Preso®
Differential Pressure Flow Meters

Coin® Segmented Wedge

Butt Weld Flow Meter

DESCRIPTION

The Preso Coin Butt Weld Wedge flow meter accommodates most flows, even the most abrasive. This butt weld DP flow meter is designed to be placed and welded within a pipe line for leak-free, long-lasting measurement. This type of wedge meter is effective with liquid, gas and steam applications. This type of differential technology is a proven, consistent measuring technology for media in the upstream, midstream and downstream applications. Accuracy and reliability are achieved by its rugged construction, practical design, and simple principle of operation. It stands alone in its ability to maintain the necessary square root relationship between flow rate and differential pressure for almost any type of flow.

CONFIGURATION

The inlet section is the same diameter as the incoming pipe section and followed by a precise, segmented, angled section equal on both sides for bidirectional flow measurement. The H/ID ratio is determined by the manufacturer according to recognized standards and formulas. The discharge coefficient (Cd) is linear and stable in the operating flow range.

ACCURACY AND REPEATABILITY

The accuracy of the Coin meter is within ± 3.0% (uncalibrated) and ± 0.5% (calibrated) with a repeatability of ± 0.2% and turndown of 10:1 in the corresponding range of Reynolds' Numbers. For custody transfer applications the Coin meter is flow tested by an independent NIST certified laboratory under the design operating conditions and piping configurations.

APPLICATIONS

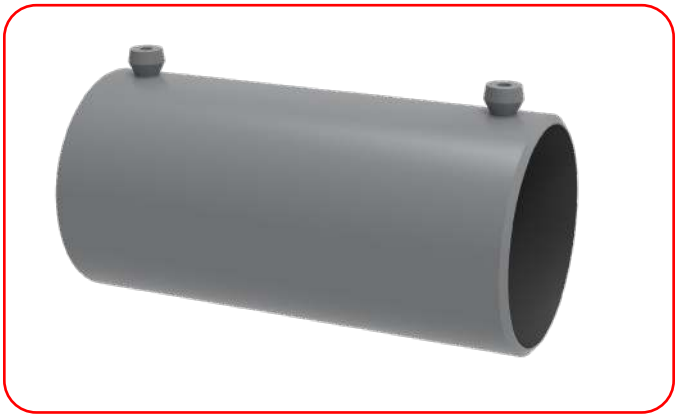
Typical core applications for Wedge meters include high-viscosity fluids, slurries, corrosive fluids, contaminated air/gas, and more.

DIFFERENTIATOR

The wedge meter functions similarly to a segmental orifice. A segmental orifice still has a small restriction in the line around the opening. The wedge design allows solids and particulates to be swept through the opening. It also enables measurements with Reynolds Numbers down in the laminar range to 500 as a minimum. Wedge meters generally have a higher turndown ratio than segmental orifice plates.

BENEFITS

- Abrasive and Erosive Slurries, Viscous and Dirty Fluids, Clean Fluids, Steam or Gasses



- Easily installed in any position with minimal straight pipe requirements
- Resists wear, maintenance free (no moving parts)
- Bi-Directional flow measurement

FEATURES

- Turndown ratio: 10:1
- Mass flow output with multivariable transmitter (accuracy ±0.5% calibrated)
- Repeatability: ±0.2% of readings
- Reynolds number measurement down to 300
- High viscosity measurement to 3000 and higher
- Sizes 0.5…40 in.
- Manufactured to ASME, ANSI B31.1, NACE MR-0175, CSA-Z299.3
- ISO-9001 certified design and fabrication

SPECIFICATIONS

Applications	Water, oil, steam, air/gas, sludge\slurries, molten rubber, molten sulfur, asphalt, crude oil, polymers, phenol resin, ammonia gas, hot tar, pulp stock, wet gases, other liquids.
Pipe Sizes	0.5…40 in. (13…406.40 mm)
Temperature Range	Up to 800° F (426.67° C)
Pressure Range	Depends on flange rating
Accuracy	±3.0% uncalibrated; up to 0.5% calibrated
Repeatability	±0.2%
Turndown Ratio	10:1

