

**CIRCULAR CHEVRON CRYO-BAFFLES**  
**NRC 0315-1 SERIES**  
**FOR NHS AND HS SERIES DIFFUSION PUMPS**

NORTON COMPANY VACUUM EQUIPMENT DIVISION

... high conductance . . . liquid nitrogen trap . . . compact design

**GENERAL DESCRIPTION**

The NRC 0315-1 series cryo-baffles offer optimum cold trap performance for diffusion pump operation. Their unique circular chevron geometry provides the maximum conductance possible for an optically dense baffle. A minimum of internal welds, use of stainless steel, and nickel plating provides cleaner surfaces. A creep barrier assures low backstreaming and minimum back migration of pump fluid.

These baffles are specifically engineered to complement the performance of the HS and NHS high speed diffusion pumps and may also be used with the VHS pumps\*. They may be cooled with liquid nitrogen, water, or mechanical refrigeration. Filling is conveniently accomplished through the single "pant-leg" fill and vent assembly.

**FEATURES**

**Highest Conductance** . . . retains almost 50% of diffusion pump speeds.

**Economy** . . . when used with NRC Series NHS and HS diffusion pumps, the best liters/sec per dollar performance attainable is achieved.

**Cleaner System Operations** . . . creep barrier greatly reduces migration of pump fluid.

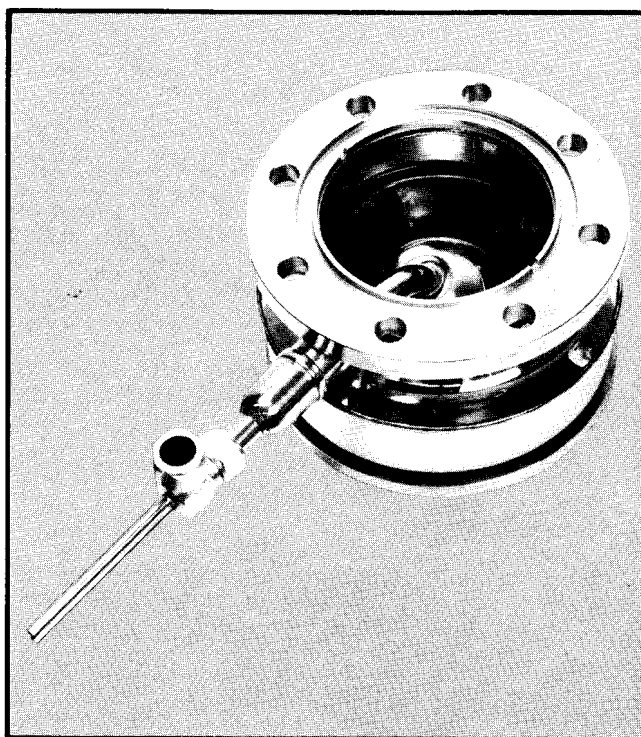
**Low Outgassing** . . . stainless steel shell, flanges and reservoir; nickel plated chevron and reservoir assembly.

**Convenience** . . . unique fill and vent assembly uses single pant leg design with positive bottoming of fill tube, allows alternative cooling methods.

**Versatility** . . . utilizes any level controller with probe 0.225" or less in diameter.

**Long Holding Time** . . . polished reservoir and facing surfaces of chevron and outer shell provide extremely low emissivity with economy in use of refrigerant.

**Fewest Internal Welds** . . . minimum of internal welds reduces the possibility of leaks at cryogenic temperatures.



0315-1 Circular Chevron Cryo-Baffle (4" size)

