

## EXTERNAL CAGES

for Eclipse Level Transmitters

### DESCRIPTION

The Eclipse 705 is ideally suited to operate in any type of external cage  $\geq 2"$  (DN 50). This bulletin provides guidelines to easily retrofit any displacer transmitter in an existing external cage or to specify a suitable cage for your Eclipse transmitter.

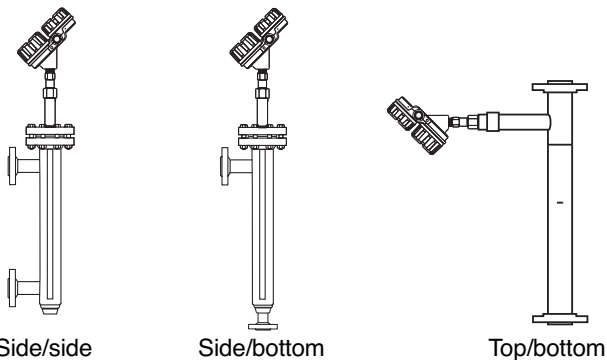
For ordering information about the Eclipse amplifier and GWR probe, ask for Eclipse 705 bulletin BE 57-101.

### FEATURES

- 2" (DN50) or 3" (DN 80) Carbon or Stainless steel cages (other materials upon request)
- Flanged or sealed external cage
- Up to 5,7 m (224") measuring range
- Up to 345 bar (5000 psi) pressure rating
- Standard and NACE construction
- Eclipse is not affected by changing media variables such as e.g. density, pressure, dielectrics, pH, viscosity, ...
- Easy and cost effective retrofit with a minimal of modifications to existing installations

### CONFIGURATIONS

3 possible process connection styles may exist:

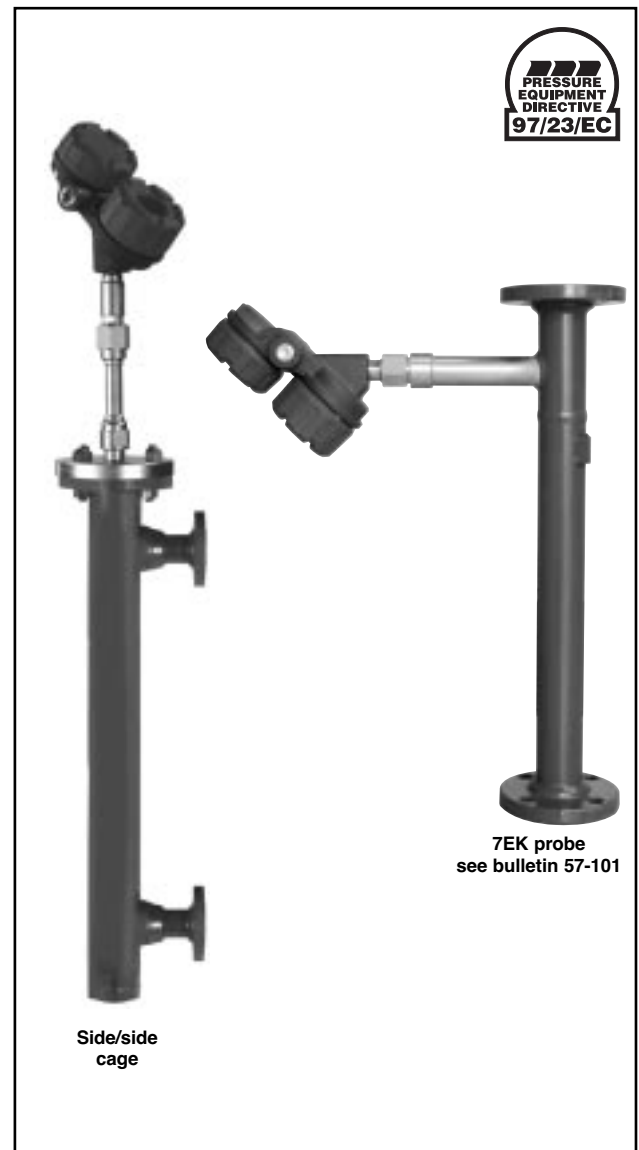


For Top/bottom connection, see ordering information in bulletin 57-101. The 7EK probe/cage assembly is a self-contained assembly with a single model code.

### OPTIONAL

- Customized installation dimensions
- Code compliance construction
- Special tank connections
- Extreme temperature modifications
- Special exterior surface preparation and finish

### The tradition to build cages ...



### DESIGN STANDARDS

PED - 97/23/EC (Pressure Equipment Directives)
NACE MR -01-75 <sup>①</sup>
ASME - ANSI B31.3 <sup>①</sup>
IBR (Indian Boiler Regulations) <sup>①</sup>

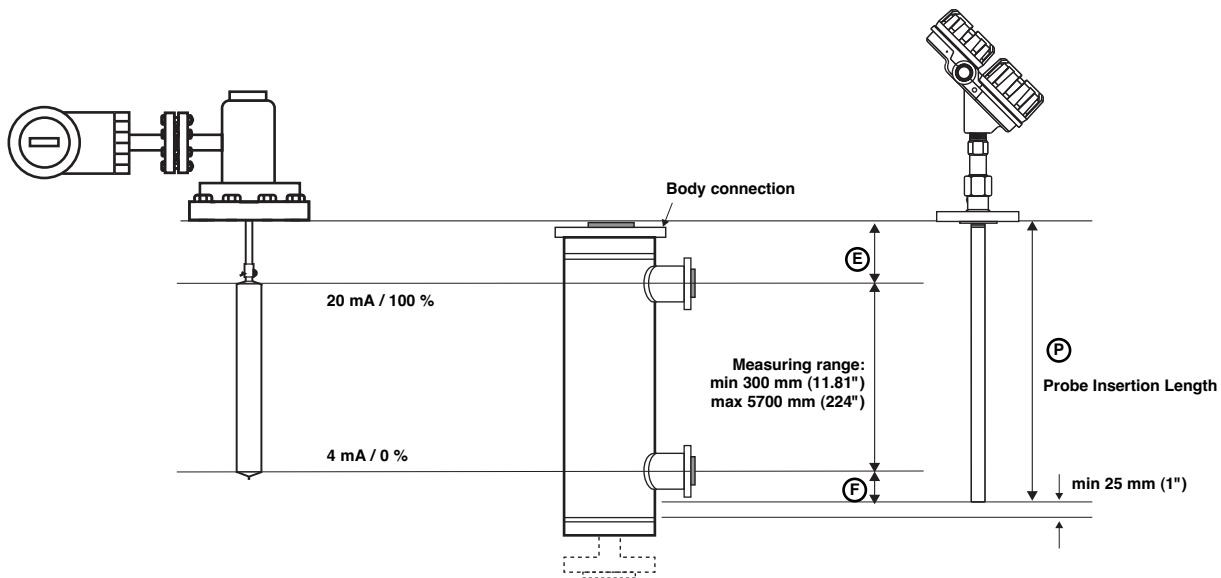
<sup>①</sup> Consult factory for proper partnumbers

## SELECTION GUIDELINES

In order to match the proper Eclipse transmitter with the proper external cage, consider the following:

- Type of application – use the applicable Eclipse GWR probe. See Eclipse 705 bulletin BE 57-101.
- Overfill proof: Overfilling occurs when the level rises above the max level – radar based equipment may provide erroneous output in this zone unless an adapted design is used. Overfill proof GWR probes are always safe to use – only in cases where the application demands for a different probe type, other selections should be considered and the recommended precautions followed.
- Cage size depends on GWR probe type – see Eclipse 705 bulletin BE 57-101.
- Select the correct GWR probe length for your cage – see below drawing and guidelines.

