Drill Rods and Couplings

Drill rods are manufactured from cold drawn steel tubing and have square threads. Each rod is furnished with one flush coupling. All Acker drill rod couplings are heat-treated.

"W" Design Drill Rods
Assembly Includes Rod and Coupling

Length of Rod Assembly	EW Part No.	AW Part No.	BW Part No.	NW Part No.	HW Part No.
1 ft. *(.30m)*	21004-1	21005-1	21006-1	21007-1	21106-1
2 ft. *(.61m)*	21004-2	21005-2	21006-2	21007-2	21106-2
5 ft. *(1.52m)*	21004-5	21005-5	21006-5	21007-32	21106-5*
10 ft. *(3.05m)*	21004-10	21005-10	21006-10	21007-31	21106-10*
Coupling Only	110004	110005	110006	110007	111063

** Nonstandard and Metric Sizes Available.*

"W" Design (World Standards)

The "W" Design drill rod sizes and thread characteristics are standardized by the Diamond Core Drill Manufacturer's Association to insure proper connection between rods and couplings purchased anywhere in the world.

The old series drill rods and couplings known as E, A, B and N are obsolete. However, they are still available for use with older equipment.

"W" Design rods and couplings, compared to the old series, have a larger outside and inside diameter which allows more fluid inside the rods and produces increased velocity of fluid returning to the surface.

"W" Design Drill Rod Specifications

Size	O.D.		I.D.		Threads	Weight		Coupling I.D.		Coupling Weight	
	Inches	mm	Inches	mm	Per Inch	lbs./ft.	kg/m	Inches	mm	lbs.	kg
EW	1-3/8	34.9	15/16	23.8	3	2.8	4.2	7/16	11.1	1.0	.45
AW	1-3/4	44.5	1-1/4	31.8	3	4.3	6.4	5/8	15.8	2.0	.90
BW	2-1/8	53.9	1-3/4	44.4	3	4.3	6.4	3/4	19.0	3.5	1.59
NW	2-5/8	66.6	2-1/4	57.1	3	5.5	8.2	1-3/8	34.9	5.5	2.50
HW	3-1/2	88.9	3-1/16	77.8	3	8.8	13.1	2-3/8	60.3	7.6	3.45

"W" Design Casing Specifications

Size	O.D.		I.D.		Threads	Weight	
	Inches	mm	Inches	mm	Per Inch	lbs./ft.	kg/m
EW	1-13/16	46.0	1-1/2	38.1	4	2.8	4.2
AW	2-1/4	57.1	1-29/32	48.4	4	3.9	5.8
BW	2-7/8	73.0	2-3/8	60.3	4	7.0	10.4
NW	3-1/2	88.9	3	76.2	4	8.4	12.5
HW	4-1/2	114.3	4	101.6	4	11.7	17.4
PW	5-1/2	139.7	5	127.0	3	16.0	23.8
SW	6-5/8	168.2	6	152.4	3	20.0	29.8
UW	7-5/8	193.6	7	177.8	2	23.4	34.8
ZW	8-5/8	219.0	8	203.2	2	23.8	35.4

"W" Design Casings and Drive Shoes

Casing is primarily used to seal off overburden, weathered surface formations and large fissures in the formation. Casing permits drilling fluids to circulate and return cuttings to the surface. Sizes are specified by DCDMA to allow nesting or telescoping and interchangeability between manufacturers.

"W" Design Flush Joint Casing

The "W" DCDMA Standard Flush Joint Heavy Duty Casing is made from steel tubing and is flush inside and outside, with no internal coupling. "W" Casing is a heavy wall type with a shoulder chamfer and coarse square threads *(Coupled sections butt on connection)*.

"W" Design
Casing Drive Shoes

Size	Part No.	Weight	
		lbs.	kg
EW	110203-17	0.6	0.27
AW	110203-18	1.0	0.45
BW	110203-19	1.8	0.82
NW	110203-20	2.7	1.2
HW	110203-21	4.1	1.86
PW	110203-22	9.0	4.1
SW	110203-23	14.0	6.35
UW	110203-24	18.0	8.16
ZW	110203-25	24.0	10.9

Flush Joint Casing "W" Design
DCDMA Specifications

Casing Length	EW Part No.	AW Part No.	BW Part No.	NW Part No.	HW Part No.	PW Part No.	SW Part No.	UW Part No.	ZW Part No.
2 ft. (.61m)	110688-2	110689-2	110690-2	110691-2	110613-2	110692-2	110693-2	110694-2	110695-2
5 ft. (1.52m)	110688-4	110689-4	110690-4	110691-4	110613-4	110692-4	110693-4	110694-4	110695-4
10 ft. (3.048m)	110688-5	110689-5	110690-5	110691-5	110613-5	110692-5	110693-5	110694-5	110695-5

Note: Nonstandard and Metric sizes available.

