Middletown Energy Center CCPP 475MW
- Project V17494
& Kings Moutain Energy Center
- Project V17495

"ASME" Certified by SEIKO
"S" SN SEI15_table
Year: 2015

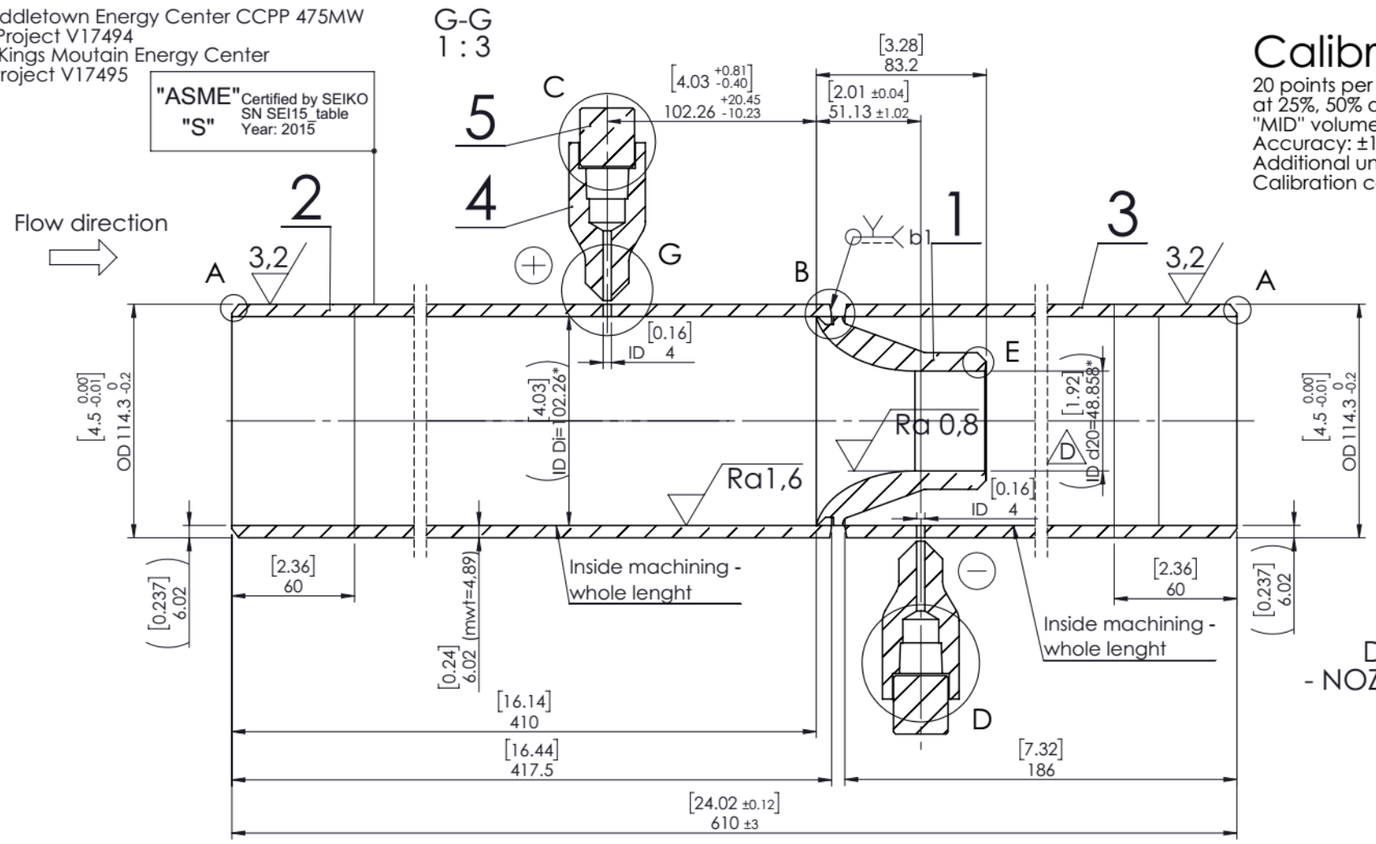
Calibration-VCS

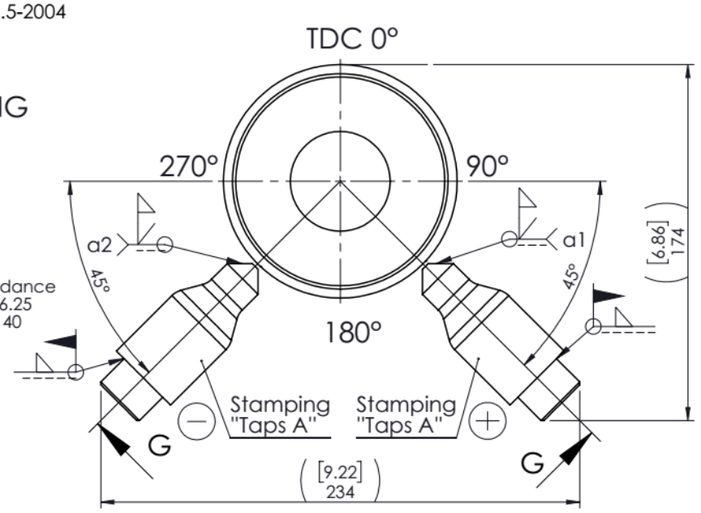
20 points per tap set, incl. repeat test points at 25%, 50% and 75% of calibrated range / "MID" volumetric procedure / ReDmax: 1E6
Accuracy: ±1/4%
Additional uncertainties: min. 0,50%
Calibration code: ASME PTC-19.5-2004

VOGT POWER INTERNATIONAL
Released, Work May Proceed
Bell, Milton | Apr-26-2016

