

# TECHNICAL INFORMATION

# PRECISION DIAL GAUGES

MODEL 61-050 ABSOLUTE PRESSURE MODEL 62-050 GAUGE PRESSURE/VACUUM MODEL 62-075 DIFFERENTIAL PRESSURE

Wallace & Tiernan Precision Dial Gauges are secondary pressure standards that are tried particularly for test procedures in workshops and for the most accurate pressure measurements in experimental and production processes. The knife-edge pointer, the scale with mirror ring and the graduation with ample white space between them allow safe, fast and parallax free readability of the pressure readings. All dial gauges can be supplied upon request with the DKD stamp mark according to the guidelines of the German Calibration Service and with the DKD calibration certificate.



# **ADVANTAGES**

- Immediate use possible
- · High sensitivity
- Good repeatability
- High long-time stability
- . Dial with mirror ring
- High scale resolution over two pointer revolutions
- Different units of calibration available
- Two sets of graduation on the same dial available
- · Parallax free readability
- DKD Calibration ex work possible
- For mobile use a compact suitcase-type carrying case is available

# **GENERAL**

Wallace & Tiernan Precision Dial Gauges Series 1500 offers the best available accuracy build with feather elastic components. The product range includes three types of dial gauges for measurement of absolute pressure, gauge pressure, vacuum and differential pressure. Four different types of each model offer a selection in regard to accuracy, readability, size and pressure range.

Because of customized manufacturing of the instruments and their individual calibration, **Wallace & Tiernan** is able to guarantee outstandingly high technical performance. Applying our calibration method the specific characteristics of the pressure elements and the mechanisms of the gauge are considered in the scale type.

Graduation can be provided in each requested pressure unit. Dual scale calibration with two different pressure units is optionally available.

The two pointer revolutions of the series 1500 and 1000 result in a high scale resolution with an optimal readout. Graduation are easily seen; bold numbers are horizontally placed. The operator takes readings from one position – not possible with large-diameter gauges. All gauges with two pointer revolutions have a revolution indicator.

Wallace & Tiernan has an accredit calibration laboratory at its disposal. Calibration is done with primary standards according to DIN EN ISO/IEC 17025 and ISO 9001 which guarantees a direct traceability to national and international standards.

All units can be supplied with carrying case for mobile use. The precision dial gauge can be connected directly inside the case.



# **TECHNICAL DATA** DIAL GAUGE FOR ABSOLUTE PRESSURE



# **MODEL 61-050 SERIES 1500 / 215 MM SCALE**

0.066 % of full scale

#### Sensitivity:

0.01 % of full scale

#### Hysteresis:

max. 0.05 % of full scale

# Temperature effect:

Ranges up to 3400 mbar max. 0.019 % of full scale Ranges from 7 bar max. 0.1 % of full scale (per each 10 °C temperature deviation of 23 °C)

#### Scale length:

1140 mm (2 pointer revolutions)

#### Case pressure:

Max. 2.5 bar (35 PSI)

#### Case volume:

3070 cm<sup>3</sup>, ranges up to 3400 mbar (50 PSI)  $10~\text{cm}^3$ , ranges from 7 bar (100 PSI) (pressure element volume, case open to atmosphere)

#### Measuring ranges:

min. 0 ... 1060 mbar (15.5 PSI) abs. up to max. 0 ... 35 bar (500 PSI) abs.

#### Connection:

1/8" NPT female threat, ranges up to 3400 mbar 1/4" NPT female threat, ranges above 7 bar



# **MODEL 61-050** SERIES 1000/150 MM SCALE

#### Accuracy:

0.1 % of full scale

# Sensitivity:

0.01% of full scale

max. 0.1 % of full scale

#### Temperature effect:

Ranges up to 3400 mbar  $\,$  max. 0.019 % of full scale Ranges from 7 bar max. 0.1% of full scale (per each 10 °C temperature deviation of 23 °C)

# Scale length:

760 mm (2 pointer revolutions)

#### Case pressure:

Max. 2.5 bar (35 PSI)

# Case volume:

1175 cm<sup>3</sup>, ranges up to 3400 mbar (50 PSI) 10 cm<sup>3</sup>, ranges from 7 bar (100 PSI) (pressure element volume, case open to atmosphere)

# Measuring ranges:

min. 0 ... 1060 mbar (15.5 PSI) abs. up to max. 0 ... 35 bar (500 PSI) abs.