Drill Supplies

Drive Heads					
Casing Size	Part No.	Guide Pipe Size		Weight	
		Inches	mm	lbs.	kg
AW	110201-137	2-1/2	63.5	19.3	8.75
BW	110201-108	2-1/2	63.5	19.5	8.85
NW	110201-109	2-1/2	63.5	21.0	9.5
HW	110201-100	2-1/2	63.5	35.0	15.88
AX	110201-71	2-1/2	63.5	19.5	8.85
BX	110201-73	2-1/2	63.5	19.8	8.98
NX	110201-75	2-1/2	63.5	21.0	9.55

Drive Head

Drive Weight w/Chain Sling

Drive Weights					
Drive Weight		Pipe/Casing Size		Assembly Part No.	
lbs.	kg	Inches	mm	With Chain	Without Chain
140*	63.5	2-1/2	63.5	21029-2	21063-2
250†	113.4	2-1/2	63.5	21029-5	21063-5
300	136.0	2-1/2	63.5	21029-7	21063-7
350†	158.8	2-1/2	63.5	21029-8	21063-8

**Standard Penetration Test. †Special Order.*

Drive Rings				
Pipe Size		Part No.	Weight	
Inches	mm		lbs.	kg
2-1/2	63.5	110535	9.0	4.1
4	101.6	110531	12.0	5.4

Guide and Pull Piece Assembly* (Schedule 120-ASTM A-120 Butt-Welded Black Steel Pipe)						
Pipe Size		Length		Assembly	Weight	
Inches	mm	Inches	cm	Part No.	lbs.	kg
2-1/2	63.5	36	91.4	21031-42	45.0	20.4
2-1/2	63.5	42	106.7	21031-43	53.0	24.0
2-1/2	63.5	48	121.9	21031-45	57.0	25.9

**Drive Head Not Included.*

Drive Weights

Light duty *(140 lb.)* drive weights are primarily used for "Standard Penetration Tests" with drive type samplers.

Heavier drive weights are used to drive pipe, casing, chopping bits, boulder busters and heavy duty samplers. They are operated like a pile driver.

Drive weights are available with or without a chain sling.

Drive Heads

Acker Drive Heads are threaded with a pin thread on the bottom to take the casing being driven and a box thread on the top to accommodate a guide and pull piece. Reverse drive action is used to pull the pipe. Internal box threads are used to accommodate drive samplers or chopping bits.

Note:

1. All Drive heads are supplied with AW box thread unless otherwise noted.
2. Other size internal rod box threads available.
3. Three inch guide pipe available.

Pipe Drive Rings

Drive rings are designed to slip over the drive pipe and rest against the pipe coupling. The ring protects the coupling and drive hammer when bumping out or driving the pipe.

Pull Piece

Assembly is made from double extra heavy drive pipe threaded at both ends and includes a drive pipe coupling. It screws directly into the top of the drive head *(Not Included)*. The drive pipe coupling is used when bumping back casing or samplers. The pipe stem serves as a guide for the drive weight.

Drive Weight Parts									
Drive Weight		Pipe Casing Size		Drive Wt. Part No.	Eyebolt (2 Req'd.) Part No.	Chains & Ring Part No.	Cold Shut Part No.	Lock Washer (2 Req'd.) Part No.	Nut (2 Req'd.) Part No.
lbs.	kg	Inches	mm						
140	63.5	2-1/2	63.5	110095-2	110024-2	310377	110026-1	90343-10	90269-10
250	113.4	2-1/2	63.5	110389-1	110024-5	310025	110026-3		
300	136.0	2-1/2	63.5	110390-2	110024-7	310025	110026-3		
350	158.8	2-1/2	63.5	110391-1	110024-8	310025	110026-3		

140 Lb. Safety Hammer

300 Lb. is Available on Request

140 lb. Safety Hammer

"One piece" hammer design provides safety, accuracy and speed for sampling operations. Hammering and bumping actions are enclosed in the hammer body for safety with the added advantage of carrying out both operations without a change of tools.