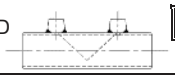
Badger Meter

DPM-DS-02615-EN-03 (August 2021)

Product Data Sheet

PART NUMBERING CONSTRUCTION

COIN® Segmented
Wedge 316 SS, SCH STD
BUTT WELD



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PIPE SIZE

1/2"	A
3/4"	B
1"	C
1-1/4"	D
1-1/2"	E
2"	F
2-1/2"	G
3"	H
4"	I
5"	J
6"	K
8"	L
10"	M
12"	N
14"	O
16"	P
Call for extended sizes	X

SCHEDULE

STD	A
Call for extended Schedules	

BODY / WEDGE MATERIAL

316/316L Body / 316/316L Wedge	2

PROCESS CONNECTION

Butt Weld	E

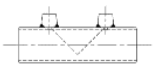
INSTRUMENT CONNECTION

1/4" NPT (1/2…3" NPS)	H
1/2" NPT (>3" NPS) 1/2"	I
Socket Weld	J

BETA

(0.2) Low Flow	1
(0.3) Med/Low Flow	2
(0.4) Normal Flow	3
(0.5) High Flow	4

COIN® Segmented
Wedge 316 SS, Standard
XS BUTT WELD



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PIPE SIZE

1/2"	A
3/4"	B
1"	C
1-1/4"	D
1-1/2"	E
2"	F
2-1/2"	G
3" 4"	H
5" 6"	I
8" 10"	J
12"	K
14"	L
16"	M
Other	N
	O
	P
	X

SCHEDULE

XS	L
Call for extended Schedules	

BODY / WEDGE MATERIAL

316/316L Body / 316/316L Wedge	2

PROCESS CONNECTION

Butt Weld	E

INSTRUMENT CONNECTION

1/4" NPT (1/2…3" NPS)	H
1/2" NPT (>3" NPS) 1/2"	I
Socket Weld	J

BETA

(0.2) Low Flow	1
(0.3) Med/Low Flow	2
(0.4) Normal Flow	3
(0.5) High Flow	4

Continued from previous page

INSTRUMENT VALVE

Not Required	Z
1/4" Needle CS	A
1/2" Needle CS	B
1/4" Needle SS	C
1/2" Needle SS	D
1/2" Gate w/Cross CS (Steam)	E
1/2" Gate w/Cross SS (Steam)	F

CALIBRATION

Not Required	Z
Factory Calibration (6 point)	1
Special Factory Calibration	2
External Calibration	3

TRANSMITTER MOUNTING

Remote Mount	Z
Mounting Bracket Tee (only)	2
Manifold Mounting Plate- Meter Mount (Does not include manifold)	3

CERTIFICATIONS

None	Z
Tracable Material Certifications	1
NACE MR0-103	2
NACE MR0-175	3
Items 1 and 2	4
Items 1 and 3	5
Other	X

STANDARD NDE TESTING

None	Z
Hydrostatic Test Only (1/2…12" NPS 150# to 900# flange - Others CF)	1
5% Radiography of Butt Welds	2
100% Radiography of Butt Welds	3
5% Magnetic particle/dye penetrant	4
100% magnetic particle/dye penetrant	5
Items 2 and 4 (1/2…12" NPS - Others CF)	6
Items 3 and 4 (1/2…12" NPS - Others CF)	7
Items 3 and 5 (1/2…12" NPS - Others CF)	8
Other	X

Note: Items 2-8 also include hydrostatic testing

OTHER NDE TESTING

None	Z
100% Visual Inspection with Report	1
PMI (Positive Material Identification)	2
Post-Weld Harness Testing	3
Items 1 and 2	4
Items 3 and 4	5
Items 1, 2 and 3	6

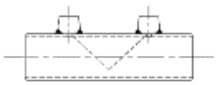
HARDCOATING

None	Z
Tungsten Carbide (WC) on wedge	1
Tungsten Carbide (WC) on center 1/3 of meter	2
Chromium Carbode (CrC) on wedge	3
Chromium Carbode (CrC) on center 1/3 of meter	4
Other	X

