	✦		✦	✦
0...25	0,1	2	✦			
0...30	0,1	2	✦			✦
0...40	0,2	2	✦			
0...60	0,2	5	✦			✦
0...100	0,5	10	✦	✦		✦
0...160	0,5	10	✦	✦		✦
0...250	1	20		✦		
0...300	1	30		✦		✦
0...400	2	20		✦		✦
0...600	2	50		✦		✦
0...1000	5	100				✦
0...2000	10	100				✦

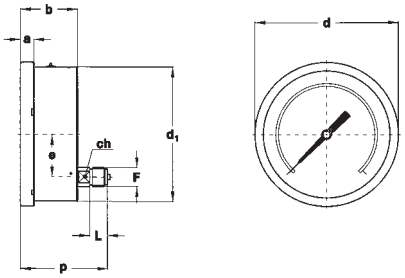
TYPE, DIMENSIONS AND WEIGHTS



TYPE A
stem mounting,
lower connection.



TYPE C
surface mounting, back flange;
lower connection.

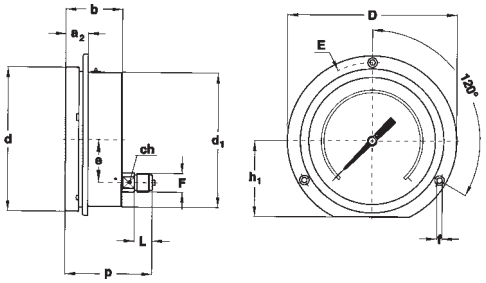


TYPE D
stem mounting,
back connection.

Type	F	a	a_2	b	b_1	c	c_1	d	d_1	e	f	h	h_1	p	D	E	L	ch	Weight
A	1/2" BSP or NPT	15	-	64	-	29	-	161	150,5	-	-	117	-	-	-	-	20	24	1,19 Kg.
C	1/2" BSP or NPT	15	-	-	75,5	-	40,5	161	150,5	-	6	117	85	-	190	175	20	24	1,31 Kg.
D	1/2" BSP or NPT	15	-	64	-	-	-	161	150,5	47,8	-	-	-	97,5	-	-	20	17	1,10 Kg.
E	1/2" BSP or NPT	-	25,5	64	-	-	-	161	150,5	47,8	6	-	85	97,5	190	175	20	17	1,22 Kg.

HOW TO ORDER

	DESCRIPTION & CODE
01	01- bourdon tube pressure gauges
25.1	25.1 - Test gauge-All stainless steel, solid-front MN25
D	A - lower connection - stem mounting C - bottom connection - wall mounting, back flange D - back connection - stem mounting E - back connection - flush mounting, front flange
G	G - DN150
2	1 - up to 2,5 bar 2 - from 4 to 40 bar 3 - over 40 bar
0/10 bar	see ranges table
41M	21M - 1/4" BSP 23M - 1/4" NPT 41M - 1/2" BSP 43M - 1/2" NPT
A40	see options table



TYPE E
flush mounting, front flange;
back connection.

OPTIONS

DESCRIPTION	CODE
Carrying case (1)	**A40**
S.I.T. Certificate for pressure ranges	**CE1**
Oxygen service M049	**P02**
AISI 316 ANCC valve	**V16**

(1) Available only for lower connection, stem mounting

Bourdon Tube Test Pressure Gauges

01.15, 01.16, 01.17

Type 01.15: ±0.6% FS

Type 01.16: ±0.6% FS Solid Front

Type 01.17: ±0.25% FS Solid Front

EN 837-1

These instruments have been designed for laboratories, instrument testing or recalibration facilities and in other applications where accuracy and repeatability are of primary importance. Whenever is requested the conformity to safety normatives EN 837-1 and ANSI B40.1 is possible to use the models 01.16 and 01.17: these intruments have a solid separating wall in stainless steel, placed between the dial and the elastic element and an integral blow out back that is released from the case whenever a pressure is created inside the case, due to leaks or accidental ruptures of the elastic element. Thay can be used with fluids or gasses that do not have high viscosity and do not cristallize. The wetted parts in beryllium copper of model 01.17 permits higher accuracy, while the ones in AISI 316L of models 01.15 and 01.16 permits to use them in worse working conditions determined by aggressive ambients or process fluids. Each instrument is supplied with a calibration certificate that guarantee the traceability to the National and International master primary instruments. Upon request we can supply the calibration certificate issued by an Internationally recognized laboratory of PTB (DKD Calibration Service).

