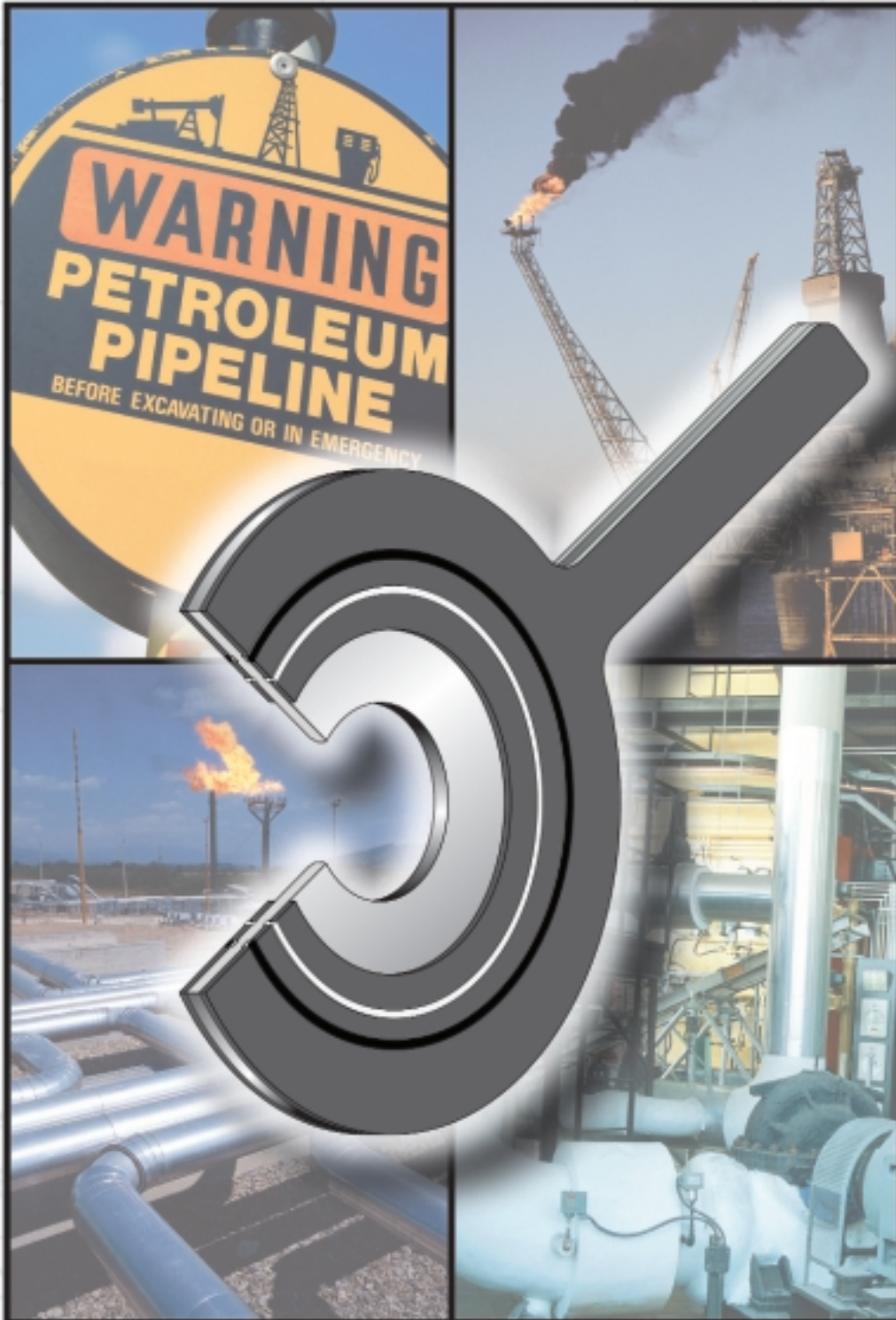




# Orifice Plate

**One-Piece Orifice Plate with  
Self-Contained/Pressure-Energized Seals**



DESCRIPTION: PIKO  
2.96

NO SCALE APPR

3/10/98

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tomorrow's problems

REVISION:

Drawing Number:

[www.pikotek.com](http://www.pikotek.com)



**Pikotek** is pleased to introduce a new one-piece orifice plate design for flowline and pipeline flow restriction and flow measurement applications. The **Pikotek** one-piece orifice plate incorporates spring-energized PTFE radial face seals and elastomeric o-ring backup seals which are completely encapsulated in a composite seal retainer which makes the orifice plate one-piece and simple to install. This eliminates the need for conventional orifice plates, plate holders and separate gaskets. This new orifice plate design substantially reduces residual flange/bolt stress in orifice flanges and improves overall sealing performance under even the most extreme operating conditions in all hydrocarbon production, injection and process applications.

