

Magnicator® II

Magnetic Liquid Level Indication Products

SPECIFICATION GUIDE



JERCUSON®

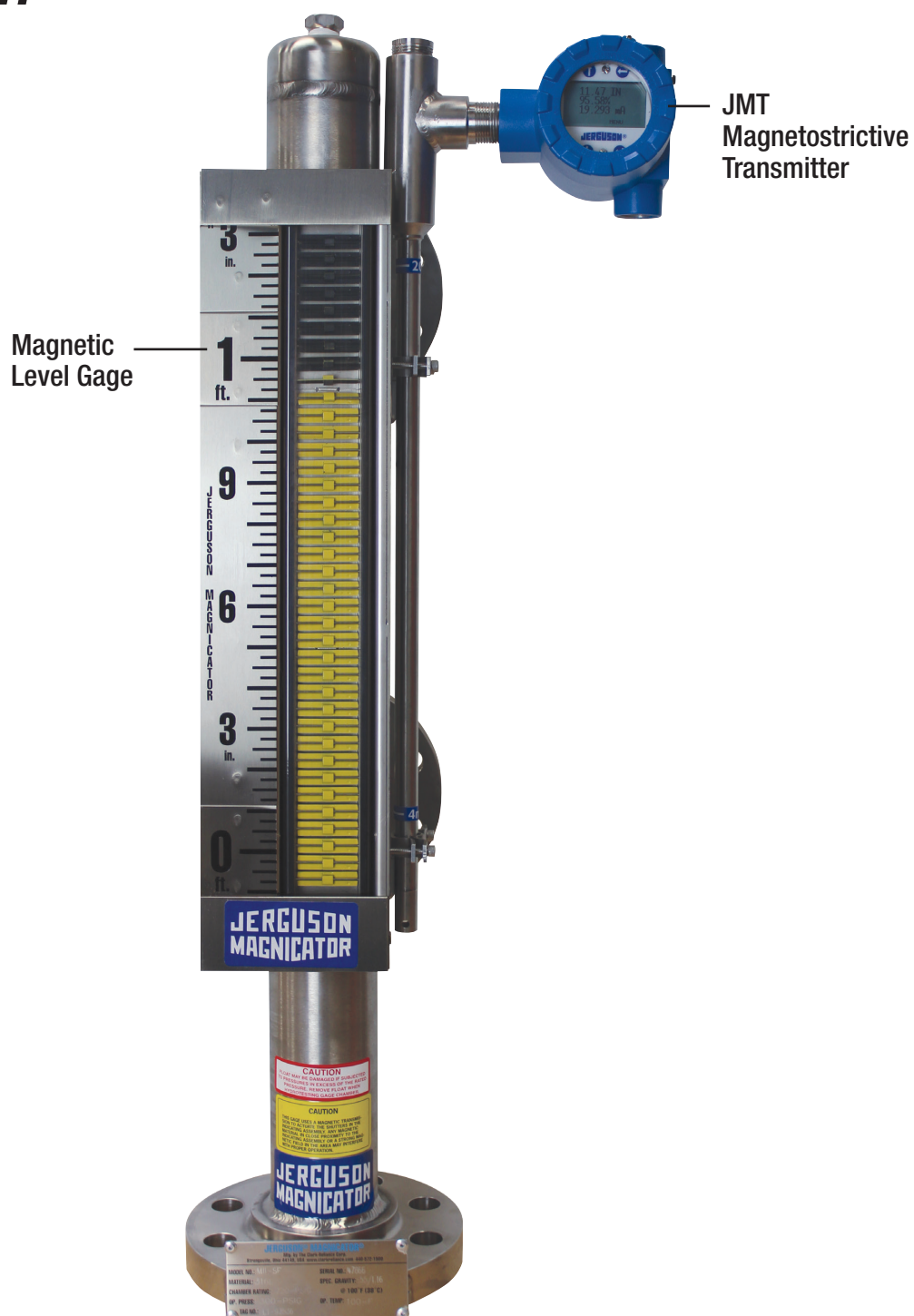
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MAGNicator® II Specification Guide

Model MII



Define Chamber & Materials

MII

25

C

01

T

CM

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WF

FI

See Page 5
Define Vent/
Drain and
Process
Connections

See Page 6
Define
Process
Conditions /
Indicator
and Scale

See Page 8 Options

CHAMBER DESIGN

Code	Description
MII	Standard, ASME B31.3 Design
MIIF	Flashproof, ASME B31.3 Design

NOMINAL CHAMBER

SIZE

Code	Description	Valid w/Chamber Design
15	1.50" NPS	MII
20	2.0" NPS	MII
25	2.5" NPS	MII
30	3.0" NPS	MII

FLANGE CLASS

Code	Description	Code	Description
01	150# ASME	D10 ²	DIN PN 10
03	300# ASME	D16 ²	DIN PN 16
06	600# ASME	D25 ²	DIN PN 25

SCHEDULE

Code	Description	Valid w/ Chamber Design/Size
B	Sched. 10	MII-15, 20 ¹ , or 25 ¹
C	Sched. 40	MII-20, 25, or 30
D	Sched. 80	MII-25 or 30
E	Sched. 160	MII-30

Yellow shading indicates standard offering.
Standard products are the most economical
and have the fastest deliveries.

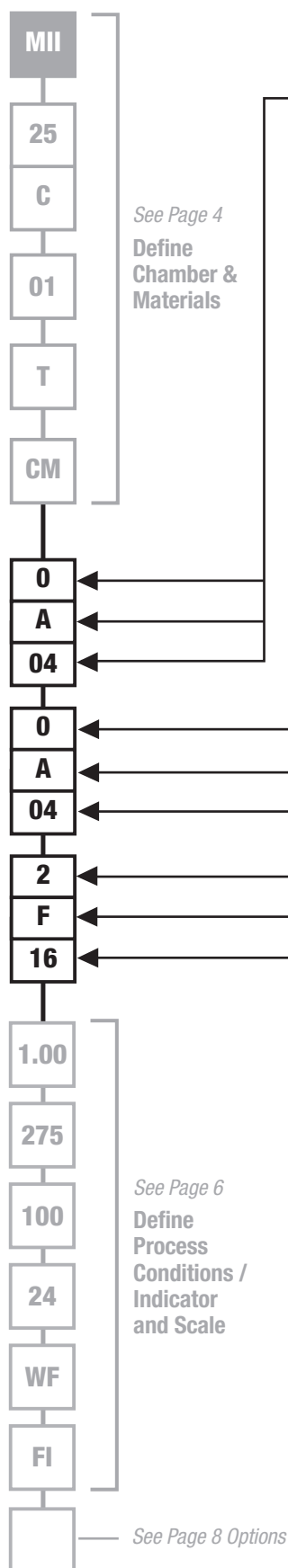
MATERIAL(S) OF CONSTRUCTION (Standpipe Material/Trim Material³)

Code	Description	Code	Description
R ^{4,5}	304/304L Stainless Steel	MD13 ⁷	Incoloy® 800
RA ⁵	304/Carbon Steel ³	MD14 ⁷	Inconel® 625
T	316/316L Stainless Steel	MD15 ⁷	Incoloy® 825
TA	316/Carbon Steel ³	XL4 ⁷	SMO 254, UNS 31254
K ⁷	Alloy 20	ZZ ⁷	Zirconium ZR2
LC ⁷	Hastelloy® C276	PFR ⁸	PFA Teflon® Coated 304/304L SS
N ⁷	Monel® 400	PFT ⁸	PFA Teflon® Coated 316/316L SS
S ⁷	347 Stainless Steel	PVR ⁸	PVDF® Coated 304/304L SS
Y ⁷	321 Stainless Steel	PVT ⁸	PVDF® Coated 316/316L SS
V ⁷	317 Stainless Steel	HLR ⁸	HALAR® Coated 304/304L SS
TT ⁷	Titanium	HLT ⁸	HALAR® Coated 316/316L SS
LB3 ⁷	Hastelloy® B3	CP ^{8,9}	CPVC Construction (Includes Float)
MD4 ⁷	Inconel® 600	PV ^{8,10}	PVDF® Construction (Includes Float)

CHAMBER STYLE¹¹ (See Page 8 for Illustrations)

Code	Top End of Chamber	Bottom End of Chamber
CM	Welded Cap	Flange with Mating Flange
MC	Flange with Mating Flange	Welded Cap
MM	Flange with Mating Flange	Flange with Mating Flange
MF	Flange with Mating Flange	Flange
FM	Flange	Flange with Mating Flange
CF	Welded Cap	Flange
FC	Flange	Welded Cap
FF	Flange	Flange
CT ¹²	Welded Cap	Welded Cap w/ Thread (Chamber Access)
TC ¹²	Welded Cap w/ Thread (Chamber Access)	Welded Cap
TT ¹²	Welded Cap w/ Thread (Chamber Access)	Welded Cap w/ Thread (Chamber Access)
B0 ^{7,13}	Top Mount (BEF) without Stilling Well or Guide Pipe (If Inserted Into Existing Pipe or Stilling Well)	
B1 ^{7,13}	Top Mount (BEF) with Guide Pipe (Insertion Lengths Up To 24" (610mm), or Stilling Well Fit Issues)	
B2 ^{7,13}	Top Mount (BEF) with Open-Ended Stilling Well (Insertion Lengths 24" (610mm) & Over)	
B3 ^{7,13}	Top Mount (BEF) with Capped Stilling Well (Insertion Lengths 24" (610mm) & Over)	

Define Vent/Drain & Process Connections

VENT/TOP CHAMBER CONNECTION^{16, 17} (See Page 26 for Illustration)

