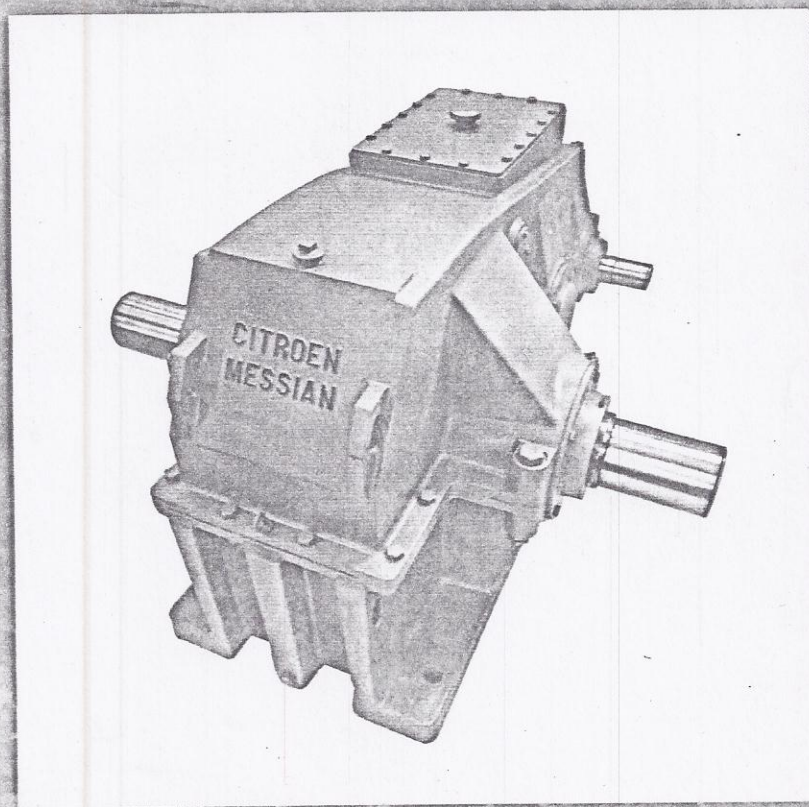
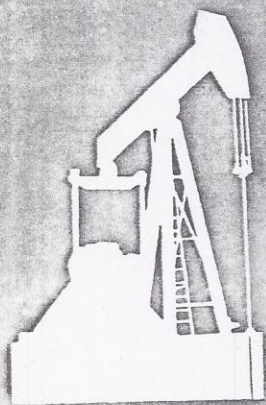