The hammer body is 3/4 inch *(19mm)* wall carbon steel tubing with the head and bumping block made from high grade carbon steel. The head is threaded and welded into the body for durability. A 50 inch *(127cm)* AW drill rod *(with replaceable coupling)* is threaded and welded into the anvil providing a 34 in *(86.4cm)* stroke. Overall length is 61 inches *(154.9cm)*. The assembly weight is 163 lbs. *(73.9kg)*.

Features:

1. Body
2. Center Rod with Impact Block
3. Guide and Bumping Closure
4. AW Coupling

Note:

300 lb. hammer available on request.

Weights and Dimensions

Gross Wt. 162 lbs. *(73.5kg)*
Compact Length 61 in. *(154.9cm)*
Extended Length 96 in. *(243.8cm)*

Boulder Busters

Hardened tough nose, bull point boulder busters are attached to drill rod and driven by a drive weight and cathead hoist. Boulder busters are used to break up boulders that lie ahead of the casing. Boulders may more easily shatter if a hole is drilled through the boulder prior to driving.

Cross Chopping Bits

Cross chopping bits are used to clear the way when driving casing into coarse gravel, small boulders, etc. They are also useful for cleaning out holes drilled in rock.

Straight Chopping Bits

This type chopping bit is used to clean out material that has accumulated inside the casing. Water is pumped through the drill rods and out the ports in the bit to flush the material from the casing.

140 Lb. Safety Hammer

Part No.	Weight and Dimensions					
	Gross Weight		Compact Length		Extended Length	
	lbs.	kg	Inches	cm	Inches	cm
21111-3	162	73.5	61	154.9	96	243.8
Note: 300 lb. Availbale on Request.						

Boulder Buster

Cross Chopping Bit

Straight Chopping Bit

Boulder Busters

Size		Part No.	Rod Conn.	Used In Drive Pipe	Weight	
Inches	mm				lbs.	kg
1-7/8	47.6	110453	AW	2 in. *(AW)*	3.5	1.6
2-1/8	53.9	110587-1	AW	2-1/2 in. *(BW)*	6.0	2.7
2-5/8	66.7	110588-1	AW	3 in. *(NW)*	8.0	3.6
3-5/8	92.1	110589-2	NW	4 in. *(HW)*	17.0	7.7
5-5/8	142.9	110590-1	NW	6 in. *(SW)*	17.0	7.7

Cross Chopping Bits

Bit Face Width		Part No.	Rod Conn.	Used In Drive Pipe	Weight	
Inches	mm				lbs.	kg
1-7/8	47.6	110578-3	AW	2 in. *(AW)*	2.5	1.1
2-1/8	53.9	110579-1	AW	2-1/2 in. *(BW)*	3.0	1.4
2-5/8	66.7	110580-1	AW	3 in. *(NW)*	10.5	4.8
2-5/8	66.7	110580-5	BW	3 in. *(NW)*	7.5	3.4
3-5/8	92.1	110581-4	AW	4 in. *(HW)*	16.0	7.3
3-5/8	92.1	110581-2	NW	4 in. *(HW)*	13.0	5.9

Straight Chopping Bits

Bit Face Width		Part No.	Rod Conn.	Used In Drive Pipe	Weight	
Inches	mm				lbs.	kg
1-7/8	47.6	110562-3	AW	2 in. *(AW)*	2.5	1.1
2-1/8	53.9	110563-1	AW	2-1/2 in. *(BW)*	3.0	1.4
2-5/8	66.7	110564-1	AW	3 in. *(NW)*	10.5	4.8
2-5/8	66.7	110564-5	BW	3 in. *(NW)*	7.5	3.4
3-5/8	92.1	110565-5	AW	4 in. *(HW)*	16.0	7.3
3-5/8	92.1	110565-2	NW	4 in. *(HW)*	13.0	5.9

Drill Supplies

3-Cone Type Roller Rock Bits

Size		Part No.	Conn.	Type Thread	Weight	
Inches	mm				lbs.	kg
2-15/16	74.6	100538-37	NW Rod	DCDMA	3.5	1.6
3-1/8	79.4	100538-38	NW Rod	DCDMA	4.0	1.8
3-1/4	82.6	100538-35	NW Rod	DCDMA	4.5	2.0
3-1/2	88.9	100538-29	2-3/8 in.	API Reg.	5.0	2.3
3-1/2	88.9	100538-39	NW Rod	DCDMA	5.0	2.3
3-5/8	92.1	100538-28	2-3/8 in.	API Reg.	7.0	3.2
3-3/4	95.3	100538-4	2-3/8 in.	API Reg.	7.5	3.4
3-7/8	98.4	100538-5	2-3/8 in.	API Reg.	7.5	3.4
4-1/8	104.8	100538-6	2-3/8 in.	API Reg.	8.5	3.9
4-1/4	108.0	100538-7	2-3/8 in.	API Reg.	9.0	4.1
4-1/2	114.3	100538-8	2-3/8 in.	API Reg.	10.0	4.5
4-3/4	120.6	100538-9	2-7/8 in.	API Reg.	12.0	5.4

Roller Rock Bits

Conventional three cone design roller rock bits are widely used in soft to medium hard formations.