VALVE		STYLE ²¹		SIZE		Valid w/ Connection Style
Code	Description	Code	Description	Code	Description	
0	None	A	FNPT (Female NPT)	04	1/2" (DN 15)	A, B, C, D, F
1	Gate	B	FSW (Female Socket Weld)	06	3/4" (DN 20)	A, B, C, D, F
2	Globe	C	MNPT (Male NPT)	08	1" (DN 25)	A, B, C, D, F
S	Spl/Customer Specified	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)	A, B, C, D, F
		F ¹¹	Flange	16	2" (DN 50)	F
		K	None	20	2-1/2" (DN 65)	F
				24	3" (DN 80)	F
				00	N/A	K

DRAIN/BOTTOM CHAMBER CONNECTION^{18, 19} (See Page 26 for Illustration)

VALVE		STYLE ²¹		SIZE		Valid w/ Connection Style
Code	Description	Code	Description	Code	Description	
0	None	A	FNPT (Female NPT)	04	1/2" (DN 15)	A, B, C, D, F
1	Gate	B	FSW (Female Socket Weld)	06	3/4" (DN 20)	A, B, C, D, F
2	Globe	C	MNPT (Male NPT)	08	1" (DN 25)	A, B, C, D, F
S	Spl/Customer Specified	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)	A, B, C, D, F
		F ¹¹	Flange	16	2" (DN 50)	F
		K	None	20	2-1/2" (DN 65)	F
				24	3" (DN 80)	F
				32	4" (DN 100)	F (valid w/)
				00	N/A	K

SIDE PROCESS CONNECTION(S)

NO. OF SIDE CONNECTIONS		STYLE ²¹		SIZE	
Code	Description	Code	Description	Code	Description
0	No Side Connections	A	FNPT (Female NPT)	04	1/2" (DN 15)
1T	1 @ Top Side Only	B	FSW (Female Socket Weld)	06	3/4" (DN 20)
1B	1 @ Bottom Side Only	C	MNPT (Male NPT)	08	1" (DN 25)
2	2 Side Connections	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)
# ²²	3+ Side Connections ('#', Specify Qty)	E	Butt-Weld	16	2" (DN 50)
		F ¹¹	Flange	24	3" (DN 80)
		K	None	00	N/A

Notes:

- Coated chamber materials only.
- Applicable only to flanged, customer facing connection(s); process, vent, drain.
- 'Trim' is any chamber component(s) above/below the standpipe, & any process flange(s).
- Chamber cap is 316/316L SS.
- Guide bars (when flashproof) are 316/316L SS.
- Consult factory for chamber size & schedule code.
- Coated, CPVC or PVDF chamber materials not available w/ Flashproof design.
- Model MII-25C-01 only.
- Model MII-20C-01 only.
- Metallic (& when available, Coated) Mat'l's: Raised-face flange std. Slip-On 150#-600#.
- Weld Neck 900# & up. Plastic: Socket-weld flange std. Std faces raised and/or flat (uncontrolled, at vendors' discretion).
- Only available with Nominal Chamber Size '15'.
- Requires completed BEF specification form, M200.07; prior to quoting.
- Valve & Style selections shall be '0F', for Chamber Style 'F(M, C, or F)'.²⁰
- Nominal Chamber Size '15', requires Valve, Style, & Size selections to be '0A16', for Chamber Style 'T(C or T)'.²⁰
- Valve & Style selections shall be '0F', for Chamber Style '(M, C, or F)' or 'B(0, 1, or 2)'.²⁰
- Nominal Chamber Size '15', requires Valve, Style, & Size selections to be '0A16', for Chamber Style '(C or T)'.²⁰
- Flange Size shall be greater than or equal to Nominal Chamber Size.
- For coated chambers, all connections flanged.
- Specify elevation(s) of intermediate nozzle(s).
- Contact factory for additional application guidance.
- (a) A multiple section chamber may be required when range/center exceeds mat'l/ application limits; ~225" metallic & CPVC, ~175" PVDF, ~100" coated. Each joint shall be flanged, have a break in the measuring range, include support/lifting brackets on either side. Consult factory for continuous chamber options.
- (b) For CPVC & PVDF gages, support brackets, option BR#, recommended every ~84" (2134mm).
- (c) For gages w/ 1+ end process connection(s), consult factory for resulting visible range, or process connection dimension.
- Additional air purge kit (1/8" FNPT connection) available, up to 600°F (315°C) max. NEMA 4X rating no longer applicable.
- Two scales on indicator, along either side (left/right) of flags. Not available on NightStar indicators.
- Not all options are available w/ every combination. Unless already identified, consult factory for applicability.
- May result in 1" increase/decrease in chamber float leg/ visible range, respectively.
- Not applicable w/ CPVC or PVDF.
- Located in-line w/ upper-side branch conn. (when present, otherwise 180° from indicator), unless otherwise noted.
- Raw mat'l of all wetted piping components from USA, Canada, Japan, or W. Europe (as defined by C-R).
- Standard dimensions listed. Subject to change based on actual design.
- Meets B31.3 & NACE, w/ or w/o Insulation.
- Suitable only for 150#/300# flanged joints, w/o a spiral wound gasket.
- Indicator location (in degrees) clockwise from top-side process, viewed from above the gage. N/A for 180° (std) or zero side connections.

Define Process Conditions/Indicator & Scale

See Page 4
Define Chamber & Materials

See Page 5
Define Vent/ Drain and Process Connections

See Page 7 Options

MII

25

C

01

T

CM

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WF

FI

SPECIFIC GRAVITY 0.30 & Up, Depending on Float Style & Max Operating Conditions. For varying SG applications, specify min SG in the range. For interface applications,²⁴ specify "Upper Fluid"/"Lower Fluid" (0.1 Min Differential Req'd).

MAXIMUM OPERATING PRESSURE (PSIG) Up to 3500 psig (241 bar); Consult factory for greater values.

MAXIMUM OPERATING TEMPERATURE (°F) Up to 1000°F (537°C) max.

VISIBLE RANGE / CENTER-CENTER or FACE-FACE or CENTER-FACE²⁵
Enter (1) value if visible range & center-to-center are equal. Exact inches (for mm, add "mm").

FLAG STYLE INDICATOR

Yellow (Liquid)/Black (Vapor) Colors Standard. See Options for Red/White Order Code. Consult Factory for Other Color Options.

Code	Description
WF	Wide Indicator (1-1/2" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 1000°F (537°C) Max
HWFP	Wide Indicator (1-1/2" Flag), Hermetically Sealed (IP68) in Polycarbonate Tube, Stainless Steel Frame, 500°F (260°C) Max
FL	Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 1000°F (537°C) Max
HFLP	Conventional Indicator (3/4" Flag), Hermetically Sealed (IP68) in Polycarbonate Tube, Stainless Steel Frame, 500°F (260°C) Max
HFLG	Conventional Indicator (3/4" Flag), Hermetically Sealed (IP68) in Glass Tube, Stainless Steel Frame, 1000°F (537°C) Max (Sealed Glass Tube Sections Stacked End to End w/ ~1.5" (38mm) Gap, when Visible Exceeds 78" (1981mm))
N### ²⁶	NightStar™ (USA/CAN) Illuminated Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 450°F (232°C) Max ('###' = Supply Power, VAC (i.e., N120 or N240))
NX### ²⁶	NightStar™ (ATEX/IECEx) Illuminated Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 450°F (232°C) Max ('###' = Supply Power, VAC (i.e., NX120 or NX240))
NI	No Indicator

SCALE TYPE

Code	Description
FI	Feet/Inches
MM	Meter/Millimeter
PS	Percent Scale
SS	Special Scale
NS	No Scale
__/_	Dual Scale ²⁷ Format, Specify Types (Example: FI/MM)

Define Options

MII

25

C

01

T

CM

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WL

FI

See Page 4
Define Chamber & Materials

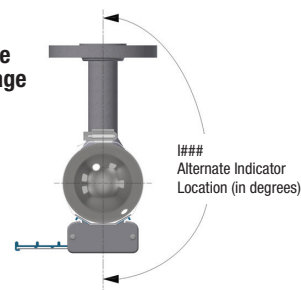
See Page 5
Define Vent/ Drain and Process Connections

See Page 6
Define Process Conditions / Indicator and Scale

OPTIONS²⁸ To define multiple options, add additional codes as suffixes to model string.

