ASSOCIATED GAS COMPRESSOR DRIVEN BY THE PUMP JACK

Do you want to:

Enhance the oil and gas production of the oil well **Eliminate the gas blocking of the bottom pump**

Entirely recover the gas produced by the oil well

Protect the environment

Extend the operating duration of the well

Fill up the Questionnaire with the data specific to the application (well) and ask Confind for the appropriate CGA compressor at **email:confind@confind.ro**

CUSTOMER	Contact person	Tel.	Fax	e-mail

1. Data on the Pump jack

Location and identification number			
Model(1) and Producer			
Number of double strokes per minute	Actual		
	Scheduled(2)		
	Maximum available		
Polished rod stroke	Actual		(10)
	Scheduled(2)		(10)
	Maximum available		(10)
L1= horizontal distance between the walking beam main bearing center line and polished rod vertical(3)			(10)
L2= distance between the walking beam main bearing center line and the limit to install the CGA compressor clamp on the walking beam(3)			(10)
H= walking beam main bearing center line hight above the pump jack skid(3)			(10)
Motor power	Actual consumed		(10)
	Rated		(10)
Operating schedule(4)	Operating hours per day		
	Shut-downs per day		

(1) Please attach the pump jack Data Sheet, if available. If not, a picture is useful.

(2) Scheduled for the pump jack operation with CGA compressor installed.
Attention The scheduled values will be considered for the CGA compressor solution selection

(3) The requested data are necessary to select the compressor piston stroke. More dimensional data are requested in a different Questionnaire, in order to select the compressor supports and to check the pump jack – compressor assy kinematics after the compressor itself is selected.

(4) If the pump jack is not normally in continuous function, a more detailed clarification of data should be performed.

2. Data on the Oil & Gas actual process

Actual dayly liquid (oil + water) pumped by the bottom pump			(10)
Average bottom pump filling percentage (if available)			%
Gas pressure in the well casing	Average value		(10)

	Tight casing (no leak) value		(10)
Pressure in the oil delivery line, near the well	Average value		(10)
	Maximum, in normal operation		(10)
Gas flow produced by the well, determined/evaluated(5) at/for the desired pressure in the well casing, actual units (cubic feet / day, for example)			(10)
Gas specific gravity (SG)			-
Agressive components (H_2S, CO_2, others) in gas (%mol)			(10)

3. Requirements and conditions for the CGA compressor

Gas flow to be pumped(5) at the desired well casig pressure, actual units (cubic feet / day, for example)			(10)
Desired(6) gas pressure in the well casing			(10)
Gas temperature at compressor's suction connection(7)	Average value		(10)
	Maximum, in normal operation		(10)
Maximum allowable discharge gas temperature(7)			(10)
Ambient temperature	Average value		(10)
	Maximum		(10)

4. Pressure drop on the Connecting Piping

Connecting Piping is in Customer full responsibility. The values are assumed by the Customer.

Pressure drop in the Connecting Piping suction line(7),(8)			(10)
Pressure drop in the Connecting Piping discharge line(7),(9)			(10)

(5) The gas flow produced by the well at the desired gas pressure in the well casing, normally should be requested as the gas flow to be pumped by the CGA compressor for the same pressure. The evaluation should be as good as possible. A significantly under-evaluation will lead to a higher than desired pressure in the casing. A significantly over-evaluation will lead to a lower pressure in the casing, but the normal pressure ratio of the compressor may be exceeded, thereby to have an over-heated compressor.

(6) The CGA compressor is destinated to pump the requested gas flow. The well casing pressure will be determined also by other factors, out of both the Producer and the Customer control. Thereby, the desired well casing pressure is a common goal and may no be a condition of success for the CGA compressor Producer.

- Thumb rule to limit thee compressor heating:

