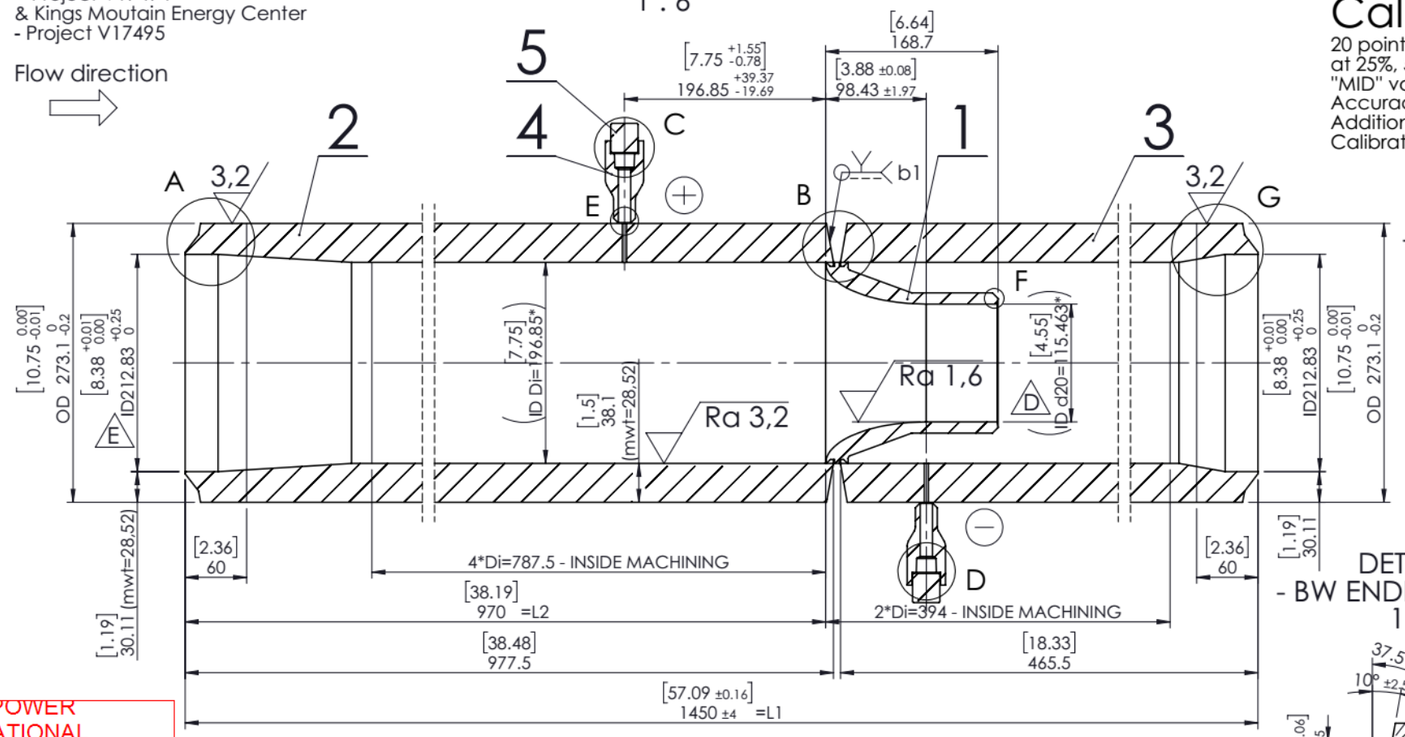
MEC/KMEC
10" Flow Element 1FW-FE3001 (HPFW Main - Flow Nozzle)

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

Flow direction

G-G
1 : 6

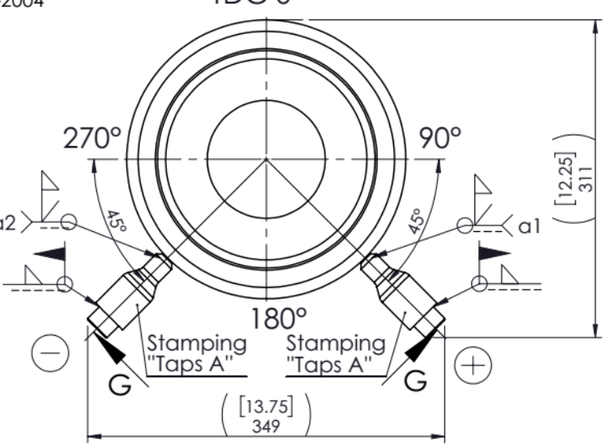


Calibration-VCS

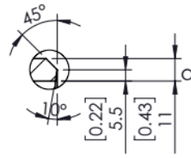
20 points per tap set, incl. repeat test points at 25%, 50% and 75% of calibrated range / "MID" volumetric procedure / ReDmax: 3,4E6
Accuracy: ±1/4%
Additional uncertainties: min. 0,50%
Calibration code: ASME PTC-19.5-2004

Ansicht in Durchflussrichtung!
View in flow-direction!

