



BEAM PUMPING UNITS

API Spec.11E

Beam Pumping Unit Description

A characteristic of CONFIND beam pumping unit is represented by the positioning of extension base (pos.17), the belts straining system and the brake control at a certain height compared to the base frame.

The gear reducer is of herringbone, double reduction type. The first reduction gear is provided with grinded teeth, while the second reduction gear teeth are cut on Sykes machines by cutting wheels. The housing is processed on precision boring machines and the shafts position control is made by testing mandrels on a basaltic plate. This technological frame ensures a good gearing contact for the gear reducer as well as a silent service. A particular gear characteristic is represented by the two level oil lubrication bath, which makes that lubrication requisites be reduced by 50% compared to the usual performance of other pumping units.

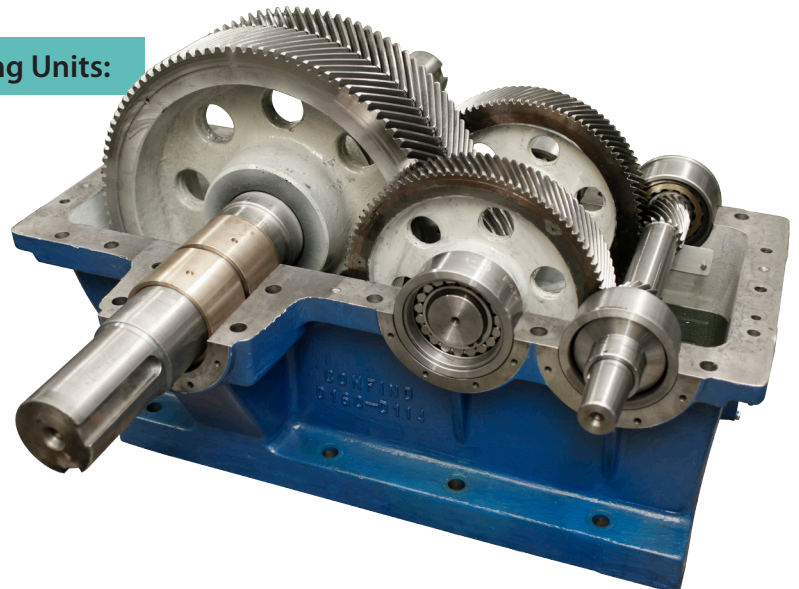
The brake system of the pumping unit, fixed on the gear reducer inlet axis consists in brake slippers and keeps in rest the pumping unit elements during the workover interventions. For a better safety, the brake is provided with an additional system for keeping the pumping unit in braked position by a tracking screw.

For the pumping unit balance, there are provided counterweights on the cranks, with setting and fixing on station.

The pumping unit is delivered loose in subassemblies.

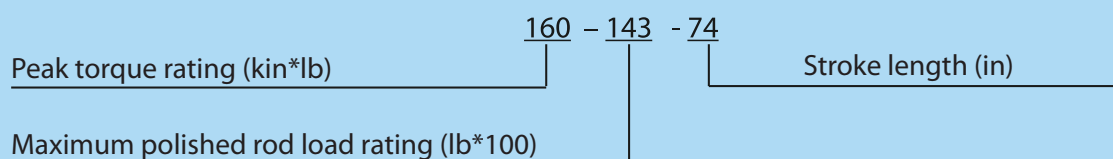
The advantages of CONFIND Beam Pumping Units:

- API certification
- Safe and silent service: the first gear reduction runs a grinded gearing
- Increased safety of the brake system
- Easy and rapid intervention



