



**31L, 31B
Series**

- **±0.25% Accuracy**
- **Polished Mirror Band and Knife-edge Pointer to reduce parallax error**
- **Temperature Compensated Element to reduce temperature error**
- **Zero Adjustable Dial**

HAWK type 31L and 31B are designed for the industrial applications where a higher degree of accuracy is required and operator errors must be minimized. Improved dial and pointer result in excellent viewing. Polished mirror band and knife-edge pointer with red painted tip let users read scale without parallax error. White dial background with large numbers and graduations results in excellent readability. External adjustable pointer facilitates compensation for calibration adjustment.

Typical Application

- Industrial test laboratories
- Monitoring of the testing device
- Measuring workshop systems
- Control workshop systems
- All equipment require high accuracy performance

Specification

Operating

Steady: 100%*full scale value
Pulsation: 90%*full scale value
Sudden: 130%*full scale value

The appropriate operating range falls in the middle half of the gauge (25% to 75% of full scale). If you choose the unsuitable range, the fatigue of bourdon tube may be resulted. HAWK supplies a wide selection of range from vacuum to 10,000 PSI including compound range.

Temperature limit

Ambient: -40 to 70°C
Media: max 70°C-Brass Wetted Parts
100°C-SS316 Wetted Parts

Temperature effect

Accuracy of measurement will be affected by the temperature change. This inaccuracy may as high as ±0.3% for 12°C temperature change.

Dial Size

4 1/2"(115mm) or 6"(150mm).

Case&Ring

Aluminum case and ring with black enamel.

Socket

Brass, 316 Stainless Steel, 316L Stainless Steel or Monel K400.

Movement

Stainless steel movement.

Bourdon Tube

Brass, 316L-Stainless Steel or Monel K500.

Window

Tempered safety glass-standard.
Polycarbonate or Laminated safety glass-optional.

Pointer

Aluminum.

Accuracy

±0.25% of span
(ASME B40.1 Grade 3A)

Scale

PSI, kPa, Mpa, bar, kg/cm², inHg, cmHg, torr, mmHg (single or dual scale), others on request.

Connection

1/2", 1/4" NPT standard, JIS, DIN, M20*1.5 available.

Mounting

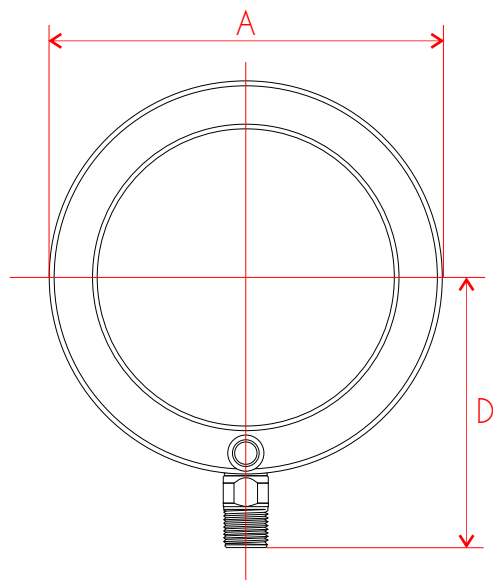
Local or Panel Mounting.

