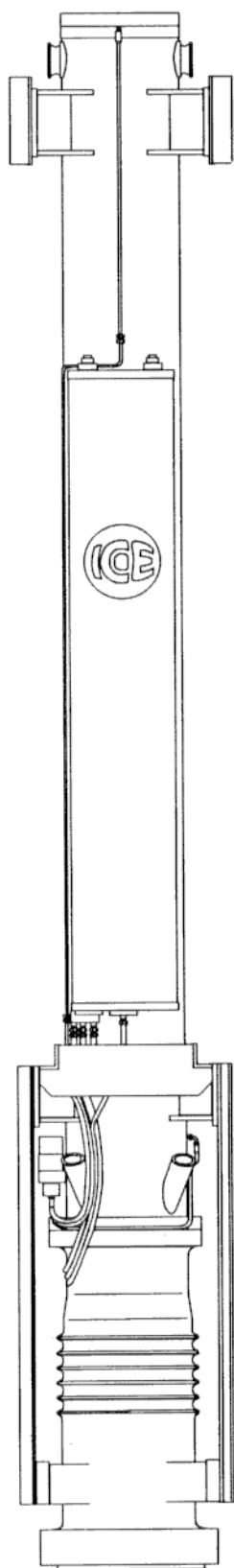


Model 42S Fuel-Injected Diesel Pile Hammers



Clean • Efficient • Reliable

Designed and engineered for light-weight driven pile applications.

- ✦ High-pressure fuel injection provides easy starts even in extreme weather & soft soil conditions.
- ✦ Dual injectors optimize fuel atomization and delivery for clean, efficient operation.
- ✦ Remote variable fuel pump.
- ✦ Operates on vegetable-based fuel & lubricants without modification, contributing to a clean and toxin-free jobsite.
- ✦ Hydraulically-operated remote throttle permits precise control of stroke to match hammer energy to any job or pile condition.
- ✦ Upper & lower polymeric ram bearings minimize wear and maximize energy transfer.
- ✦ Lower cylinder and other critical components are chemically-treated for superior surface hardness and fatigue resistance.
- ✦ Ferro-chromium alloy forged ram & anvil exceed strength of cast rams & anvils for durability and long life.
- ✦ Weighs less than competitive hammers to move more easily from pile to pile.
- ✦ Swinging, fixed and sliding lead set-ups available in 16 and 8 ft. sections.
- ✦ Four models of light-to-heavy-duty lead spotters for precise pile positioning.

Working Specifications

Ram	4,088 lbs (1855 kg)
Maximum energy	42,580 ft-lbs (57.7 kNm)
Rated continuous energy	42,000 ft-lbs (56.8 kNm)
Minimum energy	16,000 ft-lbs (22.2 kNm)
Speed (blows per minute)	37-55

Weights

Bare hammer	7,610 lbs (3450 kg)
Typical weight (w/H-pile cap in 20" leads)	9,094 lbs (4125 kg)

Capacities (adequate for average day of operation)

Diesel fuel tank	11 gal (40 l)
Lube oil tank	5 gal (20 l)

Dimensions of Hammer

Width (side to side)	20" (510 mm)
Depth	29" (740 mm)
Centerline to front	13.75" (350 mm)
Centerline to rear	15.25" (390 mm)
Length (hammer only)	16'-1" (4900 mm)
Operating length (top of ram to top of pile)	27'-9" (8460 mm)



Model 42S

Fuel-Injected Diesel Pile Hammers

ICE 42S DIESEL PILE HAMMER BEARING CHART

This chart is based on the Gates formula given below and is provided as a convenience only for those applications where this formula is specified. The Gates formula has been recommended for use by the U.S. DOT Federal Highway Administration. The formula calculates ultimate pile capacity. The FHWA recommends using a factor of safety of 3.5 with the Gates formula. ICE has no preference for this formula over any other.

Ultimate bearing (tons) = $1/2(1.75*(E)^{1/2}*\log(10N)-100)$ where E=Hammer energy (ft-lbs) and N=Hammer blows per inch at final penetration.

Blows per Min.	Ram Stroke (feet)	Hammer 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
37	10.3	"42,000"	183	215	237	255	269	281	291	300	309	316	323	329	335	340	345	350	354	359	363
38	9.9	"40,471"	179	210	232	249	263	275	285	294	302	309	316	322	328	333	338	343	347	351	355
39	9.3	"38,018"	172	202	223	240	253	265	275	283	291	298	305	311	316	321	326	331	335	339	343
40	8.8	"35,974"	166	195	216	232	245	256	266	274	282	289	295	301	306	311	316	320	324	328	332
41	8.4	"34,339"	161	190	210	225	238	249	259	267	274	281	287	293	298	303	307	312	316	319	323
42	8.0	"32,704"	156	184	204	219	231	242	251	259	266	273	279	285	290	294	299	303	307	311	314
43	7.6	"31,069"	151	178	197	212	224	235	244	251	258	265	271	276	281	286	290	294	298	301	305
44	7.2	"29,434"	145	172	190	205	217	227	236	243	250	256	262	267	272	277	281	285	289	292	295
45	6.8	"27,798"	140	165	184	198	209	219	228	235	242	248	253	258	263	267	272	275	279	282	286
46	6.5	"26,572"	136	161	179	192	204	213	221	229	235	241	247	252	256	260	264	268	272	275	278
47	6.2	"25,346"	131	156	173	187	198	207	215	222	229	234	240	244	249	253	257	261	264	267	271
48	5.9	"24,119"	127	151	168	181	192	201	209	216	222	227	233	237	242	246	250	253	256	260	263
49	5.6	"22,893"	122	146	162	175	185	194	202	209	215	220	225	230	234	238	242	245	249	252	255
50	5.3	"21,666"	118	140	156	169	179	188	195	202	208	213	218	222	226	230	234	237	240	243	246
51	5.1	"20,849"	114	137	152	165	175	183	90	197	203	208	213	217	221	225	228	232	235	238	241
52	4.8	"19,622"	109	131	146	158	168	176	183	190	195	200	205	209	213	217	220	223	226	229	232
53	4.5	"18,396"	104	125	140	152	161	169	176	182	187	192	197	201	205	208	212	215	218	220	223
54	4.2	"17,170"	99	119	134	145	154	162	168	174	179	184	188	192	196	199	203	206	209	211	214
55	3.8	"15,534"	92	111	125	135	144	151	158	163	168	173	177	181	184	187	190	193	196	199	201

CAUTION: Driving at ten blows per inch is considered practical refusal. Driving in excess of ten blows per inch for more than six inches of driving or driving in excess of 20 blows per inch at all is considered improper use and will void the hammer warranty.

LEADS/SPOTTERS

ICE manufactures leads with 20", 26" 32" and 36" guide rails for all ICE and other pile hammers. Standard components are available in 8' increments for swinging, fixed and sliding lead setups. Two designs are available to provide the most cost-effective configuration for every job. **Four models of spotters** and **three spotter power unit sizes** are available.

DRIVE CAPS

ICE offers a drive cap base/insert system for all ICE lead sizes as well as for pipe leads. Drive cap inserts are available for practically any pile type and size. The ICE drive cap system: maintains pile top position under the hammer, protects the hammer from peak stresses, minimizes pile top deformation, and transmits maximum force to pile.



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