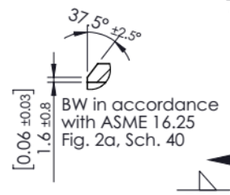
Ansicht in Durchflussrichtung!
View in flow-direction!

SCALE 1 : 3

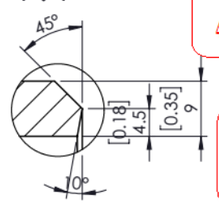




DETAIL A - BW ENDING OF PIPE 1 : 2



DETAIL E - NOZZLE ENDING 1 : 1



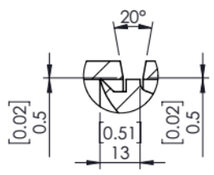
MEC/KMEC
4" Flow Element 1IP-FE3001 (IPFW - Flow Nozzle)

VOGT POWER INTERNATIONAL
V17494-CIXD-6004-03
12-Apr-2016

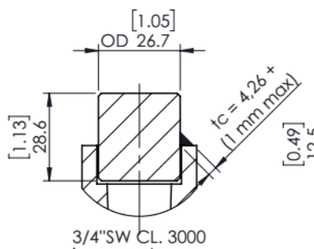
DETAIL Y 1 : 6

max. misalignment acc. Fig. 127.3 max. 2mm
max. thickness of reinforcement acc. Table 127.4. 4mm