CITROEN MESSIAN



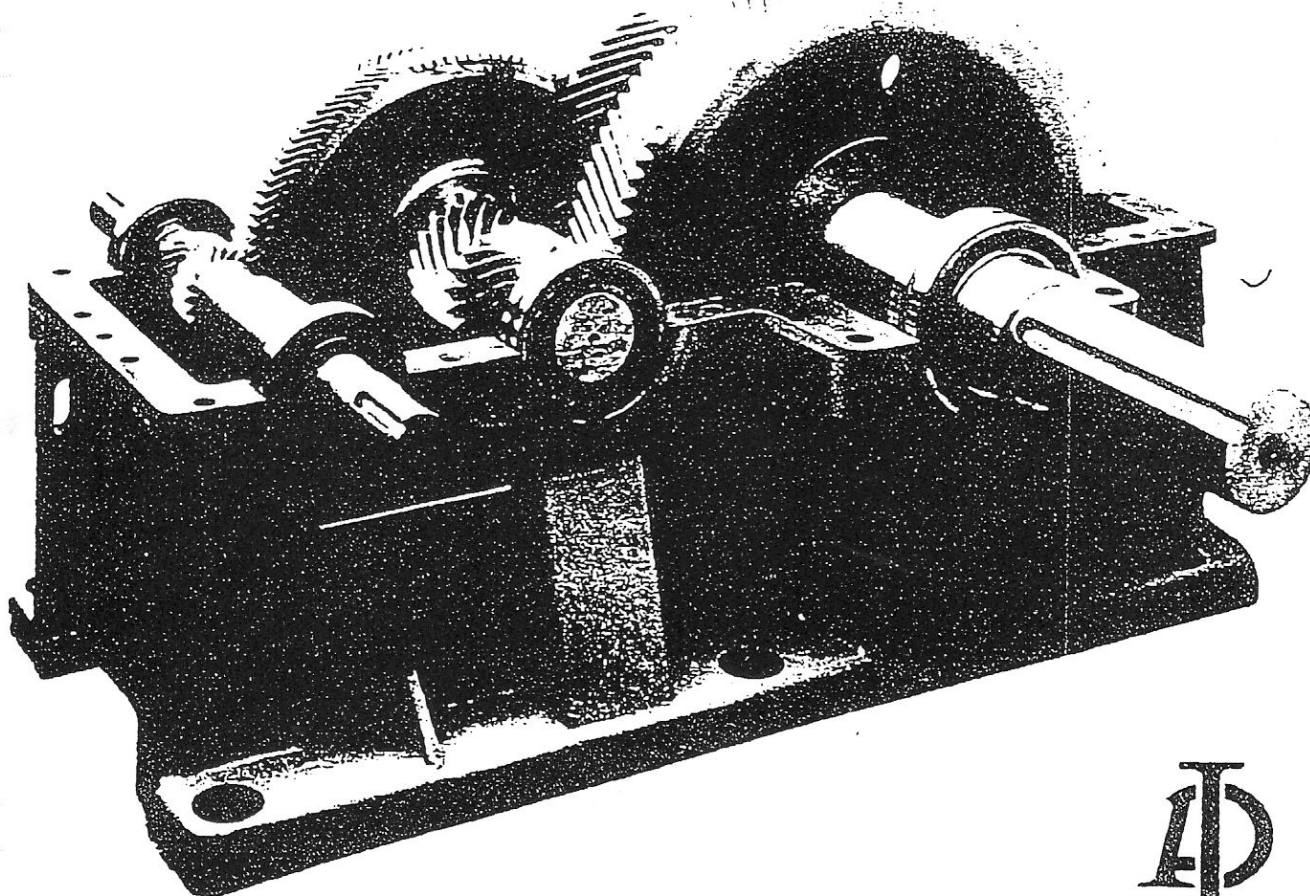
ENGRENAGES
ET
RÉDUCTEURS

Pumping Unit Gear Reducers



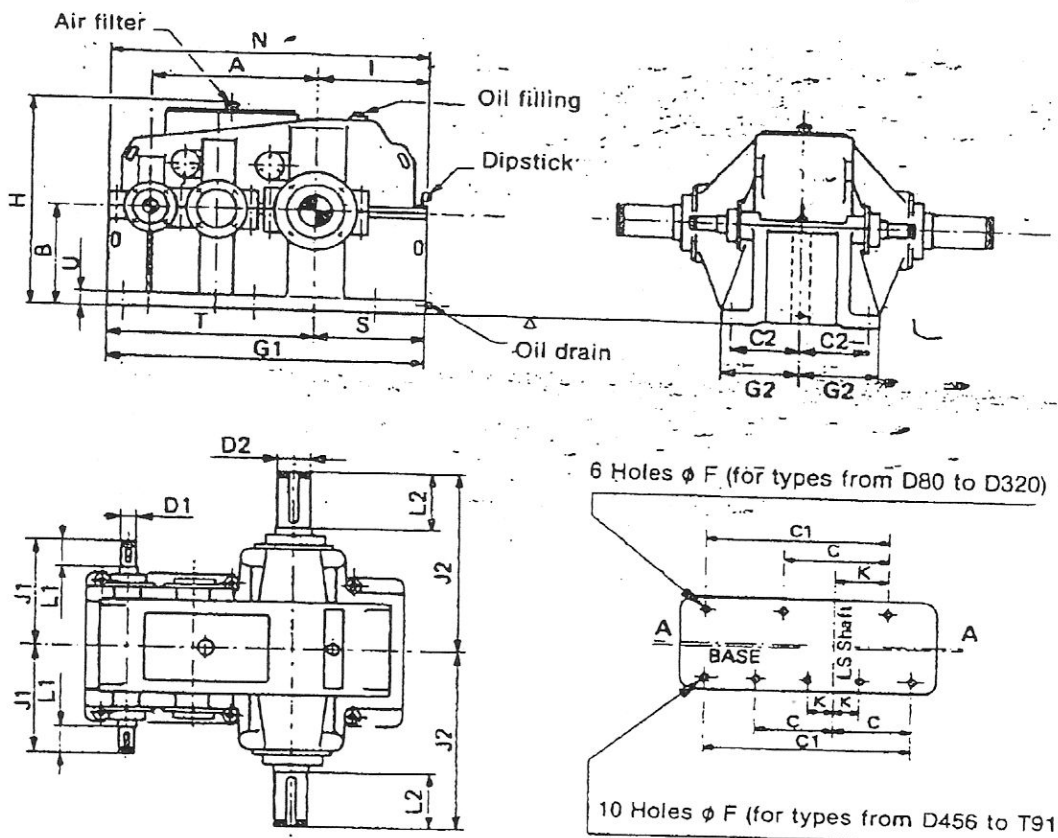
Gear Box Specifications

- If necessary, split housing allows easy onsite repairs.
- Output shafts are forged from a high grade alloy steel and through hardened to 250 Brinell. They are also ground and polished for increased seal life.
- Gears are forged from a high grade alloy steel and through hardened to 285/320 Brinell. They are precision cut herringbone or double helical depending on size of unit, and designed to take the oil field shock loads.
- The pinions are forged from a high grade alloy steel and through hardened to 335/365 Brinell.
- The gear box housing uses an extra-heavy grey cast iron type design that provides an additional safety factor and rigid structure for the gears.
- Oversized, self-aligning, double spherical roller bearings are used throughout the gear boxes for an extended, trouble-free service life. All bearings and seats are of a universal size and fit.
- An oil bath lubrication is used along with gear wipers and troughs to provide positive lubrication to the bearings.
- All bearings have an oil reservoir that provides instant lubrication in the bearings when unit is started up after having been shut down for an extended period of time.
- The slow speed and high speed shafts have a grease type dust seal in addition to the regular oil seal for additional protection and increased service life.



GEAR REDUCERS FOR OIL FIELD PUMPING UNITS DOUBLE & TRIPLE REDUCTION