# Connection:

1/8" NPT female threat, ranges up to 3400 mbar 1/4" NPT female threat, ranges above 7 bar



# **MODEL 61-050** SERIES 300/150 MM SCALE

# Accuracy:

0.3 % of full scale

# Sensitivity:

0.2 % of full scale

# Scale length:

405 mm (1 pointer revolution)

# Case volume:

405 cm3 (case volume)

# Case pressure:

Max. 1 bar (15 PSI)

# Connection (at the back):

1/8" NPT female thread, ranges above 1060 mbar (15.5 PSI)

1/4" NPT female thread, ranges up to 1060 mbar (15.5 PSI)

(standard equipment including protector check valve)

# Measuring ranges:

min. 0.1 ... 27 mbar (20 mm Hg) abs. up to max. 0 ... 2 bar (30 PSI) abs.



# **MODEL 61-050** SERIES 300/70 MM SCALE

# Accuracy:

0.3 % of full scale

# Sensitivity:

0.2 % of full scale

# Scale length:

180 mm (1 pointer revolution)

# Case volume:

179 cm3 (case volume)

# Case pressure:

Max. 10 bar (150 PSI)

# Connection (at the back):

1/8" NPT female thread, ranges above 1060 mbar 1/4" NPT female thread, ranges up to 1060 mbar (standard equipment with protector check valve)

# Measuring ranges:

min 0 ... 67 mbar (50 mm Hg) abs up to max. 0 ... 7 bar (100 PSI) abs.

# **TECHNICAL DATA** DIAL GAUGE FOR GAUGE PRESSURE/VACUUM



# **MODEL 62-050** SERIES 1500/215 MM SCALE

 $0.066\,\%$  of full scale

#### Sensitivity:

0.01 % of full scale

#### Hysteresis:

max. 0.05 % of full scale

# Temperature effect:

max. 0.1 % of full scale

(per each 10 °C temperature deviation of 23 °C)

#### Scale length:

1140 mm (2 pointer revolutions)

#### Connection:

1/8" NPT female thread, ranges up to 10 bar (150 PSI) 1/4" NPT female thread, ranges above 10 bar (150 PSI)

# Measuring ranges:

min. 0 ... 300 mbar (4.5 PSI) up to max. 0 ... 70 bar (1000 PSI)



# **MODEL 62-050** SERIES 1000/150 MM SCALE

#### Accuracy:

0.1 % of full scale

# Sensitivity:

0.01 % of full scale

# Temperature effect:

max. 0.1 % of full scale

(per each 10 °C temperature deviation of 23 °C)

#### Scale length:

760 mm (2 pointer revolutions)

1/8" NPT female thread, ranges up to 10 bar (150 PSI) 1/4" NPT female thread, ranges above 10 bar (150 PSI)

# Measuring ranges:

min. 0 ... 300 mbar (4.5 PSI)

up to max. 0 ... 70 bar (1000 PSI)



# **MODEL 62-050** SERIES 300/150 MM SCALE

0.3 % of full scale

# Sensitivity:

0.2 % of full scale

# Scale length:

405 mm (1 pointer revolution)

# Connection:

1/8" NPT female thread

# Measuring ranges:

min. 0 ... 25 mbar (10" water) up to max.  $0\dots 7$  bar (100 PSI)



# **MODEL 62-050** SERIES 300/70 MM SCALE

# Accuracy:

0.3 % of full scale

# Sensitivity:

0.2 % of full scale

# Scale length:

180 mm (1 pointer revolution)

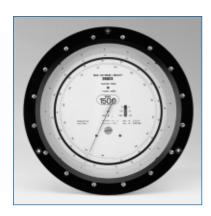
# Connection:

1/8" NPT female thread

# Measuring ranges:

min. 0 ... 25 mbar (10" water) up to max. 0 ... 7 bar (100 PSI)

# **TECHNICAL DATA** PRESSURE GAUGE FOR DIFFERENTIAL PRESSURE



# **MODEL 62-075** SERIES 1500/215 MM SCALE

 $0.066\,\%$  of full scale

Sensitivity:

0.01% of full scale

Hysteresis:

max. 0.05 % of full scale

Temperature effect: max. 0.1 % of full scale

(per each 10 °C temperature deviation of 23 °C)

Scale length:

1140 mm (2 pointer revolutions)

Case pressure:

max. 2.5 bar (35 PSI)

Connection:

2 x 1/8" NPT female thread

Measuring ranges:

min. 0 ... 300 mbar (4,5 PSI) up to max. 0 ... 10 bar (150 PSI)



# **MODEL 62-075** SERIES 1000/150 MM SCALE

Accuracy:

0.1 % of full scale

Sensitivity:

0.01 % of full scale

Hysteresis:

max. 0.1 % of full scale

Temperature effect:

max. 0.1 % of full scale

(per each 10 °C temperature deviation of 23 °C)

Scale length:

760 mm (2 pointer revolutions)

Case pressure:

max. 2.5 bar (35 PSI)

Connection:

2 x 1/8" NPT female thread

Measuring ranges:

min. 0 ... 300 mbar (4,5 PSI) up to max. 0 ... 10 bar (150 PSI)



# **MODEL 62-075** SERIES 300/150 MM SCALE

0.3 % of full scale

Sensitivity:

0.2 % of full scale

Scale length:

405 mm (1 pointer revolution)

Case pressure:

max. 1 bar (15 PSI)

Connection:

2 x 1/8" NPT female thread

Measuring ranges:

min. 0 ... 25 mbar (10" water) up to max. 0...7 bar (100 PSI)



# **MODEL 62-075** SERIES 300/70 MM SCALE

Accuracy:

0.3 % of full scale

Sensitivity:

0.2 % of full scale

Scale length:

180 mm (1 pointer revolution)

Case pressure:

max. 10 bar (150 PSI)

Connection:

2 x 1/8" NPT female thread

Measuring ranges:

min. 0 ... 25 mbar (10" water) up to max. 0 ... 7 bar (100 PSI)

# **TECHNICAL DATA**



Scale type with mirror ring

#### **DESIGN AND FUNCTION**

In low and medium pressure ranges (absolute pressure up to 3.4 bar, gauge and differential pressure up to 10 bar) all instruments are equipped with capsules. The higher pressure ranges (up to 70 bar) are equipped with Bourdon tubes. The Bourdon tubes always consist of "Ni-Span-C" (chrome-nickel-alloy) whereas the capsules are manufactured either from "Ni-Span-C" or copper beryllium depending on the application. All measurement elements are formed according to a specific method, tempered and aged. The pressure element movement is amplified and transmitted to the pointer via a mechanical linkage. An anti-blacklash device maintains unifrom tension between the parts and minimize the hysteresis effects.

All capsule gauges are to be used for air or dry gases only. Bourdon tube gauges in their standard version are also build for the use of gas. As a special design Bourdon tube gauges are also available for liquid service. Pressurized gas inside the Bourdon tube of these instruments can be eliminated with a special vent unit. Calibrations of all instruments are carried out using air or nitrogen.

Zero adjustment can be done out by means of a front adjustment screw. Several instruments provide additional access for adjustment from the rear of the case. Gauge pressure instruments provide easy access to the adjustment unit through the front dial covered simply by removing a cup screw. The zero adjustment screw of dial gauges for absolute and differential pressure should be applied from the rear of the case if possible. The front adjustment unit of these instruments is accessible only after removing the cover.

Although highly sensitive and accurate the mechanism is built to withstand the handling normally associated with calibration of pneumatic instrumentation.

The mechanism must not be lubricated.

#### **TECHNICAL DATA**

#### Case Construction:

Anodized aluminum with tempered glass dial cover.
Dial gauges for differential pressure of the series 1500, 1000 and 300/150 mm scale as well as dial gauges for absolute pressure of the series 1500 and 1000 are equipped with overpressure relief valves as a standard.

#### **Case Connections:**

1/8" or 1/4" NPT female thread (depending on instrument type and measuring range)

# Case Dimensions:

# Series 1500:

Front ring diameter 272 mm
Case diameter 248 mm
Case depth 119 mm

#### Series 1000:

Front ring diameter 216 mm
Case diameter 203 mm
Case depth 103 mm

# Series 300/150 mm Scale

Front ring diameter 216 mm
Case diameter 192 mm
Case depth 114–116 mm

#### Series 300/70 mm Scale:

Front ring diameter 95 mm
Case diameter 79.5 mm
Case depth 80 mm

#### Weight:

 Series 1500
 approx. 4
 kg

 Series 1000
 approx. 3
 kg

 Series 300/150 mm scale
 approx. 2
 kg

 Series 300/70 mm scale
 approx. 0.6 kg

# Options

Graduation is available in every requested linear pressure unit without extra cost. Calibration is for vertical mounting. Different types of mounting need to be specified.

# Additional Equipment:

Available as an option is a suitcase-type carrying case for the instruments (not for series  $300/70 \; \text{mm}$  scale).

# **Dual Graduation:**

Instruments of the series 1500 and 300 / 150 mm dial are available with two sets of graduations on the same dial for additional charge.