Amplifier Type	GWR Probe type	Min cage size	Overfill considerations
705	7MR/7MD/7MS	2" / DN 50	None
	7MT	2" / DN 50	None
	7MB	3" / DN 80	Max. level should be 150 mm (6") below the body connection of the cage
	7MF/7M1	Consult factory	



Dimension E and P: for cages selected from this bulletin: refer to the dimensional specification tables on pages 5 and 7.  
 Dimension E and F: for re-use of existing cages: should be verified in the field. F is distance from 4 mA level up to bottom of cage interior minus 25 mm (1")

### FOR EXISTING CAGES

#### Select type of GWR probe:

- Dimension E ≤ 150 mm (6") and/or cage risks overfilling: use only overfill proof GWR probes (7MR – 7MS – 7MD – 7MT)
- Dimension E ≥ 150 mm (6"): all selectable probes can be used.

#### Define the probe length:

Probe length = Dimension E + measuring range + Dimension F  
 Dimensions E and F need to be verified with the existing cage.

### FOR CAGES SELECTED FROM THIS BULLETIN

#### Select type of GWR probe:

- When cage risks overfilling: use only overfill proof GWR probes (7MR – 7MS – 7MD – 7MT)
- When no overfilling can exist: all selectable probes can be used

#### Define the probe length:

Probe lengths are defined as per dimension P – see tables pages 5 and 7

#### Note:

If dimension F is ≤ 150 mm (6"), a transition zone with reduced accuracy may exist. The transition zone is depending the probe type and the dielectrics of the liquid.

# SELECTION DATA FOR EXTERNAL CAGE – ECLIPSE TRANSMITTERS

**A complete measuring system consists of:**

- Order code for Eclipse cage  
Order code for modified cages: put an "X" in front of the closest matching order code and specify the modifications/adders separately: e.g. XF2A-DA2D-100 X = material certification EN 10204 / DIN 50049-3.1.B
- Order code for Eclipse transmitter: see bulletin BE 57-101.

## 1. Order code for the Eclipse cage

BASIC MODEL NUMBER

**Flanged cages – select Eclipse GWR probes with pressure matching ANSI flanges**

F 2 A	Flanged external 2" cage – fits for all except 7MB GWR probes
F 3 A	Flanged external 3" cage – fits for all

**Sealed cages – select Eclipse GWR probes with 3/4" NPT process connection (code 11)**

S 2 A	Sealed external 2" cage – fits for all except 7MB GWR probes
S 3 A	Sealed external 3" cage – fits for all except 7MB GWR probes

### MATERIAL OF CONSTRUCTION

A	Carbon steel
D	316/316L (1.4401/1.4404) stainless steel

### CAGE AND FLANGE RATING

A	150 lbs
B	300 lbs
C	600 lbs
D	900 lbs
E	1500 lbs
F	2500 lbs (max 345 bar (5000 psi))

1	PN 16	EN 1092-1 Type B1
2	PN 25/40	EN 1092-1 Type B1
3	PN 63	EN 1092-1 Type B2
4	PN 100	EN 1092-1 Type B2
5	PN 160	DIN 2638 Form E
6	PN 250	DIN 2628 Form E
7	PN 320	DIN 2629 Form E

### PROCESS CONNECTION – SIZE

2	1"
3	1 1/2" (no NPT/SW conn. for 2" cages)
4	2" (only for 3" cages)

### DIN sizes (only for flanged process connection)

B	DN 25
C	DN 40
D	DN 50 (only for 3" cages)

### THREADED OR SOCKET WELD PROCESS CONNECTION

#### NPT connection

A	Side/Side
G	Side/bottom

#### Socket weld connection

B	Side/Side
H	Side/bottom

### FLANGED PROCESS CONNECTION – up to 600 lbs cage rating / up to PN 100

#### ANSI Slip on RF flanges

D	Side/Side
K	Side/bottom

#### EN/DIN Weld Neck flanges

1	Side/Side
2	Side/bottom

### FLANGED PROCESS CONNECTION – for 600 lbs - 2500 lbs / PN 100 - PN 320

#### ANSI Weld Neck RJ flanges

F	Side/Side
M	Side/bottom

#### EN/DIN Weld Neck flanges

1	Side/Side
2	Side/bottom

### MEASURING RANGE

#### Inch ranges (Dimensions as per specified inch dimension)

0 0 A	14" / 356 mm
0 0 B	32" / 813 mm
0 0 C	48" / 1219 mm
0 0 D	60" / 1524 mm
0 0 E	72" / 1829 mm

0 0 F	84" / 2134 mm
0 0 G	96" / 2438 mm
0 0 H	108" / 2743 mm
0 0 I	120" / 3048 mm

