

ORIFICES



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Tri-Clamp Standard
Orifice Plate

There's a new standard in Orifice Plate design, offered in a concentric or eccentric self drain legs, maintains flow while assuring self drainage Gaskets Bonded or Remov-able, made of FDA compliant Buna-N, EPDM, Viton or Silicone bonded to 316 stainless steel.

There's a new standard in Orifice Plate design, offered in a concentric or eccentric self drain configuration, the Orifice Plate prevents dead legs, maintains flow while assuring self drainage thereby eliminating the potential for soil retention.

Gaskets Bonded or Removable, made of FDA compliant Buna-N, EPDM, Viton or Silicone bonded to 316 stainless steel.

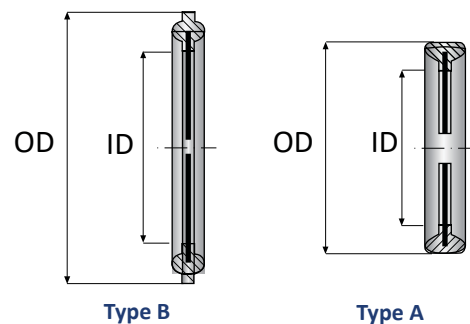
Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1/2"	0.38"	9.60	0.86"	21.80	15-TC/OP.*
3/4"	0.63"	16.00	0.86"	21.80	20-TC/OP.*
1.0" A	0.90"	22.90	1.34"	34.00	25-TC/OP.*
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OP.*
1 1/2"	1.38"	30.50	2.00"	50.50	38-TC/OP.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OP.*
2 1/2"	2.38"	60.40	3.05"	77.50	63-TC/OP.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OP.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OP.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OP.*

Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Silver back FDA-Class VI	SB	TB.RX

All Gaskets are USP Class VI ,FDA Certified



Type OP (Standard)



Meets High Pharmaceutical Standards

- U.S. Pharmacopeia Class VI Certification
- Cytotoxicity Criteria
- Title 21 CFR 177.2600
- Title 21 CFR 177.1550
- USDA and 3-A Sanitary Standards
- Current Good Manufacturing Practices (CGMP)
- ASME-BPE Standards
- Animal Derived Ingredient Free-Torque-
- Rite, Tuf-Steel and ADI Free are registered trademarks of Rubber Fab.

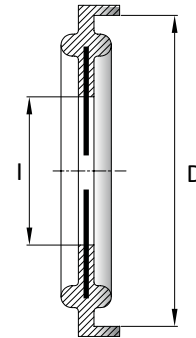
Torque-Rite United States Patent Number 6,082,941 Metal Detectable

* Buna is not an ADI Free elastomer.

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Tri-Clamp Flanged Orifice Plate

Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OP. L.*
1½"	1.38"	30.50	2.00"	50.50	38-TC/OP. L.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OP. L.*
2½"	2.38"	60.40	3.05"	77.50	63-TC/OP. L.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OP. L.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OP. L.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OP. L.*



Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Silver back FDA-Class VI	SB	TB.RX

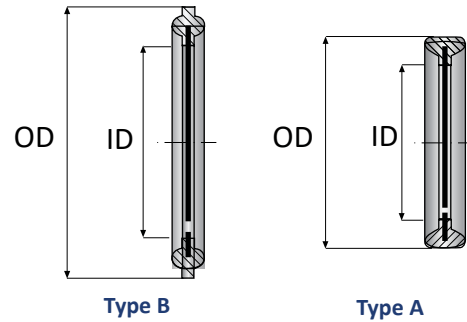
All Gaskets are USP Class VI ,FDA Certified



ORIFICE

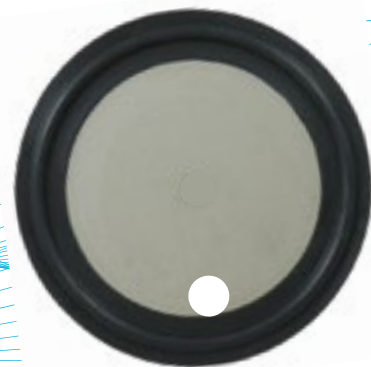
Tri-Clamp Horizontal Standard Orifice Plate

Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1/2"	0.38"	9.60	0.86"	21.80	15-TC/OPH.*
3/4"	0.63"	16.00	0.86"	21.80	20-TC/OPH.*
1.0" A	0.90"	22.90	1.34"	34.00	25-TC/OPH.*
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OPH.*
1½"	1.38"	30.50	2.00"	50.50	38-TC/OPH.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OPH.*
2½"	2.38"	60.40	3.05"	77.50	63-TC/OPH.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OPH.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OPH.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OPH.*



Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Silver back FDA-Class VI	SB	TB.RX

All Gaskets are USP Class VI ,FDA Certified



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Tri-Clamp Tabbed Orifice Plate

Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1/2"	0.38"	9.60	0.86"	21.80	15-TC/OPTH.*
3/4"	0.63"	16.00	0.86"	21.80	20-TC/OPTH.*
1.0" A	0.90"	22.90	1.34"	34.00	25-TC/OPTH.*
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OPTH.*
1½"	1.38"	30.50	2.00"	50.50	38-TC/OPTH.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OPTH.*
2½"	2.38"	60.40	3.05"	77.50	63-TC/OPTH.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OPTH.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OPTH.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OPTH.*



Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Silver back FDA-Class VI	SB	TB.RX

All Gaskets are USP Class VI ,FDA Certified

The OPTH type Orifice Plates are designed for 100% self-draining, ensuring optimal sanitary conditions. The tabs on these plates serve as a visual confirmation that the orifice plate is "in line." They can be laser engraved with essential information such as hole diameter, gasket size, or any user-specified details, enhancing both safety and traceability in your system.

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Tri-Clamp Vertical Orifice Plate

The Orifice Plate line offers a comprehensive range of sizes from 1/2" to 6", available in both concentric and eccentric drilled designs, as well as solid plate options. These plates, including tabbed versions, can be securely installed using clamps. The tabs serve a crucial safety function by clearly indicating the orifice plate's presence in the line and displaying the hole diameter for easy identification. Utilizing Orifice Plates in your system can enhance performance by adjusting flow rates, balancing backflow, and equalizing backpressure, particularly during SIP (Sterilization in Place) procedures, all while maintaining sanitary conditions.



Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1/2"	0.38"	9.60	0.86"	21.80	15-TC/OPV.*
3/4"	0.63"	16.00	0.86"	21.80	20-TC/OPV.*
1.0" A	0.90"	22.90	1.34"	34.00	25-TC/OPV.*
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OPV.*
1 1/2"	1.38"	30.50	2.00"	50.50	38-TC/OPV.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OPV.*
2 1/2"	2.38"	60.40	3.05"	77.50	63-TC/OPV.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OPV.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OPV.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OPV.*

Materials Available:

- FKM Fluoroelastomer
- Platinum Silicone
- EPDM
- Buna
- PTFE (fluoropolymer)
- Tuf-Steel

All Orifice Plates are manufactured from 316L stainless steel and are available in electropolish construction.

Specifications:

Thickness of center area is 0.085"
Special ID's available.

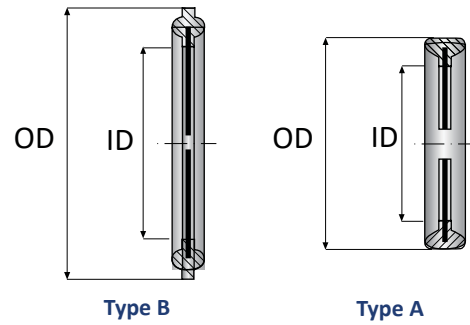
Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Silver back FDA-Class VI	SB	TB.RX

All Gaskets are USP Class VI ,FDA Certified

ORIFICE

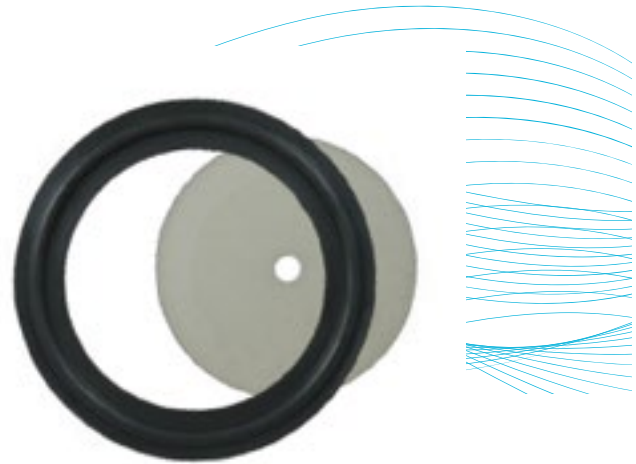
Tri-Clamp Removable Standard Orifice Plate

Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1/2"	0.38"	9.60	0.86"	21.80	15-TC/OPR.*
3/4"	0.63"	16.00	0.86"	21.80	20-TC/OPR.*
1.0" A	0.90"	22.90	1.34"	34.00	25-TC/OPR.*
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OPR.*
1½"	1.38"	30.50	2.00"	50.50	38-TC/OPR.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OPR.*
2½"	2.38"	60.40	3.05"	77.50	63-TC/OPR.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OPR.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OPR.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OPR.*



Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Silver back FDA-Class VI	SB	TB.RX

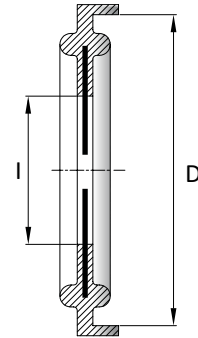
All Gaskets are USP Class VI ,FDA Certified