Functional and constructive characteristics.

01.15.1 all stainless steel

Accuracy class: 0,6 as per EN 837-1.
Ambient temperature: -25...+65 °C.
Process fluid temperature: -40...+150 °C.
Calibration temperature: +20 °C.
Working pressure: max 75% of the full scale value.
Overpressure: 30% of the full scale value.
Protection: IP 55 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: AISI 316L st.st. seamless tube.
Welding: AISI 316L TIG.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Window: glass, 4 mm thick.
Movement: stainless steel with internal limit stops for minimum and maximum pressure.
Dial: aluminium, white with black markings and anti-parallax mirror band.
Pointer: balanced, anti-parallax knife-edge micrometer adjustable.
Gaskets: EPDM.

01.16.1 all stainless steel, solid front

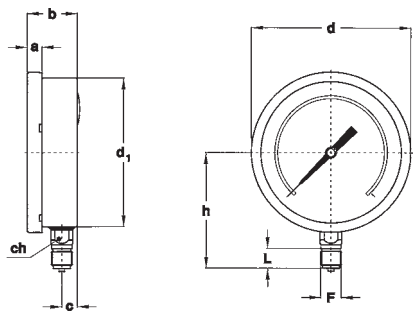
Blow out disk: AISI 304 st.st.
Window: laminated safety glass.
Other features: as type 01.15.1.

01.17.1 high precision, solid-front

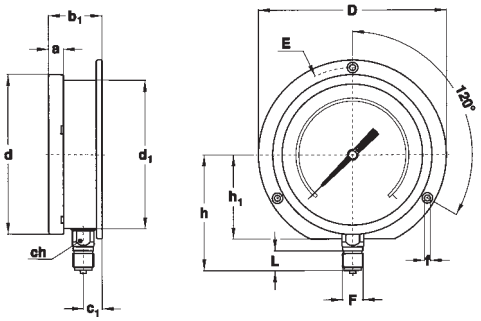
Accuracy class: 0,25 as per EN 837-1.
Ambient temperature: +15...+65 °C.
Process fluid temperature: max +65 °C.
Calibration temperature: +20 °C.
Working pressure: max 75% of the full scale value.
Overpressure (referred to the full scale value)**:** 25% for pressure ranges - 60 bar; 15% for pressure ranges ³ 100 bar.
Protection: IP 55 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: beryllium copper.
Welding: silver alloy.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Blow out disk: AISI 304 st.st.
Window: laminated safety glass.
Movement: high precision type.
Dial: aluminium light green with, black markings and anti-parallax mirror band.
Pointer: balanced, anti-parallax knife-edge micrometer adjustable.
Gaskets: EPDM.

All instruments are supplied with calibration certificate referred to master primary instrument.

01.15: TYPE , DIMENSIONS AND WEIGHTS



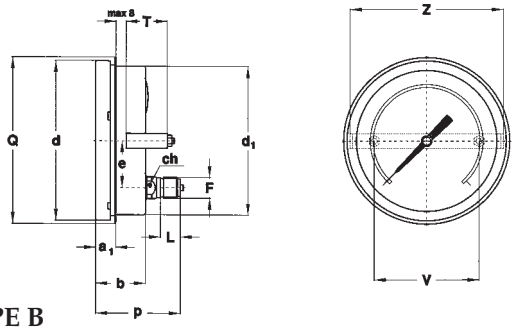
TYPE A
stem mounting;
lower connection.



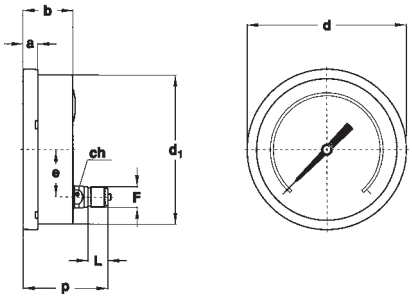
TYPE C
surface mounting, back flange;
lower connection.