Weatherproof

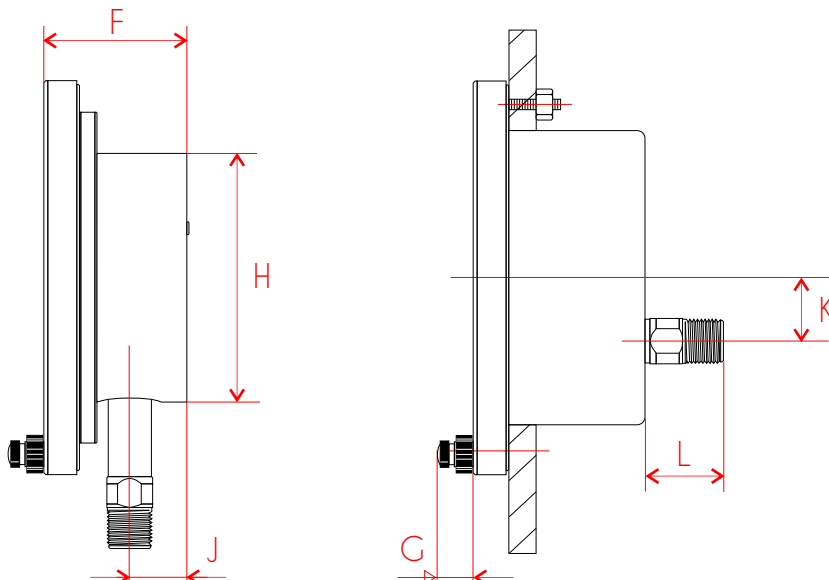
NEMA 3/3X, IP54 enclosure.

Dimensions

Bottom Connection



Back Connection



Dimensions in mm.

Type No	Dial Size	A	B	C	D	F	G	H	J	K	L	Weight
31L	4.5"	6.18" (157)			4.37" (111)	2.42" (61.5)	0.69" (17.5)	4.77" (121)	0.91" (23)			0.83-0.99 Kg
31B	4.5"	6.18" (157)				2.42" (61.5)	0.69" (17.5)	4.77" (121)		1.20" (30.4)	1.62" (41)	0.83-0.99 Kg
31L	6"	7.56" (192)			5.20" (132)	2.75" (69.8)	0.69" (17.5)	4.77" (121)	1.10" (27.9)			1.35-1.48 Kg
31B	6"	7.56" (192)				2.75" (69.8)	0.69" (17.5)	4.77" (121)		1.20" (30.4)	1.52" (38.5)	1.35-1.48 Kg

Order Information

Example:

P-1C-31 **Model** **L** **Dial** **06** **Wetted Parts** **S** **Process Connection** **M** **2** **Pressure Range** **P** **4** **1** **Option** **H** **Z** **L**

L- Lower (Bottom) Connection

B- Lower Back Connection

45-4.5"(115mm)

06-6"(150mm)

S-316SS

W-316LSS

B-Brass

M-Monel

M-Male

F-Female

2-1/2"NPT

4-1/4"NPT

3-3/8"NPT

D-G1/2

H-G3/8

E-G1/4

A-R1/2

G-R3/8

B-R1/4

0L-Others

Please refer to the range table and write down the code you need.

Vacuum

Compound

Pressure

ZL-Laminated Safety Glass Lens

Other options please check the Option page.

Pressure Range

- The other scales and ranges not listed are available in request.
- Not all listed ranges and scales are in stock, consult your distributors for the detailed information.

Code Range

PRESSURE RANGES

PSI

P29	6	P43A	180	P53A	1600
P30	8	P44	200	P54	2000
P32	15	P45	250	P56	3000
P33	20	P46	300	P57	3500
P35	30	P47	350	P58	4000
P37	40	P48	400	P58A	4250
P38	50	P48A	450	P59	5000
P39	60	P49	500	P60	6000
P40	80	P50	600	P60B	7000
P40A	85	P51	800	P61	8000
P41	100	P51A	850	P62	10000
P42	150	P52	1000	P63	15000
P43	160	P53	1500	P64	20000
				P65	25000

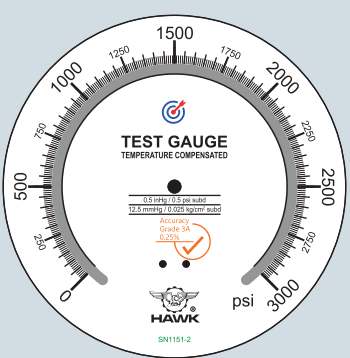
Bar

R1	0.4	R13B	14	R23A	140
R2	0.6	R13C	15	R24	160
R3	1	R14	16	R25	200
R4	1.6	R15	20	R26	250
R5	2	R16	25	R26A	280
R6	2.5	R16B	28	R27	300
R7	3	R17	30	R28	350
R8	4	R18	35	R29	400
R9	5	R19	40	R30	500
R11	6	R20	50	R31	600
R12	7	R21	60	R32	700
R13	10	R22	70	R33	1000
R13A	11	R23	100	R33A	1400
				R34	1600