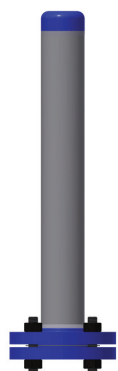
Code	Description
RW	Red (Liquid) /White (Vapor) Flag Indicator Colors (Std is Yellow/Black)
SF²⁹	Sunken Float Indicator (1" Below Measuring Range, w/ Alternate Flag Color Indication)
DI²⁴	Dual Indication, Total Level & Interface (WF Series or Hermetic Indicators Only. Both SG's Req'd.)
SW³⁰	Socket-Weld Flanges (All Around, Up To & Including 600#, Consult Factory above 600#)
WN	Weld Neck Flanges (All Around, Up to & Including 600#. Std. above 600#)
BW	Butt Weld Construction (Includes Full Bore Butt Weld Tees @ Branch Connections, & WN Flanges)
BR#³¹	Support Bracket(s) (# = No. of Brackets. Unless Otherwise Noted, Evenly Spaced Between Process Connections)
NF	Non-Frost Extension, 3-5/8" (92mm) Depth (Min. Temp. -300°F (-184°C))
CI	Cold Insulation, 2" (50mm) Nominal Rigid Foam w/ Alum Jacket, -297°F (-182°C) to 300°F (148°C). Non-Frost (NF) Ext Included.
ST	Steam Tracing, 3/8" (9.5mm) OD Tube with Compression Fitting
E11	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D1, Grps B,C,D. Consult Factory for Optional Thermostat.
E12	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D2, Grps B,C,D, NEMA 4X Enclosure. Consult Factory for Optional Thermostat.
HI	High Temperature Insulation, Flexible Jacket, 500°F (260°C)
HI8	High Temperature Insulation, Flexible Jacket, 800°F (426°C)
BC	Designed to ASME Section I Boiler Code, 900 PSIG Max. Oper. Press. (Refer to Boiler Code Bulletin)
NC	NACE Compliant to MR0103/0175
RMW³²	Regionally Restricted Material
B1	Designed to ASME B31.1
GR	Flexible Graphite Gasket w/ 316 Stainless Steel Insert
SWG	Spiral Wound Gasket (Graphite Filler w/ Inner Ring & Windings To Match Chamber) (Std w/ 600# Class Flanges & Above)
RJ	Ring Joint Flanges (All Around)
MT	Magnetic Trap, In-Line w/ Bottom-Side Process Connection
SE³⁰	Stub End w/ Lap Joint (aka: 2-Piece) Process Flange (Up To & Including 600#)
SP#	Set Point Arrow(s) (# = No. of Arrows, Evenly Spaced Along Indicator, unless otherwise noted)
SJ³³	Steam Jacketed w/ 1/2" FNPT (Std) (Jacket Length = Process C/L minus 7" (178mm), Jacket C-C = Process C/L minus 12" (305mm))
SML	Seamless Pipe
S8	Schedule 80 Nipples/Fittings (Does not apply to 1) Chamber, 2) Flange Class 600# & up (Std))
S16	Schedule 160 Nipples/Fittings (Does not apply to Chamber)
B7M³⁴	Cr-Mo Bolting (ASME A193 Gr.B7M Studs & ASME A194 Gr.2HM Nuts)
B8M³⁵	316SS Bolting (ASME A193 Gr.B8M, Class 1 Studs & ASME A194 Gr.8MA Nuts)
I###³⁶	Alternate indicator location, other than std, 180° (i.e., I090 = 90°, I225 = 225°)
DIN	DIN Flanges (All Around)

Mag Alternate Indicator Image

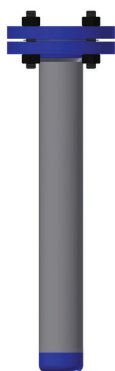


MAGNicator® II Specification Guide – Model MII

Chamber Style Illustrations



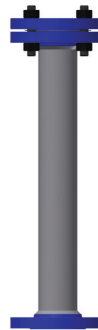
CM
Welded Cap Top,
Mating Flange Bottom



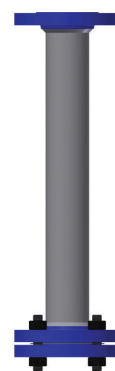
MC
Mating Flange Top,
Welded Cap Bottom



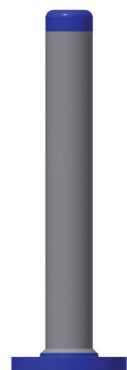
MM
Mating Flange Top,
Mating Flange Bottom



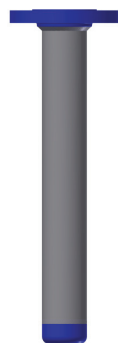
MF
Mating Flange Top,
Exposed Flange Bottom



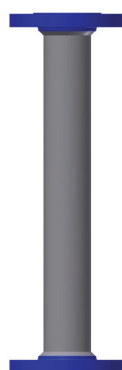
FM
Exposed Flange Top,
Mating Flange Bottom



CF
Welded Cap Top,
Exposed Flange Bottom



FC
Exposed Flange Top,
Welded Cap Bottom



FF
Exposed Flange Top,
Exposed Flange Bottom



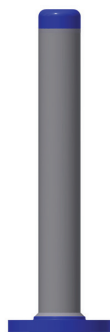
CT
Welded Cap Top,
Welded Cap with Thread
(Chamber Access) Bottom



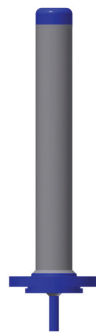
TC
Welded Cap with Thread
(Chamber Access) Top,
Welded Cap Bottom



TT
Welded Cap with Thread
(Chamber Access) Top,
Welded Cap with Thread
(Chamber Access) Bottom



B0
Top Mount (BEF)
without Stilling Well
or Guide Pipe



B1
Top Mount (BEF)
with Guide Pipe



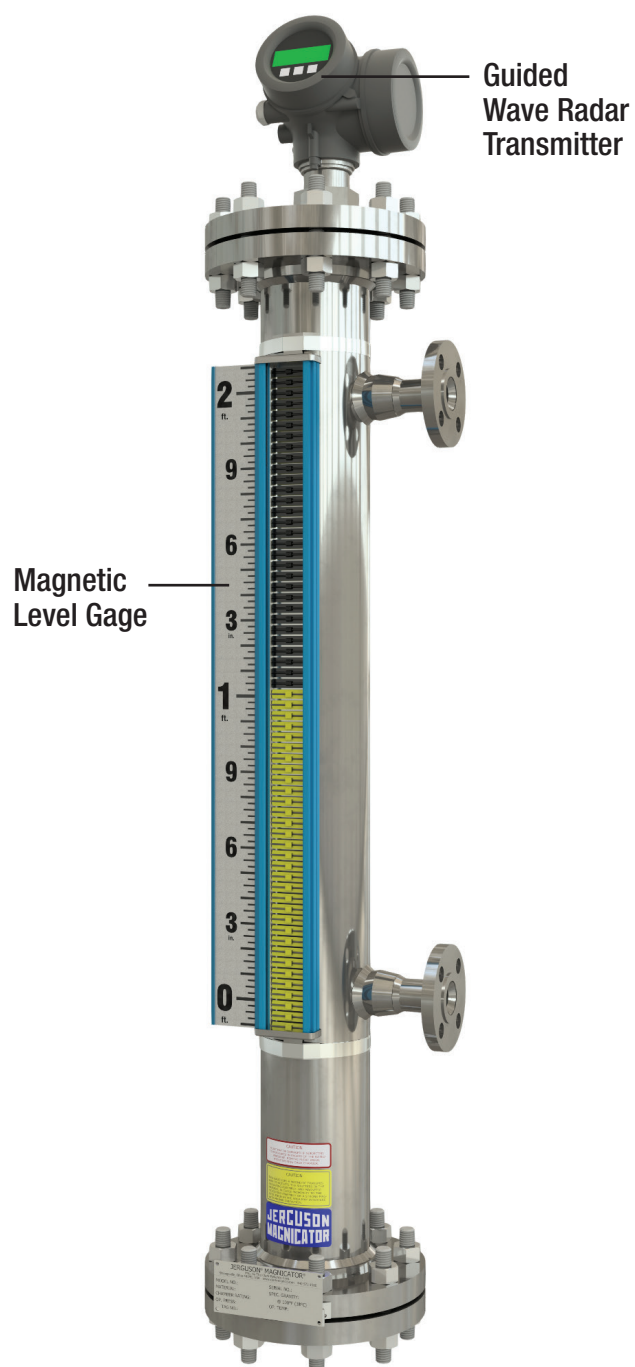
B2
Top Mount (BEF)
with Stilling Well,
Bottom End Open
(Open to Tank Floor)



B3
Top Mount (BEF)
with Stilling Well,
Bottom End Capped
(Captured Float)

MAGNicator® II Specification Guide

Model MGWRS



MAGNicator® II Specification Guide – Model MGWRS

Define Chamber & Materials

Step 1

Model code requires Factory confirmation. Additional considerations (float OD, radar OD, etc.) beyond the model code scope, render some combinations invalid.

MGWRS

CHAMBER DESIGN

Code Description

MGWRS Single Magnicator Chamber & Radar Chamber, ASME 31.3 Design

NOMINAL CHAMBER

SIZE

Code	Description	Code	Description	Valid w/ Chamber Design/Size
30	3.0" NPS	B	Sched. 10	MGWRS-30
40	4.0" NPS	C	Sched. 40	MGWRS-30,40,50
50	5.0" NPS	D	Sched. 80	MGWRS-40,50

FLANGE CLASS

Code	Description	Code	Description
01	150# ASME	D10 ²	DIN PN 10
03	300# ASME	D16 ²	DIN PN 16
06	600# ASME	D25 ²	DIN PN 25
09	900# ASME	D40 ²	DIN PN 40
15	1500# ASME	D64 ²	DIN PN 64
25	2500# ASME	D100 ²	DIN PN 100

MATERIAL(S) OF CONSTRUCTION (Standpipe Material/Trim Material³)

Code	Description
R ^{4,6}	304/304L Stainless Steel
RA ⁶	304/Carbon Steel ³
T	316/316L Stainless Steel
TA	316/Carbon Steel ³

CHAMBER STYLE¹¹ (See Page 14 for Illustrations)

Code	Top End of Chamber	Bottom End of Chamber
MM	Flange with Mating Flange	Flange with Mating Flange
MF	Flange with Mating Flange	Flange
MC	Flange with Mating Flange	Welded Cap
CM	Welded Cap	Flange with Mating Flange
CF	Welded Cap	Flange

Notes:

- Applicable only to flanged, customer facing connection(s); process, vent, drain.
- 'Trim' is any chamber component(s) above/below the standpipe, & any process flange(s).
- Chamber cap is 316/316L SS.
- Baffle plate is 316SS.
- Metallic (& when available, Coated) Mat's: Raised-face flange std. Slip-On 150#-600#. Weld Neck 900# & up. Plastic: Socket-weld flange std. Std faces raised &/or flat (uncontrolled, at vendors' discretion).
- Valve & Style selections shall be 'OF', for Chamber Style '(M,C,or F)F' or 'B(0,1,or 2)'.²⁰
- Flange Size shall be greater than or equal to Nominal Chamber Size.
- Specify elevation(s) of intermediate nozzle(s).
- Contact factory for additional application guidance.
- (c). For gages w/ 1+ end process connection(s), consult factory for resulting visible range, or process connection dimension.
- Additional air purge kit (1/8" FNPT connection) available, up to 600°F (315°C) max. NEMA 4X rating no longer applicable.
- Two scales on indicator, along either side (left/right) of flags. Not available on NightStar indicators.
- Not all options are available w/ every combination. Unless already identified, consult factory for applicability.
- May result in 1" increase/decrease in chamber float leg/visible range, respectively.
- Located in-line w/ upper-side branch conn. (when present, otherwise 180° from indicator), unless otherwise noted.
- Raw mat'l of all wetted piping components from USA, Canada, Japan, or W. Europe (as defined by C-R).
- Meets B31.3 & NACE, w/ or w/o Insulation.
- Suitable only for 150#/300# flanged joints, w/o a spiral wound gasket.
- Indicator location (in degrees) clockwise from top-side process, viewed from above the gage. N/A for 180° (std) or zero side connections.
- Vent location (in degrees) clockwise from top-side process, viewed from above the gage. N/A for 270° (std) or zero side connections.

