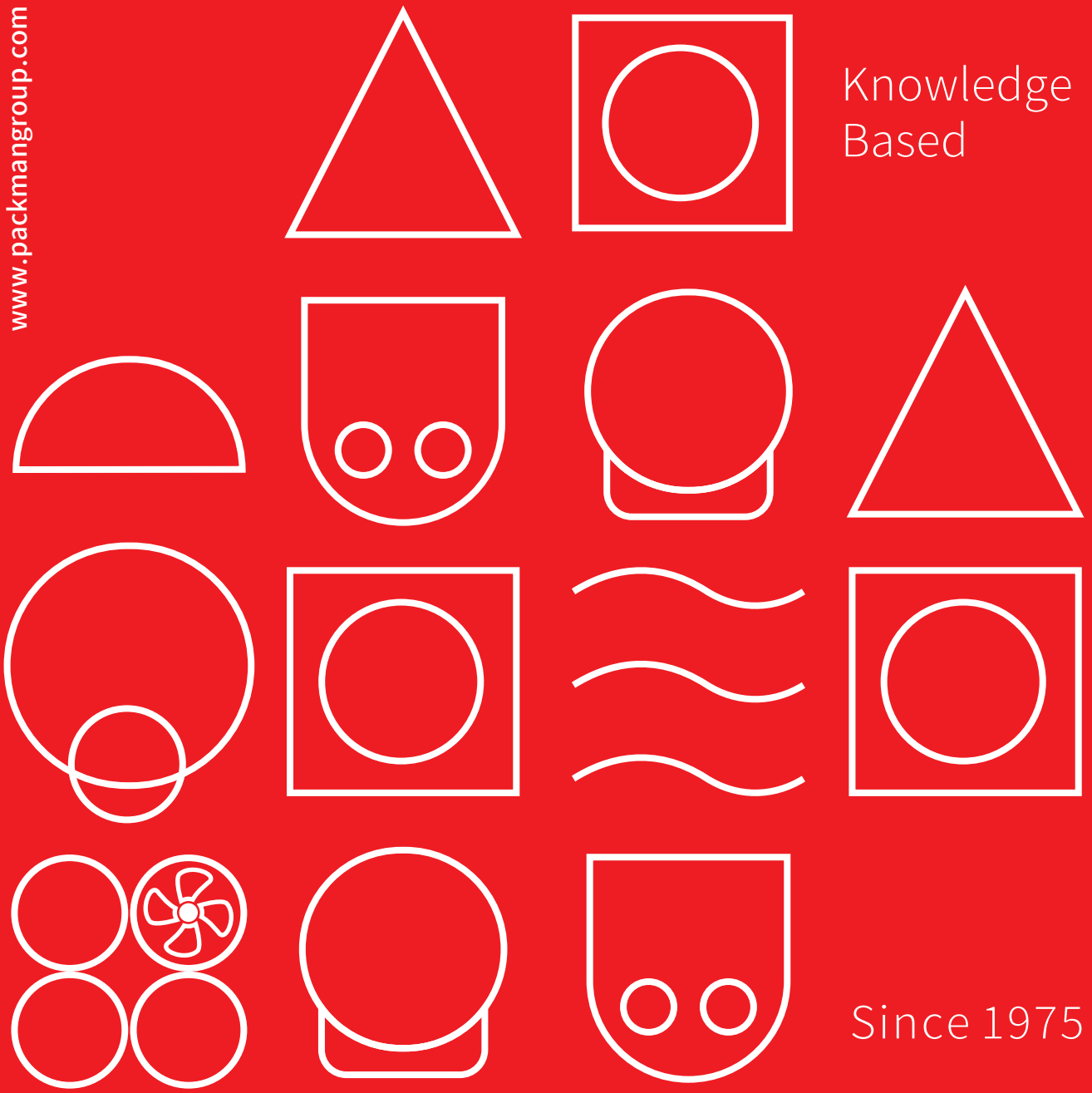


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Knowledge Based

Since 1975



**PACKMAN**  
Industrial Group

 Gas Separator

powered by PACKMAN industrial group



# Gas Separator

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## Product Description

Gas Separators eliminate the air gas from closed loop heating and cooling systems quickly and efficiently. Oil enters and exits through unique tangential nozzle connections which promote a low velocity vortex effect in the center of the unit. Natural centrifugal forces allow the heavier gas-free oil to move towards the outer edges, while entrained air is captured by the stainless steel collection tube and released to the top of the separator. This air can then be redirected to the compression tank, or released out of the system through an automatic vent. The bubble free oil then exits near the bottom of the unit and the system is thus protected against the noise, blockage and damage commonly caused by entrained gas.

