



Making the World's Air Dryer

Form No. GGD-1

PSB NATURAL GAS DEHYDRATOR



The PSB Natural Gas Dehydrator is a deliquescent type dehydrator designed specifically for natural gas service.

These Natural Gas Dehydrators are for use after an existing separator. The Dehydrators utilize a bed of desiccant to remove water vapor from the natural gas. The removed water is then stored in the bottom of the vessel for manual draining.

PSB Dehydrators eliminate freeze-ups and moisture problems in meters, regulators, and instruments downstream.

PSB Dehydrators are manufactured in several sizes with either 250 PSIG maximum working pressure or 500 psig maximum working pressure ratings.

The Dehydrator vessels are constructed and stamped in accordance with the ASME Code Section VIII.

The most modern protective coatings are used to insure corrosion resistance and long life of the vessels.

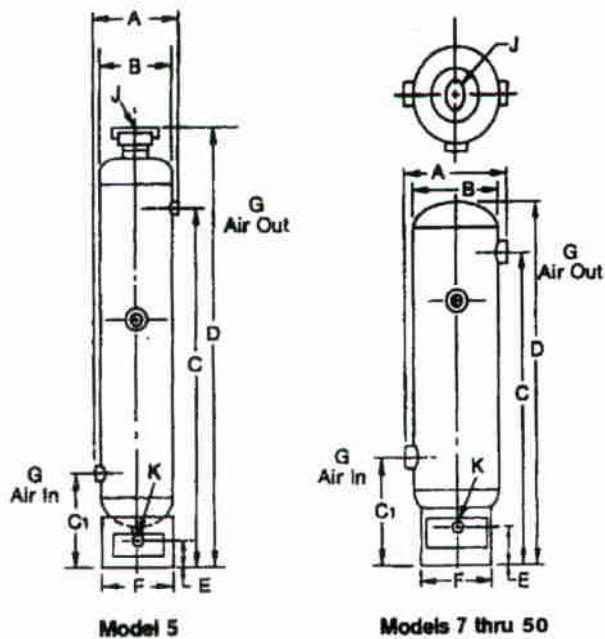
FEATURES

- Eliminates freeze-ups at pressure reducing valves.
- Protects meters, regulators and instruments downstream.
- PSB superior design and construction.
- Extremely efficient reduction of moisture.
- Low desiccant consumption.
- Simplified installation.
- Reduced maintenance.
- Desiccant level inspection sight glass.
- Custom designed units for special applications.

OPERATION

Vapor laden gas, exiting from a liquid phase separator enters the lower section of the Dehydrator. The gas then flow up through the bed of desiccant. The desiccant is slowly consumed as it adsorbs moisture vapors from the gas stream and the resulting liquid is collected in the bottom of the vessel. This liquid is drained off through a manual drain valve. The liquid collection area of the vessel is of ample size for several days operation between drain intervals. The now dried gas exits through a stainless steel screened outlet. Conservatively sized flow velocity insure adequate dwell time for complete dehydration and not carry over of desiccant fines.

ENGINEERING DATA



INSTALLATION AND MAINTENANCE

The PSB Natural Gas Dehydrator is shipped ready for easy field installation. Locate unit downstream of the existing liquid phase separator. Install with a valved bypass for ease of periodic desiccant inspection and replenishment. All models have minimum desiccant level sight glasses for desiccant level inspection. Following inspection, fill vessel with desiccant to the recommended level, close filler port and pressurize slowly.

Draining is through a manual drain valve.

The only maintenance required is periodic draining, desiccant level inspection and periodic adding desiccant. Normally, replenishment is required only every 2-3 weeks. It is suggested that a usage pattern be logged for the Dehydrator.

STANDARD MODELS

250 PSIG MAXIMUM WORKING PRESSURE RATING	500 PSIG MAXIMUM WORKING PRESSURE RATING
NGD-5-2.5	NGD-5-5.0
NGD-7-2.5	NGD-7-5.0
NGD-15-2.5	NGD-15-5.0
NGD-30-2.5	NGD-30-5.0
NGD-50-2.5	NGD-50-5.0

DIMENSIONS (inches)

MODEL	A	B	C	C ¹	D	E	F	In/Out G	Filler Port J	K
NGD-5	8	6 5/8	41 3/8	10 1/2	49 1/8	3 1/4	6 5/8	1" NPT	2" Pipe	1/2
NGD-7	10	8 5/8	41	10 3/8	47	2 3/4	8 5/8	1" NPT	3 x 4	1/2
NGD-15	14 1/2	12 3/4	42 3/8	12 3/4	49	5 1/2	12 3/4	2" NPT	3 x 4	1/2
NGD-30	20	18	42 1/4	15	52 1/4	3 1/2	18	2" NPT	3 x 4	1/2
NGD-50	34	24	42 5/8	16 5/8	55 1/4	4	24	2" NPT	3 x 4	1/2

CAPACITIES - MCFD (Thousands of Cubit Feet Per Day)

MODEL	250 PSIG					500 PSIG				
	50	100	150	200	250	300	350	400	450	500
NGD-5	27	48	70	90	110	131	152	173	194	215
NGD-7	36	63	93	118	146	173	200	227	257	282
NGD-15	81	145	209	271	334	397	461	524	591	649
NGD-30	175	312	448	584	720	854	992	1128	1273	1397
NGD-50	324	549	790	1028	1267	1504	1745	1985	2239	2459