# Ordering Information:

When ordering, please give: instrument type, series, measuring range with pressure unit or pressure units for dual graduation, mounting angle if different from vertical mounting.

# **MEASURING RANGES**

Absolute Pr	ressure	Gauge / Vacuum / Compound Pressure							Differential / Vacuum / Compound Pressure							
Serie 1500 -	- Accuracy 0.066 % of full scale															
Ordering No.	Range	Ordering No. Range Graduation					Ordering No. Range						Graduation			
61A-1A-0015	015.5 PSIA (1060 mbar)	0.02 PSI	62A-2A-0005	04.5	PSI	(300	mbar)	0.005	5 PSI	62A-4A-0005	04.5	PSI	(300	mbar)	0.005	5 PSI
61A-1A-0025	025 PSIA (1700 mbar)	0.02 PSI	62A-2A-0010	010	PSI	(700	mbar)	0.01	PSI	62A-4A-0010	010	PSI	(700	mbar)	0.01	PSI
61A-1A-0035	035 PSIA (2400 mbar)	0.05 PSI	62A-2A-0015	015.5	PSI	(1	bar)	0.02	PSI	62A-4A-0015	015.5	PSI	(1	bar)	0.02	PSI
61A-1A-0050	050 PSIA (3400 mbar)	0.05 PSI	62A-2A-0020	020	PSI	(1.4	bar)	0.02	PSI	62A-4A-0020	020	PSI	(1.4	bar)	0.02	PSI
61A-1A-0100	0100 PSIA (7 bar)	0.1 PSI	62A-2A-0030	030	PSI	(2	bar)	0.05	PSI	62A-4A-0030	030	PSI	(2	bar)	0.05	PSI
61A-1A-0150	0150 PSIA (10 bar)	0.2 PSI	62A-2A-0045	045	PSI	(3	bar)	0.05	PSI	62A-4A-0045	045	PSI	(3	bar)	0.05	PSI
61A-1A-0200	0200 PSIA (14 bar)	0.2 PSI	62A-2A-0060	060	PSI	(4	bar)	0.1	PSI	62A-4A-0060	060	PSI	(4	bar)	0.1	PSI
61A-1A-0300	0300 PSIA (21 bar)	0.5 PSI	62A-2A-0100	0100	PSI	(7	bar)	0.1	PSI	62A-4A-0100	0100	PSI	(7	bar)	0.1	PSI
61A-1A-0500	0500 PSIA (35 bar)	0.5 PSI	62A-2A-0150	0150	PSI	(10	bar)	0.2	PSI	62A-4A-0150	0150	PSI	(10	bar)	0.2	PSI
			62A-2A-0200	0200	PSI	(14	bar)	0.2	PSI	62A-7B-0030	-300	in Hg	(-1,05	5 bar)	0.05	in Hg
			62A-2A-0300	0300	PSI	(21	bar)	0.5	PSI	62A-6B-0030	-15015	in Hg	(± 0,5	bar)	0.05	in Hg
			62A-2A-0500	0500	PSI	(35	bar)	0.5	PSI	62A-6B-0060	-30030	in Hg	(± 1	bar)	0.1	in Hg
			62A-2A-1000	01000	PSI	(70	bar)	1	PSI	62A-6B-0120	-30090	in Hg	(-1.05	503 bar)	0.2	in Hg
			62A-3B-0030	-300	in Hg	(-1.05	bar)	0.05	in Hg	62A-6B-0300	-300270	in Hg	(-1.05	509 bar)	0.5	in Hg
			62A-5B-0030	-15015	in Hg	(±0.5	bar)	0.05	in Hg							
			62A-5B-0060	-30030	in Hg	(±1	bar)	0.1	in Hg							
			62A-5B-0120	-3090	in Hg	(-1.05	03 bar)	0.2	in Hg							
			62A-5B-0300	-300270	in Hg	(–1.05	09 bar)	0.5	in Hg							