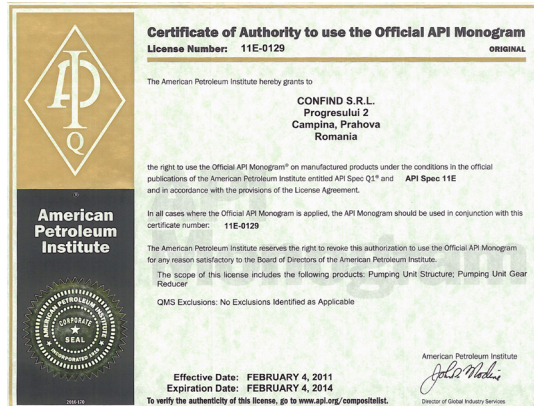
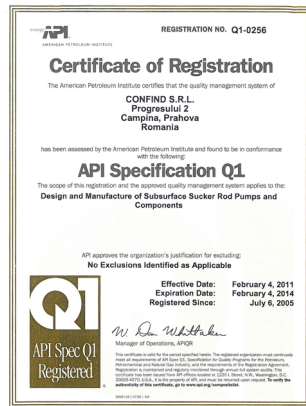
Beam Pumping Units Designation

The beam pumping unit is designated, according to API Spec. 11E, by a sequence of three digits, whose significance is shown below:



Standardization

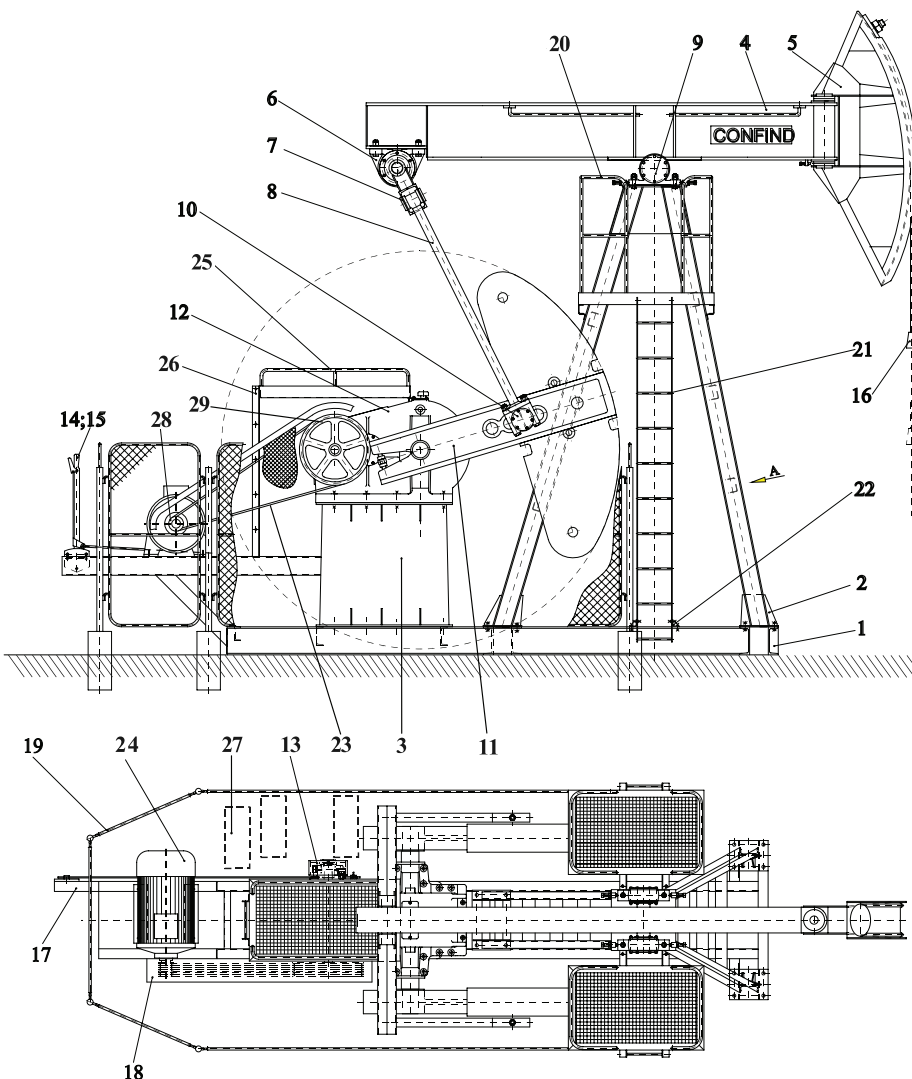
The beam pumping units produced by CONFIND comply with the API Spec. 11E standard requirements, Directive 94/9/EC (ATEX), Directive 2006/42/EC (Machines)



Beam Pumping Units Components

The picture below presents the beam pumping unit geometry and components.