See Page 11
Define Vent/
Drain and
Process
Connections

See Page 12
Define
Process
Conditions /
Indicator
and Scale

See Page 13 Options

Define Vent/Drain & Process Connections

Model code requires Factory confirmation. Additional considerations (float OD, radar OD, etc.) beyond the model code scope, render some combinations invalid.

MGWRS

40

C

01

T

MM

See Page 10
Define
Chamber &
Materials

A

06

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WF

FI

See Page 12
Define
Process
Conditions /
Indicator
and Scale

See Page 13 Options

RADAR CONNECTION

STYLE

Code	Description
A	FNPT (Female NPT)
F ¹¹	Flange

SIZE

Code	Description	Valid w/ Connection Style
06	3/4" (DN 20)	A
08	1" (DN 25)	A
12	1-1/2" (DN 40)	A, F
16	2" (DN 50)	F

VENT CONNECTION - TOP-SIDE, STD. (See Page 26 for Illustrations)

VALVE

Code	Description
0	None
1	Gate
2	Globe
S	Spl/Custom Specified

STYLE

Code	Description
A	FNPT (Female NPT)
B	FSW (Female Socket Weld)
C	MNPT (Male NPT)
D	MSW (Male Socket Weld)
F ¹¹	Flange
K	None

SIZE

Code	Description	Valid w/ Connection Style
04	1/2" (DN 15)	A, B, C, D, F
06	3/4" (DN 20)	A, B, C, D, F
08	1" (DN 25)	A, B, C, D, F
12	1-1/2" (DN 40)	A, B, C, D, F
16	2" (DN 50)	F
00	N/A	K

DRAIN/BOTTOM CHAMBER CONNECTION¹⁸ (See Page 26 for Illustrations)

VALVE

Code	Description
0	None
1	Gate
2	Globe
S	Spl/Custom Specified

STYLE

Code	Description
A	FNPT (Female NPT)
B	FSW (Female Socket Weld)
C	MNPT (Male NPT)
D	MSW (Male Socket Weld)
F ¹¹	Flange
K	None

SIZE

Code	Description	Valid w/ Connection Style
04	1/2" (DN 15)	A, B, C, D, F
06	3/4" (DN 20)	A, B, C, D, F
08	1" (DN 25)	A, B, C, D, F
12	1-1/2" (DN 40)	A, B, C, D, F
16	2" (DN 50)	F
24	3" (DN 80)	F
32	4" (DN 100)	F
40	5" (DN 125)	F
00	N/A	K

SIDE PROCESS CONNECTION(S)

NO. OF SIDE CONNECTIONS

Code	Description
1T	1 @ Top Side Only
2	2 Side Connections
# ²²	3+ Side Connections ('#', Specify Qty)

STYLE

Code	Description
A	FNPT (Female NPT)
B	FSW (Female Socket Weld)
C	MNPT (Male NPT)
D	MSW (Male Socket Weld)
F ¹¹	Flange
K	None

SIZE

Code	Description
04	1/2" (DN 15)
06	3/4" (DN 20)
08	1" (DN 25)
12	1-1/2" (DN 40)
16	2" (DN 50)
24	3" (DN 80)

Define Process Conditions/Indicator & Scale

Model code requires Factory confirmation. Additional considerations (float OD, radar OD, etc.) beyond the model code scope, render some combinations invalid.

SPECIFIC GRAVITY 0.30 & Up, Depending on Float Style & Max Operating Conditions. For varying SG applications, specify min SG in the range. For interface applications,²⁴ specify "Upper Fluid"/"Lower Fluid" (0.1 Min Differential Req'd).

MAXIMUM OPERATING PRESSURE (PSIG) Up to 3500 psig (241 bar); Consult factory for greater values.

MAXIMUM OPERATING TEMPERATURE (°F) Up to 1000°F (537°C) max.

VISIBLE RANGE / CENTER-CENTER or CENTER-FACE²⁵

Enter (1) value if visible range & center-to-center are equal. Exact inches (for mm, add "mm").

FLAG STYLE INDICATOR

Yellow (Liquid)/Black (Vapor) Colors Standard. See Options for Red/White Order Code. Consult Factory for Other Color Options.

Code	Description
WF	Wide Indicator (1-1/2" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 1000°F (537°C) Max
HWFP	Wide Indicator (1-1/2" Flag), Hermetically Sealed (IP68) in Polycarbonate Tube, Stainless Steel Frame, 500°F (260°C) Max
FL	Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 1000°F (537°C) Max
HFLP	Conventional Indicator (3/4" Flag), Hermetically Sealed (IP68) in Polycarbonate Tube, Stainless Steel Frame, 500°F (260°C) Max
HFLG	Conventional Indicator (3/4" Flag), Hermetically Sealed (IP68) in Glass Tube, Stainless Steel Frame, 1000°F (537°C) Max (Sealed Glass Tube Sections Stacked End to End w/ ~1.5" (38mm) Gap, when Visible Exceeds 78" (1981mm))
N### ²⁶	NightStar™ (USA/CAN) Illuminated Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 450°F (232°C) Max ('###' = Supply Power, VAC (i.e., N120 or N240))
N### ²⁶	NightStar™ (ATEX/IECEx) Illuminated Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 450°F (232°C) Max ('###' = Supply Power, VAC (i.e., NX120 or NX240))
NI	No Indicator

SCALE TYPE

Code	Description
FI	Feet/Inches
MM	Meter/Millimeter
PS	Percent Scale
SS	Special Scale
NS	No Scale
__/_	Dual Scale ²⁷ Format, Specify Types (Example: FI/MM)

MGWRS

40

C

01

T

MM

See Page 10
Define
Chamber &
Materials

A

06

O

A

04

O

A

04

2

F

16

See Page 11
Define Vent/
Drain and
Process
Connections

1.00

275

100

24

WF

FI

See Page 13 Options

MAGNicator® II Specification Guide – Model MGWRS

Define Options

Step 4

Model code requires Factory confirmation. Additional considerations (float OD, radar OD, etc.) beyond the model code scope, render some combinations invalid.

MGWRS

40

C

01

T

MM

See Page 10
Define
Chamber &
Materials

A

06

O

A

04

See Page 11
Define Vent/
Drain and
Process
Connections

O

A

04

2

F

16

1.00

275

100

24

See Page 12
Define
Process
Conditions /
Indicator
and Scale

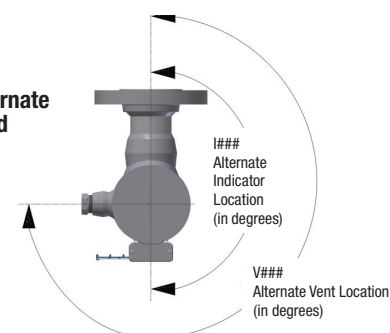
WF

FI

OPTIONS²⁸ To define multiple options, add additional codes as suffixes to model string.

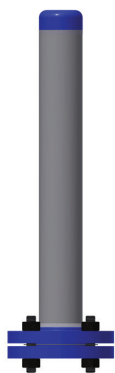
Code	Description
RW	Red (Liquid) /White (Vapor) Flag Indicator Colors (Std is Yellow/Black)
SF²⁹	Sunken Float Indicator (1" Below Measuring Range, w/ Alternate Flag Color Indication)
DI²⁴	Dual Indication, Total Level & Interface (WF Series or Hermetic Indicators Only. Both SG's Req'd.)
SW³⁰	Socket-Weld Flanges (All Around, Up To & Including 600#, Consult Factory above 600#)
WN	Weld Neck Flanges (All Around, Up to & Including 600#. Std. above 600#)
BR#³¹	Support Bracket(s) (# = No. of Brackets. Unless Otherwise Noted, Evenly Spaced Between Process Connections)
NF	Non-Frost Extension, 3-5/8" (92mm) Depth (Min. Temp. -300°F (-184°C))
ST	Steam Tracing, 3/8" (9.5mm) OD Tube with Compression Fitting
E11	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D1, Grps B,C,D. Consult Factory for Optional Thermostat.
E12	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D2, Grps B,C,D, NEMA 4X Enclosure. Consult Factory for optional thermostat.
HI	High Temperature Insulation, Flexible Jacket, 500°F (260°C)
HI8	High Temperature Insulation, Flexible Jacket, 800°F (426°C)
NC	NACE Compliant to MR0103/0175
RMW³²	Regionally Restricted Material
B1	Designed to ASME B31.1
GR	Flexible Graphite Gasket w/ 316 Stainless Steel Insert
SWG	Spiral Wound Gasket (Graphite Filler w/ Inner Ring & Windings To Match Chamber) (Std w/ 600# Class Flanges & Above)
MT	Magnetic Trap, In-Line w/ Bottom-Side Process Connection
SE³⁰	Stub End w/ Lap Joint (aka: 2-Piece) Process Flange (Up To & Including 600#)
SP#	Set Point Arrow(s) (# = No. of Arrows, Evenly Spaced Along Indicator, unless otherwise noted)
SML	Seamless Pipe
S8	Schedule 80 Nipples/Fittings (Does not apply to 1) Chamber, 2) Flange Class 600# & up (Std))
S16	Schedule 160 Nipples/Fittings (Does not apply to Chamber)
B7M³⁴	Cr-Mo Bolting (ASME A193 Gr.B7M Studs & ASME A194 Gr.2HM Nuts)
B8M³⁵	316SS Bolting (ASME A193 Gr.B8M, Class 1 Studs & ASME A194 Gr.8MA Nuts)
I###³⁶	Alternate indicator location, other than std, 180° (i.e., I090 = 90°, I225 = 225°)
DIN	DIN Flanges (All Around)
V###³⁹	Alternate vent location, other than std, 270°. [IE: I090 = 90°, I225 = 225°]
UB##	Upper Blocking distance (in whole inches), when other than std, 8". [IE: UB09 = 9", UB18 = 18"]

