APPROVALS

Directive 2014/34/UE (ATEX)

FEATURES

- All SS measuring system
- Socket-case, direct welded
- Threaded / Flanged connection
- Over-pressure safety up to 10 times FS max. 40 bar

APPLICATION

- Liquid & gaseous media
- Corrosive environments
- Oil & Gas applications
- Chemical & Petrochemical
- Machine building
- General plant construction

Diaphragm element

EN 837-3

STANDARD PARAMETERS

Accuracy	:	CL 1.6
Ambient temperature	:	-20…+60°C / -40...+60°C with silicon oil dampening
Service temperature	:	100°C max.
Pressure limits	:	Over pressure up to 1.3 FS value
	:	Steady pressure up to FS value
	:	Fluctuating pressure up to 90% of FS value
Weld joint	:	TIG argon arc welding

MATERIAL OF CONSTRUCTION

Sensing element	:	Diaphragm
Case & ring material	:	AISI 316 SS (Bayonet Type)
Diaphragm	:	≤ 16 bar - AISI 316L SS, > 16 bar Inconel 718
Lower chamber	:	AISI 316L SS
Upper chamber	:	AISI 304 SS (standard) - AISI 316L SS (option)
Movement mechanism	:	AISI 304 SS
Chamber sealing gaskets	:	FPM / FKM
Dial	:	Aluminum, black graduation on white background
Pointer	:	Micro-adjustable, aluminum, black powder coated
Gaskets, Blow off disc & filling plug	:	NBR
Window	:	Shatterproof safety glass

STANDARD SPECIFICATIONS

Dial size	:	DN100 / DN160
Range	:	0 ... 10 mbar to 0 ... 40 bar [or equivalent other units of pressure or vacuum ranges]
Mounting pattern	:	Direct, Bottom connection
Process connection	:	½" NPT (M) / ½" BSP (M)
Ingress protection	:	IP 65 - EN 60529 / IEC 529
Execution	:	Dry or Liquid filled

STANDARD SPECIFICATIONS : FILLED VERSION

Window	:	Shatterproof safety glass
Dampening liquid	:	Glycerin [Service temperature up to 65°C]