Type	F	a	b	b_1	c	c_1	d	d_1	f	h	h_1	D	E	ch	L	Weight
A	1/2" BSP or NPT	15	50,5	-	15,5	-	161	149,6	-	117	-	-	-	22	20	0,94 Kg.
C	1/2" BSP or NPT	15	-	54	-	19	161	149,6	6	117	85	190	175	22	20	1,07 Kg.

(dimensions : mm.)



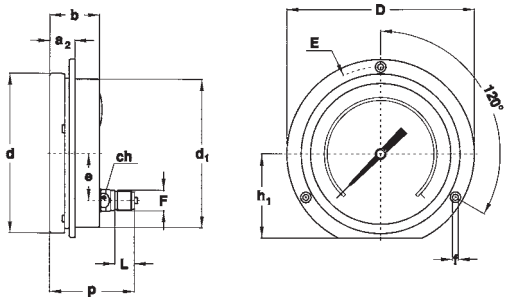
TYPE B
flush mounting, "U"-Clamp;
back connection.



TYPE D
stem mounting;
back connection.

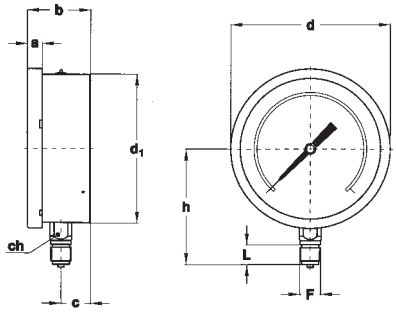
Type	F	a	a_1	a_2	b	d	d_1	e	f	h_1	p	D	E	Q	T	V	Z	ch	L	Weight
B	1/2" BSP or NPT	-	20,5	-	50,5	161	149,6	47,8	-	-	85,5	-	-	164	41,5	106	155	22	20	1,07 Kg.
D	1/2" BSP or NPT	15	-	-	50,5	161	149,6	47,8	-	-	85,5	-	-	-	-	-	-	22	20	0,94 Kg.
E	1/2" BSP or NPT	-	-	25,5	50,5	161	149,6	47,8	6	85	85,5	190	175	-	-	-	-	22	20	1,06 Kg.

(dimensions : mm.)

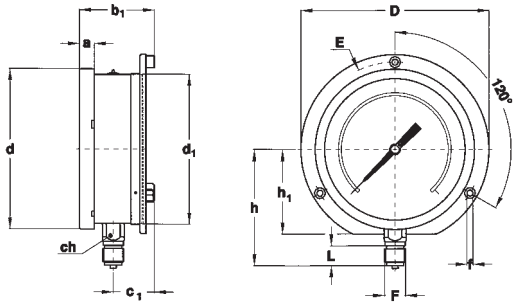


TYPE E
flush mounting, front flange;
back connection.

01.16, 01.17: TYPE, DIMENSIONS AND WEIGHTS



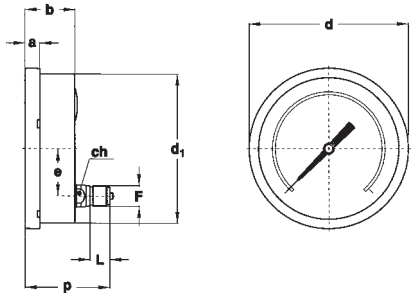
TYPE A
stem mounting,
lower connection.



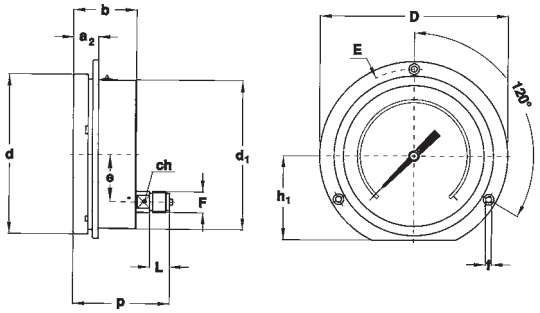
TYPE C - (only for model **01.16**)
surface mounting, back flange;
lower connection.