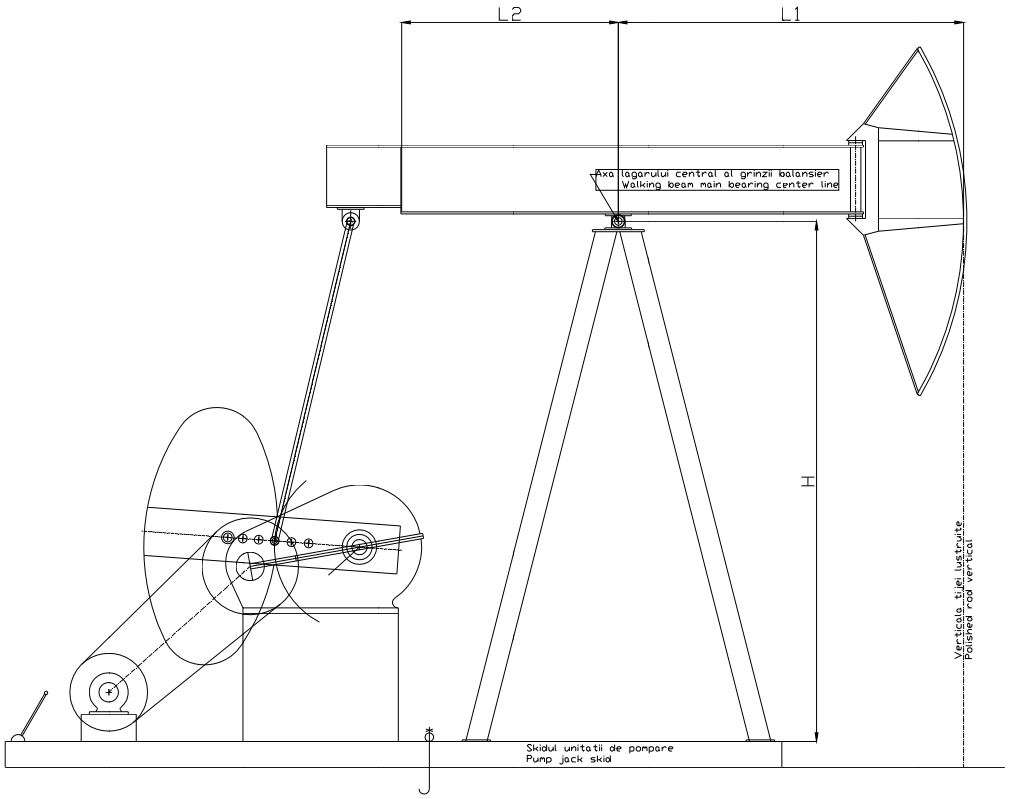
the absolute pressure in the well casing should be higher than the maximum in normal operation conditions absolute pressure in the oil delivery line divided by 4÷4.2.

(7) Please consider the Connecting Piping to be provided by the Customer (see the CGA Compressor P&ID, CG001-ST document).

(8) Normally, the pressure drop should be up to 5% of the absolute pressure in the well casing. For the compressor selection, it's suction pressure will be considered to be the desired gas pressure in the well casing minus the pressure drop in the suction line.

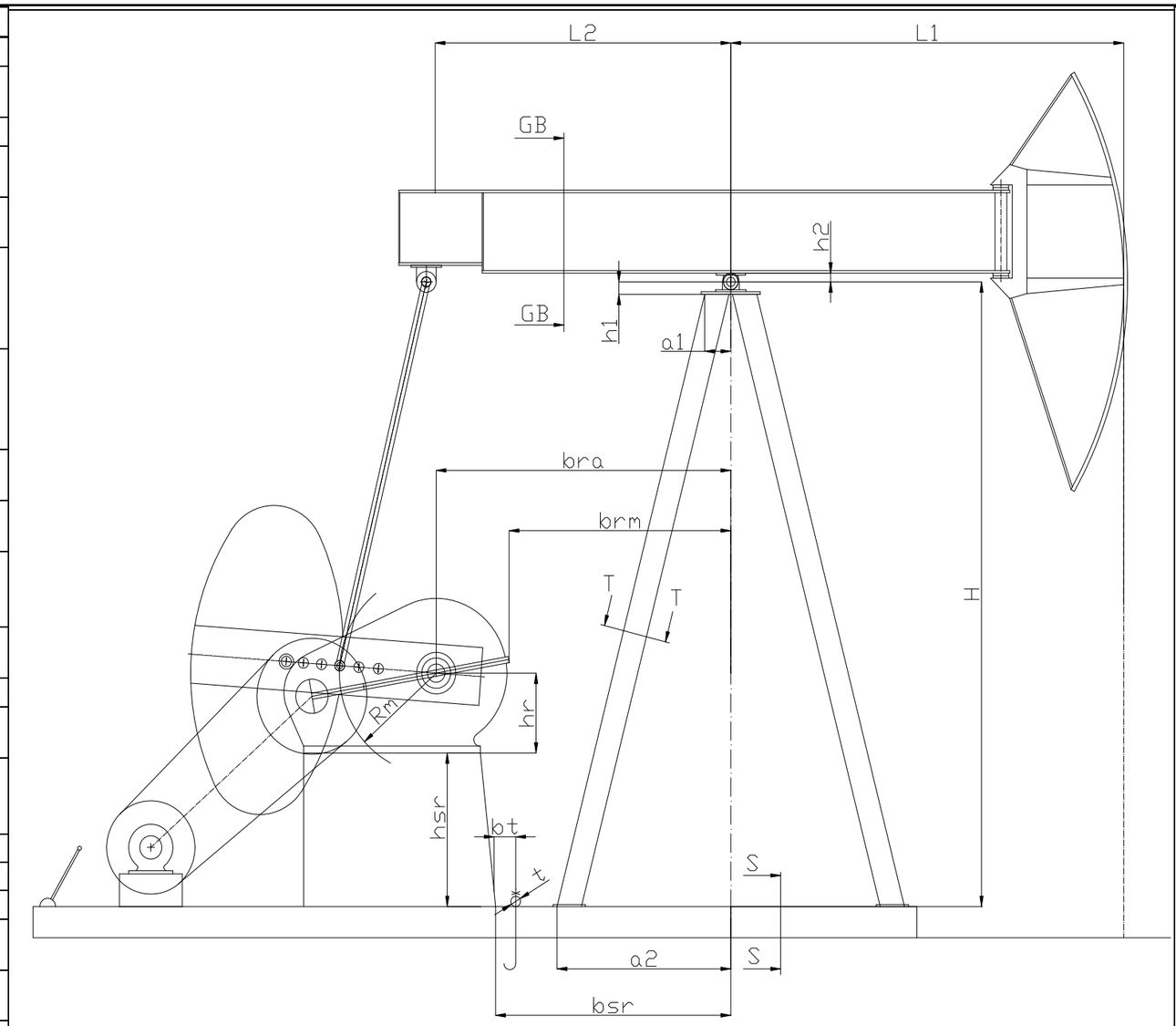
(9) Normally, the pressure drop should be up to 5% of the absolute pressure in the oil delivery line. For the compressor selection, it's discharge pressure will be considered to be the maximum pressure in the oil delivery line for normal operation plus the pressure drop in the discharge line.