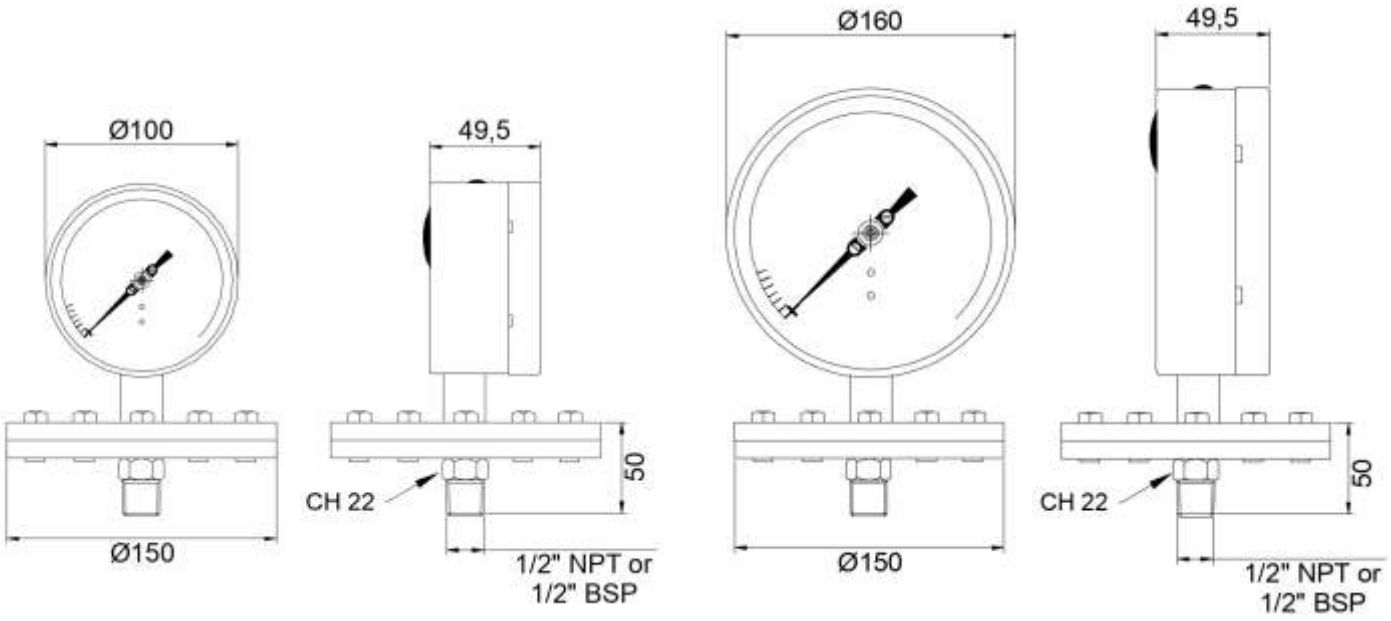
TEMPERATURE EFFECT

The variation of indication caused by effects of temperature is to be calculated as per the below formula; which is to be added in the specified accuracy while measurement :-

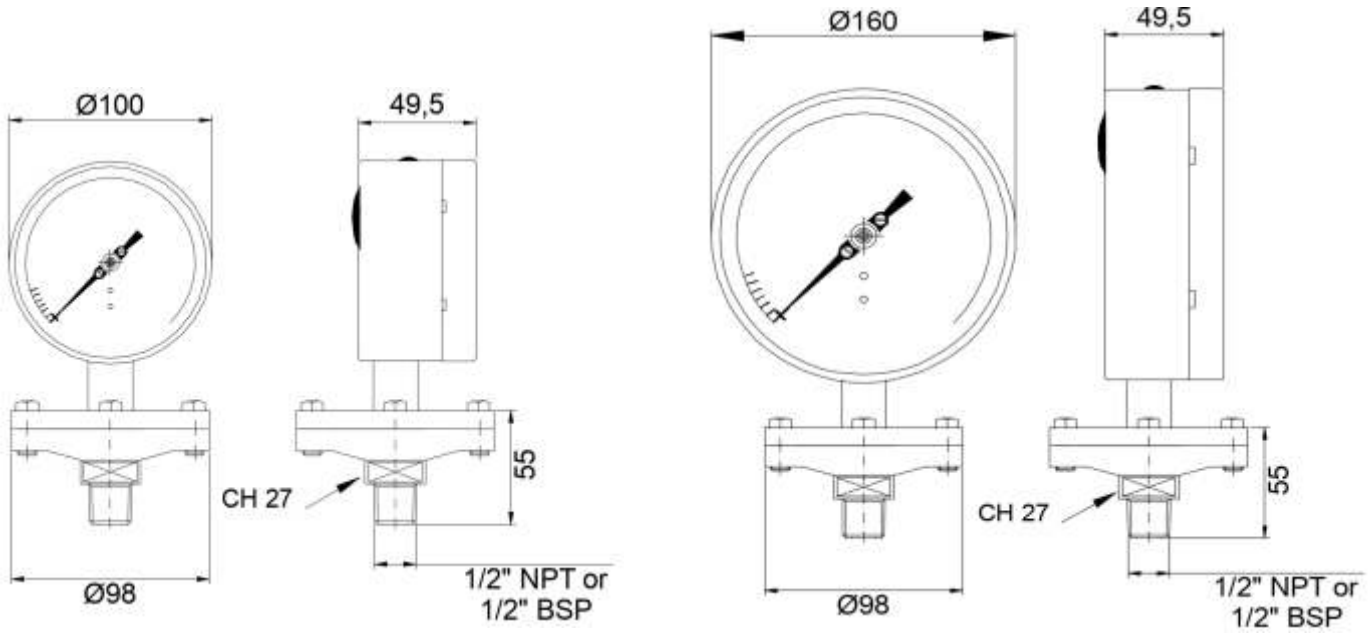
Formula: ± 0.04 x (t_2 - t_1)% of Full Scale Value

Where t_1 = reference temperature (+20°C) & t_2 = ambient temperature in °C.