## PACKMAN's Gas Separator Tank Properties

PACKMAN's Atmospheric Gas Separator Tanks are made of SA 36 (St 37.2 in accordance with DIN standard) or in case of a customer's emphasis they can be made of 17MN4 (which is Suitable for boiler construction) with suitable thickness and without any change in the price.

## Manufacturing Standards

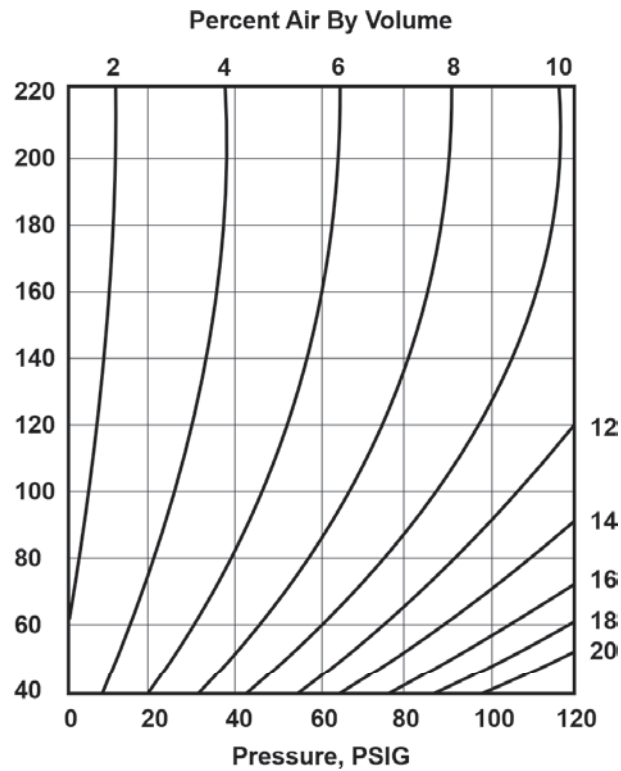
ASME Sec VIII, Div. 1 is observed in construction of Gas Separator tanks.

## Torispherical / Elliptical Head

PACKMAN's Gas Separator tank's heads are Torispherical. This type of head has a longer life and a higher pressure strength compared to other shapes with the same thickness. The production price per kilo of these heads can reach up to twice the price ratio of the usual heads on the market.

## Welding Procedure

Welding is done with the Swedish ISBU submerged arc welding equipment. After constructing the tank and welding the lugs, the body of the tank is connected to the heads using a submerged arc welding method. The heads are welded internally and externally, which increases their life and strength. In the root pass, the TIG, argon or other welding methods with the 6010 cellulose electrode is used. The EW7018 electrode is used in fill pass. Finally the submerged method with EW7018 electrodes is used in the welding cover pass.

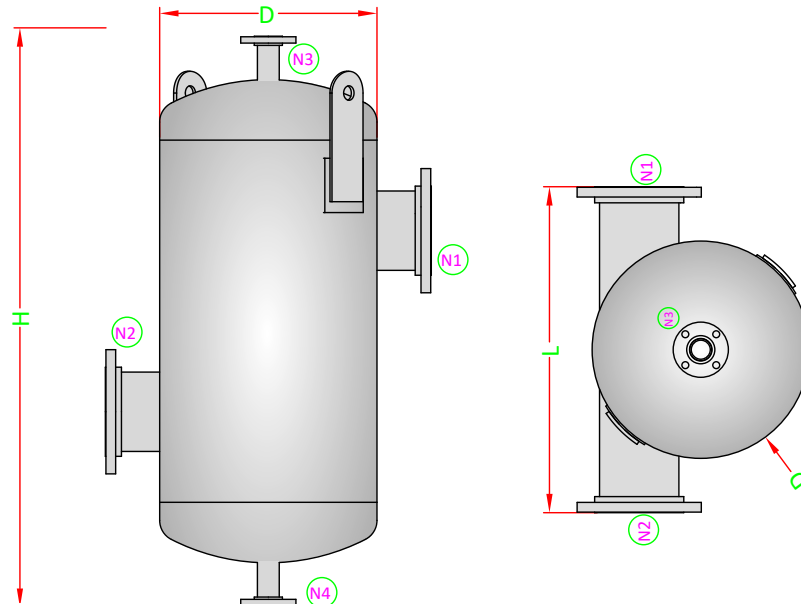


### Product Capacity Calculation & Selection

Note that at a fixed pressure, increasing the temperature reduces the amount of air that can be dissolved.