#### Metric ranges (specify per cm increments)

0 3 0	300 mm – minimum length
5 7 0	5700 mm – maximum length

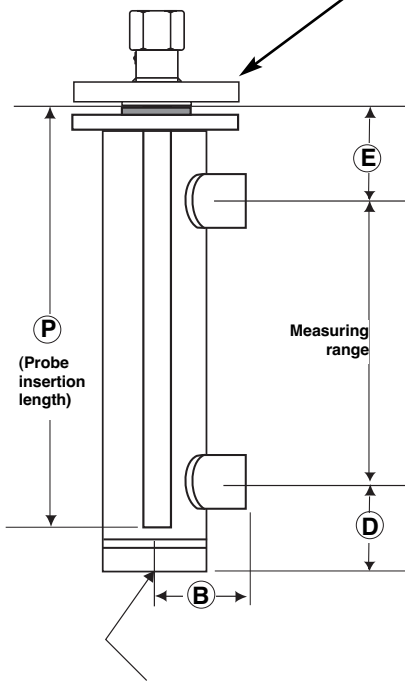


complete order code for ECLIPSE cage

# 2" FLANGED AND SEALED CAGES – DIMENSIONS IN MM (INCHES)

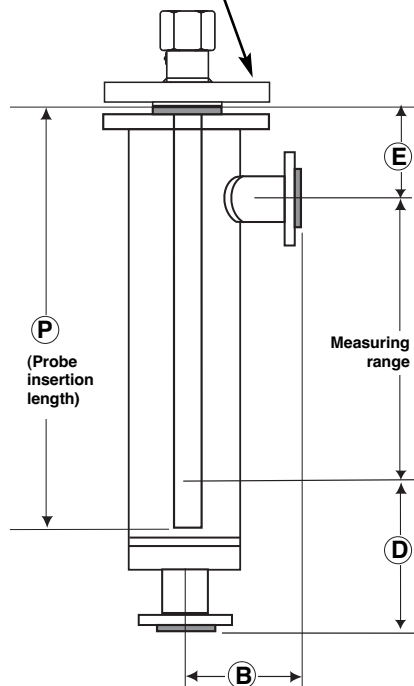
## Flanged cages

ANSI body cage flanges  
Select Eclipse GWR probes with pressure matching ANSI flanges

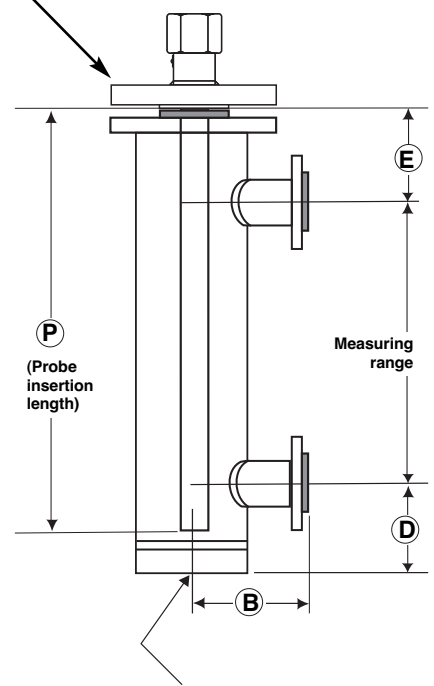


Drain: 1" NPT

Side/Side connection  
NPT/Socket weld



Side/Bottom connection  
ANSI RF Flange

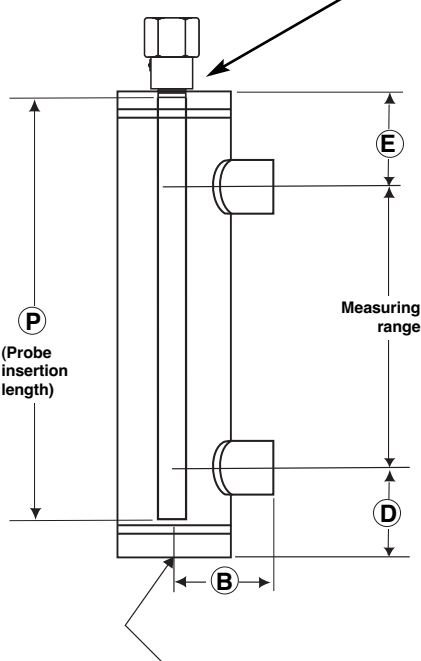


Drain: 1" NPT

Side/Side connection  
ANSI RF Flange

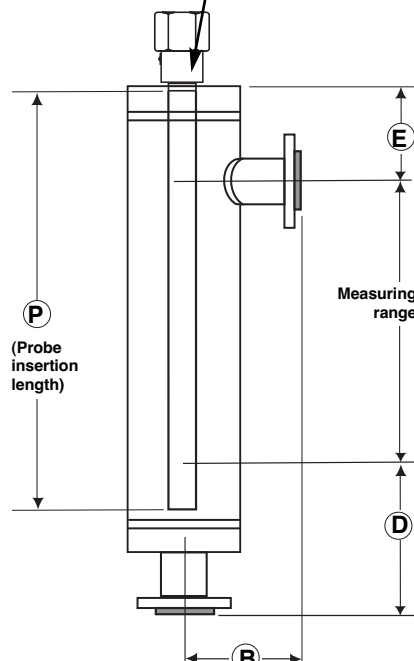
## Sealed cages

3/4" NPT body cage connection  
Select Eclipse GWR probes with 3/4" NPT process connection

