

# APE Model D36-42 Single Acting Diesel Impact Hammer

## MODEL D36-42 (3.6 metric ton ram)

*D36-42 in fixed leads.*



### SPECIFICATIONS

Stroke at maximum rated energy	135 in (343 cm)
Maximum rated energy (Setting 4)	89,302 ft-lbs (121,076 Nm)
Setting 3	74,450 ft-lbs (100,939 Nm)
Setting 2	59,201 ft-lbs (80,265 Nm)
Minimum rated energy (Setting 1)	43,952 ft-lbs (59,590 Nm)
<i>(Variable throttle allows for lower minimum energy and infinite fuel settings.)</i>	
Maximum obtainable stroke	157 in (381 cm)
Maximum obtainable energy	103,855 ft-lbs (140,807 Nm)
Speed (blows per minute)	34-53

### WEIGHTS

Ram	7,938 lbs (3,600 kg)
Anvil	1,023 lbs (2,255 kg)
Anvil cross sectional area	367.94 sq in (934.56 sq-cm)
Hammer weight (includes trip device)	22,795 lbs (10,866 kg)
Typical operating (weight with DB32 and pipe insert)	28,097 lbs (12,742 kg)

### CAPACITIES

Fuel tank (runs on diesel or bio-diesel)	23.1 gal (87 liters)
Oil tank	4.5 gal (17 liters)

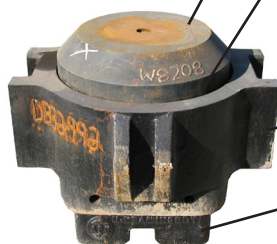
### CONSUMPTION

Diesel or Bio-diesel fuel	3 gal/hr (11 liters/hr)
Lubrication	.39 gal/hr (1.4 liters/hr)
Grease	8 to 10 pumps every 45 minutes of operation time.

*Optional Variable Throttle Control*



*Drive Base Assembly*



### STRIKER PLATE FOR DB 32

Weight	1,036 lbs (470 kg)
Diameter	25 in (57.15 cm)
Area	471 sq-in (696 sq-cm)
Thickness	8 inches (20.32 cm)

### CUSHION MATERIAL

Type/Qty	Micarta/2 ea
Diameter	25 in (57.15 cm)
Thickness	1 in (25.4 mm)
Type/Qty	Aluminum/3 ea
Thickness	1/2 in (12.7 mm)
Diameter	25 in (57.15 cm)
Total Combined Thickness	3.5 inches (8.89 cm)
Area	490 in (1,246 cm)
Elastic-modulus	285 ksi (1,965 mpa)
Coeff. of restitution	.8

### DRIVE CAP

DB 32:	2,436 lbs (1,104 kg)
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### INSERT WEIGHT

H-Beam insert for 12" (305 mm) and 14" (355 mm):	948 lbs (430 kg)
Large pipe insert for sizes 12" to 24" diameter:	1,830 lbs (830 kg)

### MINIMUM BOX LEAD SIZE/OPERATING LENGTH

Minimum box leader size	8 in x 32 in (3.14 cm x 81.28 cm)
Operating length as described above	354 in (9 m)



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## Diesel Hammer Energy Output and Pile Bearing Chart

### APE Model D36-42 Diesel Impact Hammer

The energy output is based on the identical Piston/Travel calculations utilized in the FHWA Gates Formula.  
 The pile bearing chart is based on the FHWA Gates Formula for pile bearing and is provided for the user's convenience only.

$$\text{Pile Bearing (tons)} = ((1.75 * \text{SQRT "E" LOG10} * 10N) - 100) / 2000$$

*E = Developed Energy and N = Number of Blows Per Inch*

**APE has no preference for these particular formulas and calculations over any other.**

Ram Weight (lbs): 7,938

Blows (per minute)	Stroke (ft)	Energy (ft-lbs)	Pile Set (Blows per inch)																		
			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
60	4.00	31,752	153	180	200	215	227	238	247	255	262	268	274	280	285	289	294	298	302	305	309
59	4.17	33,101	157	185	205	220	233	244	253	261	268	275	281	287	292	296	301	305	309	313	316
58	4.33	34,372	161	190	210	226	238	249	259	267	274	281	287	293	298	303	308	312	316	320	323
57	4.50	35,721	165	194	215	231	244	255	265	273	281	288	294	300	305	310	315	319	323	327	331
56	4.67	37,070	169	199	220	236	250	261	271	279	287	294	300	306	312	317	321	326	330	334	338
55	4.83	38,341	173	203	224	241	255	266	276	285	293	300	306	312	318	323	328	332	336	340	344
54	5.00	39,690	177	207	229	246	260	272	282	291	299	306	312	319	324	329	334	339	343	347	351
53	5.17	41,039	181	212	234	251	265	277	287	296	305	312	319	325	330	336	341	345	350	354	358
52	5.33	42,310	184	216	238	256	270	282	293	302	310	317	324	330	336	342	347	351	356	360	364
51	5.50	43,659	188	220	243	261	275	287	298	307	316	323	330	336	342	348	353	358	362	367	371
50	5.75	45,644	193	226	249	268	282	295	306	315	324	332	339	345	351	357	362	367	372	376	380
49	6.00	47,628	198	232	256	274	290	302	313	323	332	340	347	354	360	366	371	376	381	385	389
48	6.25	49,613	204	238	262	281	297	310	321	331	340	348	355	362	368	374	380	385	390	394	398
47	6.50	51,597	209	244	268	288	303	317	328	338	348	356	363	370	377	383	388	393	398	403	407
46	6.83	54,217	215	251	276	296	312	326	338	348	357	366	374	381	387	393	399	404	409	414	419
45	7.17	56,915	222	258	284	305	321	335	347	358	367	376	384	391	398	404	410	416	421	426	430
44	7.50	59,535	228	265	292	313	330	344	356	367	377	386	394	401	408	415	421	426	431	437	441
43	7.83	62,155	234	272	299	321	338	352	365	376	386	395	404	411	418	425	431	437	442	447	452
42	8.17	64,853	240	279	307	329	346	361	374	385	396	405	413	421	428	435	441	447	453	458	463
41	8.58	68,108	247	287	316	338	356	371	385	396	407	416	425	433	440	447	453	459	465	470	475
40	9.00	71,442	254	295	325	347	366	382	395	407	418	427	436	444	452	459	465	472	477	483	488
39	9.50	75,411	263	305	335	358	377	393	407	420	431	441	450	458	466	473	480	486	492	498	503
38	10.00	79,380	271	314	345	369	388	405	419	432	443	453	463	471	479	486	493	500	506	512	517
37	10.50	83,349	279	323	355	379	399	416	431	444	455	466	475	484	492	500	507	513	520	526	531
36	11.17	88,667	289	335	367	393	413	431	446	459	471	482	492	501	509	517	524	531	538	544	550