

Well Flow Management

Well Testing | Separation

MegaFlow® Ultra-High Rate Test Separator

The Expro MegaFlow® Separator is unlike conventional portable test separators. It breaks new ground in separation technology within a flexible, modular system designed to deliver precise data from High and Ultra-High Rate, High Pressure High Temperature (HPHT) gas condensate wells.

The MegaFlow® Separator satisfies the need for an easily transportable, high-capacity separator for use both on and offshore. This portability is made possible by its modular design, minimizing the overall weight and size of individual lifts during mobilization / demobilization.

Primarily designed to separate liquids from gas (unlike horizontal separators which are designed for the reverse), the increased flow capacity of MegaFlow® is achieved by combining horizontal and vertical separation technology. The fluids enter the vertical separator where free liquid is removed from the gas by centrifugal force. Any entrained liquid remaining in the gas is removed using vertical re-cycling separation technology.

Liquid is collected in the bottom horizontal vessel section allowing a far greater retention time than traditional vertical gas separators or horizontal test separators. The large bottom vessel also allows for handling greater liquid volumes than previously seen with vertical gas separators.

The MegaFlow® has been specifically designed for use in HPHT gas condensate testing to resolve both the poor separation efficiency typically experienced with the use of conventional horizontal separators and the limited liquid capacity of vertical separators in this application.

Expro install, commission, and operate the MegaFlow® Separator, as part of the full suite of in-house services we provide during well test exploration, appraisal, development, work-over or production-enhancement operations. Expro are the industry experts in Gas Condensate well flow and characterization; offering many industry-unique products and services to support complex high and ultra-high gas rate projects for our customers.



Features and benefits

- One of the world's highest-capacity, modular test separator
- Ultra-High capacity gas / liquid rate separation
- Large liquid capacity
- High operating temperature range
- Higher working pressure than conventional separators
- Improves on both horizontal and vertical separation technology

Applications

- Onshore and offshore
- Gas and Oil well testing
- Development and Production clean-up operations
- HPHT operations
- Production-enhancement projects

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Specifications			
MegaFlow®	MKI	MKII	MKIII
Working pressure psi (bar)	2,160 (150)	2,160 (150)	2,160 (150)
Vertical vessel size inches x ft. (m)	30" x 7 (0.762 x 2.134)	30" x 7 (0.762 x 2.134)	30" x 7 (0.762 x 2.134)
Horizontal vessel size inches x ft. (m)	78" spherical (1.98)	36" x 12 (0.92 x 3.66)	36" x 12 (0.92 x 3.66)
Temperature rating °F (°C)	-50 to 300 (-46 to 150)	-50 to 300 (-46 x 150)	-50 to 300 (-46 x 121)
Inlet connections	6" fig. 206 Hammer union	6" 900# flange	6" 900# flange
Gas line outlet	6" 900# flange	6" 900# flange	6" 900# flange
Oil line outlet	3" 900# flange	3" 900# flange	3" 900# flange
Water line outlet	2" fig. 206 Hammer Union	2" 900# flange	2" 900# flange
Dry weight ton (kgs)	33.26 (33,800)	33.96 (34,500)	32.97 (33,500)
Max. single lift ton (kgs)	12.00 (12,192)	21.65 (22,000)	23.70 (24,080)
Deck loading ton/m2 (kg/m2)	1.87 (1,898)	2.19 (2,225)	1.74 (1,770)
Dimensions - L x W x H ft. (m)	25.6 x 8.2 x 22.9 (7.8 x 2.5 x 7)	22.0 x 8.0 x 26.1 (6.70 x 2.44 x 7.95)	26.2 x 8.2 x 24.6 (8.0 x 2.5 x 7.5)
Max. gas rate MMscf/d (MM m³/day)	175 (5)	175 (5)	175 (5)
Max. oil rate bbl/d (m³/day)	25,000 (4,000)	15,000 (2,384)	11,000 (1,749)
Max. water rate bbl/d (m³/day)	6,000 (1,000)	3,000 (477)	3,000 (477)
Gas meter run	8" Daniel senior orifice meter	2 x 4" Micro motion Coriolis	2 x 4" Micro motion Coriolis
Oil metering	2 x 2" turbine 1 x 1½" turbine	3" Micro motion Coriolis	3" Micro motion Coriolis
Water metering	1 x 1½" turbine	2" Micro motion Coriolis	2" Micro motion Coriolis
Lower vessel capacity bbl (m³)	25 (4)	15 (2.37)	15 (2.37)
Relief valve (fire protection)	N/A	1" x 2" - D orifice	N/A
Relief valves (full flow)	2 x 3" x 6" - K orifice	4" x 6" - P orifice	4" x 6" - P orifice (x 2)
Design codes	DNV 2.7-1 PD 5500 cet 1, ANSI B31.3 NACE MR-01-075	DNV 2.7-1 ASME VIII Div.1 ANSI B31.3 NACE MR-01-075	DNV 2.7-1 ASME VIII Div.1 ANSI B31.3 NACE MR-01-075

For more information contact your local Expro representative or email welltesting@expro.com