**Pikotek** orifice plates are comprised of stainless steel plates (or other commonly available CRA material) bonded to a high-modulus, matrix-reinforced composite seal retainer. The **Pikotek** orifice plate's primary sealing mechanism is the combination of the fully-encapsulated, pressure-energized sealing elements compressed into the orifice plate's rigid seal retainer (all of which comprise the orifice plate's one-piece design). Once compressed and encapsulated in the composite seal retainer, these seals possess the ability to operate under even the most extreme chemical and mechanical forces (i.e. highly corrosive fluids/gases, extreme internal system pressures, temperatures, vibration/cavitation, external bending and tension loads). Because of the high modulus of elasticity of the composite seal retainer, the orifice plate possesses good recovery/memory characteristics which enables it to withstand long term pressure/thermal cycling, high vibration/cavitation and joint relaxation.

**pikotek** Orifice Plate

<b>ANSI/ASME B16.5 FLANGE CLASSES</b>									
			150	300	400	600	900	1500	2500
NPS	PT	RT	OD	OD	OD	OD	OD	OD	OD
1/2"	.125	.260	1.813	2.063	2.063	2.063	2.438	2.438	2.688
3/4"	.125	.260	2.188	2.563	2.563	2.563	2.688	2.688	2.938
1"	.125	.260	2.563	2.813	2.813	2.813	3.063	3.063	3.313
1-1/4"	.125	.260	2.933	3.188	3.188	3.188	3.438	3.438	4.063
1-1/2"	.125	.260	3.313	3.688	3.688	3.688	3.813	3.813	4.563
2"	.125	.260	4.063	4.313	4.313	4.313	5.563	5.563	5.688
2-1/2"	.125	.260	4.813	5.063	5.063	5.063	6.438	6.438	6.563
3"	.125	.260	5.313	5.813	5.813	5.813	6.563	6.813	7.688
4"	.125	.260	6.813	7.063	6.938	7.563	8.063	8.188	9.188
5"	.125	.260	7.688	8.438	8.313	9.438	9.688	9.938	10.938
6"	.125	.260/.322	8.688	9.813	9.688	10.438	11.313	11.063	12.438
8"	.125	.260/.322	10.938	12.063	11.938	12.563	14.063	13.813	15.188
10"	.250	.437/.500	13.313	14.188	14.063	15.688	17.063	17.063	18.688
12"	.250	.437/.500	16.063	16.563	16.438	17.938	19.563	20.438	21.563
14"	.250	.437/.500	17.688	19.063	18.938	19.313	20.438	22.688	N/A
16"	.375	.625/.687	20.188	21.188	21.063	22.188	22.563	25.188	N/A
18"	.375	.625/.687	21.563	23.438	23.313	24.063	25.063	27.688	N/A
20"	.375	.625/.687	23.813	25.688	25.438	26.813	27.438	29.688	N/A
24"	.375	.625/.687	28.188	30.438	30.188	31.063	32.938	35.438	N/A