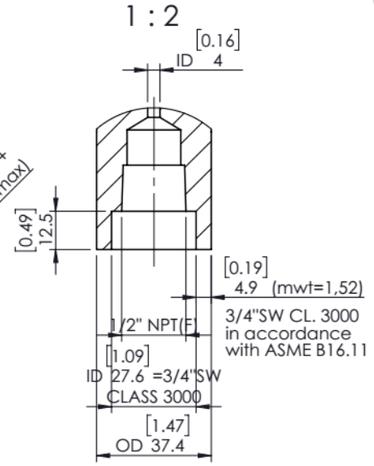
DETAIL B - NOZZLE DETAIL 1 : 2



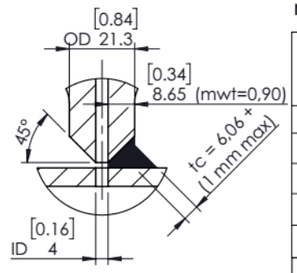
DETAIL C - PLUGGED TAP 1 : 2



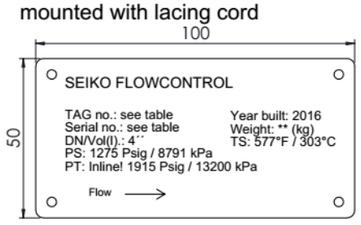
DETAIL D - TAP DETAIL 1 : 2



DETAIL G - DETAIL OF IMPULSE CONNECTION 1 : 2



Pos. 6 TAG-Plate
mounted with lacing cord



*dimension will be change

ASME PTC 19.5-2004				
Target	102.260	mm ±	0.307	mm
ID Di:	4.026	in ±	0.012	in
Target	48.858	mm ±	0.024	mm
ID d20:	1.924	in ±	0.0010	in

Pos. Part	Benennung/Denomination Abmessung/Dimension	MA/ pcs	Werkst. Nr./ Material	Zeugnis/ EN10204 certificate	Norm / Standard	Schmelze Nr. / Charge
6	TAG plate 100 x 50 x min.1.5) [3,94x1,97xmin.0,06in]	1	SA-240 304	-		
5	Plug OD26,7x28,6 [OD1,05x1,13in]	2	SA-105	3.1		
4	Pressure tap OD37,4x80 [OD1,47x3,15in]	2	SA-105	3.1		
3	Downstream pipe OD114,3x6,02x186 [OD4,5x0,237x7,32in]	1	SA-106 Gr. B	3.1		
2	Upstream pipe OD114,3x6,02x417,5 [OD4,5x0,237x16,44in]	1	SA-106 Gr. B	3.1		
1	Nozzle OD102,3x83,2 [OD4,03x3,28in]	1	SA-105	3.1		

Untolerierte Maße nach/ Untolarate Dimensions acc. DIN 7168-mittel		
bis/to	6	±0,1
über/over 6 bis/to	30	±0,2
über/over 30 bis/to	100	±0,3
über/over 100 bis/to	300	±0,5
über/over 300 bis/to	1000	±0,8
über/over 1000 bis/to	2000	±1,2

Untolerierte Maße nach/ Untolarate Dimensions acc. EN ISO 13920- class/Klasse B		
über/over 2 bis/to	30	±1
über/over 30 bis/to	120	±2
über/over 120 bis/to	400	±2
über/over 400 bis/to	1000	±3
über/over 1000 bis/to	2000	±4
über/over 2000 bis/to	4000	±6
über/over 4000 bis/to	8000	±8
über/over 8000 bis/to	12000	±10
über/over 12000 bis/to	16000	±12
über/over 16000 bis/to	20000	±14
über/over	20000	±16

Construction Code: ASME Section I, Ed. 2013 Clasification: BEP Supporting Code: ASME B31.1 Edition 2012	
Stamping:	"S" acc. ASME sect. I
NB Registration:	N.A. (not required by customer)
appl. Code cases:	None
Medium:	Water
PWHT:	NO
Baujahr/Year built:	2016
Gew./Weight: (kg)	~27 lb / 12 kg
Abmessungen./Dimensions: (mm) L: 610 mm 24,02 in W: 234 mm 9,22 in H: 174 mm 6,86 in	
PS (max. Pressure):	1275Psig/ 8791kPa /88 bar(g)
TS (max. Temp.):	577°F/ 303 °C
PT (Testpressure)	Inline!1915Psig/ 13200kPa/ 132 bar(g)
Isolierstärke/ Insulation thickness	0 mm
Corrosion allowance:	0 mm

No SILICA used on pressure parts.