(10) Please provide the measurement unit.


L2
L1
Axa lagarului central al grinzii balansier
Walking bean main bearing center line
H
Verticala tijei lustruite
Polished rod vertical
Skidul unitatii de pompare
Pump jack skid

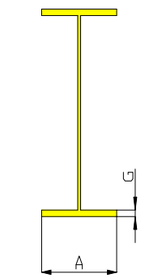
Procurement data sheet for associated gas compressor(CGA)

	Dimension description	Measured	
L1	Main bearing CL ÷ Polished rod		mm
L2	Main bearing CL ÷ Limit of CGA clamping on the walking beam		mm
H	Main bearing CL ÷ pump jack skid		mm
h1	Main bearing CL ÷ Bottom surface of the bearing platform		mm
h2	Main bearing CL ÷ Bottom surface of the walking beam		mm
a1	Samson post (gear box side) steel beam position relative to the vertical from the main bearing CL, at the bearing platform bottom surface level		mm
a2	Samson post (gear box side) steel beam position relative to the vertical from the main bearing CL, at the jack skid upper surface level		mm
bsr	Gear box support position relative to the vertical from the main bearing CLi		mm
bra	Main bearing CL ÷ Gear box output shaft CL		mm
brm	Minimum distance between the gear box and the vertical from the main bearing CL		mm
Rm	Radius where the utilized hole of the crank is positioned		mm
hsr	Gear box support height		mm
hr	Gear box output shaft CL position relative to the gear box support		mm
t	Dia/Dimension of the jack skid clamp to the foundation between the samson post and the gear box support		mm
bt	Clamp position		mm
A	Walking beam. Flange width		mm
G	Walking beam. Flange thickness		mm
B	Samson post (gear box side). Outside distance between the steel beams		mm
C	Samson post (gear box side). Steel beam depth		mm
H	Samson post (gear box side). Steel beam flange width		mm
E	Skid. Outside distance between the steel beams		mm
F	Skid. Steel beam depth		mm
K	Skid. Steel beam flange width		mm



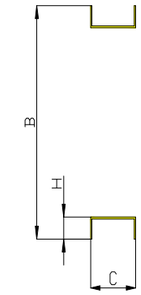
GB-GB

Grinda balansier
Walking Beam



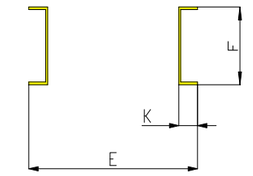
T-T rotit/rotated

Capra unitatii. Profile
la partea reductorului
Samson Post. Steel Beams
at Gear Box side



S-S

Skidul unitatii
Pump jack Skid



rev2