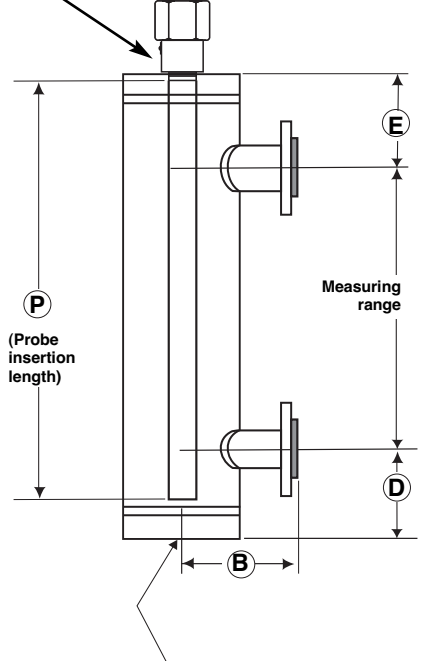


Drain: 1" NPT

Side/Side connection  
NPT/Socket weld



Side/Bottom connection  
ANSI RF Flange



Drain: 1" NPT

Side/Side connection  
ANSI RF Flange

# SEALED AND FLANGED 2" EXTERNAL CAGES DIMENSIONAL SPECIFICATIONS IN MM (INCHES)

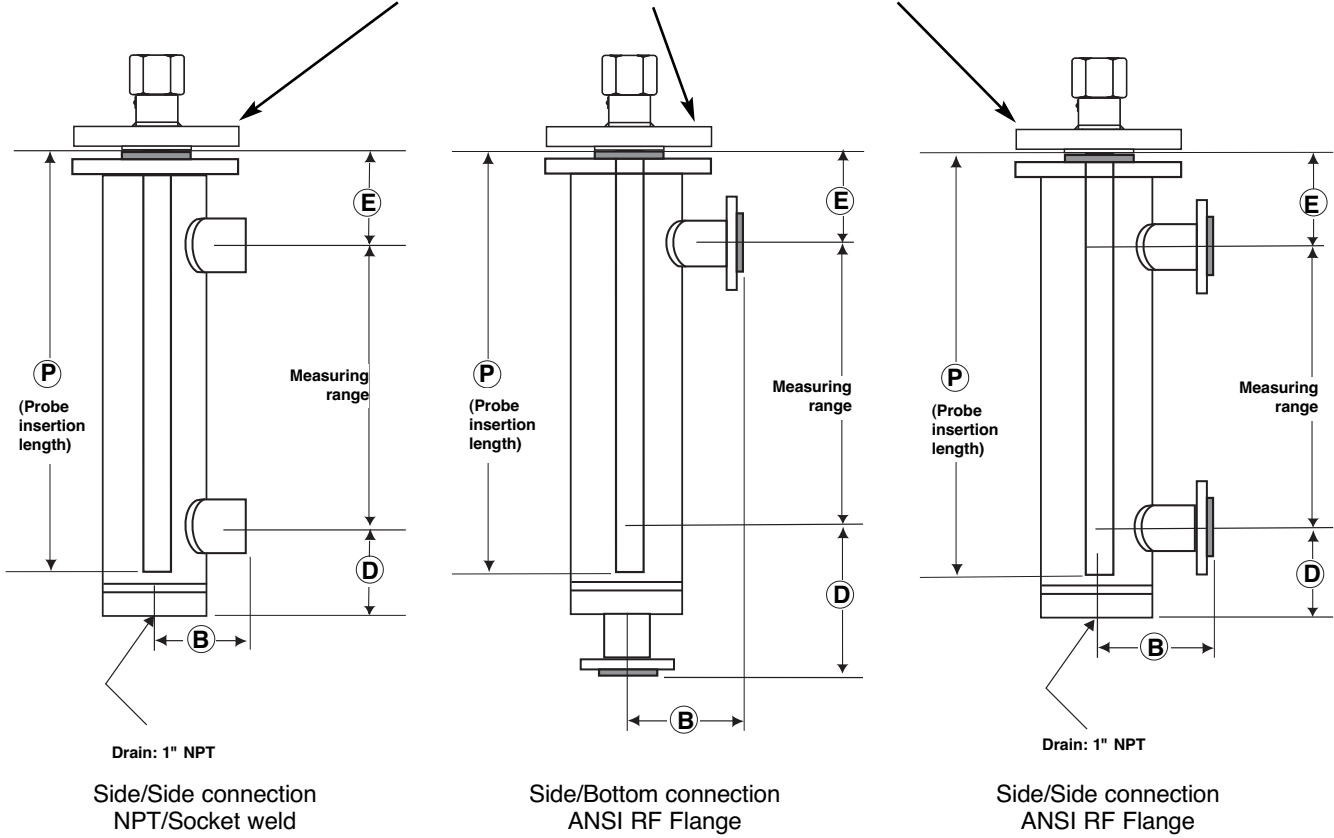
	Size	Connection	Sealed 2" external cage				Flanged 2" external cage			
			B	E	D	P (Range +)	B	E	D	P (Range +)
Side-side	1"	NPT - 150/300/600 lbs	55 (2.17)	178 (7.00)	200 (7.87)	314 (12.36)	55 (2.17)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	NPT - 150/300/600 lbs	67 (2.64)	178 (7.00)	200 (7.87)	314 (12.36)	67 (2.64)	150 (5.91)	200 (7.87)	300 (11.81)
Side-bottom	1"	SW - 150/300/600 lbs	55 (2.17)	178 (7.00)	200 (7.87)	314 (12.36)	55 (2.17)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	SW - 150/300/600 lbs	67 (2.64)	178 (7.00)	200 (7.87)	314 (12.36)	67 (2.64)	150 (5.91)	200 (7.87)	300 (11.81)
Side-side	1"	RF Slip on flange - 150/300/600 lbs	150 (5.91)	178 (7.00)	200 (7.87)	314 (12.36)	150 (5.91)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	RF Slip on flange - 150/300/600 lbs	160 (6.30)	178 (7.00)	200 (7.87)	314 (12.36)	160 (6.30)	150 (5.91)	200 (7.87)	300 (11.81)
Side-bottom	1"	RF Slip on flange - 150/300/600 lbs	150 (5.91)	178 (7.00)	325 (12.80)	314 (12.36)	150 (5.91)	150 (5.91)	325 (12.80)	300 (11.81)
	1 1/2"	RF Slip on flange - 150/300/600 lbs	160 (6.30)	178 (7.00)	335 (13.19)	314 (12.36)	160 (6.30)	150 (5.91)	335 (13.19)	300 (11.81)
Side-Side	1"	RJ Weld Neck flange - 600 lbs	150 (5.91)	178 (7.00)	200 (7.87)	314 (12.36)	150 (5.91)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	RJ Weld Neck flange - 600 lbs	160 (6.30)	178 (7.00)	200 (7.87)	314 (12.36)	160 (6.30)	150 (5.91)	200 (7.87)	300 (11.81)
	1"	RJ Weld Neck flange - 900 lbs	161 (6.34)	178 (7.00)	200 (7.87)	314 (12.36)	161 (6.34)	190 (7.48)	200 (7.87)	345 (13.58)
	1 1/2"	RJ Weld Neck flange - 900 lbs	173 (6.81)	178 (7.00)	200 (7.87)	314 (12.36)	173 (6.81)	190 (7.48)	200 (7.87)	345 (13.58)
	1"	RJ Weld Neck flange - 1500 lbs	161 (6.34)	178 (7.00)	200 (7.87)	314 (12.36)	161 (6.34)	190 (7.48)	200 (7.87)	345 (13.58)
	1 1/2"	RJ Weld Neck flange - 1500 lbs	173 (6.81)	178 (7.00)	200 (7.87)	314 (12.36)	173 (6.81)	190 (7.48)	200 (7.87)	345 (13.58)
	1"	RJ Weld Neck flange - 2500 lbs	177 (6.96)	178 (7.00)	200 (7.87)	314 (12.36)	177 (6.96)	215 (8.46)	200 (7.87)	375 (14.76)
	1 1/2"	RJ Weld Neck flange - 2500 lbs	203 (7.99)	178 (7.00)	200 (7.87)	314 (12.36)	203 (7.99)	215 (8.46)	200 (7.87)	375 (14.76)
Side-Bottom	1"	RJ Weld Neck flange - 600 lbs	150 (5.91)	178 (7.00)	325 (12.80)	314 (12.36)	150 (5.91)	150 (5.91)	325 (12.80)	300 (11.81)
	1 1/2"	RJ Weld Neck flange - 600 lbs	160 (6.30)	178 (7.00)	335 (13.19)	314 (12.36)	160 (6.30)	150 (5.91)	335 (13.19)	300 (11.81)
	1"	RJ Weld Neck flange - 900 lbs	161 (6.34)	178 (7.00)	335 (13.19)	314 (12.36)	161 (6.34)	190 (7.48)	335 (13.19)	345 (13.58)
	1 1/2"	RJ Weld Neck flange - 900 lbs	173 (6.81)	178 (7.00)	350 (13.78)	314 (12.36)	173 (6.81)	190 (7.48)	350 (13.78)	345 (13.58)
	1"	RJ Weld Neck flange - 1500 lbs	161 (6.34)	178 (7.00)	335 (13.19)	314 (12.36)	161 (6.34)	190 (7.48)	335 (13.19)	345 (13.58)
	1 1/2"	RJ Weld Neck flange - 1500 lbs	173 (6.81)	178 (7.00)	350 (13.78)	314 (12.36)	173 (6.81)	190 (7.48)	350 (13.78)	345 (13.58)
	1"	RJ Weld Neck flange - 2500 lbs	177 (6.96)	178 (7.00)	355 (13.98)	314 (12.36)	177 (6.96)	215 (8.46)	355 (13.98)	375 (14.76)
	1 1/2"	RJ Weld Neck flange - 2500 lbs	203 (7.99)	178 (7.00)	380 (14.96)	314 (12.36)	203 (7.99)	215 (8.46)	380 (14.96)	375 (14.76)
Side-Side	DN 25	PN 16/25/40 flange EN 1092-1/ B1	150 (5.91)	178 (7.00)	200 (7.87)	314 (12.36)	150 (5.91)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 40	PN 16/25/40 flange EN 1092-1/ B1	160 (6.30)	178 (7.00)	200 (7.87)	314 (12.36)	160 (6.30)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 25	PN 63 flange EN 1092-1/ B2	170 (6.69)	178 (7.00)	200 (7.87)	314 (12.36)	170 (6.69)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 40	PN 63 flange EN 1092-1/ B2	180 (7.09)	178 (7.00)	200 (7.87)	314 (12.36)	180 (7.09)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 25	PN 100 flange EN 1092-1/ B2	170 (6.69)	178 (7.00)	200 (7.87)	314 (12.36)	170 (6.69)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 40	PN 100 flange EN 1092-1/ B2	180 (7.09)	178 (7.00)	200 (7.87)	314 (12.36)	180 (7.09)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 25	PN 160 DIN 2638 Form E	170 (6.69)	178 (7.00)	200 (7.87)	314 (12.36)	170 (6.69)	190 (7.48)	200 (7.87)	345 (13.58)
	DN 40	PN 160 DIN 2638 Form E	180 (7.09)	178 (7.00)	200 (7.87)	314 (12.36)	180 (7.09)	190 (7.48)	200 (7.87)	345 (13.58)
	DN 25	PN 250 DIN 2628 Form E	177 (6.96)	178 (7.00)	200 (7.87)	314 (12.36)	177 (6.96)	190 (7.48)	200 (7.87)	345 (13.58)
	DN 40	PN 250 DIN 2628 Form E	196 (7.72)	178 (7.00)	200 (7.87)	314 (12.36)	196 (7.72)	190 (7.48)	200 (7.87)	345 (13.58)
	DN 25	PN 320 DIN 2629 Form E	190 (7.48)	178 (7.00)	200 (7.87)	314 (12.36)	190 (7.48)	215 (8.46)	200 (7.87)	375 (14.76)
	DN 40	PN 320 DIN 2629 Form E	204 (8.03)	178 (7.00)	200 (7.87)	314 (12.36)	204 (8.03)	215 (8.46)	200 (7.87)	375 (14.76)
Side-Bottom	DN 25	PN 16/25/40 flange EN 1092-1/ B1	150 (5.91)	178 (7.00)	325 (12.80)	314 (12.36)	150 (5.91)	150 (5.91)	325 (12.80)	300 (11.81)
	DN 40	PN 16/25/40 flange EN 1092-1/ B1	160 (6.30)	178 (7.00)	335 (13.19)	314 (12.36)	160 (6.30)	150 (5.91)	335 (13.19)	300 (11.81)
	DN 25	PN 63 flange EN 1092-1/ B2	170 (6.69)	178 (7.00)	345 (13.58)	314 (12.36)	170 (6.69)	150 (5.91)	345 (13.58)	300 (11.81)
	DN 40	PN 63 flange EN 1092-1/ B2	180 (7.09)	178 (7.00)	355 (13.98)	314 (12.36)	180 (7.09)	150 (5.91)	355 (13.98)	300 (11.81)
	DN 25	PN 100 flange EN 1092-1/ B2	170 (6.69)	178 (7.00)	345 (13.58)	314 (12.36)	170 (6.69)	150 (5.91)	345 (13.58)	300 (11.81)
	DN 40	PN 100 flange EN 1092-1/ B2	180 (7.09)	178 (7.00)	355 (13.98)	314 (12.36)	180 (7.09)	150 (5.91)	355 (13.98)	300 (11.81)
	DN 25	PN 160 DIN 2638 Form E	170 (6.69)	178 (7.00)	345 (13.58)	314 (12.36)	170 (6.69)	190 (7.48)	345 (13.58)	345 (13.58)
	DN 40	PN 160 DIN 2638 Form E	180 (7.09)	178 (7.00)	355 (13.98)	314 (12.36)	180 (7.09)	190 (7.48)	355 (13.98)	345 (13.58)
	DN 25	PN 250 DIN 2628 Form E	177 (6.96)	178 (7.00)	355 (13.98)	314 (12.36)	177 (6.96)	190 (7.48)	355 (13.98)	345 (13.58)
	DN 40	PN 250 DIN 2628 Form E	196 (7.72)	178 (7.00)	370 (14.57)	314 (12.36)	196 (7.72)	190 (7.48)	370 (14.57)	345 (13.58)
	DN 25	PN 320 DIN 2629 Form E	190 (7.48)	178 (7.00)	365 (14.37)	314 (12.36)	190 (7.48)	215 (8.46)	365 (14.37)	375 (14.76)
	DN 40	PN 320 DIN 2629 Form E	204 (8.03)	178 (7.00)	380 (14.96)	314 (12.36)	204 (8.03)	215 (8.46)	380 (14.96)	375 (14.76)