TERTIARY TAP

None	Z
3/4" Standard RTD Temperature with Thermowell (-200… 450° F)	A
3/4" High Temperature RTD Temperature (-200…1000° F)	B
1/2" Pressure Tap w/o transmitter	C
1/2" Pressure Absolute with transmitter	D
1/2" Pressure Gauge with transmitter	E

COIN® Segmented Wedge
316 SS, Standard 160
Butt Weld



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PIPE SIZE

1/2"	A
3/4"	B
1"	C
1-1/4"	D
1-1/2"	E
2"	F
2-1/2"	G
3"	H
4"	I
5"	J
6"	K
8"	L
10"	M
12"	N
14"	O
16"	P
Call for extended sizes	X

SCHEDULE

160	K
Call for extended Schedules	

BODY / WEDGE MATERIAL

316/316L Body / 316/316L Wedge	2

PROCESS CONNECTION

Butt Weld	E

INSTRUMENT CONNECTION

1/4" NPT (1/2…3" NPS)	H
1/2" NPT (>3" NPS) 1/2"	I
Socket Weld	J

BETA

(0.2) Low Flow	1
(0.3) Med/Low Flow	2
(0.4) Normal Flow	3
(0.5) High Flow	4

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INSTRUMENT VALVE

Not Required	Z
1/4" Needle CS	A
1/2" Needle CS	B
1/4" Needle SS	C
1/2" Needle SS	D
1/2" Gate w/Cross CS (Steam)	E
1/2" Gate w/Cross SS (Steam)	F

CALIBRATION

Not Required	Z
Factory Calibration (6 point)	1
Special Factory Calibration	2
External Calibration	3

TRANSMITTER MOUNTING

Remote Mount	Z
Mounting Bracket Tee (only)	2
Manifold Mounting Plate- Meter Mount (Does not include manifold)	3

CERTIFICATIONS

None	Z
Tracable Material Certifications	1
NACE MR0-103	2
NACE MR0-175	3
Items 1 and 2	4
Items 1 and 3	5
Other	X

STANDARD NDE TESTING

None	Z
Hydrostatic Test Only (1/2…12" NPS 150# to 900# flange - Others CF)	1
5% Radiography of Butt Welds	2
100% Radiography of Butt Welds	3
5% Magnetic particle/dye penetrant	4
100% magnetic particle/dye penetrant	5
Items 2 and 4 (1/2…12" NPS - Others CF)	6
Items 3 and 4 (1/2…12" NPS - Others CF)	7
Items 3 and 5 (1/2…12" NPS - Others CF)	8
Other	X

Note: Items 2-8 also include hydrostatic testing

OTHER NDE TESTING

None	Z
100% Visual Inspection with Report	1
PMI (Positive Material Identification)	2
Post-Weld Harness Testing	3
Items 1 and 2	4
Items 3 and 4	5
Items 1, 2 and 3	6

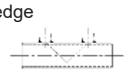
HARDCOATING

None	Z
Tungsten Carbide (WC) on wedge	1
Tungsten Carbide (WC) on center 1/3 of meter	2
Chromium Carbode (CrC) on wedge	3
Chromium Carbode (CrC) on center 1/3 of meter	4
Other	X

TERTIARY TAP

None	Z
3/4" Standard RTD Temperature with Thermowell (-200… 450° F)	A
3/4" High Temperature RTD Temperature (-200…1000° F)	B
1/2" Pressure Tap w/o transmitter	C
1/2" Pressure Absolute with transmitter	D
1/2" Pressure Gauge with transmitter	E