Serie 1000	Serie 1000 – Accuracy 0.1% of full scale																	
Ordering No.	Range			Graduation	Ordering No.	Range				Grad	uation	Ordering No.	Range				Grad	uation
61B-1A-0015	015.5 PSIA	(1060	mbar)	0.02 PSI	62B-2A-0005	04.5	PSI	(300	mbar)	0.01	PSI	62B-4A-0005	04.5	PSI	(300	mbar)	0.01	PSI
61B-1A-0025	025 PSIA	(1700	mbar)	0.05 PSI	62B-2A-0010	010	PSI	(700	mbar)	0.02	PSI	62B-4A-0010	010	PSI	(700	mbar)	0.02	PSI
61B-1A-0035	035 PSIA	(2400	mbar)	0.05 PSI	62B-2A-0015	015.5	PSI	(1	bar)	0.02	PSI	62B-4A-0015	015.5	PSI	(1	bar)	0.02	PSI
61B-1A-0050	050 PSIA	(3400	mbar)	0.1 PSI	62B-2A-0020	020	PSI	(1.4	bar)	0.05	PSI	62B-4A-0020	020	PSI	(1.4	bar)	0.05	PSI
61B-1A-0100	0100 PSIA	(7	bar)	0.2 PSI	62B-2A-0030	030	PSI	(2	bar)	0.05	PSI	62B-4A-0030	030	PSI	(2	bar)	0.05	PSI
61B-1A-0150	0150 PSIA	(10	bar)	0.2 PSI	62B-2A-0045	045	PSI	(3	bar)	0.1	PSI	62B-4A-0045	045	PSI	(3	bar)	0.1	PSI
61B-1A-0200	0200 PSIA	(14	bar)	0.5 PSI	62B-2A-0060	060	PSI	(4	bar)	0.1	PSI	62B-4A-0060	060	PSI	(4	bar)	0.1	PSI
61B-1A-0300	0300 PSIA	(21	bar)	0.5 PSI	62B-2A-0100	0100	PSI	(7	bar)	0.2	PSI	62B-4A-0100	0100	PSI	(7	bar)	0.2	PSI
61B-1A-0500	0500 PSIA	(35	bar)	1 PSI	62B-2A-0150	0150	PSI	(10	bar)	0.2	PSI	62B-4A-0150	0150	PSI	(10	bar)	0.2	PSI
					62B-2A-0200	0200	PSI	(14	bar)	0.5	PSI	62B-7B-0030	-300	in Hg	(-1,05	5 bar)	0.05	in Hg
					62B-2A-0300	0300	PSI	(21	bar)	0.5	PSI	62B-6B-0030	-15015	in Hg	(±0,5	bar)	0.05	in Hg
					62B-2A-0500	0500	PSI	(35	bar)	1	PSI	62B-6B-0060	-30030	in Hg	(±1	bar)	0.1	in Hg
					62B-2A-1000	01000	PSI	(70	bar)	2	PSI	62B-6B-0120	-30090	in Hg	(-1.05	503 bar)	0.2	in Hg
					62B-3B-0030	-300	in Hg	(-1.05	i bar)	0.05	in Hg	62B-6B-0300	-300270	in Hg	(-1.05	509 bar)	0.5	in Hg
					62B-5B-0030	-15015	in Hg	(±0.5	bar)	0.05	in Hg							
					62B-5B-0060	-3030	in Hg	(±1	bar)	0.1	in Hg							
					62B-5B-0120	-3090	in Hg	(-1.05	i03 bar)	0.2	in Hg							
					62B-5B-0300	-300270	in Hg	(-1.05	i09 bar)	0.5	in Hg							