The pumping unit is a conventional type one: the central bearing is located between the horsehead and the ball bearing.



Pos.	Description
1.	Base
2.	Samson Post
3.	Gear reducer base
4.	Walking beam
5.	Horsehead
6.	Equalizer bearing
7.	Equalizer
8.	Pitman Arm
9.	Center bearing
10.	Crank pin bearing
11.	Crank with counterweights
12.	Gear reducer
13.	Brake
14.	Brake lever
15.	Brake transmission
16.	Carrier bar
17.	Extension base
18.	Belt cover
19.	Fence
20.	Samson Post platform
21.	Ladder
22.	Ladder support
23.	V-belt
24.	Prime mover
25.	Gear reducer platform
26.	Platform ladder
27.	Electric switch box
28.	Prime mover sheave
29.	Gear reducer sheave

Destination

The beam pumping units produced by CONFIND (API Spec 11E: 57-..., 80-..., 114-..., 160-..., 228-..., 320-..., 456...) designated to oil extraction by deep well pumping through the sucker rod pumps.

Beam Pumping Units API 11E – CONFIND manufacture

Pumping Unit Size (API Spec 11E code)	Beam Pumping Units characteristics						Gear Reducer type
	Imperial System			International System			
	Peak torque rating	Polished rod load rating	Stroke length	Peak torque rating	Polished rod load rating	Stroke length	
	in *lbs	lbs	in	N*m	kg	mm	
57-89-42	57000	8900	42	6440	4040	1067	D57
57-76-48	57000	7600	48	6440	3450	1220	D57
57-95-48	57000	9500	48	6440	4313	1220	D57
57-109-48	57000	10900	48	6440	4950	1220	D57
57-76-54	57000	7600	54	6440	3450	1372	D57
80-109-48	80000	10900	48	9038	4950	1220	D80
80-133-48	80000	13300	48	9038	6038	1220	D80
80-119-54	80000	11900	54	9038	5402	1372	D80
80-133-54	80000	13300	54	9038	6038	1372	D80
80-119-64	80000	11900	64	9038	5402	1626	D80
114-133-54	114000	13300	54	12880	6038	1372	D114
114-143-64	114000	14300	64	12880	6492	1626	D114
114-173-64	114000	17300	64	12880	7854	1626	D114
114-143-74	114000	14300	74	12880	6492	1880	D114
114-119-86	114000	11900	86	12880	5402	2185	D114
160-173-64	160000	17300	64	18077	7854	1626	D160
160-143-74	160000	14300	74	18077	6492	1880	D160
160-173-74	160000	17300	74	18077	7854	1880	D160
160-200-74	160000	20000	74	18077	9080	1880	D160
160-173-86	160000	17300	86	18077	7854	2185	D160
228-173-74	228000	17300	74	25760	7854	1880	D228
228-200-74	228000	20000	74	25760	9080	1880	D228
228-213-86	228000	21300	86	25760	9670	2184	D228
228-246-86	228000	24600	86	25760	11168	2184	D228
228-173-100	228000	17300	100	25760	7854	2540	D228
228-213-120	228000	21300	120	25760	9670	3048	D228
320-213-86	320000	21300	86	36155	9670	2185	D320
320-256-100	320000	25600	100	36155	11622	2540	D320
320-305-100	320000	30500	100	36155	13847	2540	D320
320-213-120	320000	21300	120	36155	9670	3048	D320
320-256-120	320000	25600	120	36155	11622	3048	D320
320-256-144	320000	25600	144	36155	11622	3658	D320
456-256-120	456000	25600	120	51521	11622	3048	D456
456-305-120	456000	30500	120	51521	13847	3048	D456
456-365-120	456000	36500	120	51521	16570	3048	D456
456-256-144	456000	25600	144	51521	11622	3658	D456
456-305-144	456000	30500	144	51521	13847	3658	D456
456-305-168	456000	30500	168	51521	13847	4267	D456