This versatile bit is used in overburden and has been quite successful in drilling rock. However, it does require a considerable amount of down pressure to successfully cut rock.

Roller rock bits are used with drilling muds or plain water. *(Bits are available on special order for use with air as a flushing/cooling medium.)* The bit is usually backed up by a heavy steel drill collar to provide the additional weight needed.

Carbide Insert Type Drag Bits

Size		Rod Conn.	3-Wing Part No.	Weight	
Inches	mm			lb.	kg
1-7/8	47.6	EW	110685-2	2.0	0.9
2	50.8	AW	110685-4	2.0	0.9
2-1/8	54.0	AW	110685-6	2.0	0.9
2-1/4	57.2	AW	110685-8	2.0	0.9
2-3/8	60.3	AW	110685-10	3.0	1.4
2-1/2	63.5	AW	110685-12	3.0	1.4
2-5/8	66.7	AW	110685-14	3.0	1.4
2-3/4	69.9	AW	110685-16	3.0	1.4
2-7/8	73.0	AW	110685-18	3.5	1.6
3-1/4	82.6	NW	110685-26	5.0	2.3
3-1/2	88.9	NW	110685-29	5.0	2.3
3-3/4	95.3	NW	110685-32	5.5	2.5
3-3/4	95.3	2-3/8 in.	110685-32	5.5	2.5
3-3/4	95.3	API Reg.	110685-34	5.5	2.5

Carbide Insert Type Drag Bit

This type of bit, designed with heavy duty carbide inserts, is used for fast cutting of rock formations and cleaning out drive pipe and casing. Requires some down pressure especially in harder formations. Available in three-wing design.

Subs/Couplings

More Subs and Adapters
Acker manufactures a wide selection of subs and adapters not listed in our Drill Supplies Catalog that are available for quick shipment.

Rod Box to API Reg. Pin

Rod Box to API Reg. Box

Rod Box to Casing Pin

Rod Box to Rod Box

Rod Pin to Rod Pin (Coupling)

Rod Box to Rod Pin
Wireline Rods

Box	Pin	Part No.	Weight lbs.	Weight kg
AW	AWL	110043-35	1.5	0.7
AW	BWL	110043-38	2.9	1.3
NW	NWL	110047-40	3.7	1.7
NW	HWL	110047-50	8.0	3.6
AWL	AW	111179-3	1.6	0.7
AWL	BWL	—	3.2	1.5
AWL	NWL	—	5.2	2.4
BWL	NW	111191-3	5.3	2.4
NWL	NW	111192-5	5.5	2.5
NWL	HWL	111192-9	6.5	2.9

Rod Box to Rod Pin

Box	Pin	Part No.	Weight lbs.	Weight kg
EW	AW	110041-4	2.0	0.9
A	AW	110042-4	2.0	0.9
AW	A	110043-3	2.0	0.9
AW	AW	110043-4	2.0	0.9
AW	BW	110043-6	3.8	1.7
AW	NW	110043-8	6.0	2.7
BW	AW	110045-12	3.8	1.7
BW	NW	110045-8	6.8	3.1
NW	AW	110047-4	4.8	2.2
NW	BW	110047-6	4.0	1.8
NW	NW	110047-8	5.6	2.5

Rod Box to API Reg. Pin

Box	API Reg. Pin	Part No.	Weight lbs.	Weight kg
NW	2-3/8 in.	110047-12	12.0	5.4
NW	2-7/8 in.	110047-21	17.0	7.7
NW	3-1/2 in.	110047-22	22.0	10.0

Rod Box to API Reg. Box

Box	API Reg. Box	Part No.	Weight lbs.	Weight kg
AW	2-3/8 in.	110342-7	11.0	5.0
AW	2-7/8 in.	110342-8	14.0	6.4
AW	3-1/2 in.	110342-9	17.0	7.7
BW	2-3/8 in.	110344-5	11.0	5.0
BW	2-7/8 in.	110344-6	15.0	6.8
BW	3-1/2 in.	110344-7	20.0	9.1
NW	2-3/8 in.	110346-3	12.0	5.4
NW	2-7/8 in.	110346-4	17.0	7.7
NW	3-1/2 in.	110346-5	22.0	10.0