MGWRS Alternate
Indicator and
Vent Image

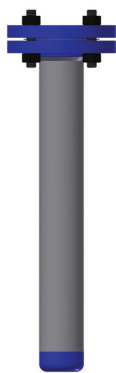


MAGNicator® II Specification Guide – Model MGWRS

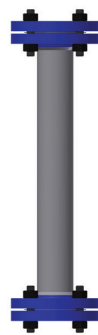
Chamber Style Illustrations



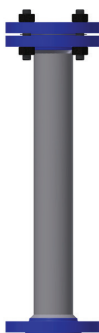
CM
Welded Cap Top,
Mating Flange Bottom



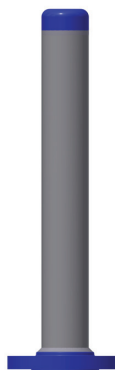
MC
Mating Flange Top,
Welded Cap Bottom



MM
Mating Flange Top,
Mating Flange Bottom



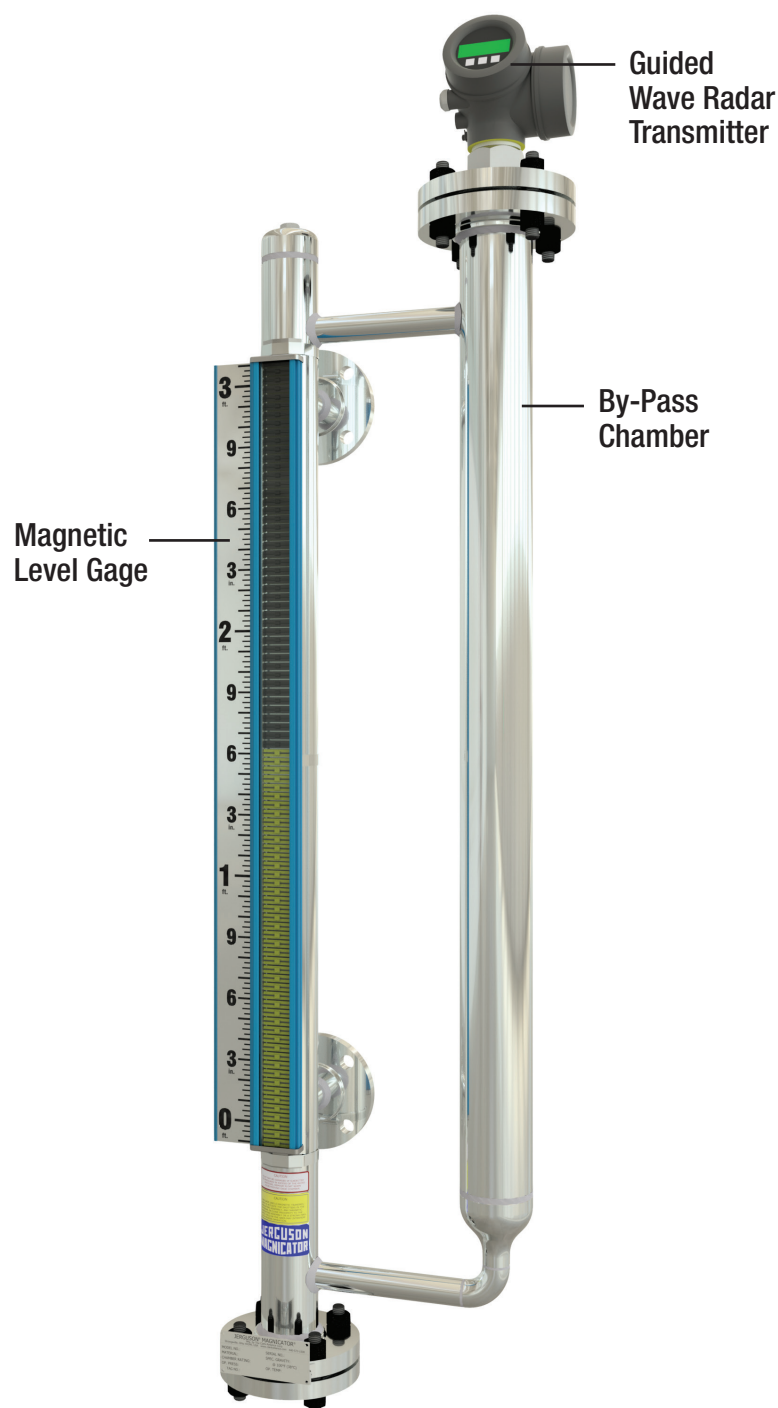
MF
Mating Flange Top,
Exposed Flange Bottom



CF
Welded Cap Top,
Exposed Flange Bottom

MAGNicator® II Specification Guide

Model MGWRD



Define Chamber & Materials

MGWRD

25

C

30

C

01

T

CM

1

0

A

04

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WF

FI

See Page 17
Define Vent/
Drain and
Process
Connections

See Page 18
Define
Process
Conditions /
Indicator
and Scale

See Page 19 Options

CHAMBER DESIGN

Code	Description
MGWRD	Standard, Magnicator Chamber + Radar Chamber w/ Transmitter, ASME B31.3 Design
MGWRDF	Flashproof Magnicator Chamber + Radar Chamber w/ Transmitter, ASME B31.3 Design

NOMINAL MAGNicator CHAMBER

SIZE

Code	Description	Valid w/Chamber Design
20	2.0" NPS	MGWRD
25	2.5" NPS	MGWRD
30	3.0" NPS	MGWRD MGWRDF

SCHEDULE

Code	Description	Valid w/ Chamber Design/Size
C	Sched. 40	MGWRD-20, 25, or 30 MGWRDF-30
D	Sched. 80	MGWRD-25 or 30 MGWRDF-30
E	Sched. 160	MGWRD-30

NOMINAL RADAR CHAMBER

SIZE

Code	Description
20	2.0" NPS
30	3.0" NPS
40	4.0" NPS

SCHEDULE

Code	Description
C	Schedule 40
D	Schedule 80
E	Schedule 160

FLANGE CLASS

Code	Description	Code	Description
01	150# ASME	D10 ²	DIN PN 10
03	300# ASME	D16 ²	DIN PN 16
06	600# ASME	D25 ²	DIN PN 25
09	900# ASME	D40 ²	DIN PN 40
15	1500# ASME	D64 ²	DIN PN 64
25	2500# ASME	D100 ²	DIN PN 100

MATERIAL(S) OF CONSTRUCTION (Standpipe Material/Trim Material³)

Code	Description	Code	Description
R ^{4,5}	304/304L Stainless Steel	V ⁷	317 Stainless Steel
RA ⁵	304/Carbon Steel ³	TT ⁷	Titanium
T	316/316L Stainless Steel	LB3 ⁷	Hastelloy® B3
TA	316/Carbon Steel ³	MD4 ⁷	Inconel® 600
K ⁷	Alloy 20	MD13 ⁷	Incoloy® 800
LC ⁷	Hastelloy® C276	MD14 ⁷	Inconel® 625
N ⁷	Monel® 400	MD15 ⁷	Incoloy® 825
S ⁷	347 Stainless Steel	XL4 ⁷	SMO 254, UNS 31254
Y ⁷	321 Stainless Steel	ZZ ⁷	Zirconium ZR2

CHAMBER STYLES¹¹ (See Page 20 for Illustrations)

MAGNicator CHAMBER STYLE

Code	Top End of Chamber	Bottom End of Chamber
CM	Welded Cap	Flange with Mating Flange
MC	Flange with Mating Flange	Welded Cap
MM	Flange with Mating Flange	Flange with Mating Flange
MF	Flange with Mating Flange	Flange
FM	Flange	Flange with Mating Flange
CF	Welded Cap	Flange
FC	Flange	Welded Cap
FF	Flange	Flange

RADAR CHAMBER STYLE

Code	Top End of Chamber	Bottom End of Chamber
0	Capped, 1.50" NPT	Integral Elbow / Drain ¹⁴
1	Flange	Integral Elbow / Drain ¹⁴
2	Flange	Flange with Mating Flange

Define Vent/Drain & Process Connections

MGWRD

25

C

30

C

01

T

CM

1

0

A

04

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WF

FI

VENT/TOP MAGNETIC CHAMBER CONNECTION¹⁶ (See Page 26 for Illustrations)

VALVE		STYLE		SIZE		
Code	Description	Code	Description	Code	Description	Valid w/ Connection Style
0	None	A	FNPT (Female NPT)	04	1/2" (DN 15)	A, B, C, D, F
1	Gate	B	FSW (Female Socket Weld)	06	3/4" (DN 20)	A, B, C, D, F
2	Globe	C	MNPT (Male NPT)	08	1" (DN 25)	A, B, C, D, F
S	Spl/Custom Specified	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)	A, B, C, D, F
		F ¹¹	Flange	16	2" (DN 50)	F
		K	None	20	2-1/2" (DN 65)	F
				24	3" (DN 80)	F
				00	N/A	K