THREADED CONNECTION RANGE 0 / 10 ... to ... 0 / 250 mbar (dimensional drawing)

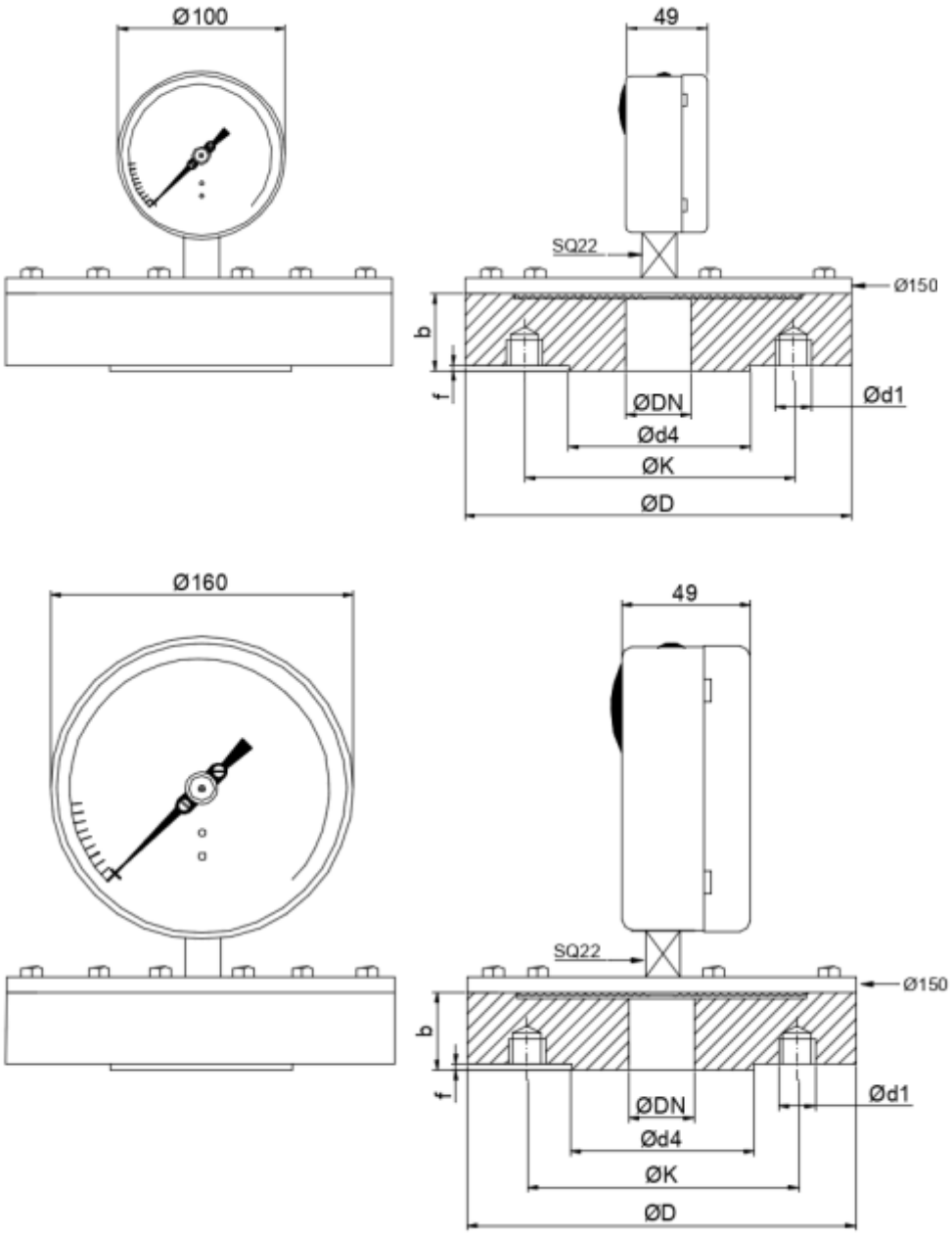


THREADED CONNECTION RANGE 0 / 0,4 ... to ... 0 / 40 bar (dimensional drawing)



Drawings are not to scale
Dimensions are mm

FLANGED CONNECTION RANGE 0 / 10 ... to ... 0 / 250 mbar (dimensional drawing)