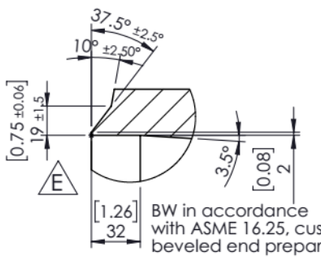
SCALE 1 : 6



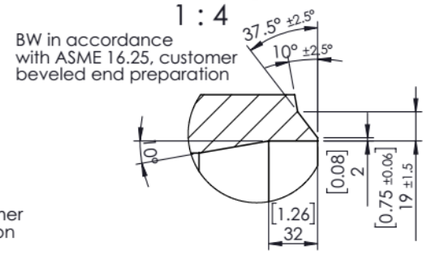
DETAIL F
- NOZZLE ENDING
1 : 3



DETAIL A
- BW ENDING OF PIPE
1 : 4



DETAIL G
- BW ENDING OF PIPE
1 : 4

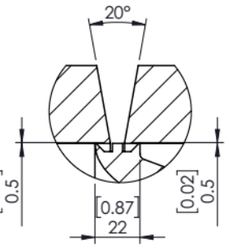


DETAIL Y
1 : 13

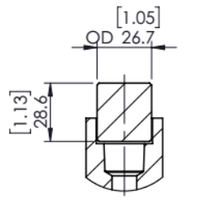
max. misalignment acc. Fig. 127.3 max. 2mm
max. thickness of reinforcement acc. Table 127.4. 6mm

No SILICA used on pressure parts.

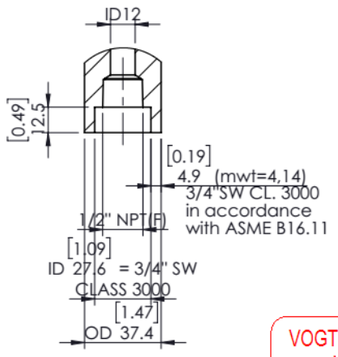
DETAIL B
- NOZZLE DETAIL
1 : 3



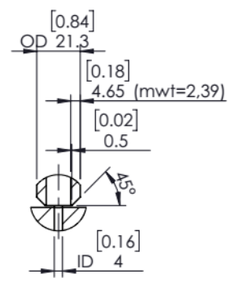
DETAIL C
- PLUGGED TAP
1 : 3



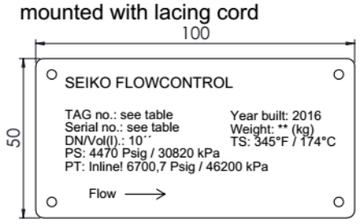
DETAIL D
- TAP DETAIL
1 : 3



DETAIL E
- DETAIL OF IMPULSE CONNECTION
1 : 3



Pos. 6 TAG-Plate
mounted with lacing cord



*dimension will be change

ASME PTC 19.5-2004				
Target	196.850	mm ±	0.591	mm
ID Di:	7.750	in ±	0.023	in
Target	115.463	mm ±	0.058	mm
ID d20:	4.546	in ±	0.0023	in

VOGT POWER INTERNATIONAL
V17494-CIXD-6000-04
23-May-2016

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 OD273,1x1,5x465,5 [OD10,75x1,5x18,33in] E	1	SA-106 Gr. C	3.1		
2	Upstream pipe OD273,1x38,1x977,5 [OD10,75x1,5x38,48in] E	1	SA-106 Gr. C	3.1		
1	Nozzle OD196,9x168,7 [OD7,75x6,64in]	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

Index rev.	Änderungshinweis / Details of revision	Datum Date	Name
E	Modification of welding ends and lenght for pos. 2, 3.	20.05.16	LB
D	Modification of diameter d20.	13.04.16	LB
C	Modification of pressure class.	07.04.16	LB
B	Implementatition of customer comments	03.02.16	LB
A	For release	02.01.15	LB

Revisions

Construction Code: ASME Section I, Ed. 2013 Clasification: NBEP Supporting Code: ASME B31.1 Edition 2014 + 2012	
Stamping:	N.A. (not required by customer)
NB Registration:	N.A. (not required by customer)
appl. Code cases:	None
Medium:	Water
PWHT:	YES
Baujahr/Year built:	2016
Gew./Weight: (kg)	~536 lb / 243 kg
Abmessungen./Dimensions: (mm) L: 1200 mm 47,24 in W: 349 mm 13,75 in H: 311 mm 12,25 in	
PS (max. Pressure):	4470Psig/ 30820kPa /308,2 bar(g)
TS (max. Temp.):	345°F/ 174 °C
PT (Testpressure):	Inline!6700,7Psig/ 46200kPa/462bar(g)
Isolierstärke/ Insulation thickness	0 mm
Corrosion allowance:	0 mm

Inspector:	SEIKO
Einbaulage/mounting pos.:	horizontal
Druckentnahmestutzen/taps:	1 pair
Corrosion protection:	Remosil
Oberflächenbeh./Surface treatment:	SA2,5
KKS-Nr./TAG-No.: 1FW-FE3001	Fabr. Nr./Serial No.: SEI15_2815

Kunde/Customer: Vogt Power International

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

SEIKO FLOWCONTROL

Benennung/Title: 10" Sch. 1,5" Cl. 2500
Flow device with lolg radius nozzle HP Feedwater Inlet Flow Element

Zeichnungs-Nr./Drawing-No.: Seiko: A16020088-150712/01

Type: HVLD

PO: V0009647 Item #1 | HO: A16020088-150712 | Kunde: Vogt Power International (VPI) | 1/2

VOGT POWER INTERNATIONAL
Released, Work May Proceed
Bell, Milton | Jun-01-2016

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
0.587	139.76	69.88	201.88	100.94	372.70	186.35	69.88	38.82	170.82	85.41	201.88	100.94	108.70	54.35	232.94	116.47	38.82	23.29	155.29	77.65	54.35	54.35

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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über/over 6 bis/to 30	±0,2
über/over 30 bis/to 100	±0,3
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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
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über/over 12000 bis/to 16000	±12
über/over 16000 bis/to 20000	±14
über/over 20000	±16

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PWHT:	YES
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Isolierstärke/ Insulation thickness	0 mm
Corrosion allowance:	0 mm

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