DRAIN/BOTTOM MAGNETIC CHAMBER CONNECTION¹⁸ (See Page 26 for Illustrations)

VALVE		STYLE		SIZE		
Code	Description	Code	Description	Code	Description	Valid w/ Connection Style
0	None	A	FNPT (Female NPT)	04	1/2" (DN 15)	A, B, C, D, F
1	Gate	B	FSW (Female Socket Weld)	06	3/4" (DN 20)	A, B, C, D, F
2	Globe	C	MNPT (Male NPT)	08	1" (DN 25)	A, B, C, D, F
S	Spl/Custom Specified	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)	A, B, C, D, F
		F ¹¹	Flange	16	2" (DN 50)	F
		K	None	24	3" (DN 80)	F
				00	N/A	K

RADAR CHAMBER DRAIN²³ (See Page 26 for Illustrations)

VALVE		STYLE		SIZE		
Code	Description	Code	Description	Code	Description	Valid w/ Connection Style
0	None	A	FNPT (Female NPT)	04	1/2" (DN 15)	A, B, C, D, F
1	Gate	B	FSW (Female Socket Weld)	06	3/4" (DN 20)	A, B, C, D, F
2	Globe	C	MNPT (Male NPT)	08	1" (DN 25)	A, B, C, D, F
S	Spl/Custom Specified	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)	A, B, C, D, F
		F ¹¹	Flange	16	2" (DN 50)	F
		K	None	20	2-1/2" (DN 65)	F
				24	3" (DN 80)	F
				00	N/A	K

SIDE PROCESS CONNECTION(S)

NO. OF SIDE CONNECTIONS		STYLE		SIZE	
Code	Description	Code	Description	Code	Description
0	No Side Connections	A	FNPT (Female NPT)	04	1/2" (DN 15)
1T	1 @ Top Side Only	B	FSW (Female Socket Weld)	06	3/4" (DN 20)
1B	1 @ Bottom Side Only	C	MNPT (Male NPT)	08	1" (DN 25)
2	2 Side Connections	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)
# ²²	3+ Side Connections ('#', Specify Qty)	F ¹¹	Flange	16	2" (DN 50)
		K	None	24	3" (DN 80)
				00	N/A

See Page 16
Define Chambers & Materials

See Page 18
Define Process Conditions / Indicator and Scale

See Page 19 Options

Define Process Conditions/Indicator & Scale

MGWRD

25

C

30

C

01

T

CM

1

0

A

04

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WF

FI

See Page 16
Define
Chambers &
Materials

See Page 17
Define Vent/
Drain and
Process
Connections

See Page 19 Options

SPECIFIC GRAVITY 0.30 & Up, Depending on Float Style & Max Operating Conditions. For varying SG applications, specify min SG in the range. For interface applications;²⁴ specify "Upper Fluid"/"Lower Fluid" (0.1 Min Differential Req'd).

MAXIMUM OPERATING PRESSURE (PSIG) Up to 3500 psig (241 bar); Consult factory for greater values.

MAXIMUM OPERATING TEMPERATURE (°F) Up to 1000°F (537°C) max.

VISIBLE RANGE / CENTER-CENTER or FACE-FACE or CENTER-FACE²⁵

Enter (1) value if visible range & center-to-center are equal. Exact inches (for mm, add "mm").

FLAG STYLE INDICATOR

Yellow (Liquid)/Black (Vapor) Colors Standard. See Options for Red/White Order Code. Consult Factory for Other Color Options.

Code	Description
WF	Wide Indicator (1-1/2" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 1000°F (537°C) Max
HWFP	Wide Indicator (1-1/2" Flag), Hermetically Sealed (IP68) in Polycarbonate Tube, Stainless Steel Frame, 500°F (260°C) Max
FL	Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 1000°F (537°C) Max
HFLP	Conventional Indicator (3/4" Flag), Hermetically Sealed (IP68) in Polycarbonate Tube, Stainless Steel Frame, 500°F (260°C) Max
HFLG	Conventional Indicator (3/4" Flag), Hermetically Sealed (IP68) in Glass Tube, Stainless Steel Frame, 1000°F (537°C) Max (Sealed Glass Tube Sections Stacked End to End w/ ~1.5" (38mm) Gap, when Visible Exceeds 78" (1981mm))
N### ²⁶	NightStar™ (USA/CAN) Illuminated Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 450°F (232°C) Max ('###' = Supply Power, VAC (i.e., N120 or N240))
NX### ²⁶	NightStar™ (ATEX/IECEx) Illuminated Conventional Indicator (3/4" Flag), Sealed (NEMA 4X) in Anodized Aluminum Housing, 450°F (232°C) Max ('###' = Supply Power, VAC (i.e., NX120 or NX240))
NI	No Indicator

SCALE TYPE

Code	Description
FI	Feet/Inches
MM	Meter/Millimeter
PS	Percent Scale
SS	Special Scale
NS	No Scale
—/—	Dual Scale ²⁷ Format, Specify Types (Example: FI/MM)

Notes:

- Applicable only to flanged, customer facing connection(s); process, vent, drain.
- 'Trim' is any chamber component(s) above/below the standpipe, & any process flange(s).
- Chamber cap is 316/316L SS.
- Guide bars (when flashproof) are 316/316L SS.
- Consult factory for chamber size code.
- Metallic (& when available, Coated) Materials:
Raised-face flange std. Slip-On 150#-600#. Weld Neck 900# & up. Plastic: Socket-weld flange std. Std faces raised &/or flat (uncontrolled, at vendors' discretion).
- Integral elbow not considered 'TRIM' material.³
- Valve & Style selections shall be '0F', for Chamber Style 'F(M,C,or F)'.²⁰
- Valve & Style selections shall be '0F', for Chamber Style '(M,C,or F)' or 'B(0,1,or 2)'.²⁰
- Flange Size shall be greater than or equal to Nominal Chamber Size.
- Specify elevation(s) of intermediate nozzle(s).
- Radar Chamber Drain selection shall be '0K00', for Radar Chamber Styles 0 & 1.
- Contact factory for additional application guidance.
- A multiple section chamber may be required when range/center exceeds mat'l/application limits; ~225" metallic & CPVC, ~175" PVDF, ~100" coated. Each joint shall be flanged, have a break in the measuring range, include support/lifting brackets on either side. Consult factory for continuous chamber options.
- For gages w/ 1+ end process connection(s), consult factory for resulting visible range, or process connection dimension.
- Additional air purge kit (1/8" FNPT connection) available, up to 600°F (315°C) max. NEMA 4X rating no longer applicable.
- Two scales on indicator, along either side (left/right) of flags. Not available on NightStar indicators.
- Not all options are available w/ every combination. Unless already identified, consult factory for applicability.
- May result in 1" increase/decrease in chamber float leg/visible range, respectively.
- Located in-line w/ upper-side branch conn. (when present, otherwise 180° from indicator), unless otherwise noted.
- Raw mat'l of all wetted piping components from USA, Canada, Japan, or W. Europe (as defined by C-R)
- Meets B31.3 & NACE, w/ or w/o Insulation.
- Suitable only for 150#/300# flanged joints, w/o a spiral wound gasket.
- Indicator location (in degrees) clockwise from top-side process, viewed from above the gage. N/A for 180° (std) or zero side connections.
- Radar chamber location (in degrees) clockwise from top-side process, viewed from above the gage. N/A for 90° (std) or zero side connections.

Define Options

MGWRD

25

C

20

C

1

T

CM

1

0

A

04

0

A

04

0

A

04

2

F

16

1.00

275

100

24

WF

FI

See Page 16
Define
Chambers &
Materials

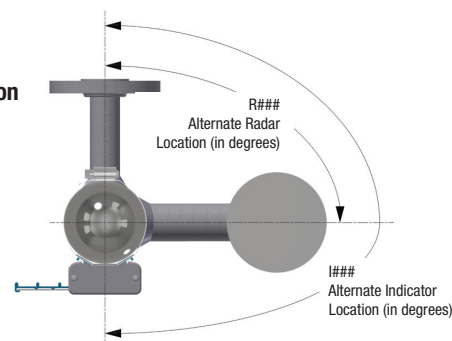
See Page 17
Define Vent/
Drain and
Process
Connections

See Page 18
Define Process
Conditions /
Indicator
and Scale

OPTIONS²⁸ To define multiple options, add additional codes as suffixes to model string.