kPa

K29	40	K42B	1400	K52B	14000
K31	60	K42C	1500	K53	16000
K33	100	K43	1600	K54	20000
K34	160	K44	2000	K55	25000
K35	200	K45	2500	K55A	28000
K36	250	K45A	2800	K56	30000
K37	300	K46	3000	K56A	35000
K38	400	K47	3500	K57	40000
K39	500	K48	4000	K58	50000
K40	600	K49	5000	K59	60000
K41	700	K50	6000	K60	70000
K42	1000	K51	7000	K61	100000
K42A	1100	K52	10000	K61A	140000
				K62	160000

Single Scale



VACUUM RANGES

inHg

PV1 -30/0

Bar

RV1 -1/0

kPa

KV1 -0.04

Kg/cm2

GV1 -1/0

COMPOUND RANGES

PSI

PCA1	VAC/8.5
PCA	VAC/15
PCB	VAC/30
PCC	VAC/60
PCD	VAC/100
PCE	VAC/150
PCF	VAC/160
PCG	VAC/200
PCH	VAC/300
PCI	VAC/400
PCJ	VAC/500
PCK	VAC/600

Bar

RCA	-1/0.6	RCP	-1/15
RCB	-1/1	RCR	-1/19
RCC	-1/1.5	RCS	-1/20
RCD	-1/2	RCT	-1/24
RCE	-1/2.5	RCU	-1/25
RCF	-1/3	RCV	-1/27
RCG	-1/4	RCW	-1/30
RCH	-1/5	RCW1	-1/35
RCJ	-1/7	RCX	-1/40
RCK	-1/9	RCY	-1/50
RCL	-1/10	RCZ	-1/60
RCM	-1/11	RC0	-1/100
RCO	-1/14		

kPa

KOQ	-100/60	KOW	-100/1500
KOR	-100/100	KOW2	-100/1900
KOS	-100/150	KOW3	-100/2000
KOS1	-100/200	KOX	-100/2400
KOS2	-100/250	KOX1	-100/2500
KOT	-100/300	KOX2	-100/2700
KOT2	-100/400	KOY	-100/3000
KOU	-100/500	KOZ	-100/3500
KOU2	-100/700	KOZ1	-100/4000
KOV	-100/900	KOZ2	-100/5000
KOV1	-100/1000	KOZ3	-100/6000
KOV2	-100/1100	KOZ7	-100/10000
KOV4	-100/1400		

Kg/cm2

GCA	-1/0.6	GCP	-1/15
GCB	-1/1	GCR	-1/19
GCC	-1/1.5	GCS	-1/20
GCD	-1/2	GCT	-1/24
GCE	-1/2.5	GCU	-1/25
GCF	-1/3	GCV	-1/27
GCG	-1/4	GCW	-1/30
GCH	-1/5	GCW1	-1/35
GCJ	-1/7	GCX	-1/40
GCK	-1/9	GCY	-1/50
GCL	-1/10	GCZ	-1/60
GCM	-1/11	GC0	-1/100
GCO	-1/14		

Kg/cm2

G1	0.4	G13C	14	G23A	140
G2	0.6	G13B	15	G24	160
G3	1	G14	16	G25	200
G4	1.6	G15	20	G26	250
G5	2	G16	25	G26A	280
G6	2.5	G16A	28	G27	300
G7	3	G17	30	G28	350
G9	4	G18	35	G29	400
G10	5	G19	40	G30	500
G11	6	G20	50	G31	600
G12	7	G21	60	G32	700
G13	10	G22	70	G33	1000
G13A	11	G23	100	G33A	1400
				G34	1600