Model	Type	F	a	b	b_1	c	c_1	d	d_1	f	h	h_1	D	E	L	ch	Weight
01.16	A	1/2" BSP or NPT	15	64	-	30	-	161	150,5	-	117	-	-	-	20	22	1,13 Kg.
01.16	C	1/2" BSP or NPT	15	-	75,5	-	40,5	161	150,5	6	117	85	190	175	20	22	1,26 Kg.
01.17	A	1/2" BSP or NPT	15	64	-	29	-	161	150,5	-	117	-	-	-	20	24	1,19 Kg.
01.17	C	1/2" BSP or NPT	15	-	75,5	-	40,5	161	150,5	6	117	85	190	175	20	24	1,323 Kg.

(dimensions : mm.)



TYPE D
stem mounting;
back connection.



TYPE E
flush mounting, front flange;
back connection.

Model	Type	F	a	a_2	b	d	d_1	e	f	h_1	p	D	E	L	c	Weight
01.16	D	1/2" BSP or NPT	15	-	64	161	150,5	47,8	-	-	96	-	-	20	17	1,03 Kg.
01.16	E	1/2" BSP or NPT	-	25,5	64	161	150,5	47,8	6	85	96	190	175	20	17	1,13 Kg.
01.17	D	1/2" BSP or NPT	15	-	64	161	150,5	47,8	-	-	97,5	-	-	20	17	1,10 Kg.
01.17	E	1/2" BSP or NPT	-	25,5	64	161	150,5	47,8	6	85	97,5	190	175	20	17	1,22 Kg.

(dimensions : mm.)

Bourdon Tube Test Pressure Gauges
Types 01.15, 01.16 and 01.17 - DN 150

01.15, 01.16, 01.17

HOW TO ORDER

	CODES & DESCRIPTIONS
01	01- bourdon tube pressure gauges
17	15 - all stainless steel MN15 16 - all stainless steel, solid-front MN16 17 - high precision, solid-front MN17
1	
D	A - lower connection - stem mounting B - lower connection - flush mounting, "U" -Clamp C - lower connection - surface mounting, back flange D - back connection - stem mounting E - back connection - flush mounting, front flange
G	G - DS150
2	1 - up to 2,5 bar 2 - from 4 to 40 bar 3 - over 40 bar
0/10 bar	see ranges table
41M	21M - 1/4" BSP M 23M - 1/4" NPT M 41M - 1/2" BSP M 43M - 1/2" NPT M
A40	see options table

ACCESSORIES

AISI 316 ANCC valve for pressure up to 100 bar, with process connection flanged ø 40 mm and pressure gauge connection 1/4" BSP F . Employed for point to point pressure measurement.

RANGES

RANGE	Minor graduations	Figure intervals	bar	kPa	MPa	psi
-1...0	0,005	0,1	✦			
0...0,6	0,002	0,05	✦		✦	
0...1	0,005	0,1	✦		✦	
0...1,6	0,005	0,1	✦		✦	
0...2,5	0,01	0,2	✦		✦	
0...4	0,02	0,2	✦		✦	
0...6	0,02	0,5	✦		✦	
0...10	0,05	1	✦		✦	✦
0...16	0,05	1	✦		✦	✦
0...25	0,1	2	✦		✦	
0...30	0,1	2	✦		✦	✦
0...40	0,2	2	✦		✦	
0...60	0,2	5	✦	✦	✦	✦
0...100	0,5	10	✦	✦		✦
0...160	0,5	10	✦	✦		✦
0...250	1	20	✦	✦		
0...300	1	30	✦	✦		✦
0...400	2	20	✦	✦		✦
0...600	2	50	✦	✦		✦
0...1000	5	100	✦**(1)**			✦
0...2000	10	100				✦
0...3000	10	200				✦
0...4000	20	200				✦
0...6000	20	500				✦
0...10000	50	1000				✦
0...15000	50	1000				✦**(1)**

(1) Available only for mod. 01.17.