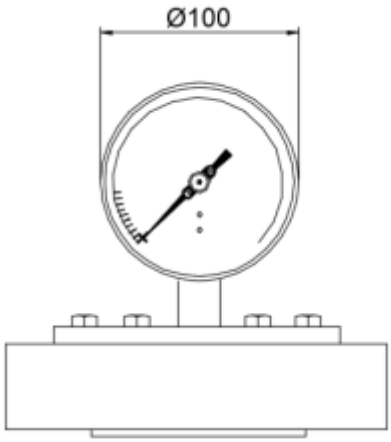


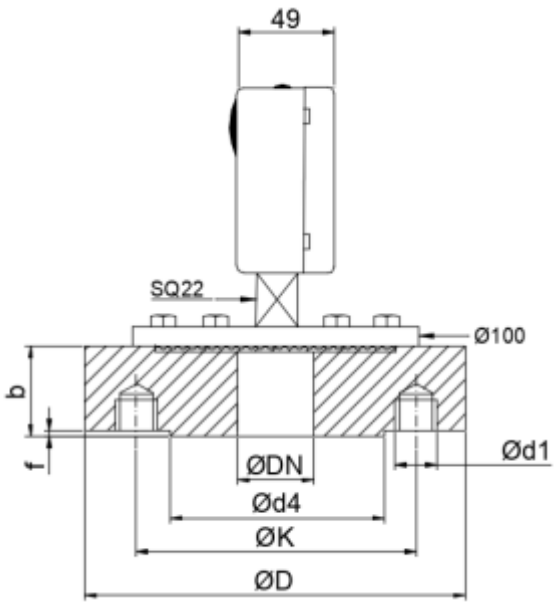
ASME standard - Dimensions in mm							
FLANGE SIZE	Ø d1	B	f	ØDN	Ød4	Øk	ØD
1/2" 150	1/2" -13 UNC	27	1,6	15	34,9	60,5	150
1/2" 300	1/2" -13 UNC	27	1,6	15	34,9	66,5	150
3/4" 150	1/2" -13 UNC	27	1,6	20	42,9	69,9	150
3/4" 300	5/8" -11 UNC	27	1,6	20	42,9	82,5	150
1" 150	1/2" -13 UNC	27	1,6	25	50,8	79,2	150
1" 300	5/8" -11 UNC	27	1,6	25	50,8	88,9	150
1,5" 150	1/2" -13 UNC	27	1,6	40	73	98,6	150
1,5" 300	3/4" -10 UNC	27	1,6	40	73	114,3	155,4
2" 150	5/8" -11 UNC	27	1,6	50	92	120,6	152,4
2" 300	5/8" -11 UNC	27	1,6	50	92	127	165

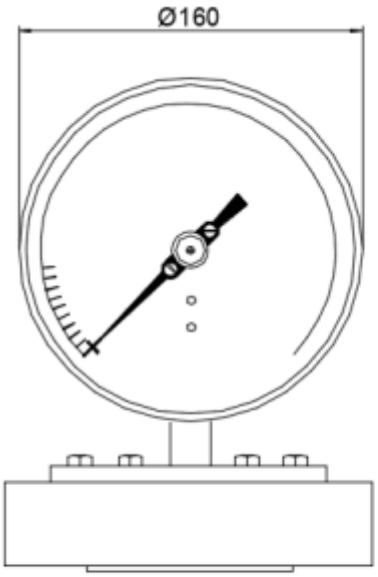
DIN EN 1092 -1 standard - Dimensions in mm							
FLANGE SIZE	Ø d1	B	f	ØDN	Ød4	Øk	ØD
DN 15 PN 10/40	4 x M 12	27	2	15	45	65	150
DN 15 PN20	4 x M 14	27	1,6	15	34,9	60,3	150
DN 25 PN 10/40	4 x M 12	27	2	25	68	85	150
DN 25 PN20	4 x M 14	27	1,6	25	50,8	79,4	150
DN 40 PN 10/40	4 x M 16	27	2	40	88	110	150
DN 40 PN20	4 x M 14	27	1,6	40	73	98,4	150
DN 50 PN 10/40	4 x M 16	27	2	50	102	125	165
DN 50 PN 20	4 x M 16	27	1,6	50	92,1	120,6	152