Manufactured in accordance with A.P.I. Spec. 11E-3
Herringbone or double helical gears, according to size of unit.



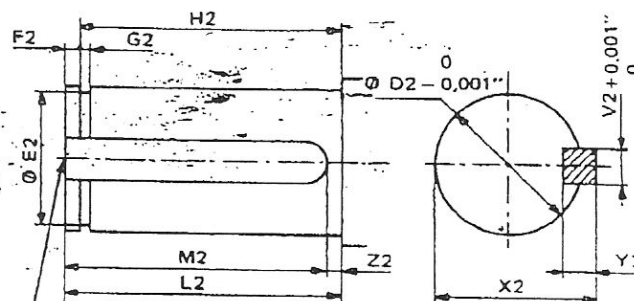
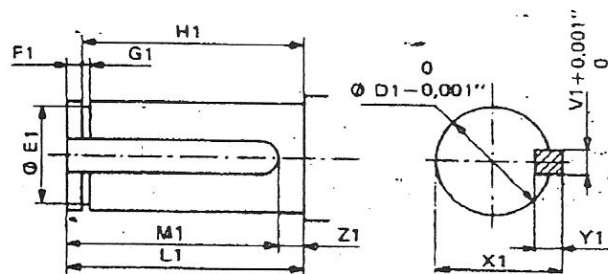
Dimensions are for references only. Certified prints can be furnished upon request.

API REDUCER TYPE	A H7	B H11	DIMENSIONS - (INCHES)														
			J1	J2	F H15	K	C	C1	C2	G1	G2	U	S	T	H	I	N
D80	21	13 ³ / ₈	14	24	1 ¹ / ₁₆	10 ³ / ₈	17 ⁷ / ₈	35 ³ / ₄	9	42 ¹ / ₁₆	10 ¹ / ₂	2	14 ¹ / ₂	27 ⁹ / ₁₆	28	14 ¹ / ₂	42 ¹ / ₁₆
D114	24 ⁷ / ₈	16	16 ⁷ / ₈	28 ³ / ₈	1 ¹ / ₁₆	9	18	37 ³ / ₄	10 ¹ / ₂	48 ³ / ₁₆	12 ⁵ / ₈	2 ³ / ₁₆	16 ¹³ / ₁₆	31 ³ / ₈	32 ¹ / ₂	16 ¹³ / ₁₆	48 ³ / ₁₆
D160	27 ⁵ / ₈	16 ¹⁵ / ₁₆	16 ⁷ / ₈	28 ³ / ₈	1 ⁵ / ₈	14 ¹ / ₈	23 ³ / ₈	47	11	52 ²⁵ / ₃₂	12 ³ / ₄	2 ²³ / ₆₄	18 ³ / ₁₆	34 ¹⁹ / ₃₂	34 ³ / ₄	18 ³ / ₁₆	52 ²⁵ / ₃₂
D228	31 ¹ / ₂	20	18 ⁵ / ₈	29 ³ / ₄	1 ⁵ / ₈	16	26 ¹ / ₂	53	12	60	14	2 ³ / ₄	20 ³ / ₄	39 ¹ / ₄	39 ¹ / ₄	20 ³ / ₄	60
D320	34 ¹ / ₈	21 ¹ / ₂	21 ⁴⁵ / ₆₄	35	1 ⁵ / ₈	16 ¹⁵ / ₁₆	27 ³ / ₁₆	55 ¹ / ₈	13	65 ¹⁵ / ₆₄	15 ³ / ₄	2 ³ / ₄	22 ³ / ₆₄	43 ³ / ₁₆	43 ⁵ / ₁₆	22 ³ / ₆₄	65 ¹⁵ / ₆₄
D456	37 ⁹⁹ / ₂	23 ³ / ₄	26 ³ / ₈	41	1 ³ / ₄	8 ¹ / ₄	20 ⁷ / ₈	65 ⁵ / ₃₂	17 ⁵ / ₁₆	71 ¹³ / ₃₂	19 ¹¹ / ₁₆	3 ¹ / ₈	24	47 ¹³ / ₃₂	47 ⁷ / ₈	24	71 ¹³ / ₃₂
D640	42 ¹ / ₈	26 ³ / ₈	27 ¹⁵ / ₁₆	41	1 ³ / ₄	9 ¹ / ₁₆	23 ¹ / ₄	72 ¹ / ₁₆	18 ¹ / ₂	78 ⁵ / ₁₆	20 ⁷ / ₈	3 ¹ / ₈	26 ³ / ₈	51 ¹⁵ / ₁₆	52 ⁷ / ₁₆	26 ³ / ₈	78 ⁵ / ₁₆
T912	46 ¹ / ₂	28 ³ / ₄	32 ¹ / ₁₆	46 ⁵ / ₈	2 ¹ / ₁₆	10 ¹ / ₄	25 ¹ / ₄	78 ³ / ₄	21 ¹ / ₁₆	86 ⁵ / ₈	23 ⁵ / ₈	3 ¹ / ₈	28 ¹⁵ / ₁₆	57 ¹¹ / ₁₆	57 ⁹ / ₁₆	28 ¹⁵ / ₁₆	86 ⁵ / ₈