COIN® Back to Back Wedge
CS W/SS - SCH STD
Butt Weld



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1/2"	A					
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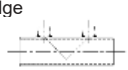
1"	C					
1-1/4"	D					
1-1/2"	E					
2"	F					
2-1/2"	G					
3"	H					
4"	I					
5"	J					
6"	K					
8"	L					
10"	M					
12"	N					
14"	O					
16"	P					
Call for extended sizes	X					
SCHEDULE						
STD		A				
Call for extended Schedules						
BODY / WEDGE MATERIAL						
CS Body / 316/316L Wedge			3			
PROCESS CONNECTION						
Butt Weld				E		
INSTRUMENT CONNECTION						
1/4" NPT (1/2…3" NPS)					H	
1/2" NPT (>3" NPS)					I	
1/2" Socket Weld					J	
BETA						
(0.2) Low Flow						1
(0.3) Med/Low Flow						2
(0.4) Normal Flow						3
(0.5) High Flow						4

COIN® Back to Back Wedge
CS W/SS - SCH XS
Butt Weld



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1/2"	A					
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SCHEDULE						
XS		L				
Call for extended Schedules						
BODY / WEDGE MATERIAL						
CS Body / 316/316L Wedge			3			
PROCESS CONNECTION						
Butt Weld				E		
INSTRUMENT CONNECTION						
1/4" NPT (1/2…3" NPS)					H	
1/2" NPT (>3" NPS)					I	
1/2" Socket Weld					J	
BETA						
(0.2) Low Flow						1
(0.3) Med/Low Flow						2
(0.4) Normal Flow						3
(0.5) High Flow						4

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INSTRUMENT VALVE

Not Required	Z
1/4" Needle CS	A
1/2" Needle CS	B
1/4" Needle SS	C
1/2" Needle SS	D
1/2" Gate w/Cross CS (Steam)	E
1/2" Gate w/Cross SS (Steam)	F

CALIBRATION

Not Required	Z
Factory Calibration (6 point)	1
Special Factory Calibration	2
External Calibration	3

TRANSMITTER MOUNTING

Remote Mount	Z
Mounting Bracket Tee (only)	2
Manifold Mounting Plate- Meter Mount (Does not include manifold)	3

CERTIFICATIONS

None	Z
Tracable Material Certifications	1
NACE MR0-103	2
NACE MR0-175	3
Items 1 and 2	4
Items 1 and 3	5
Other	X

STANDARD NDE TESTING

None	Z
Hydrostatic Test Only (1/2…12" NPS 150# to 900# flange - Others CF)	1
5% Radiography of Butt Welds	2
100% Radiography of Butt Welds	3
5% Magnetic particle/dye penetrant	4
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Items 2 and 4 (1/2…12" NPS - Others CF)	6
Items 3 and 4 (1/2…12" NPS - Others CF)	7
Items 3 and 5 (1/2…12" NPS - Others CF)	8
Other	X

Note: Items 2-8 also include hydrostatic testing

OTHER NDE TESTING

None	Z
100% Visual Inspection with Report	1
PMI (Positive Material Identification)	2
Post-Weld Harness Testing	3
Items 1 and 2	4
Items 3 and 4	5
Items 1, 2 and 3	6

HARDCOATING

None	Z
Tungsten Carbide (WC) on wedge	1
Tungsten Carbide (WC) on center 1/3 of meter	2
Chromium Carbode (CrC) on wedge	3
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Other	X

TERTIARY TAP

None	Z
3/4" Standard RTD Temperature with Thermowell (-200… 450° F)	A
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1/2" Pressure Tap w/o transmitter	C
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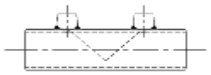
1/2" Pressure Gauge with transmitter	E

COIN® Back to Back Wedge
CS W/SS - SCH 160
Butt Weld



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8"	L					
10"	M					
12"	N					
14"	O					
16"	P					
Call for extended sizes	X					
SCHEDULE						
160		A				
Call for extended Schedules						
BODY / WEDGE MATERIAL						
CS Body / 316/316L Wedge			3			
PROCESS CONNECTION						
Butt Weld				E		
INSTRUMENT CONNECTION						
1/4" NPT (1/2…3" NPS)					H	
1/2" NPT (>3" NPS)					I	
1/2" Socket Weld					J	
BETA						
(0.2) Low Flow						1
(0.3) Med/Low Flow						2
(0.4) Normal Flow						3
(0.5) High Flow						4

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