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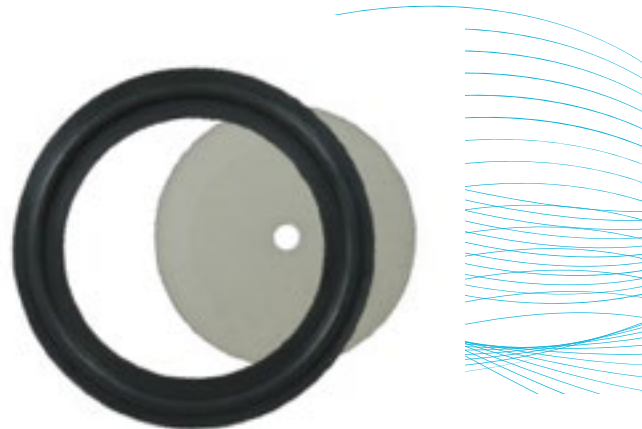
Tri-Clamp Removable
Flanged Orifice Plate

Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OPR. L.*
1½"	1.38"	30.50	2.00"	50.50	38-TC/OPR. L.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OPR. L.*
2½"	2.38"	60.40	3.05"	77.50	63-TC/OPR. L.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OPR. L.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OPR. L.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OPR. L.*



Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Silver back FDA-Class VI	SB	TB.RX

All Gaskets are USP Class VI, FDA Certified

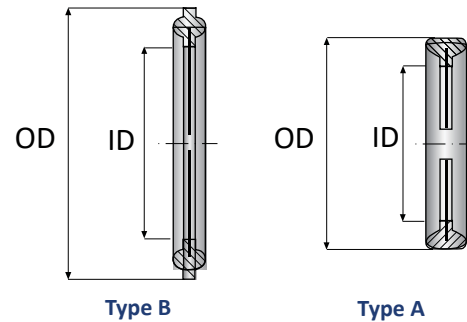


ORIFICE

Slit ID Gaskets and Metallic Plate

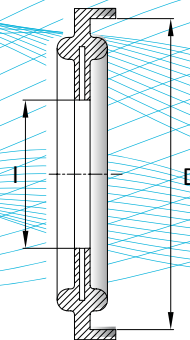
Slit ID Gasket for Standard Orifice

Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1/2"	0.38"	9.60	0.86"	21.80	15-TC.*
3/4"	0.63"	16.00	0.86"	21.80	20-TC.*
1.0" A	0.90"	22.90	1.34"	34.00	25-TC.*
1.0"	0.88"	22.30	2.00"	50.50	25-TC.*
1½"	1.38"	30.50	2.00"	50.50	38-TC.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC.*
2½"	2.38"	60.40	3.05"	77.50	63-TC.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC.*



Slit ID Gasket for Flanged Orifice

Nominal Size In.	I(D)		D(OD)		Ordering Code
	in.	mm	in.	mm	
1.0"	0.88"	22.30	2.00"	50.50	25-TC/OPR. L.*
1½"	1.38"	30.50	2.00"	50.50	38-TC/OPR. L.*
2.0"	1.88"	47.70	2.52"	64.00	51-TC/OPR. L.*
2½"	2.38"	60.40	3.05"	77.50	63-TC/OPR. L.*
3.0"	2.88"	73.10	3.58"	91.00	76-TC/OPR. L.*
4.0"	3.84"	97.60	4.67"	119.00	100-TC/OPR. L.*
6.0"	5.79"	123.50	6.10"	167.00	150-TC/OPR. L.*



Metallic Plate for Orifice

Nominal Size In.	Ordering Code
1/2"	15-TC/OP
3/4"	20-TC/OP
1.0"	25-TC/OP
1½"	38-TC/OP
2.0"	51-TC/OP
2½"	63-TC/OP
3.0"	76-TC/OP



*Material 316L Ra 0.6µm

Orifice hole selection

The following table is just a guideline if you need a quick estimate for your process liquid For a propriety orifice calculation please

	Q Flowrate in liters/hour					
	2000	4000	6000	8000	10000	12000
0.50	10.86	15.35	18.80	21.71	24.27	26.59
1.00	9.13	12.91	15.81	18.26	20.41	22.36
1.50	8.25	11.67	14.29	16.50	18.44	20.21
2.00	7.68	10.86	13.30	15.35	17.16	18.80
2.50	7.26	10.27	12.57	14.52	16.23	17.78
3.00	6.94	9.81	12.01	13.87	15.51	16.99
3.50	6.67	9.44	11.56	13.35	14.92	16.35
4.00	6.45	9.13	11.18	12.91	14.43	15.81
4.50	6.27	8.86	10.86	12.54	14.01	15.35
5.00	6.10	8.63	10.57	12.21	13.65	14.95
5.50	5.96	8.43	10.32	11.92	13.33	14.60
6.00	5.83	8.25	10.10	11.67	13.04	14.29

Orifice pressure drop



SS.2024.01