Code Range

PRESSURE RANGES

Bar/PSI

X9	0.4	X24	14	X40	140
X11	0.6	X25	15	X42	160
X12	1	X26	16	X43	200
X13	1.6	X28	20	X44	250
X14	2	X29	25	X44A	280
X15	2.5	X30	28	X45	300
X16	3	X31	30	X46	350
X18	4	X32	35	X47	400
X19	5	X33	40	X48	500
X20	6	X34	50	X49	600
X21	7	X35	60	X50	700
X22	10	X36	70	X52	1000
X23	11	X39	100	X53	1400
				X55	1600

Kpa/PSI

Y16	40	Y37	1400	Y51	14000
Y18	60	Y38	1500	Y53	16000
Y22	100	Y39	1600	Y54	20000
Y25	160	Y40	2000	Y55	25000
Y26	200	Y41	2500	Y56	28000
Y27	250	Y42	2800	Y57	30000
Y28	280	Y43	3000	Y58	35000
Y31	400	Y44	3500	Y59	40000
Y32	500	Y45	4000	Y60	50000
Y33	600	Y46	5000	Y61	60000
Y34	700	Y47	6000	Y62	70000
Y36	1000	Y48	7000	Y64	00000
Y36A	1100	Y50	10000	Y65	40000
				Y67	60000

Kg/cm2/PSI

W9	0.4	W24	14	W40	140
W11	0.6	W25	15	W42	160
W12	1	W26	16	W43	200
W13	1.6	W28	20	W44	250
W14	2	W29	25	W44A	280
W15	2.5	W30	28	W45	300
W16	3	W31	30	W46	350
W18	4	W32	35	W47	400
W19	5	W33	40	W48	500
W20	6	W34	50	W49	600
W21	7	W35	60	W50	700
W22	10	W36	70	W52	1000
W23	11	W39	100	W53	1400
				W55	1600

VACUUM RANGES

Bar/PSI

XV1 -1

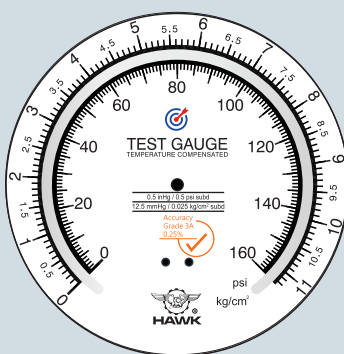
kPa/PSI

YV1 -100

cmHg/kg/cm2/PSI

WV1 -76

Dual Scale



COMPOUND RANGES

Bar/PSI

XCA	-1/0.6	XCP	-1/15
XCB	-1/1	XCR	-1/19
XCC	-1/1.5	XCS	-1/20
XCD	-1/2	XCT	-1/24
XCE	-1/2.5	XCU	-1/25
XCF	-1/3	XCV	-1/27
XCG	-1/4	XCW	-1/30
XCH	-1/5	XCX	-1/35
XCJ	-1/7	XCZ	-1/40
XCK	-1/9	XCZ	-1/50
XCL	-1/10	XC1	-1/60
XCM	-1/11	XC2	-1/100
XCO	-1/14		