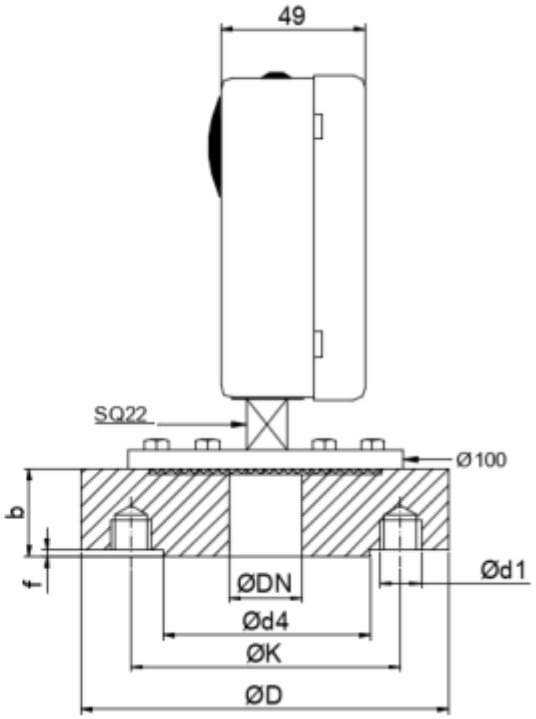
Other flange size or standard available

FLANGED CONNECTION RANGE 0 / 0,4 ... to ... 0 / 40 bar (dimensional drawing)









ASME standard - Dimensions in mm							
FLANGE SIZE	Ø d1	B	f	ØDN	Ød4	Øk	ØD
1/2" 150	1/2" -13 UNC	35	1,6	15	34,9	60,5	100
1/2" 300	1/2" -13 UNC	38	1,6	15	34,9	66,5	100
3/4" 150	1/2" -13 UNC	38	1,6	20	42,9	69,9	100
3/4" 300	5/8" -11 UNC	38	1,6	20	42,9	82,5	117,3
1" 150	1/2" -13 UNC	38	1,6	25	50,8	79,2	108
1" 300	5/8" -11 UNC	38	1,6	25	50,8	88,9	124
1,5" 150	1/2" -13 UNC	38	1,6	40	73	98,6	127
1,5" 300	3/4" -10 UNC	27	1,6	40	73	114,3	155,4
2" 150	5/8" -11 UNC	27	1,6	50	92	120,6	152,4
2" 300	5/8" -11 UNC	27	1,6	50	92	127	165,1

DIN EN 1092 -1 standard - Dimensions in mm							
FLANGE SIZE	Ø d1	B	f	ØDN	Ød4	Øk	ØD
DN 15 PN 10/40	4 x M 12	27	2	15	45	65	100
DN 15 PN20	4 x M 14	27	1,6	15	34,9	60,3	100
DN 25 PN 10/40	4 x M 12	27	2	25	68	85	115
DN 25 PN20	4 x M 14	27	1,6	25	50,8	79,4	108
DN 40 PN 10/40	4 x M 16	27	2	40	88	110	150
DN 40 PN20	4 x M 14	27	1,6	40	73	98,4	127
DN 50 PN 10/40	4 x M 16	27	2	50	102	125	165
DN 50 PN 20	4 x M 16	27	1,6	50	92,1	120,6	121

Other flange size or standard available

RANGE TABLE

GUIDE TO MAKE RANGE CODE

1. While selecting the dual scales (bar/psi), primary scale bar in"**BLACK**" and secondary scale psi in "**RED**" color.
2. **Approximate unit conversion;** 1 bar = 1.019 kg/cm² = 14.503 psi = 100 kPa = 750.061 mmHg = 1000 mbar = 10197 mmWC
3. **Equivalent scales** are available in UOMs like mbar, mmWC, Inch WC, kPa/psi or custom dial design, contact **ITEC**.

UOM : SINGLE SCALE	
UOM	UOM
bar	mbar
psi	mm WC
kPa	Inch WC
kg/cm²	

UOM : DUAL SCALE	
UOM	UOM
bar/psi	mmWC/Inch WC
bar/kPa	
kg/cm²/psi	

RANGES : PRESSURE in mbar [POSITIVE]			
RANGE	RANGE	RANGE	RANGE
0...10	0...25	0...100	0...250
0...16	0...40	0...160	0...400
0...20	0...60	0...200	0...600

RANGES : VACUUM in mbar [NEGATIVE]			
RANGE	RANGE	RANGE	RANGE
- 10...0	- 25...0	- 100...0	- 250...0
- 16...0	- 40...0	- 160...0	- 400...0
- 20...0	- 60...0	- 200...0	- 600...0

VACUUM / PRESSURE RANGES AVAILABLE : [i.e.: -6...+10 / -10...+15 / -40 / + 60 mbar..]