OPTIONS

DESCRIPTION	CODE
Carrying case (3)	**A40**
Nace version for pressure ranges - 40 bar (1)	**E30**
S.I.T. Certificate for pressure ranges	**CE1**
S.I.T. Certificate for vacuum ranges	**CE3**
Oxygen service (2)	**P02**
AISI 316 ANCC valve	**V16**

(1) option not available for 01.17;
(2) available only for 01.16 - 01.17;
(3) available only for lower connection, stem mounting

Rel. 20141028

Rohrfeder-Feinmessmanometer NG 250, Güteklasse 0,1

Analoge Referenzdruckmessgeräte inkl. Werkskalibrierschein, optional mit DAkkS- entsprechendem ACCREDIA-Kalibrierschein. Als Referenz für Druckkalibrierungen über Vergleichsmessungen.

Bourdon tube laboratory pressure gauges DS 10", class 0.1

Analogue reference pressure gauge including factory certificate of calibration, optional with ACCREDIA certificate of calibration. As reference for pressure calibration by means of comparison.

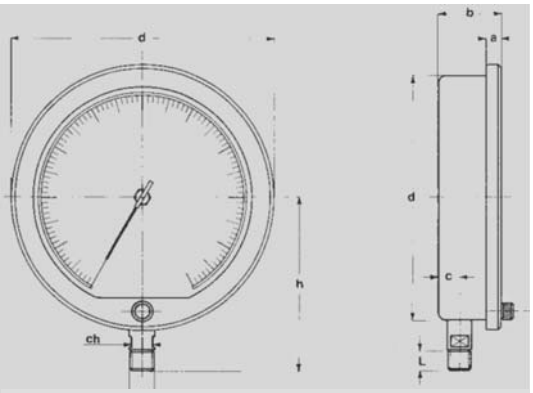
Norm: EN 837-1.
Sicherheitsausführung: S1 nach EN 837-2.
Güteklasse:
±0,1% v.E. nach EN 837-1 bei Bereichen ≤ 600 bar;
±0,25% v.E. nach EN 837-1 bei Bereichen ≥1000 bar.
Umgebungstemperatur: +10...+60°C.
Mediumtemperatur: +20°C.
Kalibriertemperatur: +20°C.
Temperatureinfluss: ±0,04% / 10 K v.E. bezogen auf +20°C.
Arbeitsdruck: max. 75% der Messbereichsspanne.
Überdrucksicherheit: keine.
Schutzart: IP 44 nach EN 60259 / IEC 529.
Sockelmaterial: Edelstahl AISI 316L.
Rohrfeder: Beryllium-Kupfer-Legierung.
Gehäuse: Aluminium, schwarz lackiert.
Ring: Aluminium, schwarz lackiert.
Deckscheibe: Kunststoff.
Zeigerwerk: Präzisions-Zeigerwerk.
Skala: Aluminium, grün, mit schwarzer Bedruckung, mit Spiegelband gegen Parallaxe-Ablesefehler.
Skalen-Winkelgrad: 310°.
Nullstellung: extern, manuell.
Zeiger: ausbalanciert, Micrometer-Schneidenzeiger.

Design: EN 837-1.
Safety designation: S1 as per EN 837-2.
Accuracy class:
±0.1% FS as per EN 837-1 for ranges ≤600 bar;
±0.25% FS as per EN 837-1 for ranges ≥1000 bar.
Ambient temperature: +10...+60°C.
Process fluid temperature: +20°C.
Calibration temperature: +20°C.
Thermal drift: ±0.04% / 10K of range (starting from +20°C).
Working pressure: max. 75% of full scale value.
Overpressure limits: not suitable.
Protection degree: IP 44 as per EN 60259 / IEC 529.
Socket material: stainless steel AISI 316L.
Bourdon tube: beryllium copper alloy.
Case: aluminium black painted.
Ring: aluminium black painted.
Window: plastic.
Movement: high precision.
Dial: aluminium, green with black markings ant anti-parallax mirror band.
Scale amplitude: 310°.
Zero calibration: external, manual.
Pointer: balanced, knife-edge micrometer.