# Liqud service

# **MEASURING RANGES**

Absolute P	ressure	Gauge / Vacuum / Compound Pressure							Differential / Vacuum / Compound Pressure									
Serie 300 /	150 mm Skala – A	accuracy 0.3 % o	f full	scale														
Ordering No.	Range		Gra	duation	Ordering No.	Range				Grad	duation	Ordering No.	Range				Grad	luation
61C-1D-0020	0.120 mm Hg	(27 mbar)	0.1	mm Hg	62C-2C-0010	010	in H <sub>2</sub> 0	(25	mbar)	0.05	in H <sub>2</sub> O	62C-4C-0010	010	in H <sub>2</sub> 0	(25	mbar)	0.05	in H <sub>2</sub> O
61C-1D-0050	050 mm Hg	(67 mbar)	0.2	mm Hg	62C-2C-0020	020	in H <sub>2</sub> 0	(50	mbar)	0.1	in H <sub>2</sub> 0	62C-4C-0020	020	in H <sub>2</sub> 0	(50	mbar)	0.1	in H <sub>2</sub> 0
61C-1D-0100	0100 mm Hg	(135 mbar)	0.5	mm Hg	62C-2C-0040	040	in H <sub>2</sub> 0	(100	mbar)	0.2	in H <sub>2</sub> 0	62C-4C-0040	040	in H <sub>2</sub> 0	(100	mbar)	0.2	in H <sub>2</sub> O
61C-1D-0200	0200 mm Hg	(270 mbar)	1	mm Hg	62C-2C-0060	060	in H <sub>2</sub> 0	(150	mbar)	0.2	in H <sub>2</sub> O	62C-4C-0060	060	in H <sub>2</sub> 0	(150	mbar)	0.2	in H <sub>2</sub> O
61C-1D-0410	0410 mm Hg	(550 mbar)	2	mm Hg	62C-2C-0100	0100	in H <sub>2</sub> 0	(250	mbar)	0.5	in H <sub>2</sub> O	62C-4C-0100	0100	in H <sub>2</sub> 0	(250	mbar)	0.5	in H <sub>2</sub> O
61C-1D-0390	390800 mm Hg	(5201060 mbar)	2	mm Hg	62C-2C-0200	0200	in H <sub>2</sub> 0	(500	mbar)	1	in H <sub>2</sub> 0	62C-4C-0200	0200	in H <sub>2</sub> 0	(500	mbar)	1	in H <sub>2</sub> O
61C-1D-0800	0800 mm Hg	(1060 mbar)	5	mm Hg	62C-2C-0300	0300	in H <sub>2</sub> O	(750	mbar)	1	in H <sub>2</sub> O	62C-4C-0300	0300	in H <sub>2</sub> 0	(750	mbar)	1	in H <sub>2</sub> O
61C-1A-0030	030 PSIA	(2050 mbar)	0.1	PSI	62C-2C-0400	0400	in H <sub>2</sub> 0	(1	bar)	2	in H <sub>2</sub> O	62C-4C-0400	0400	in H <sub>2</sub> 0	(1	bar)	2	in H <sub>2</sub> O
					62C-2A-0030	030	PSI	(2	bar)	0.1	PSI	62C-4A-0030	030	PSI	(2	bar)	0.1	PSI
					62C-2A-0060	060	PSI	(4	bar)	0.2	PSI	62C-4A-0060	060	PSI	(4	bar)	0.2	PSI
					62C-2A-0100	0100	PSI	(7	bar)	0.5	PSI	62C-4A-0100	0100	PSI	(7	bar)	0.5	PSI
					62C-3C-0010	-100	in H <sub>2</sub> 0	(–25	mbar)	0.05	in H <sub>2</sub> O	62C-7C-0010	-100	in H <sub>2</sub> 0	(-25	mbar)	0.05	in H <sub>2</sub> O
					62C-3C-0020	-200	in H <sub>2</sub> 0	(-50	mbar)	0.1	in H <sub>2</sub> O	62C-7C-0020	-200	in H <sub>2</sub> 0	(-50	mbar)	0.1	in H <sub>2</sub> O
					62C-3C-0400	-4000	in H <sub>2</sub> 0	(-1000	mbar)	2	in H <sub>2</sub> 0	62C-7C-0400	-4000	in H <sub>2</sub> 0	(-1000	mbar)	2	in H <sub>2</sub> 0
					62C-5C-0010	-505	in H <sub>2</sub> 0	(±12,5	mbar)	0.05	in H <sub>2</sub> 0	62C-6C-0010	-505	in H <sub>2</sub> 0	(±12,5	mbar)	0.05	in H <sub>2</sub> O
					62C-5C-0020	-10010	in H <sub>2</sub> 0	(±25	mbar)	0.1	in H <sub>2</sub> O	62C-6C-0020	-10010	in H <sub>2</sub> O	(±25	mbar)	0.1	in H <sub>2</sub> O
					62C-5C-0040	-20020	in H <sub>2</sub> 0	(±50	mbar)	0.2	in H <sub>2</sub> O	62C-6C-0040	-20020	) in H <sub>2</sub> O	(±50	mbar)	0.2	in H <sub>2</sub> O