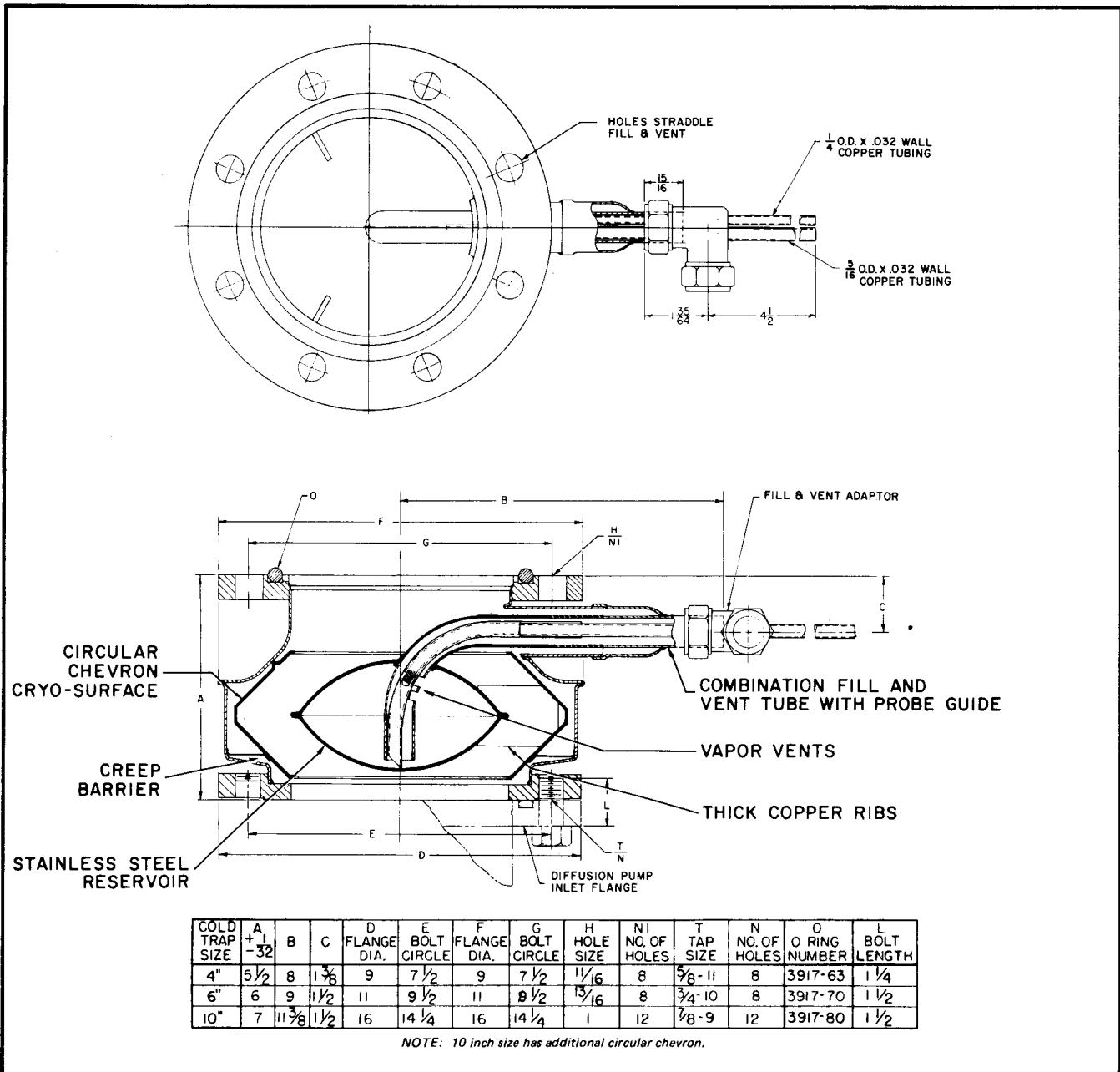
**OPERATING SPECIFICATIONS**

Type	0315-1-4 4" size	0315-1-6 6" size	0315-1-10 10" size
†Conductance (below 10 <sup>-4</sup> torr)	550 l/sec.	1200 l/sec.	3000 l/sec.
Recommended diffusion pump	NHS-4	NHS-6	HS-10
Net inlet speed with pump	315 l/sec.	665 l/sec.	1750 l/sec.
Reservoir Volume	500 cc	1000 cc	1750 cc
Volume of liquid nitrogen required to fill and cool initially (approx.)	800 cc	2000 cc	3500 cc
Liquid nitrogen consumption rate at ultimate pressure (approx.)	120 cc/hr.	200 cc/hr.	350 cc/hr.
Holding time for single liquid nitrogen charge (approx.)	3.5 hrs.	4.5 hrs.	5.5 hrs.

\*For maximum performance with VHS pumps, the 0316 Series Circular Chevron Cryo-Baffles are recommended.

†Conductance derived from measured net speed at baffle inlet, using AVS standard speed test method.

**OUTLINE DRAWING**



COLD TRAP SIZE	A	B	C	D FLANGE DIA.	E BOLT CIRCLE	F FLANGE DIA.	G BOLT CIRCLE	H HOLE SIZE	N1 NO. OF HOLES	T TAP SIZE	N NO. OF HOLES	O RING NUMBER	L BOLT LENGTH
4"	5 1/2	8	1 3/8	9	7 1/2	9	7 1/2	11/16	8	5/8-11	8	3917-63	1 1/4
6"	6	9	1 1/2	11	9 1/2	11	8 1/2	13/16	8	3/4-10	8	3917-70	1 1/2
10"	7	11 3/8	1 1/2	16	14 1/4	16	14 1/4	1	12	1/8-9	12	3917-80	1 1/2

NOTE: 10 inch size has additional circular chevron.

0315-1 Circular Chevron Cryo-Baffle

Norton Company reserves the right to change design and specifications without notice.

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