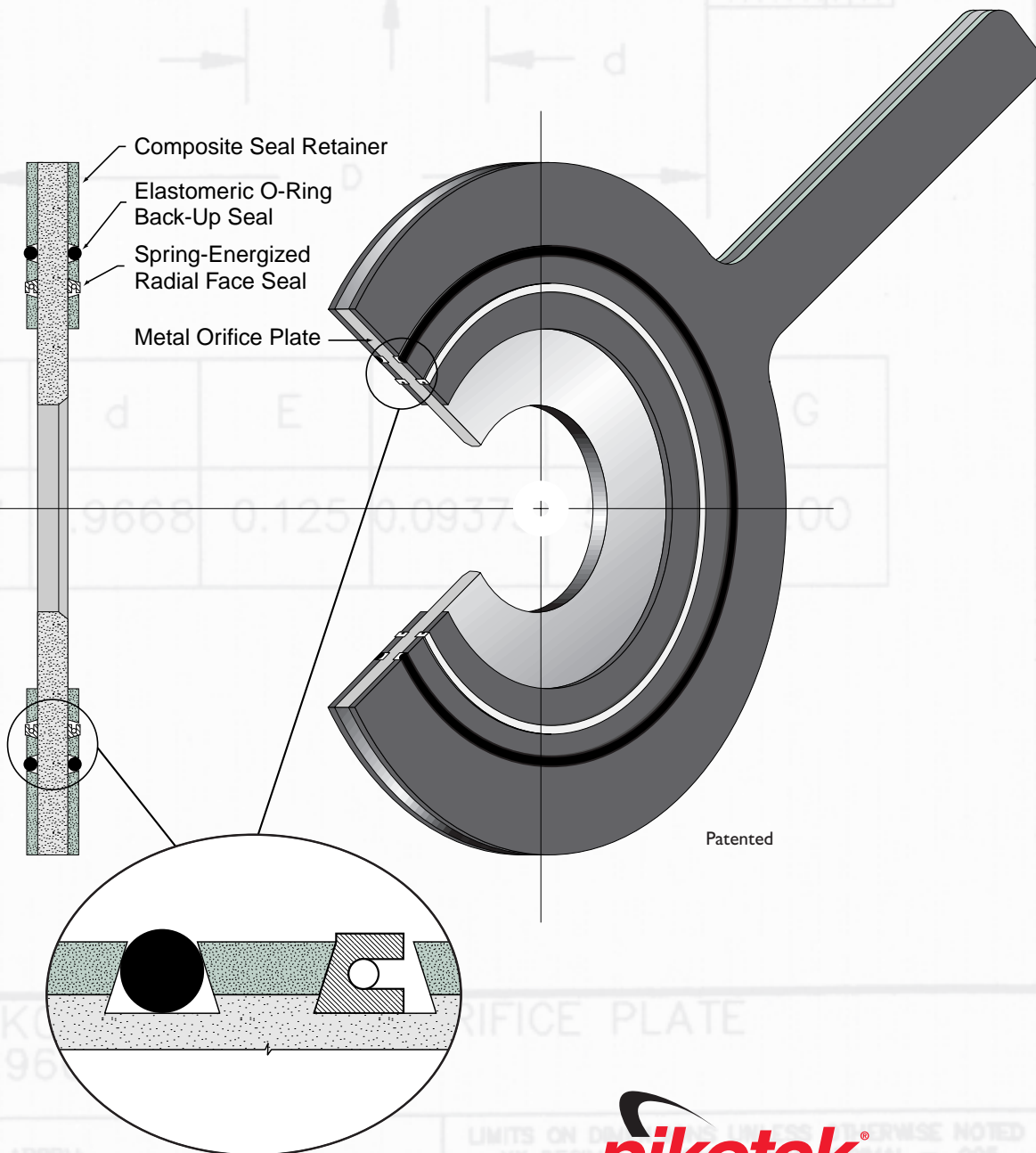
**DIMENSIONS (in inches)**  
 NPS = Nominal Pipe Size    RT = Retainer Thickness  
 PT = Plate Thickness        OD = Outside Diameter

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### ORIFICE PLATE PRIMARY FEATURES AND BENEFITS INCLUDE:

- NO GASKETS REQUIRED
- EASY INSTALLATION
- SIMPLE ONE PIECE DESIGN
- PRESSURE-ENERGIZED SEALING
- ELIMINATES GALVANIC CORROSION
- WITHSTANDS VIBRATION/CAVITATION



**pikotek** Orifice Plate



*Orifice Plate*

DESCRIPTION: PIKOTEK ORIFICE PLATE  
NO SCALE APPROV: 3/10/98  
LIMITS ON DIMENSIONS UNLESS OTHERWISE NOTED  
.XX DECIMALS TYPICAL = .005  
DRAWN BY: K.DEFELIPPO  
REVISION:  
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## *Orifice Plate Advantages and Benefits*

- One-piece, self-contained plate and seal design (replaces and retrofits conventional plate and ring-joint plate holder designs)
- Available for orifice fittings and orifice flanges (paddle type)
- Flow restriction orifice plates available with any beta orifice size
- Flow measurement orifice plates available with square and sharp edges (will not reflect a beam of light when viewed without magnification)
- Flow measurement orifice plate finish: 32 micro-inch roughness
- Flow measurement orifice plate flatness: Flat within 0.010 inches per inch of dam height (dam height = pipe diameter minus orifice diameter divided by 2)
- Flow measurement orifice bore tolerance in strict accordance with A.P.I. Chapter 14, Section 3; A.G.A. Gas Measurement Committee Report No. 3; and ASME Fluid Meters Committee Report
- Integrated spring-energized radial face seals insure high-integrity/maintenance-free/pressure-energized sealing
- Integrated composite seal retainer mitigates galvanic corrosion in dissimilar metal fittings and flanges
- Protects flanges from media-induced corrosion and flow-induced erosion in orifice flanges
- Decreases flange/bolt makeup stresses in orifice flanges
- Increases flange pressure sealing capabilities in orifice flanges
- Increases flange/bolt external (bending and tension) load bearing capabilities in orifice flanges
- Increases resistance to seal relaxation due to pressure/thermal cycling and high vibration/cavitation
- Easy installation and removal
- Reusable orifice plate/seal retainer and seals

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### ***Represented By:***