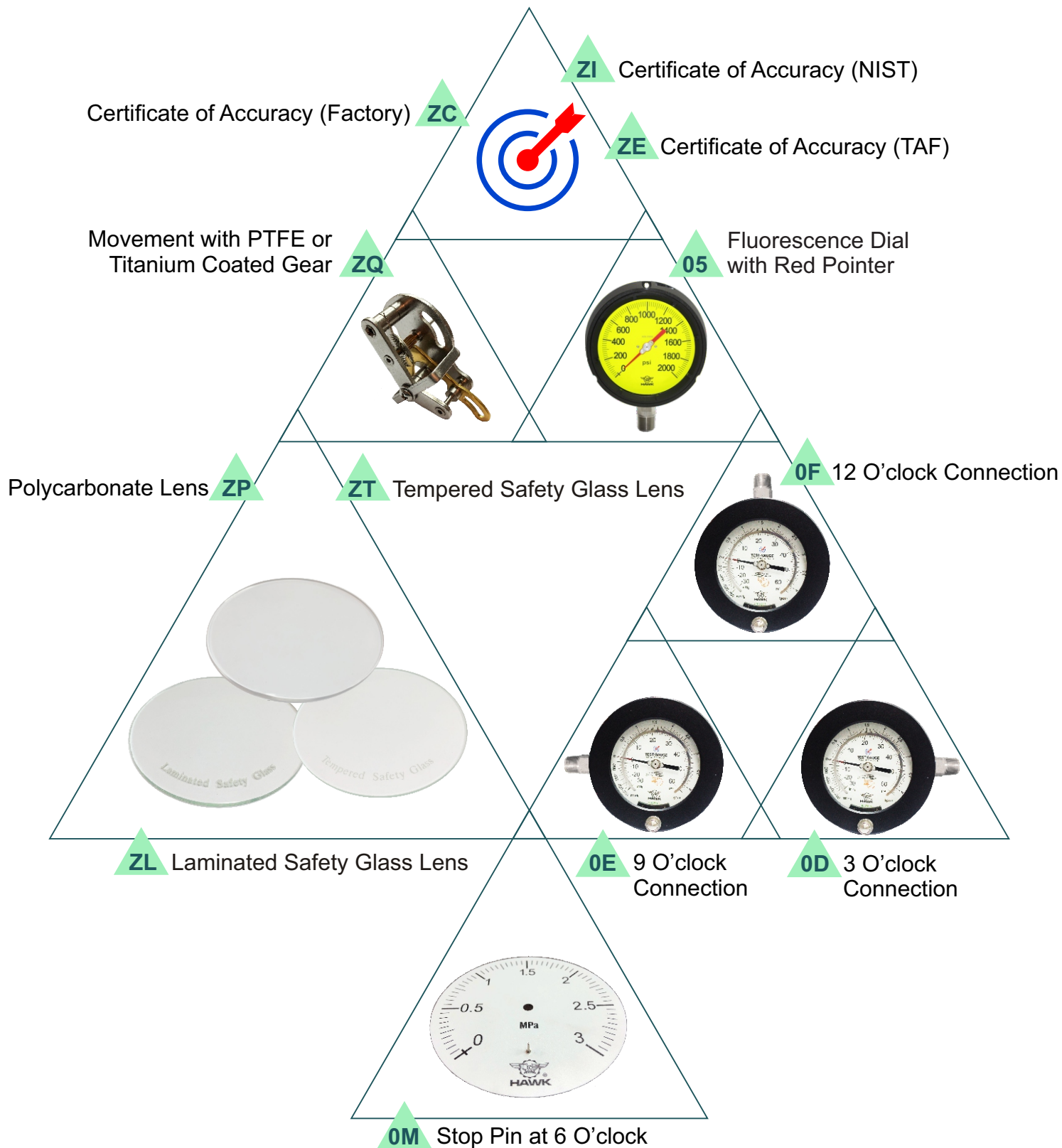
kPa/PSI

YCA	-100/60	YCP	-100/1500
YCB	-100/100	YCR	-100/1900
YCC	-100/150	YCS	-100/2000
YCD	-100/200	YCT	-100/2400
YCE	-100/250	YCU	-100/2500
YCF	-100/300	YCV	-100/2700
YCG	-100/400	YCW	-100/3000
YCH	-100/500	YCX	-100/3500
YCJ	-100/700	YCY	-100/4000
YCK	-100/900	YCZ	-100/5000
YCL	-100/1000	YC1	-100/6000
YCM	-100/1100	YC2	-100/10000
YCO	-100/1400		