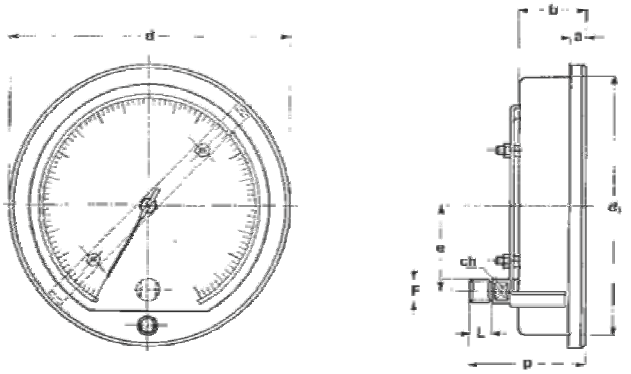
Druck / pressure							
Bereich Range	kleinste Teilung minor graduation	Bezifferung Figure interval	bar bar	kPa kPa	MPa	PSI	bar außen/external kg/cm² innen/internal
0...1	0,002	0,05	⦿		⦿		
0...1,6	0,005	0,1	⦿		⦿		
0...2,5	0,005	0,1	⦿		⦿		⦿
0...4	0,01	0,2	⦿		⦿		⦿
0...6	0,02	0,5	⦿		⦿		⦿
0...10	0,02	1	⦿		⦿		⦿
0...16	0,05	1	⦿		⦿	⦿	⦿
0...25	0,05	0,5	⦿		⦿	⦿	⦿
0...40	0,1	2	⦿		⦿	⦿	⦿
0...60	0,2	5	⦿		⦿	⦿	⦿
0...100	0,2	5	⦿	⦿	⦿	⦿	⦿
0...160	0,5	10	⦿	⦿	⦿	⦿	⦿
0...250	0,5	10	⦿	⦿		⦿	⦿
0...400	1	20	⦿	⦿		⦿	⦿
0...600	2	50	⦿	⦿		⦿	⦿
0...1000	2	50	⦿	⦿		⦿	⦿
0...1600	5	100	⦿	⦿		⦿	⦿
Vakuum / vacuum							bar außen/external mm Hg inchHg innen/internal
Bereich Range	kleinste Teilung minor graduation	Bezifferung Figure interval					
-1...0	0,002	0,02					⦿

Genauigkeit bezieht sich auf äußere Skalierung.
Accuracy referx to outer scale.

01.27 Rohrfeder-Feinmess-Manometer NG 250, Kl. 0,1
Laboratory test pressure gauges DS 250 (10"), ±0.1% FS



Typ A: Anschluss radial unten
Type A: lower connection



Typ D: Anschluss exzentrisch hinten
Type D: back connection
Zeichnung zeigt mit Option Code „B“, Klembügel für Schalttafeleinbau.
Drawign shows including option code „B“, bracket (u-clamp) for flush panel mounting)

Abmessungen / Dimensions (mm):

Montage / Bauform Mounting style		F		a	b	c	d	d1	e	h	L	ch	p	Gewicht Weight
Typ A	Anschl. unnten	Code 41M	= G 1/2 B = 1/2" BSP male	15	63	19,5	270	247		170	20	17		3,1 kg
	Bottom conn.	Code 43M	= 1/2" NPT M											
Typ D	Anschl.hinten	Code 41M	= G 1/2 B = 1/2" BSP male	15	63		270	247	80		20	17	111,5	3,25 kg
	Back conn.	Code 43M	= 1/2" NPT M											

Optionen / Options:

Code:	**B**	Klemmbügel für Schalttafeleinbau (nur für Typ D, Anschl. hinten)	U-clamp for panel mounting (only for type D, back connection)
Code	**CE1**	ACCREDIA-Zertifikat (Druck) (entspricht DAkkS/DKD)	ACCREDIA certificate (pressure)
Code	**CE3**	ACCREDIA-Zertifikat (Vakuum) (entspricht DAkkS/DKD)	ACCREDIA certificate (vacuum)
Code	**K02**	Güteklasse 0,25 (±0,25% v.E.) für Messbereiche ≤600 bar	Accuracy class 0.25 (±0.25% FS) for pressure ranges ≤600 bar / 8700 psi

Bestell-Code / Type code sequence:

Modell model	Bauform mounting style	Durchmesser diameter	Bereich Range	Anschluss Connection	Optionen Options
1.27.1-	A- D-	I-	gem. Tabelle as per table	41M- 43M-	B CE1 CE3 K02

Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93
Киргизия (996)312-96-26-47
Россия (495)268-04-70
Казахстан (772)734-952-31
https://leitenberger.nt-rt.ru/ || bge@nt-rt.ru