Serie 300/70 mm Skala – Genauigkeit 0,3 % vom Skalenendwert																		
Ordering No.	Range			Graduation	Ordering No.	Range				Grad	duation	Ordering No.	Range				Grad	duation
61D-1D-0050	050 mm Hg	(67	mbar)	0.5 mm Hg	62D-2C-0010	010	in H <sub>2</sub> 0	(25	mbar)	0.1	in H <sub>2</sub> 0	62D-4C-0010	010	in H <sub>2</sub> 0	(25	mbar)	0.1	in H <sub>2</sub> O
61D-1D-0100	0100 mm Hg	(135	mbar)	1 mm Hg	62D-2C-0020	020	in H <sub>2</sub> 0	(50	mbar)	0.2	in H <sub>2</sub> 0	62D-4C-0020	020	in H <sub>2</sub> 0	(50	mbar)	0.2	in H <sub>2</sub> O
61D-1D-0200	0200 mm Hg	(270	mbar)	2 mm Hg	62D-2C-0040	040	in H <sub>2</sub> O	(100	mbar)	0.5	in H <sub>2</sub> O	62D-4C-0040	040	in H <sub>2</sub> 0	(100	mbar)	0.5	in H <sub>2</sub> O
61D-1D-0410	0410 mm Hg	(550	mbar)	5 mm Hg	62D-2C-0060	060	in H <sub>2</sub> O	(150	mbar)	0.5	in H <sub>2</sub> 0	62D-4C-0060	060	in H <sub>2</sub> 0	(150	mbar)	0.5	in H <sub>2</sub> O
61D-1D-0390	390800 mm Hg	(520	1060 mbar)	5 mm Hg	62D-2C-0100	0100	in H <sub>2</sub> 0	(250	mbar)	1	in H <sub>2</sub> 0	62D-4C-0100	0100	in H <sub>2</sub> 0	(250	mbar)	1	in H <sub>2</sub> O
61D-1A-0015	0800 mm Hg	(1060	mbar)	10 mmHg	62D-2C-0200	0200	in H <sub>2</sub> O	(500	mbar)	2	in H <sub>2</sub> 0	62D-4C-0200	0200	in H <sub>2</sub> 0	(500	mbar)	2	in H <sub>2</sub> O
61D-1A-0030	030 PSIA	(2050	mbar)	0.2 PSI	62D-2C-0300	0300	in H <sub>2</sub> 0	(750	mbar)	2	in H <sub>2</sub> 0	62D-4C-0300	0300	in H <sub>2</sub> 0	(750	mbar)	2	in H <sub>2</sub> O
61D-1A-0060	060 PSIA	(4000	mbar)	0.5 PSI	62D-2C-0400	0400	in H <sub>2</sub> 0	(1	bar)	5	in H <sub>2</sub> 0	62D-4C-0400	0400	in H <sub>2</sub> 0	(1	bar)	5	in H <sub>2</sub> O
61D-1A-0100	0100 PSIA	(7000	mbar)	1 PSI	62D-2A-0030	030	PSI	(2	bar)	0,2	PSI	62D-4A-0030	030	PSI	(2	bar)	0,2	PSI
					62D-2A-0060	060	PSI	(4	bar)	0.5	PSI	62D-4A-0060	060	PSI	(4	bar)	0.5	PSI
					62D-2A-0100	0100	PSI	(7	bar)	1	PSI	62D-4A-0100	0100	PSI	(7	bar)	1	PSI
					62D-3C-0010	-100	in H <sub>2</sub> O	(–25	mbar)	0.1	in H <sub>2</sub> O	62D-7C-0010	-100	in H <sub>2</sub> 0	(-25	mbar)	0.1	in H <sub>2</sub> O
					62D-3C-0020	-200	in H <sub>2</sub> O	(-50	mbar)	0.2	in H <sub>2</sub> 0	62D-7C-0020	-200	in H <sub>2</sub> 0	(-50	mbar)	0.2	in H <sub>2</sub> O
					62D-3C-0400	-4000	in H <sub>2</sub> 0	(-1000	mbar)	5	in H <sub>2</sub> 0	62D-7C-0400	-4000	in H <sub>2</sub> 0	(-1000	mbar)	5	in H <sub>2</sub> O
					62D-5C-0010	-505	in H <sub>2</sub> 0	(±12,5	mbar)	0.1	in H <sub>2</sub> 0	62D-6C-0010	-505	in H <sub>2</sub> 0	(±12,5	mbar)	0.1	in H <sub>2</sub> O
					62D-5C-0020	-10010	in H <sub>2</sub> 0	(±25	mbar)	0.2	in H <sub>2</sub> 0	62D-6C-0020	-10010	in H <sub>2</sub> 0	(±25	mbar)	0.2	in H <sub>2</sub> O
					62D-5C-0040	-2020	in H <sub>2</sub> O	(±50	mbar)	0.5	in H <sub>2</sub> O	62D-6C-0040	-20020	in H <sub>2</sub> O	(±50	mbar)	0.5	in H <sub>2</sub> O

# **DKD CALIBRATION**



DKD Calilbration laboratory in Günzburg for pressure

# DKD CALIBRATION LABORATORY FOR PRESSURE

Since 1980 we are accredited by

Physikalisch-Technische Bundesanstalt (PTB)

Certified according to DIN EN ISO 9001 DKD-K-02301 according to DIN EN ISO/IEC 17025

# **SERVICE**

Wallace & Tiernan Günzburg not only calibrates instruments of its own production but also all types of pressure measuring instruments from other manufacturers up to a pressure range of 200 bar.