Probe length Eclipse = (dimension "P" + measuring range) rounded to the nearest cm value, e.g. 1523 mm 152 cm or 1526 mm = 153 cm

# 3" FLANGED AND SEALED CAGES – DIMENSIONS IN MM (INCHES)

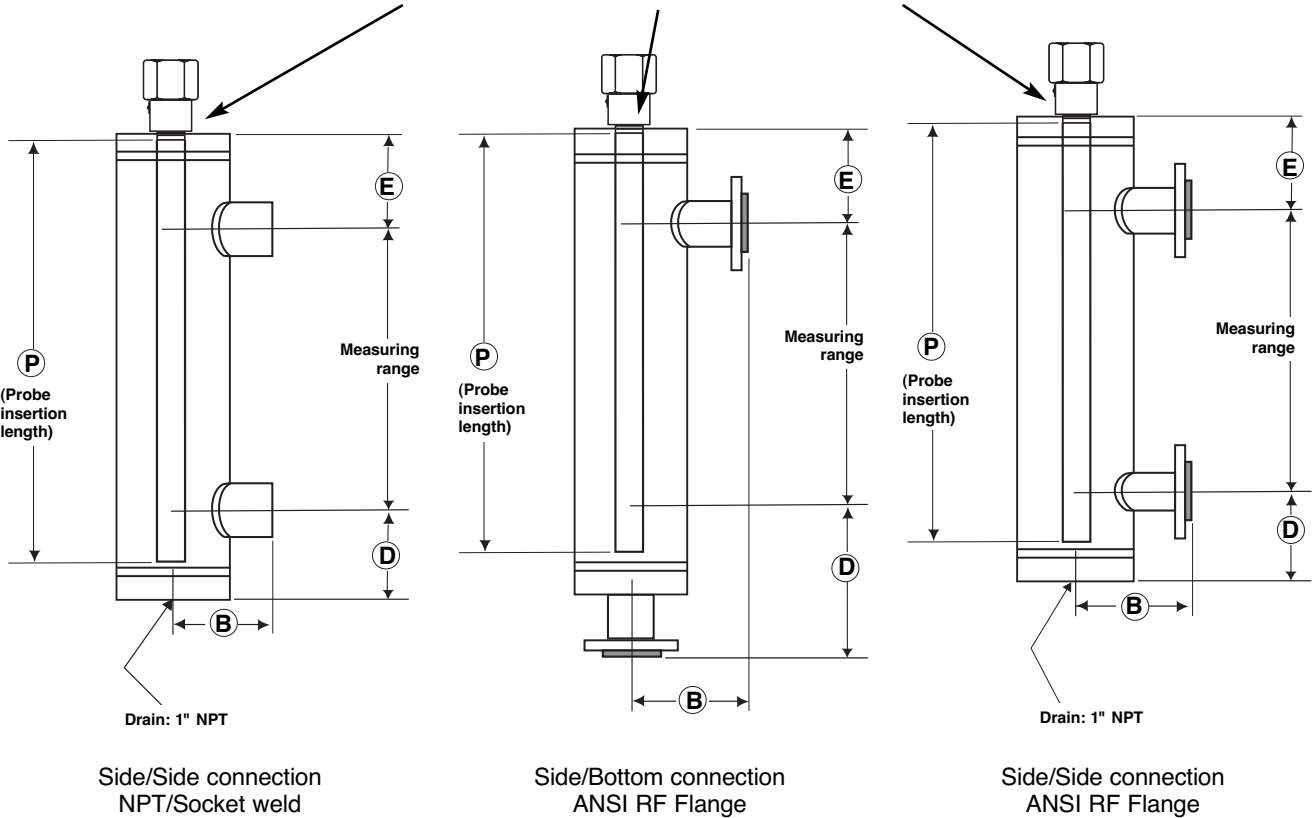
## Flanged cages

ANSI body cage flanges  
Select Eclipse GWR probes with pressure matching ANSI flanges



## Sealed cages

3/4" NPT body cage connection  
Select Eclipse GWR probes with 3/4" NPT process connection