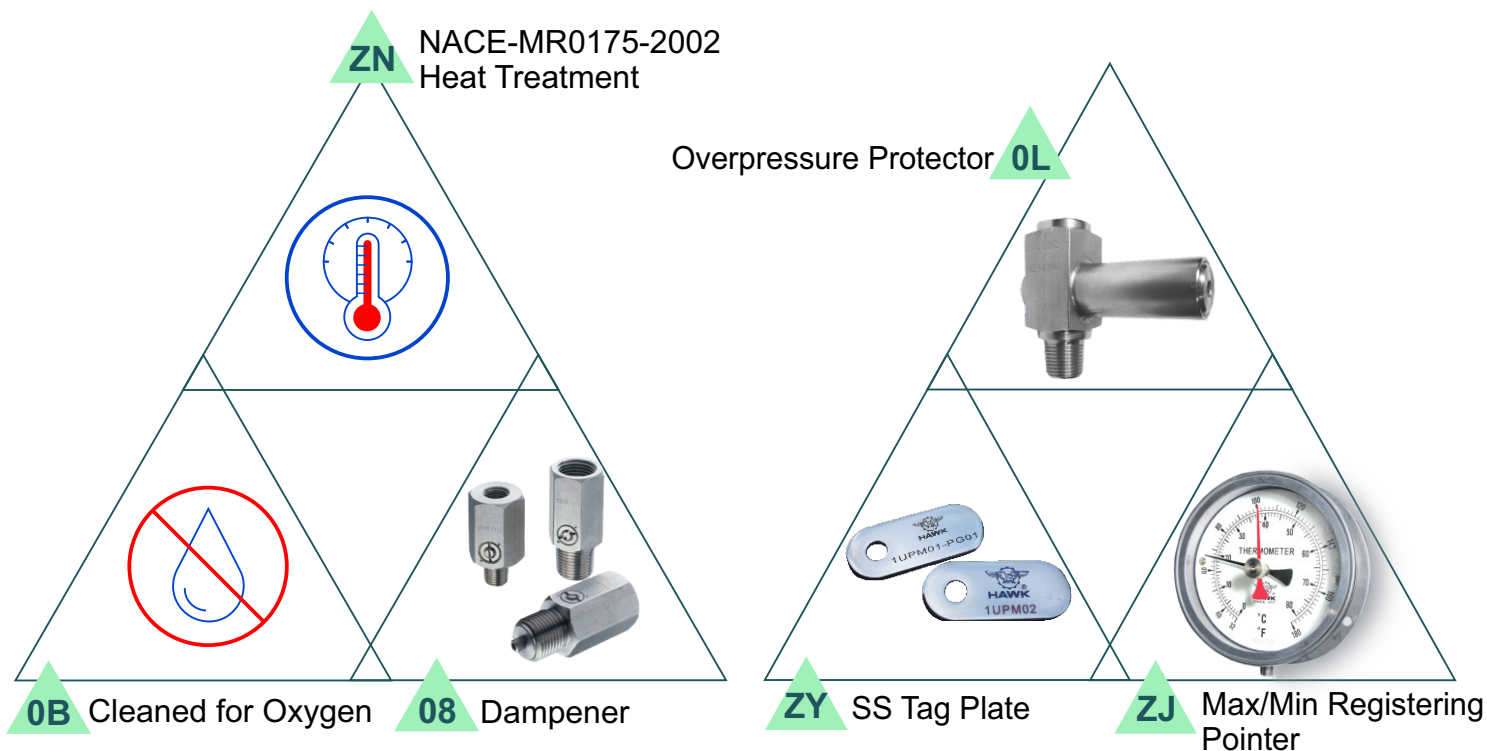
cmHg/Kg/cm2

WCA	-76/0.6	WCP	-76/15
WCB	-76/1	WCR	-76/19
WCC	-76/1.5	WCS	-76/20
WCD	-76/2	WCT	-76/24
WCE	-76/2.5	WCU	-76/25
WCF	-76/3	WCV	-76/27
WCG	-76/4	WCW	-76/30
WCH	-76/5	WCX	-76/35
WCJ	-76/7	WCY	-76/40
WCK	-76/9	WCZ	-76/50
WCL	-76/10	WC1	-76/60
WCM	-76/11	WC2	-76/100
WCO	-76/14		