Code	Description
RW	Red (Liquid) /White (Vapor) Flag Indicator Colors (Std is Yellow/Black)
SF²⁹	Sunken Float Indicator (1" Below Measuring Range, w/ Alternate Flag Color Indication)
DI²⁴	Dual Indication, Total Level & Interface (WF Series or Hermetic Indicators Only. Both SG's Req'd.)
SW	Socket-Weld Flanges (All Around, Up To & Including 600#, Consult Factory above 600#)
WN	Weld Neck Flanges (All Around, Up to & Including 600#. Std. above 600#)
BW	Butt Weld Construction (Includes Full Bore Butt Weld Tees @ Branch Connections, & WN Flanges)
BR#³¹	Support Bracket(s) (# = No. of Brackets. Unless Otherwise Noted, Evenly Spaced Between Process Connections)
NF	Non-Frost Extension, 3-5/8" (92mm) Depth (Min. Temp. -300°F (-184°C))
CI	Cold Insulation, 2" (50mm) Nominal Rigid Foam w/ Alum Jacket, -297°F (-182°C) to 300°F (148°C). Non-Frost (NF) Ext Included.
ST	Steam Tracing, 3/8" (9.5mm) OD Tube with Compression Fitting
E11	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D1, Grps B,C,D. Consult Factory for Optional Thermostat.
E12	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D2, Grps B,C,D, NEMA 4X Enclosure. Consult Factory for Optional Thermostat.
HI	High Temperature Insulation, Flexible Jacket, 500°F (260°C)
HI8	High Temperature Insulation, Flexible Jacket, 800°F (426°C)
NC	NACE Compliant to MR0103/0175
RMW³²	Regionally Restricted Material
B1	Designed to ASME B31.1
GR	Flexible Graphite Gasket w/ 316 Stainless Steel Insert
SWG	Spiral Wound Gasket (Graphite Filler w/ Inner Ring & Windings To Match Chamber)
	(Std w/ 600# Class Flanges & Above)
MT	Magnetic Trap, In-Line w/ Bottom-Side Process Connection
SE	Stub End w/ Lap Joint (aka: 2-Piece) Process Flange (Up To & Including 600#)
SP#	Set Point Arrow(s) (# = No. of Arrows, Evenly Spaced Along Indicator, unless otherwise noted)
SML	Seamless Pipe
S8	Schedule 80 Nipples/Fittings (Does not apply to 1) Chamber, 2) Flange Class 600# & up (Std))
S16	Schedule 160 Nipples/Fittings (Does not apply to Chamber)
B7M³⁴	Cr-Mo Bolting (ASME A193 Gr.B7M Studs & ASME A194 Gr.2HM Nuts)
B8M³⁵	316SS Bolting (ASME A193 Gr.B8M, Class 1 Studs & ASME A194 Gr.8MA Nuts)
I###³⁶	Alternate indicator location, other than std, 180° (i.e., I090 = 90°, I225 = 225°)
R###³⁷	Alternate radar chamber location, other than std, 90°. [IE: R180 = 180°, R270 = 270°]
DIN	DIN Flanges (All Around)
UB##	Upper Blocking distance (in whole inches), when other than std, 8". [IE: UB09 = 9", UB18 = 18"]

MGWRD Configuration Dimensions



MAGNicator® II Specification Guide – Model MGWRD

Chamber Style Illustrations



CM0
Cap Top/Mated Flg Bottom,
Cap/Elbow



CM1
Cap Top/Mated Flg Bottom,
Flg/Elbow



CM2
Cap Top/Mated Flg Bottom,
Flg/Mating Flg



MC0
Mated Flg Top/Cap Bottom,
Cap/Elbow



MC1
Mated Flg Top/Cap Bottom,
Flg/Elbow



MC2
Mated Flg Top/Cap Bottom,
Flg/Mating Flg



MM0
Mated Flg Top/Mated Flg Bot,
Cap/Elbow



MM1
Mated Flg Top/Mated Flg Bot,
Flg/Elbow



MM2
Mated Flg Top/Mated Flg Bot,
Flg/Mating Flg



MF0
Mated Flg Top/Flange Bot,
Cap/Elbow



MF1
Mated Flg Top/Flange Bot,
Flg/Elbow



MF2
Mated Flg Top/Flange Bot,
Flg/Mating Flg



FM0
Flange Top/Mated Flg Bot,
Cap/Elbow



FM1
Flange Top/Mated Flg Bot,
Flg/Elbow



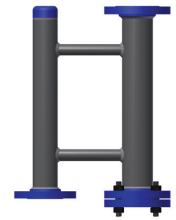
FM2
Flange Top/Mated Flg Bot,
Flg/Mating Flg



CF0
Cap Top/Mated Flg Bot,
Cap/Elbow



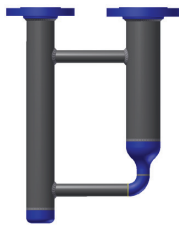
CF1
Cap Top/Flange Bot,
Flg/Elbow



CF2
Cap Top/Flange Bot,
Flg/Mating Flg



FC0
Flange Top/Cap Bot,
Cap/Elbow



FC1
Flange Top/Cap Bot,
Flg/Elbow



FC2
Flange Top/Cap Bot,
Flg/Mating Flg



FF0
Flange Top/Flange Bot,
Flg/Mating Flg



FF1
Flange Top/Flange Bot,
Flg/Mating Flg



FF2
Flange Top/Flange Bot,
Flg/Mating Flg

MAGNicator® II Specification Guide

Model BPC



Define Chamber & Materials

BPC

30

C

01

T

MC

0

A

04

2

F

16

275

100

24

CHAMBER DESIGN

Code	Description
BPC	Bypass Chamber w/ Top-Mount Radar Transmitter, ASME B31.3 Design

NOMINAL CHAMBER

SIZE	Code	Description
20		2.0" NPS
30		3.0" NPS
40		4.0" NPS

SCHEDULE

Code	Description
C	Schedule 40
D	Schedule 80
E	Schedule 160

FLANGE CLASS

Code	Description	Code	Description
00	N/A, No Flanges	D10 ²	DIN PN 10
01	150# ASME	D16 ²	DIN PN 16
03	300# ASME	D25 ²	DIN PN 25
06	600# ASME	D40 ²	DIN PN 40
09	900# ASME	D64 ²	DIN PN 64
15	1500# ASME	D100 ²	DIN PN 100
25	2500# ASME		

MATERIAL OF CONSTRUCTION

Code	Description	Code	Description
R ⁴	304/304L Stainless Steel	TT ⁷	Titanium
T	316/316L Stainless Steel	LB3 ⁷	Hastelloy® B3
A	Carbon Steel	MD4 ⁷	Inconel® 600
K ⁷	Alloy 20	MD13 ⁷	Incoloy® 800
LC ⁷	Hastelloy® C276	MD14 ⁷	Inconel® 625
N ⁷	Monel® 400	MD15 ⁷	Incoloy® 825
S ⁷	347 Stainless Steel	XL4 ⁷	SMO 254, UNS 31254
Y ⁷	321 Stainless Steel	ZZ ⁷	Zirconium ZR2
V ⁷	317 Stainless Steel		

CHAMBER STYLE^{11, 15} (See Page 25 for Illustrations)

Code	Top End of Chamber	Bottom End of Chamber
MC	Flange with Mating Flange	Welded Cap
MM	Flange with Mating Flange	Flange with Mating Flange
MF	Flange with Mating Flange	Flange
CC	Welded Cap	Welded Cap
CM	Welded Cap	Flange with Mating Flange
CF	Welded Cap	Flange
FC	Flange (Chamber Only, Radar Not Supplied)	Welded Cap
FM	Flange (Chamber Only, Radar Not Supplied)	Flange with Mating Flange
FF	Flange (Chamber Only, Radar Not Supplied)	Flange

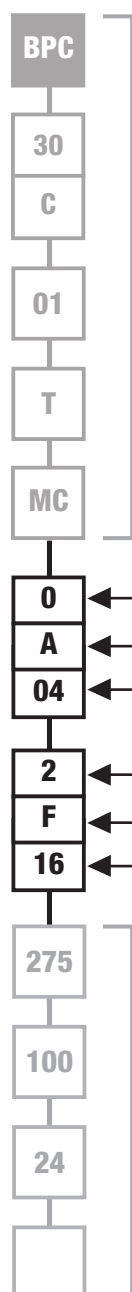
See Page 23
Define Vent/
Drain and
Process
Connections

See Page 24
Define
Process
Conditions
and Options

MAGNicator® II Specification Guide – Model BPC

Define Vent/Drain & Process Connections

Step 2



See Page 22
Define
Chamber &
Materials

DRAIN/BOTTOM CHAMBER CONNECTION¹⁸ (See Page 26 for Illustrations)

VALVE		STYLE		SIZE		Valid w/ Connection Style
Code	Description	Code	Description	Code	Description	
0	None	A	FNPT (Female NPT)	04	1/2" (DN 15)	A, B, C, D, F
1	Gate	B	FSW (Female Socket Weld)	06	3/4" (DN 20)	A, B, C, D, F
2	Globe	C	MNPT (Male NPT)	08	1" (DN 25)	A, B, C, D, F
S	Spl/Custom Specified	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)	A, B, C, D, F
		F ¹¹	Flange	16	2" (DN 50)	F
		K	None	24	3" (DN 80)	F
				32	4" (DN 100)	F
				00	N/A	K

SIDE PROCESS CONNECTION(S)

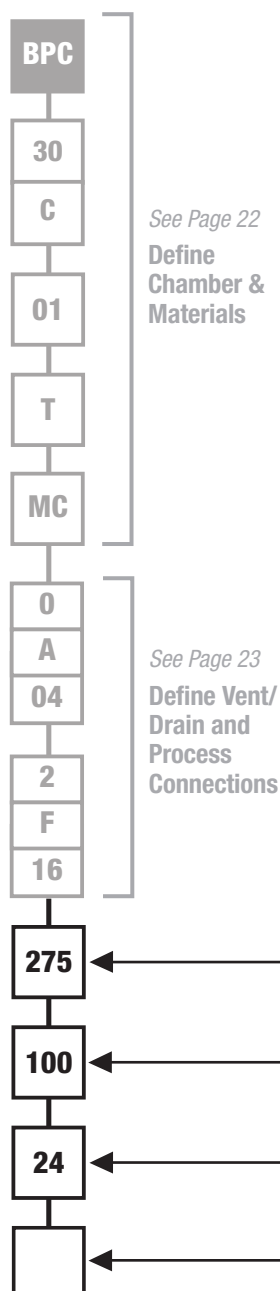
NO. OF SIDE CONNECTIONS		STYLE		SIZE	
Code	Description	Code	Description	Code	Description
0	No Side Connections	A	FNPT (Female NPT)	04	1/2" (DN 15)
1T	1 @ Top Side Only	B	FSW (Female Socket Weld)	06	3/4" (DN 20)
2	2 Side Connections	C	MNPT (Male NPT)	08	1" (DN 25)
# ²²	3+ Side Connections ('#', Specify Qty)	D	MSW (Male Socket Weld)	12	1-1/2" (DN 40)
		F ¹¹	Flange	16	2" (DN 50)
		K	None	24	3" (DN 80)
				00	N/A