# SEALED AND FLANGED 3" EXTERNAL CAGES DIMENSIONAL SPECIFICATIONS IN MM (INCHES)

	Size	Connection	Sealed 3" external cage				Flanged 3" external cage			
			B	E	D	P (Range +)	B	E	D	P (Range +)
Side-side	1"	NPT - 150/300/600 lbs	69 (2.72)	178 (7.00)	200 (7.87)	314 (12.36)	69 (2.72)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	NPT - 150/300/600 lbs	81 (3.19)	178 (7.00)	200 (7.87)	314 (12.36)	81 (3.19)	150 (5.91)	200 (7.87)	300 (11.81)
	2"	NPT - 150/300/600 lbs	84 (3.31)	178 (7.00)	200 (7.87)	314 (12.36)	84 (3.31)	150 (5.91)	200 (7.87)	300 (11.81)
Side-bottom	1"	SW - 150/300/600 lbs	69 (2.72)	178 (7.00)	200 (7.87)	314 (12.36)	69 (2.72)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	SW - 150/300/600 lbs	81 (3.19)	178 (7.00)	200 (7.87)	314 (12.36)	81 (3.19)	150 (5.91)	200 (7.87)	300 (11.81)
	2"	SW - 150/300/600 lbs	84 (3.31)	178 (7.00)	200 (7.87)	314 (12.36)	84 (3.31)	150 (5.91)	200 (7.87)	300 (11.81)
Side-side	1"	RF Slip on flange - 150/300/600 lbs	170 (6.69)	178 (7.00)	200 (7.87)	314 (12.36)	170 (6.69)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	RF Slip on flange - 150/300/600 lbs	180 (7.09)	178 (7.00)	200 (7.87)	314 (12.36)	180 (7.09)	150 (5.91)	200 (7.87)	300 (11.81)
	2"	RF Slip on flange - 150/300/600 lbs	185 (7.28)	178 (7.00)	200 (7.87)	314 (12.36)	185 (7.28)	150 (5.91)	200 (7.87)	300 (11.81)
Side-bottom	1"	RF Slip on flange - 150/300/600 lbs	170 (6.69)	178 (7.00)	325 (12.80)	314 (12.36)	170 (6.69)	150 (5.91)	325 (12.80)	300 (11.81)
	1 1/2"	RF Slip on flange - 150/300/600 lbs	180 (7.09)	178 (7.00)	335 (13.19)	314 (12.36)	180 (7.09)	150 (5.91)	335 (13.19)	300 (11.81)
	2"	RF Slip on flange - 150/300/600 lbs	185 (7.28)	178 (7.00)	340 (13.39)	314 (12.36)	185 (7.28)	150 (5.91)	340 (13.39)	300 (11.81)
Side-Side	1"	RJ Weld Neck flange - 600 lbs	170 (6.69)	178 (7.00)	200 (7.87)	314 (12.36)	170 (6.69)	150 (5.91)	200 (7.87)	300 (11.81)
	1 1/2"	RJ Weld Neck flange - 600 lbs	180 (7.09)	178 (7.00)	200 (7.87)	314 (12.36)	180 (7.09)	150 (5.91)	200 (7.87)	300 (11.81)
	2"	RJ Weld Neck flange - 600 lbs	185 (7.28)	178 (7.00)	200 (7.87)	314 (12.36)	185 (7.28)	150 (5.91)	200 (7.87)	300 (11.81)
	1"	RJ Weld Neck flange - 900 lbs	181 (7.13)	178 (7.00)	200 (7.87)	314 (12.36)	181 (7.13)	190 (7.48)	200 (7.87)	345 (13.58)
	1 1/2"	RJ Weld Neck flange - 900 lbs	193 (7.60)	178 (7.00)	200 (7.87)	314 (12.36)	193 (7.60)	190 (7.48)	200 (7.87)	345 (13.58)
	2"	RJ Weld Neck flange - 900 lbs	214 (8.43)	178 (7.00)	200 (7.87)	314 (12.36)	214 (8.43)	190 (7.48)	200 (7.87)	345 (13.58)
	1"	RJ Weld Neck flange - 1500 lbs	181 (7.13)	178 (7.00)	200 (7.87)	314 (12.36)	181 (7.13)	205 (8.07)	200 (7.87)	360 (14.17)
	1 1/2"	RJ Weld Neck flange - 1500 lbs	193 (7.60)	178 (7.00)	200 (7.87)	314 (12.36)	193 (7.60)	205 (8.07)	200 (7.87)	360 (14.17)
	2"	RJ Weld Neck flange - 1500 lbs	214 (8.43)	178 (7.00)	200 (7.87)	314 (12.36)	214 (8.43)	205 (8.07)	200 (7.87)	360 (14.17)
	1"	RJ Weld Neck flange - 2500 lbs	197 (7.76)	178 (7.00)	200 (7.87)	314 (12.36)	197 (7.76)	257 (10.12)	200 (7.87)	417 (16.42)
	1 1/2"	RJ Weld Neck flange - 2500 lbs	223 (8.78)	178 (7.00)	200 (7.87)	314 (12.36)	223 (8.78)	257 (10.12)	200 (7.87)	417 (16.42)
	2"	RJ Weld Neck flange - 2500 lbs	239 (9.41)	178 (7.00)	200 (7.87)	314 (12.36)	239 (9.41)	257 (10.12)	200 (7.87)	417 (16.42)
	Side-Bottom	1"	RJ Weld Neck flange - 600 lbs	170 (6.69)	178 (7.00)	325 (12.80)	314 (12.36)	170 (6.69)	150 (5.91)	325 (12.80)
1 1/2"		RJ Weld Neck flange - 600 lbs	180 (7.09)	178 (7.00)	335 (13.19)	314 (12.36)	180 (7.09)	150 (5.91)	335 (13.19)	300 (11.81)
2"		RJ Weld Neck flange - 600 lbs	185 (7.28)	178 (7.00)	340 (13.39)	314 (12.36)	185 (7.28)	150 (5.91)	340 (13.39)	300 (11.81)
1"		RJ Weld Neck flange - 900 lbs	181 (7.13)	178 (7.00)	335 (13.19)	314 (12.36)	181 (7.13)	190 (7.48)	335 (13.19)	345 (13.58)
1 1/2"		RJ Weld Neck flange - 900 lbs	193 (7.60)	178 (7.00)	350 (13.78)	314 (12.36)	193 (7.60)	190 (7.48)	350 (13.78)	345 (13.58)
2"		RJ Weld Neck flange - 900 lbs	214 (8.43)	178 (7.00)	370 (14.57)	314 (12.36)	214 (8.43)	190 (7.48)	370 (14.57)	345 (13.58)
1"		RJ Weld Neck flange - 1500 lbs	181 (7.13)	178 (7.00)	335 (13.19)	314 (12.36)	181 (7.13)	205 (8.07)	335 (13.19)	360 (14.17)
1 1/2"		RJ Weld Neck flange - 1500 lbs	193 (7.60)	178 (7.00)	350 (13.78)	314 (12.36)	193 (7.60)	205 (8.07)	350 (13.78)	360 (14.17)
2"		RJ Weld Neck flange - 1500 lbs	214 (8.43)	178 (7.00)	370 (14.57)	314 (12.36)	214 (8.43)	205 (8.07)	370 (14.57)	360 (14.17)
1"		RJ Weld Neck flange - 2500 lbs	197 (7.76)	178 (7.00)	355 (13.98)	314 (12.36)	197 (7.76)	257 (10.12)	355 (13.98)	417 (16.42)
1 1/2"		RJ Weld Neck flange - 2500 lbs	223 (8.78)	178 (7.00)	380 (14.96)	314 (12.36)	223 (8.78)	257 (10.12)	380 (14.96)	417 (16.42)
2"		RJ Weld Neck flange - 2500 lbs	239 (9.41)	178 (7.00)	395 (15.55)	314 (12.36)	239 (9.41)	257 (10.12)	395 (15.55)	417 (16.42)