Option

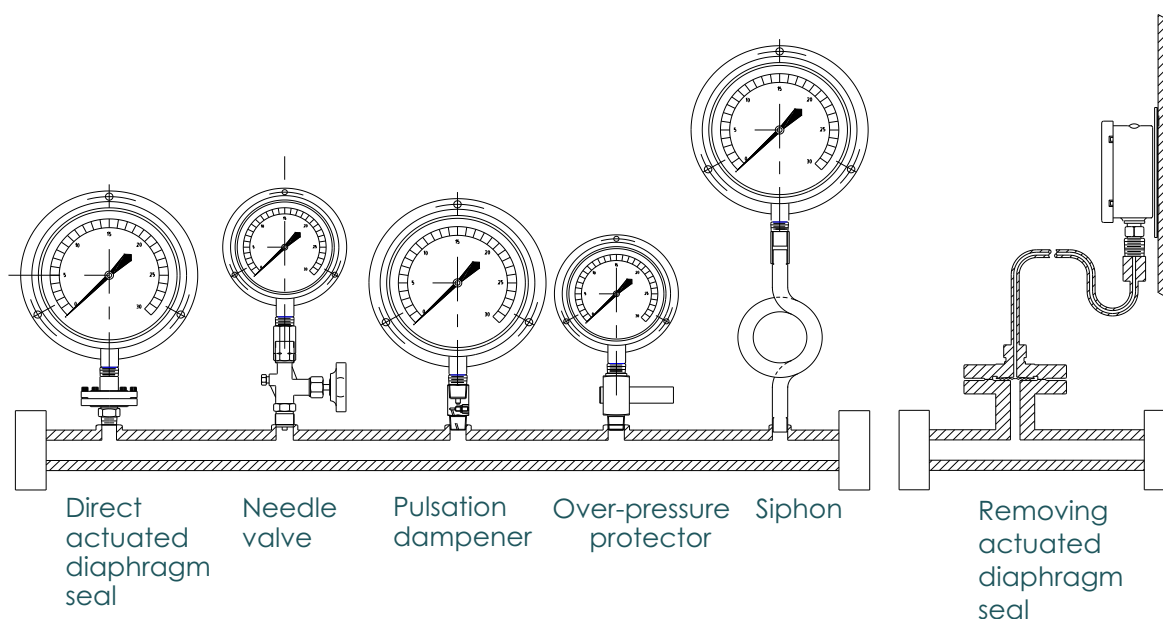


Option



Accessories

Please refer to HAWK diaphragm seal and accessories data sheets for detailed information.



Limited Warranty and Liability

HAWK GAUGE CO.,LTD warrants all its mechanical instruments to be free from defects in materials and workmanship. HAWK agrees to repair or replace any pressure gauges if returned to our factory, transportation charges prepaid, and after which examination reveals is to be defective due to faculty workmanship or material. This warrant should not apply to subject to the following terms and conditions.

- A. The product has not been subjected to misuse, neglect, abuse , accident, incorrect mounting, improper use or misapplication such as negligence, accident, vandalism, shock or vibration.
- B. The performance of any system of which HAWK's products are a component part.
- C. The product has not been exposed to any other service, range or environment of greater severity than that for which the products were designed.
- D. The product has not been altered or repaired by anyone except HAWK GAUGE or its authorized service agencies.
- E. The serial number or date code has not been removed, defaced or changed.
- F. The actual pressure&temperature occurring exceed the values specified for HAWK Process gauge.

Unless otherwise specified in a manual or warranty card, or agree to in a writing signed by HAWK GAUGE office, HAWK Process gauge products shall be warranted for two years from the date of sale.

This warranty is in lieu of all other warranties expressed or implied, and of all obligations or liabilities on its part for damages including but not limited to consequential damages, following the use of misuse of instruments sold by it. No agent is authorized to assume for it any liability except as set forth above.

Note

HAWK GAUGE CO.,LTD reserves the right to make product improvements and change its specifications at any time stated throughout this brochure without notification. Please contact the factory on all critical dimensions and specifications for verification.

HAWK GAUGE is not expert in the customer's technical field and therefore doesn't warrant suitability of it's product for the application selected by customer.



Data Sheet No: MKDP1C31A3-E