Index rev.	Änderungshinweis / Details of revision	Datum Date	Name
D	Modification of diameter d20.	13.04.16	LB
C	Modification of pressure class.	07.04.16	LB
B	Implementation of customer comments	03.02.16	LB
A	For release	02.01.15	LB

Revisions

Inspector:	SEIKO
Einbaulage/mounting pos.:	horizontal
Druckentnahmestutzen/taps:	1 pair
Corrosion protection:	Remosil
Oberflächenbeh./Surface treatment:	SA2,5

KKS-Nr./TAG-No.:	Fabr. Nr./Serial No.:
1IP-FE3001	SEI15_2819

Kunde/Customer: VogtPower International
Projekt/Project.: V17494 - Middletown Energy Center & V17495 -Kings Moutain Energy Center
PO: V0009647 Item #5
HO: A16020088-150712

SEIKO FLOWCONTROL

Benennung/Title: 4" Sch. 40 Cl. 800
Flow device with lolg radius nozzle IP Feedwater Inlet Flow Element

Zeichnungs-Nr./Drawing-No.: Seiko: A16020088-150712/05
Type: HVLD
Kunde: Vogt Power International (VPI)
1/2

EXCERPT FROM ASME PTC 19.5-2004, TABLE 7-1.2-1 REQUIRED STRAIGHT LENGTHS FOR ORIFICE PLATES AND NOZZLES

BETA RATIO	Single 90° bend or tee		Several 90° bends, same plane		Several 90° bends, different planes		Reducer 2D to D over length of 1.5D to 3 D		Expander 0.5D to D over length of D to 2D		Globe Valve Fully Open		Gate Valve Fully Open		Abrupt diameter reduction		Thermometer-pocket, Ø ≤ 0,03 Di		Thermometer-pocket, Ø > 0,03 Di		Downstream (Outlet) section	
1	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	8A	8B	9A	9B	10A	10B	11A	11B	12A	12B
0.478	56.51	28.26	80.73	40.37	161.46	80.73	24.22	20.18	72.66	36.33	88.81	44.40	48.44	24.22	121.10	60.55	20.18	12.11	80.73	40.37	24.22	24.22

GENERAL NOTES:

(a) Values expressed are expressed in INCHES.

(b) The pipe roughness shall not exceed that of a smooth, commercially available pipe approximately k/D < 10-3.

(c) Column A for each fitting gives lengths corresponding to “zero additional uncertainty” values.

(d) Column B for each fitting gives lengths corresponding to “0.5% additional uncertainty” values.

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bis/to 6	±0,1
über/over 6 bis/to 30	±0,2
über/over 30 bis/to 100	±0,3
über/over 100 bis/to 300	±0,5
über/over 300 bis/to 1000	±0,8
über/over 1000 bis/to 2000	±1,2
Untolerierte Maße nach/ Untolarate Dimensions acc. EN ISO 13920- class/Klasse B	
über/over 2 bis/to 30	±1
über/over 30 bis/to 120	±2
über/over 120 bis/to 400	±2
über/over 400 bis/to 1000	±3
über/over 1000 bis/to 2000	±4
über/over 2000 bis/to 4000	±6
über/over 4000 bis/to 8000	±8
über/over 8000 bis/to 12000	±10
über/over 12000 bis/to 16000	±12
über/over 16000 bis/to 20000	±14
über/over 20000	±16

Construction Code: ASME Section I, Ed. 2013 Clasification: BEP Supporting Code: ASME B31.1 Edition 2012	
Stamping:	"S" acc. ASME sect. I
NB Registration:	N.A. (not required by customer)
appl. Code cases:	None
Medium:	Water
PWHT:	NO
Baujahr/Year built:	2016
Gew./Weight: (kg)	~27 lb / 12 kg
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Isolierstärke/ Insulation thickness	0 mm
Corrosion allowance:	0 mm

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1IP-FE3001	SEI15_2819

Kunde/Customer: Vogt Power International

Projekt/Project.:
V17494 - Middletown Energy Center & V17495 -Kings Moutain Energy Center

SEIKO FLOWCONTROL

Benennung/Title: 4" Sch. 40 Cl. 800 (C)
Flow device with lolg radius nozzle
IP Feedwater Inlet Flow Element

Zeichnungs-Nr./Drawing-No.: Seiko: A16020088-150712/05

Type: HVLD

PO: V0009647 Item #5

HO: A16020088-150712

Kunde: Vogt Power International (VPI)

2/2