Side-Side		DN 25	PN 16/25/40 flange EN 1092-1/ B1	170 (6.69)	178 (7.00)	200 (7.87)	314 (12.36)	170 (6.69)	150 (5.91)	200 (7.87)
	DN 40	PN 16/25/40 flange EN 1092-1/ B1	180 (7.09)	178 (7.00)	200 (7.87)	314 (12.36)	180 (7.09)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 50	PN 16 flange EN 1092-1/ B1	185 (7.28)	178 (7.00)	200 (7.87)	314 (12.36)	185 (7.28)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 50	PN 25/40 flange EN 1092-1/ B1	188 (7.40)	178 (7.00)	200 (7.87)	314 (12.36)	188 (7.40)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 25	PN 63 flange EN 1092-1/ B2	190 (7.48)	178 (7.00)	200 (7.87)	314 (12.36)	190 (7.48)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 40	PN 63 flange EN 1092-1/ B2	200 (7.87)	178 (7.00)	200 (7.87)	314 (12.36)	200 (7.87)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 50	PN 63 flange EN 1092-1/ B2	202 (7.95)	178 (7.00)	200 (7.87)	314 (12.36)	202 (7.95)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 25	PN 100 flange EN 1092-1/ B2	190 (7.48)	178 (7.00)	200 (7.87)	314 (12.36)	190 (7.48)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 40	PN 100 flange EN 1092-1/ B2	200 (7.87)	178 (7.00)	200 (7.87)	314 (12.36)	200 (7.87)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 50	PN 100 flange EN 1092-1/ B2	208 (8.19)	178 (7.00)	200 (7.87)	314 (12.36)	208 (8.19)	150 (5.91)	200 (7.87)	300 (11.81)
	DN 25	PN 160 DIN 2638 Form E	190 (7.48)	178 (7.00)	200 (7.87)	314 (12.36)	190 (7.48)	205 (8.07)	200 (7.87)	355 (13.98)
	DN 40	PN 160 DIN 2638 Form E	200 (7.87)	178 (7.00)	200 (7.87)	314 (12.36)	200 (7.87)	205 (8.07)	200 (7.87)	355 (13.98)
	DN 50	PN 160 DIN 2638 Form E	215 (8.46)	178 (7.00)	200 (7.87)	314 (12.36)	215 (8.46)	205 (8.07)	200 (7.87)	355 (13.98)
	DN 25	PN 250 DIN 2628 Form E	197 (7.76)	178 (7.00)	200 (7.87)	314 (12.36)	197 (7.76)	205 (8.07)	200 (7.87)	355 (13.98)
	DN 40	PN 250 DIN 2628 Form E	216 (8.50)	178 (7.00)	200 (7.87)	314 (12.36)	216 (8.50)	205 (8.07)	200 (7.87)	355 (13.98)
	DN 50	PN 250 DIN 2628 Form E	225 (8.86)	178 (7.00)	200 (7.87)	314 (12.36)	225 (8.86)	205 (8.07)	200 (7.87)	355 (13.98)
	DN 25	PN 320 DIN 2629 Form E	210 (8.27)	178 (7.00)	200 (7.87)	314 (12.36)	210 (8.27)	257 (10.12)	200 (7.87)	412 (16.22)
DN 40	PN 320 DIN 2629 Form E	224 (8.82)	178 (7.00)	200 (7.87)	314 (12.36)	224 (8.82)	257 (10.12)	200 (7.87)	412 (16.22)	
DN 50	PN 320 DIN 2629 Form E	240 (9.45)	178 (7.00)	200 (7.87)	314 (12.36)	240 (9.45)	257 (10.12)	200 (7.87)	412 (16.22)	
Side-Bottom	DN 25	PN 16/25/40 flange EN 1092-1/ B1	170 (6.69)	178 (7.00)	325 (12.80)	314 (12.36)	170 (6.69)	150 (5.91)	325 (12.80)	300 (11.81)
	DN 40	PN 16/25/40 flange EN 1092-1/ B1	180 (7.09)	178 (7.00)	335 (13.19)	314 (12.36)	180 (7.09)	150 (5.91)	335 (13.19)	300 (11.81)
	DN 50	PN 16 flange EN 1092-1/ B1	185 (7.28)	178 (7.00)	340 (13.39)	314 (12.36)	185 (7.28)	150 (5.91)	340 (13.39)	300 (11.81)
	DN 50	PN 25/40 flange EN 1092-1/ B1	188 (7.40)	178 (7.00)	345 (13.58)	314 (12.36)	188 (7.40)	150 (5.91)	345 (13.58)	300 (11.81)
	DN 25	PN 63 flange EN 1092-1/ B2	190 (7.48)	178 (7.00)	345 (13.58)	314 (12.36)	190 (7.48)	150 (5.91)	345 (13.58)	300 (11.81)
	DN 40	PN 63 flange EN 1092-1/ B2	200 (7.87)	178 (7.00)	355 (13.98)	314 (12.36)	200 (7.87)	150 (5.91)	355 (13.98)	300 (11.81)
	DN 50	PN 63 flange EN 1092-1/ B2	202 (7.95)	178 (7.00)	360 (14.17)	314 (12.36)	202 (7.95)	150 (5.91)	360 (14.17)	300 (11.81)
	DN 25	PN 100 flange EN 1092-1/ B2	190 (7.48)	178 (7.00)	345 (13.58)	314 (12.36)	190 (7.48)	150 (5.91)	345 (13.58)	300 (11.81)
	DN 40	PN 100 flange EN 1092-1/ B2	200 (7.87)	178 (7.00)	355 (13.98)	314 (12.36)	200 (7.87)	150 (5.91)	355 (13.98)	300 (11.81)
	DN 50	PN 100 flange EN 1092-1/ B2	208 (8.19)	178 (7.00)	365 (14.37)	314 (12.36)	208 (8.19)	150 (5.91)	365 (14.37)	300 (11.81)
	DN 25	PN 160 DIN 2638 Form E	190 (7.48)	178 (7.00)	345 (13.58)	314 (12.36)	190 (7.48)	205 (8.07)	345 (13.58)	355 (13.98)
	DN 40	PN 160 DIN 2638 Form E	200 (7.87)	178 (7.00)	355 (13.98)	314 (12.36)	200 (7.87)	205 (8.07)	355 (13.98)	355 (13.98)
	DN 50	PN 160 DIN 2638 Form E	215 (8.46)	178 (7.00)	370 (14.57)	314 (12.36)	215 (8.46)	205 (8.07)	370 (14.57)	355 (13.98)
	DN 25	PN 250 DIN 2628 Form E	197 (7.76)	178 (7.00)	355 (13.98)	314 (12.36)	197 (7.76)	205 (8.07)	355 (13.98)	355 (13.98)
	DN 40	PN 250 DIN 2628 Form E	216 (8.50)	178 (7.00)	370 (14.57)	314 (12.36)	216 (8.50)	205 (8.07)	370 (14.57)	355 (13.98)
	DN 50	PN 250 DIN 2628 Form E	225 (8.86)	178 (7.00)	380 (14.96)	314 (12.36)	225 (8.86)	205 (8.07)	380 (14.96)	355 (13.98)
	DN 25	PN 320 DIN 2629 Form E	210 (8.27)	178 (7.00)	365 (14.37)	314 (12.36)	210 (8.27)	257 (10.12)	365 (14.37)	412 (16.22)
	DN 40	PN 320 DIN 2629 Form E	224 (8.82)	178 (7.00)	380 (14.96)	314 (12.36)	224 (8.82)	257 (10.12)	380 (14.96)	412 (16.22)
	DN 50	PN 320 DIN 2629 Form E	240 (9.45)	178 (7.00)	395 (15.55)	314 (12.36)	240 (9.45)	257 (10.12)	395 (15.55)	412 (16.22)