RANGES : PRESSURE in bar or in kg/cm² [POSITIVE / VACUUM]				
RANGE	RANGE	RANGE	RANGE	VACUUM
0...1	0...2.5	0...10	0...25	-1...0
0...1.6	0...4	0...16	0...40	
0...2	0...6	0...20		

VACUUM / PRESSURE RANGES AVAILABLE : [i.e.: -1...+1,5 / -1...+5 / -1 / +9 bar..]

ORDERING CODES

1. DIAL SIZE — 04

04	100 mm / 4"	**06**	160 mm / 6"

2. RANGE — XXXX

XXXX Refer "Range Table"

3. MOUNTING PATTERN — B0

B0 Direct, Bottom connection

— 14N

14B ½" BSP (M)
14N ½" NPT (M)
14M M20 X 1.5 mm (M)

ANSI B 16.5

A25	1½" RF 150#	**A26**	1½" RF 300#
A31	2" RF 150#	**A32**	2" RF 300#

EN 1092-1

D42	DN40 PN10	**D44**	DN40 PN25
D52	DN50 PN10	**D54**	DN50 PN25

Other flange and thread sizes and standards available.

5. INGRESS PROTECTION — ER

ER IP 65

6. EXECUTION — EA

EA Dry
EG Dampening liquid filled, glycerine
EH Dampening liquid filled, silicon oil

7. OPTION : ELECTRIC CONTACTS & RELAYS — XXX

MAGNETIC CONTACTS [STANDARD]
RATING: 230VAC@1A / 48VDC@0.5A

CS1 Break contact (1NC)
CS2 Make contact (1NO)
Cs3 2 x Break contact (2NC)
CS4 2 x Make contact (2NO)
CS5 1 Break + 1 Make (1NC+1NO)
CS6 1 Make + 1 Break (1NO+1NC)

7. ELECTRIC CONTACTS & RELAYS

MAGNETIC CONTACTS [PRECISION]
RATING: 230VAC@1A / 48VDC@0.5A

CD1 Break contact (1NC)
CD2 Make contact (1NO)
CD3 2 x Break contact (2NC)
CD4 2 x Make contact (2NO)
CD5 1 Break + 1 Make (1NC+1NO)
CD6 1 Make + 1 Break (1NO+1NC)
CD7 SPDT
CD8 DPDT

INDUCTIVE CONTACTS [ATEX / CE Approved]
RATING: 8VDC@3mA

CI1 Break contact (1NC)
Ci2 Make contact (1NO)
CI3 2 x Break contact (2NC)
Ci4 2 x Make contact (2NO)
CI5 1 Break + 1 Make (1NC+1NO)
CI6 1 Make + 1 Break (1NO+1NC)

RELAY [FOR RATING UP TO 5A]

CI9 Booster relay

Gauge accuracy shall be CL 1 & switching accuracy shall be CL 5

7. OTHER OPTIONS — XX

BA Case & Ring in AISI 316 SS (B0)
EY Vacuum safe up to -1 bar
OQ Over-pressure up to 5 times of FS
OR Over-pressure up to 10 times of FS
[For option OQ & OR max pressure to be 40 bar]
PC PTFE lining / coating on wetted parts
PK Hastelloy wetted parts
PM Monel wetted parts
TA 5 - point calibration certificate
TC Material test certificate 3.1
TM Material test certificate 2.2
XB Accuracy CL 1.0
XF SS tag plate
XH Flushing plug on lower body
XR Custom designed dial
XT Dial tag marking
DM MONEL diaphragm
DO HC 276 diaphragm
PB PTFE diaphragm
TE ATEX certificate

Ordering Example : P604-04-XXXX-B0-14N-ER-EA

COMPATIBLE ACCESSORIES

CODE	DESCRIPTION
A101	Gauge cock
A102	Gauge siphon
A201	Gauge snubber / Pulsation dampener
A202	Gauge saver / Overload protector
A203	Cooling tower

CODE	DESCRIPTION
VXXX	Needle valves
A304	Adaptors
M102	Two valve manifolds
A635	Capillary extension / Impulse tube