Measurant or device for calibration	Measuring range	Measurement conditions	Uncertainty of measurement				
Pressure and Vacuum p <sub>e</sub>	-1 bar up to -0.1 bar	In gases	$1.5 \cdot 10^{-4} \cdot p_e$ ; however, no less than 0.1 mbar				
	> -0.1 bar up to 0 bar		15 µbar				
	0 bar up to 1.2 bar		$9 \cdot 10^{-5} \cdot p_e$ ; however, no less than 0.015 mbar				
	> 1.2 bar up to 2.5 bar		8 · 10 <sup>-5</sup> · p <sub>e</sub>				
	> 2.5 bar up to 5 bar		9 · 10 <sup>-5</sup> · p <sub>e</sub>				
	> 5 bar up to 80 bar		$7 \cdot 10^{-5} \cdot p_e$ ; however no less than 0.5 mbar				
	> 80 bar up to 200 bar		8 · 10 <sup>-5</sup> · p <sub>e</sub>				
Absolute pressure p <sub>abs</sub>	0 bar up to 1.2 bar	In gases	$9 \cdot 10^{-5} \cdot p_{abs}$ ; however, no less than 0.025 mbar				
	> 1.2 bar up to 2.5 bar		8 · 10 <sup>-5</sup> · p <sub>abs</sub>				
	> 2.5 bar up to 5 bar		9 · 10 <sup>-5</sup> · p <sub>abs</sub>				
	> 5 bar up to 81 bar		$7 \cdot 10^{-5} \cdot p_{abs}$ ; however, no less than 0.5 mbar				
	> 81 bar up to 201 bar		8 · 10 <sup>-5</sup> · p <sub>abs</sub>				

# **WALLACE & TIERNAN**

#### Belgium EMTEC

F. Pelletier Street 56, Bus 15 1030 Bruxelles, BELGIUM Tel.: +32 2736 89 60, Fax: +32 2733 01 73 Email: info@emtec-instruments.be

# Germany

WALLACE & TIERNAN GmbH Auf der Weide 10 D-89312 Günzburg, GERMANY Tel.: +49 8221-9040, Fax: +49 8221-904140 Email: wtger@chemfeed.org

# France

WALLACE & TIERNAN S.A.R.L. BP 150, 1/3 rue Pavlov F-78196 Trappes Cedex, FRANCE Tel.: +33 1-34 82 18 50, Fax: +331-30 50 98 08 Email: mullerJ@usfinternational.com

# Norway

Fly & Industri, Instrumenter AS Hauketoveien 11 N-1266 Oslo, NORWAY Tel.: +47 22 61 1480, Fax: +47 22 75 4781 Email: firmapost@flyindustri.no

#### Austria Schmachtl KG

Pummerstraße 36 4020 Linz, AUSTRIA Tel.: +43 732 7646-0, Fax: +43 732 785036

Tel.: +43 732 7646-0, Fax: +43 732 785036 Email: office.linz@schmachtl.at

SERKAL GmbH Kreuzwiesengasse 12 2111 Harrmannsdorf, AUSTRIA Tel.: +43 226426951, Fax: +43 226426952 Email: winkler@serkal.com

# Polano

Radiotechnika
Marketing Sp. z.o.o.
UI. H. Sienkiewicza 6 a
50335 Wrocław, POLAND
Tel.: +48 713453669, Fax: +48 713211612
Email: office@radiotechmkt.com.pl

# Spain

GOMETRICS, S.L.
POL. IND. RIERA DA CALDES
C/. BASTERS, 17
08184 PALAU-SOLITA I PLEGAMANS, BARCELONA
Tel.: +34 93 864 6843, Fax: +34 93 864 8218
Email: comercial@gometrics.net

# Turkey

BiS Sistem Entegrasyon Elektronik Bilisim Hizmetleri Ticaret Ltd. Uzuncayir Cad. No: 31. D1-Blok. Da; 9 81010 Kadiköy – Istanbul Tel.: +90 216 326 1695, Fax: +90 216 326 8656 Email: bisltd@atlas.net.tr

# Czechia

BHV senzory Suchdolská 4 Sedlec CZ 160 00 Praha 6, CZECH REPUPLIC Tel: +420 220 920 253, Fax: +420 220 922 036 Email: bhvsenzory@bhvsenzory.cz

