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PREMABERG

Problemlöser in der Öl und Gasindustrie

Beam Gas Compressor BGC

The Beam Gas Compressor™ manufactured by Permian Production Equipment, Inc.



The Experts in Gas and Oil

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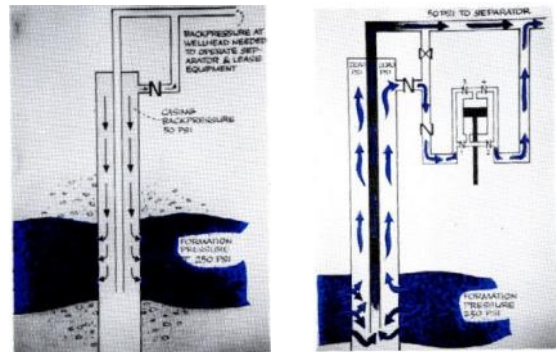
1. GENERAL

The Beam Gas Compressors Type BGC that are supplied from PREMABERG are in compliance with the ATEX-Code 94/9/EG, annex VIII, item. 3 and therefore are suitable for operation in hazardous area Zone 2.

2. DESCRIPTION

BGC are used to suck off casing gas and further compress this gas into the flow line. Due to the reduced casing pressure the inflow performance of the liquid is increased. BGC are suitable to be installed on all types of beam pumping unit and are designed as reciprocating compressors where the cylinder is able to handle operating pressures up to 28 bar (depending on the cylinder diameter). The cylinder is made of fiber glass and the internal surface is coated with "Microfinish".

BGC can be either single acting or double acting, compressing and sucking in either direction, where the kinetic energy of the pumping unit is used to drive the compressor.



- Advantage:** depending on formation and well condition you might:
- increase oil production due to reduced casing pressure
 - increase gas production
 - use kinetic energy from up-/down stroke of the pumping unit to drive the BGC.

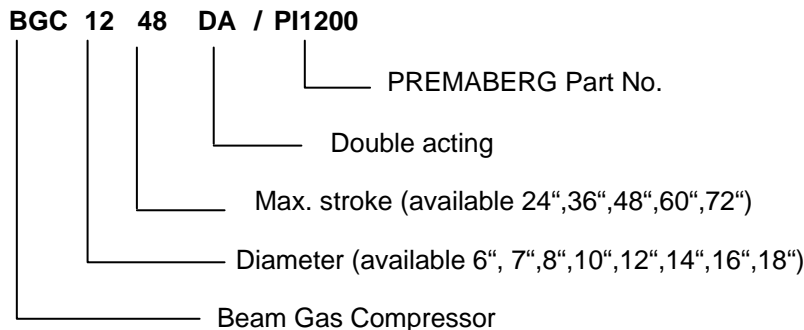
3. NOMENCLATURE

The type of the compressor specifies stroke length and diameter of the BGC, as well indicates whether the BGC is single or double acting.

Example: BGC-1248 DA / PI1200

1248 indicates a compressor with a max. stroke of 48 inch and a cylinder diameter of 12 inch.

DA stands for double acting which means suction and discharge happens both at up and down stroke at the same time. If the indication DA is missing the design is made for single acting.



	II 3 G cb T3	
BAUTEIL	BEAM GAS COMPRESSOR	
TYPE	658-DA / PI2159	
BAUGRÖSSE	6" x 58"	
MEDIUM	ERDGAS	
BETRIEBSDRUCK	max. 410 PSI	
SERIENNUMMER	0-400-1139-0/6008	
BAUJAHR	2010	
	PREMABERG Industrieanlagen Gesellschaft mbH 2362 Biedermannsdorf Siegfried Marcus-Strasse 9	

4. FUNCTION OF A DOUBLE ACTING BGC

During the upstroke of the piston rod, gas is sucked through the suction valve into lower part of the cylinder. At the same time gas within the upper compartment is compressed and discharged into the flow line through the discharge valve. During the down stroke of the piston rod, the whole process works vice versa.

5. TEMPERATURE MONITORING – ATEX DIRECTIVE 94/9/EG

According to the ATEX Directive 94/9/EG measurements have to be taken to prevent activation of any potential source of ignition.

Consequently the temperature in the stuffing box is monitored as well as the temperature in the compression chamber(s), as compressed gas tends to heat up.

Monitoring is done by PT100 temperature elements. The registered signals are transferred to temperature transducers.

Cut off temperature shall be adjusted around 20K above operating temperature but not exceeding +100°C. In case of higher temperature the pumping unit has to shut down.