Probe length Eclipse = (dimension "P" + measuring range) rounded to the nearest cm value, e.g. 1523 mm 152 cm or 1526 mm = 153 cm

# PHYSICAL SPECIFICATIONS

Description	Specification
Measuring range	From 300 mm (11.81") to 5700 mm (224")
Material of construction	Carbon steel or 316/316L SST (1.4401/1.4404) with carbon steel zinc plated studs and nuts or others at request
Design	All cages are designed to meet the European PED (Pressure Equipment Directives) 97/23 EC guidelines
Constructions	Standard commercial design NACE construction Others at request: eg. IBR, ASME - ANSI B31.3
Optional Welding tests	"X"-ray (for full penetration butt welds), Magnetic particle (for Carbon steel cages), Dye penetrant (for all cages)
Process pressure	Max. 345 bar (5000 psi) – depending selected GWR probe
process temperature	Up to +400 °C (+750 °F) – depending selected GWR probe

## QUALITY ASSURANCE - ISO 9001:2000



THE QUALITY ASSURANCE SYSTEM IN PLACE AT MAGNETROL GUARANTEES THE HIGHEST LEVEL OF QUALITY DURING THE DESIGN, THE CONSTRUCTION AND THE SERVICE OF CONTROLS. OUR QUALITY ASSURANCE SYSTEM IS APPROVED AND CERTIFIED TO ISO 9001:2000 AND OUR TOTAL COMPANY IS COMMITTED TO PROVIDING FULL CUSTOMER SATISFACTION BOTH IN QUALITY PRODUCTS AND QUALITY SERVICE.

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UNDER RESERVE OF MODIFICATIONS

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