The conclusion is that as oil is heated from the fill temperature to the operating temperature, a great deal of air is released. Therefore, the simple act of bringing the oil to operating temperature could lead to corrosion and air pockets, both of which should be avoided. Depending upon the type of expansion tank used in the system, the air separator is part of an air control system, or an air separation system. Both systems will be discussed later. The actual capacity of the factory is required to calculate the size of the air separator. It is very simple to calculate the capacity and, by knowing the flow rate of oil through the device and the maximum permissible pressure drop, the model can be selected from the chart or table which is established by the manufacturer.

It should be mentioned that the maximum operating temperature is 375°F and its maximum working pressure is 125Psi.



Model	Unit	PGS-300	PGS-500	PGS-700	PGS-1300	PGS-2000	PGS-4400	PGS-6000
<b>Technical Data</b>								
Design Standard	-	ASME SEC. VIII. DIV.1						
Vessel Type	-	Vertical						
Flow Rate	gpm	300	500	700	1300	2000	4400	6000
Vessel Fluid Pressure Drop	bar	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Connectoin Size</b>								
Inlet (N1)	in	5	6	6	8	10	12	14
Outlet (N2)	in	5	6	6	8	10	12	14
Vent (N3)	in	11/4	11/2	11/2	2	21/2	3	4
Drain (N4)	in	11/4	11/2	11/2	2	21/2	3	4
<b>Material</b>								
Shell	-	Carbon Steel/Stainless Steel/Galvanized Steel Based on Client Request						
Head	-	Carbon Steel/Stainless Steel/Galvanized Steel Based on Client Request						
<b>Vessel Dimensions</b>								
Vessel Diameter (D)	mm	410	460	460	600	800	900	1100
Vessel Height (H)	mm	1100	1250	1350	1600	1950	2300	2650
Inlet to Outlet Length (L)	mm	600	650	650	900	1200	1400	1600

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# PACKMAN GROUP

## History

The Packman Company was founded in February 1975, and was soon afterwards registered in companies Registration Office. In early years the Packman construction and service branch focused on building installations. Different mega power plants were built by cooperating with Brown Boveri and Asseck companies in 1976.

The company started its official activities in construction of High-Pressure Vessels such as Hot-Water Boilers, Steam Boilers , Storage Tanks, Softeners and Heat Exchangers from 1984.

Packman Company is one of the first companies which supplied the high quality and standard hot water boilers to the customers.

Packman has exported its products to countries such as Uzbekistan, United Arab Emirates and other countries in the Middle East. It is one of the largest producers of hot-water and steam boilers in the Middle East.

Now we are proud to announce that the Packman industrial group has five major sub-brands that have product titles in all field of HVAC equipment and engineering services, and we do not know this success except with the help and support of our customers.

1. Construction Services Industry Association
2. Industry Association
3. Construction Companies' Syndicate
4. Technical Department Association
5. Mechanical Engineering Association
6. Engineering Standard Association

### Departements:

#### Sales Deps:

- ∩ Power Plant & Petrochemical
- ∩ Industrial
- ∩ Hospitally Service
- ∩ Commercial & Residential
- ∩ Sport Complex & Pool

#### Technical Deps:

- ≡ Manufacturing R&D
- ≡ Innovation Center
- ≡ EPC Execute Unit
- ≡ Product Develop Unit
- ≡ Sales Engineering Dep.

#### Others:

- ≈ After Sales Service
- ≈ Project Control
- ≈ Financial Office
- ≈ Commercial Office
- ≈ Marketing Department



# PACKMAN GROUP Brands



**PACKMAN**  
Industrial Group

Designer & manufacturer of Condensing, Hot Water, Steam, Hot Oil & Waste Heat Boilers, Heat Exchangers, Autoclave Pressure & Storage Vessels & etc



**GREENMAN**  
Green mindset, green future

Engineering & Designing Commercial Greenhouse Plant, CO2 Dosing System, Flue gas Condenser & Special HVAC Systems, Sustainable Agriculture & etc



**ROMAN**  
Water solution

Designer & manufacturer Reverse Osmosis Plant & Package, Water Treatment, Softener & Filters and Chemical Dosing Systems & etc



**RAADMAN**  
a look to the future

Designer & manufacturer of Industrial Mono & Dual Block Gas, LPG, Light & Heavy Oil Burners, Premixed & Postmixed Burners, Watertube burners, Process burners, Special application burners & Combustion Solutions & etc



**CHILLMAN**  
Coolest hvac around

Designer & manufacturer of Air & Water Cooled Chillers, Air Handling Units, Fancoil, HVAC Equipment, Cold Storage Room & etc



1. Isfahan Factory



2. Vilashahr Factory



3. Parand Factory



4. Parand (2) Factory



5. Bonyad Factory

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