See Page 24
Define
Process
Conditions
and Options

Notes:

- Applicable only to flanged, customer facing connection(s); process, vent, drain.
- Chamber cap is 316/316L SS.
- Consult factory for chamber size code.
- Metallic (& when available, Coated) Materials: Raised-face flange std. Slip-On 150#-600#. Weld Neck 900# & up. Plastic: Socket-weld flange std. Std faces raised &/or flat (uncontrolled, at vendors' discretion).
- Chamber Style shall be 'CC' for Flange Class selection '00'.
- Valve & Style selections shall be '0F', for Chamber Style '(M,C, or F)' or 'B(0,1, or 2)'.²⁰
- Flange Size shall be greater than or equal to Nominal Chamber Size.
- Specify elevation(s) of intermediate nozzle(s).
- (a) A multiple section chamber may be required when range/center exceeds mat'l/application limits; ~225" metallic & CPVC, ~175" PVDF, ~100" coated. Each joint shall be flanged, have a break in the measuring range, include support/lifting brackets on either side. Consult factory for continuous chamber options.
- (c) For gages w/ 1+ end process connection(s), consult factory for resulting visible range, or process connection dimension.
- Not all options are available w/ every combination. Unless already identified, consult factory for applicability.
- Located in-line w/ upper-side branch conn. (when present, otherwise 180° from indicator), unless otherwise noted.
- Raw material of all wetted piping components from USA, Canada, Japan, or W. Europe (as defined by C-R)
- Meets B31.3 & NACE, w/ or w/o Insulation.
- Suitable only for 150#/300# flanged joints, w/o a spiral wound gasket.
- Chamber styles C_ or M_ only. Chamber style M_ includes upper mating flange, hardware & gasket.

Define Process Conditions and Options



MAXIMUM OPERATING PRESSURE (PSIG) Up to 3500 psig (241 bar); Consult factory for greater values.

MAXIMUM OPERATING TEMPERATURE (°F) Up to 1000°F (537°C) max.

MEASURING RANGE/CENTER-CENTER, FACE-FACE or CENTER-FACE²⁵

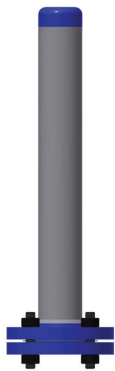
Enter (1) value if measuring range & center-to-center are equal. Exact inches (for mm, add "mm").

OPTIONS²⁸ To define multiple options, add additional codes as suffixes to model string.

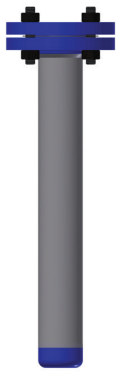
Code	Description
SW	Socket-Weld Flanges (All Around, Up To & Including 600#, Consult Factory above 600#)
WN	Weld Neck Flanges (All Around, Up to & Including 600#. Std. above 600#)
BW	Butt Weld Construction (Includes Full Bore Butt Weld Tees @ Branch Connections, & WN Flanges)
FB	Full Bore Construction @ Branch Connection (When Allowed by Main Run-Branch Run Construction)
BR#³¹	Support Bracket(s) (# = No. of Brackets. Unless Otherwise Noted, Evenly Spaced Between Process Connections)
CI	Cold Insulation, 2" (50mm) Nominal Rigid Foam w/ Alum Jacket, -297°F (-182°C) to 300°F (148°C). Requires Non-Frost (NF) Extension.
ST	Steam Tracing, 3/8" (9.5mm) OD Tube with Compression Fitting
E11	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D1, Grps B,C,D. Consult Factory for Optional Thermostat.
E12	Self-Regulating, 120VAC Electric Heat Trace, Cl.I, D2, Grps B,C,D, NEMA 4X Enclosure. Consult Factory for Optional Thermostat.
HI	High Temperature Insulation, Flexible Jacket, 500°F (260°C)
HI8	High Temperature Insulation, Flexible Jacket, 800°F (426°C)
BC	Designed to ASME Section I Boiler Code, 900 PSIG Max. Oper. Press. (Refer to Boiler Code Bulletin)
NC	NACE Compliant to MR0103/0175
RMW³²	Regionally Restricted Material
B1	Designed to ASME B31.1
GR	Flexible Graphite Gasket w/ 316 Stainless Steel Insert
SWG	Spiral Wound Gasket (Graphite Filler w/ Inner Ring & Windings To Match Chamber) (Std w/ 600# Class Flanges & Above)
SE	Stub End w/ Lap Joint (aka: 2-Piece) Process Flange (Up To & Including 600#)
SML	Seamless Pipe
S8	Schedule 80 Nipples/Fittings (Does not apply to 1) Chamber, 2) Flange Class 600# & up (Std))
S16	Schedule 160 Nipples/Fittings (Does not apply to Chamber)
B7M³⁴	Cr-Mo Bolting (ASME A193 Gr.B7M Studs & ASME A194 Gr.2HM Nuts)
B8M³⁵	316SS Bolting (ASME A193 Gr.B8M, Class 1 Studs & ASME A194 Gr.8MA Nuts)
DIN	DIN Flanges (All Around)
BL##	Bleed Ring, w/ Plugged Female NPT (Refer to 'Size' code from 'Drain/Bottom...Connection', for ##)
NR³⁸	No Radar, not supplied. Vent Connection same as Drain Connection
UB##	Upper Blocking distance (in whole inches), when other than std, 8". [IE: UB09 = 9", UB18 = 18"]

MAGNicator® II Specification Guide – Model BPC

Chamber Style Illustrations



CM
Welded Cap Top,
Mating Flange Bottom



MC
Mating Flange Top,
Welded Cap Bottom



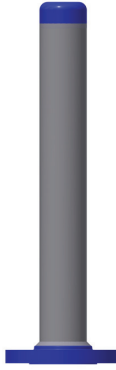
MM
Mating Flange Top,
Mating Flange Bottom



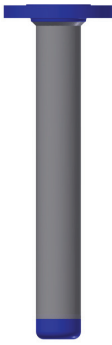
MF
Mating Flange Top,
Exposed Flange Bottom



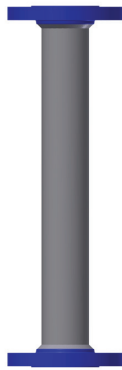
FM
Exposed Flange Top,
Mating Flange Bottom



CF
Welded Cap Top,
Exposed Flange Bottom



FC
Exposed Flange Top,
Welded Cap Bottom

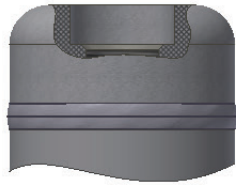


FF
Exposed Flange Top,
Exposed Flange Bottom

Vent & Drain Styles



Cap FNPT



Cap FSW



Cap MNPT



Cap MSW



Cap Flanged



Cap Valve FNPT



Cap Valve FSW



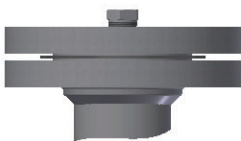
Cap Valve MNPT



Cap Valve MSW



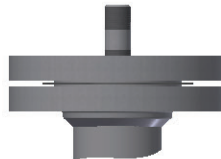
Cap Valve Flanged



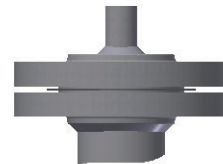
Flange FNPT



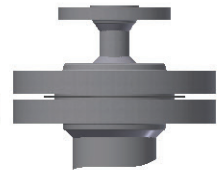
Flange FSW



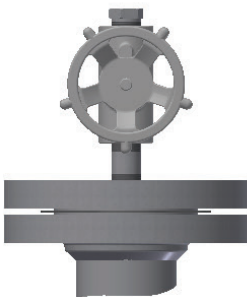
Flange MNPT



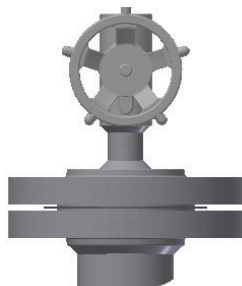
Flange MSW



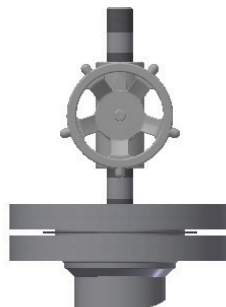
Flange Flanged



Flange Valve FNPT



Flange Valve FSW



Flange Valve MNPT



Flange Valve MSW

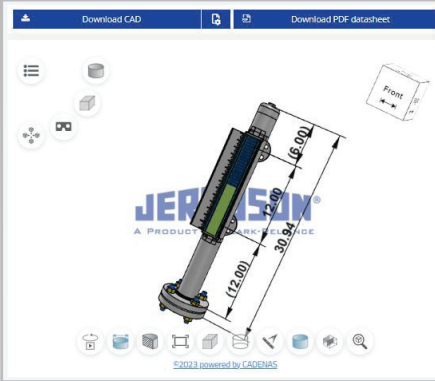


Flange Valve Flanged

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- Generate data sheets for specific designs



48-Hour Magnicator Shipment Program



- Common options and accessories
- Includes indicator and floats for retrofit applications
- Easy configuration guide

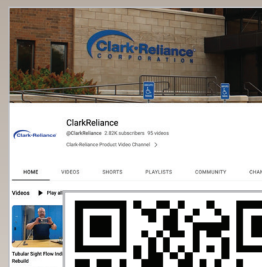


Clark-Reliance

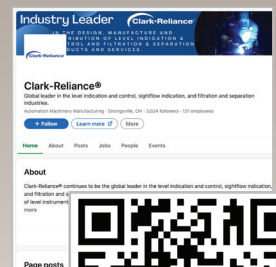
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