API REDUCER	D80	D114	D160	D228	D320	D456	D640	T912
RATIO	30.3	29.989	29.59	30.44	29.16	29.34	29.49	39.36
WEIGHT APPROX. (POUNDS)	2340	2955	3595	4720	6550	9260	12860	16600
OIL CAPACITY (U.S. GALLONS)	17	21	24	40	52	87	110	160

HS shaft extension

LS shaft extension



Tapped hole Z2

DIMENSIONS - (INCHES)

API REDUCER	KEY POSITION / HS SHAFT							GROOVE / HS SHAFT			
TYPE	D1	L1	M1	Z1	V1	X1	Y1	E1	F1	G1	H1
D80	2	3 1/2	3 11/32	5/32	1/2	2.218	1/2	1.850	7/32	0.086	3 9/32
D114	2 3/16	4 1/8	3 15/16	3/16	1/2	2.409	1/2	2.032	7/32	0.086	3 29/32
D160	2 7/8	4 1/8	3 15/16	3/16	3/4	3.2	3/4	2.721	7/32	0.103	3 29/32
D228	3	4 1/8	3 15/16	3/16	3/4	3.327	3/4	2.838	7/32	0.103	3 29/32
D320	3	5 33/64	5 5/16	13/64	3/4	3.327	3/4	2.838	1/4	0.103	5 17/64
D456	3 1/2	6 11/16	6 7/16	1/4	7/8	3.882	7/8	3.316	5/16	0.12	6 3/8
D640	3 7/8	6 11/16	6 7/16	1/4	1	4.309	1	3.673	5/16	0.12	6 3/8
T912	4 3/16	8 1/4	8	1/4	1	4.627	1	3.792	5/16	0.12	7 15/16

API REDUCER	KEY POSITION / LS SHAFT							GROOVE / LS SHAFT				TAPPED HOLE
TYPE	D2	L2	M2	Z2	V2	X2	Y2	E2	F2	G2	H2	Z2
D80	4 5/8	7	6 45/64	19/64	1 1/4	5.164	1 1/4	4.55	3/16	0.120	6 13/16	
D114	5 3/16	8 7/8	8 11/16	3/16	1 1/4	5.736	1 1/4	5.03	3/16	0.139	8 11/16	
D160	5 1/2	8 7/8	8 21/32	7/32	1 1/4	6.053	1 1/4	5.265	3/16	0.139	8 11/16	
D228	6	8 7/8	8 5/8	1/4	1 1/2	6.655	1 1/2	5.745	3/16	0.139	8 11/16	
D320	6 1/2	12 1/8	11 7/8	1/4	1 1/2	7.162	1 1/2					3/4-10-UNC x 19/16
D456	7	12 1/8	11 7/8	1/4	1 3/4	7.764	1 3/4					3/4-10-UNC x 19/16
D640	7	12 1/8	11 7/8	1/4	1 3/4	7.764	1 3/4					3/4-10-UNC x 19/16
T912	8	13 3/4	13 1/2	1/4	2	8.874	2					3/4-10-UNC x 19/16

— Shafts are provided for connection with flexible couplings (FLEXACIER) or (FLEXIDENT).

When gears, sprockets, pulleys, crank shafts, clutches... are fitted on shafts, heavy radial and axial loads are applied, please refer to factory.