Further all national standards and codes for the installation and operation of plants within hazardous area have to be checked (e.g. ÖVE/ÖNORM E 8065 for Austria)

Standards/Code the BGC complies with:

- Maschinensicherheitsverordnung MSV: BGB1.306/1994
- EC-Richtlinie Maschinen 98/37/EG in der geltenden Fassung
- EN 292, EN 294, EN 349, EN 418, EN 811, EN 954-, EN 60204-1
- EN13463 Teil 1, EN13463 Teil 5, EN13463 Teil 6

Further applied EC-directives:

- EMV directive 89/336/EWG
- ATEX directive 94/9/EG

**6. R + I-DIAGRAM
FOR UPSIDE DOWN INSTALLATION**

- SHEET 1 OF 1
Seite 1 von 3
MECHANICAL COMPONENTS
Mechanische Teile
1. 7/8" x 4 1/2" L-9 BOLT ASSEMBLY (8) REQ
7/8" x 4 1/2" L-9 Befestigungsschrauben (8 Stk. erf.)
 2. WALKING BEAM CLAMP PLATE (2) REQ
Verschiebbare Klemmplatte (2 Stk. erf.)
 3. TOP BEARING PLATE
Obere Lagerplatte
 4. TOP BEARING PIN (2) REQ
Oberer Lagerzapfen (2 Stk. erf.)
 5. TOP BEARING CRADLE
Obere Lagerwippe
 - 6A. 3/4" x 7 1/2" L-9 BOLT ASSEMBLY (4) REQ
3/4" x 7 1/2" L-9 Fixierschrauben (4 Stk. erf.)
 - * 6. UNIVERSAL BEARING HOUSING
Kartellagergehäuse
 - * 6A. UNIVERSAL BEARING THRUST WASHER (4) REQ
Druckscheibe (4 Stk. erf.)
 - * 6B. UNIVERSAL BEARING BUSHING (4) REQ
Universallagerbuchse (4 Stk. erf.)
 7. 3/4" x 3" SOO-HEAD CAP SCREW (4) REQ
3/4" x 3" Kronenmutter (4 Stk. erf.)
 - * 9. TOP CYLINDER HEAD
Obere Kopfplatte für Zylinder
 9. 7/8" x TIE ROD W/FLAT WASHERS AND
TIELOCK NUTS (8) REQ
7/8" x Zugstange mit Beilags- und Nylock Muttern (8 Stk. erf.)
 - * 10. CYLINDER BARREL
Zylinder
 - * 11. BOTTOM CYLINDER HEAD
Fußplatte für Zylinder
 - * 11A. NYLATHON BUSHING
Nylatronbuchse
 - * 11B. CHEVRON SEAL
Chevrondichtung
 - * 12. PISTON ROD
Kolbenstange
 - * 13. BOTTOM BEARING HOUSING
Fußlagergehäuse
 - * 13A. BOTTOM BEARING THRUST WASHER (2) REQ
Fußlager - Druckscheibe (2 Stk. erf.)
 - * 13B. BOTTOM BEARING BUSHING (2) REQ
Fußlagerbuchse (2 Stk. erf.)
 - * 13C. SOO-HEAD SET SCREW (3) REQ
Kronenmutter (3 Stk. erf.)
 - * 14. BOTTOM BEARING CRADLE
Wippe für Fußlager
 - * 15. BOTTOM BEARING PIN
Unterer Lagerzapfen
 16. 3/4" x 7 1/2" L-9 BOLT ASSEMBLY (2) REQ
3/4" x 7 1/2" L-9 Befestigungsschrauben (2 Stk. erf.)
 17. 3/4" x 4" L-9 BOLT ASSEMBLY (4) REQ
3/4" x 4" L-9 Befestigungsschrauben (4 Stk. erf.)
 18. BOTTOM BEARING PRESSURE PLATE
Druckplatte für Fußlager
 19. ADJUSTABLE BASE MOUNT SLEEVE
Einstellmuffe
 20. 1/2" x 4 1/2" L-9 BOLT ASSEMBLY (3) REQ
1/2" x 4 1/2" L-9 Einstellschrauben (3 Stk. erf.)
 21. 7/8" x 5" L-9 BOLT ASSEMBLY (4) REQ
7/8" x 5" L-9 Befestigungsschrauben (4 Stk. erf.)
 22. SKID MOUNT PLATE
Gleitschlitten
 23. 7/8" x 5 1/2" L-9 BOLT ASSEMBLY (6) REQ
7/8" x 5 1/2" L-9 Halteschrauben (6 Stk. erf.)
 24. SKID MOUNT CLAMP
Gegenplatte für Gleitschlitten
 - * 25. PISTON ROD PACKING NUT
Gehäuse für Gleitdichtung
 - * 25A. GLAND NUT INTERNALS
Gleitdichtung
 - * 25B. GLAND NUT INTERNALS
Gleitdichtung
 - * 25C. GLAND NUT INTERNALS
Gleitdichtung
 26. OPEN (NOT USED)
nicht erforderlich
 27. OPEN (NOT USED)
nicht erforderlich
 28. OPEN (NOT USED)
nicht erforderlich
 29. OPEN (NOT USED)
nicht erforderlich
- * REF SHEET 2 OF 2
- PATENTED
CHARLES D. McCoy
MIDLAND, TEXAS