Rod Box to Rod Box

Box	Box	Part No.	Weight lbs.	Weight kg
EW	AW	110405-1	1.0	0.5
A	AW	110342-3	1.8	0.8
AW	AW	110342-10	1.9	0.9
AW	NW	110342-5	5.0	2.3
BW	NW	110344-4	3.5	1.6
N	AW	110342-6	3.8	1.7
N	NW	110345-9	4.0	1.8

Subs/Adapters
Wireline Design Drill Tools

Description	Part No.	Weight lbs.	Weight kg
AW Box to A W.L.	110043-35	2.0	0.9
BW Box to B W.L.	110045-28	3.8	1.7
NW Box to N W.L.	110047-40	4.5	1.8
NW Box to H W.L.	110047-50	4.5	2.0
NW Box to P W.L.	110047-51	4.8	2.2
(Box to Pin)			

Rod Pin to Rod Pin (Couplings)

Rod Pin to Rod Pin
(Couplings)

Pin	Pin	Part No.	Weight lbs.	Weight kg
AW	AW	110005	2.0	0.9
AW	BW	110035-6	2.8	1.3
AW	NW	110035-7	4.0	1.8
BW	BW	110006	3.0	1.4
BW	NW	110440-1	4.0	1.8
NW	NW	110007	6.0	2.7

Rod Box to Casing Pin

Rod Box	Casing Pin	Part No.	Weight lbs.	Weight kg
AW	AW	110043-27	4.0	1.8
AW	BW	110043-25	6.8	3.1
AW	NW	110043-24	12.0	5.4
BW	BW	110045-20	5.8	2.6
BW	NW	110045-23	12.0	5.4
NW	NW	110047-27	11.0	5.0
NW	HW	110047-30	12.5	5.7
AWL	AW	111174-4	3.8	1.7
BWL	BW	111191-2	6.5	2.9
NWL	NW	111192-6	10.0	4.5
HWL	HW	111396-1	15.0	6.8

Drill Supplies

Light Duty Water Swivel
Low Pressure Ball Bearing Type – With Bail

Size	Assembly Part No.	Weight		Max. Working Pressure	Static Hoisting Capacity	Inlet Size	Water Course Diameter	
		lbs.	kg				Inches	mm
AW	21023-18	10.0	4.5	300 p.s.i.	3,000 lbs.	3/4 in. NPT	5/8	15.9

Repair Kit Contents

Item	Description	Part No.	Quantity
2	Seal	90364-59	1
4	Retaining Ring	90201-168	1
8	Bearings	090072-106	2
9	Seal	90363-171	1

Sub Adapters

Description	Part No.	Weight	
		lbs.	kg
AW Box to AWL Wire Line Pin	110043-35	2.0	9.0

Note: Additional adapters available.

Spare Parts

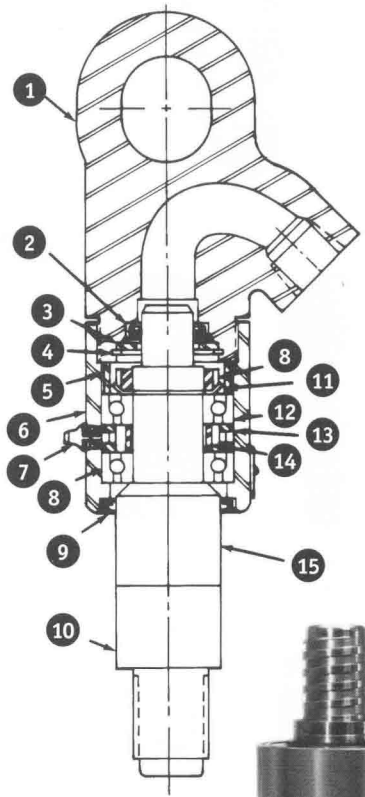
Item	Description	Size AW Part No.
1	Gooseneck	110300-1
2	Seal	90364-59
3	Spacer	150035-113
4	Retaining Ring	90201-168
5	Spacer	110067
6	Body	110063
7	Grease Fitting	90359-7
8	Bearing *(2 Req'd.)*	090072-106
9	Seal	90363-171
10	Locknut	90400-06
11	Lockwasher	90399-06
12	Spacer *(Outer)*	110065
13	Spacer *(Inner)*	110066
14	Stem	110680
15	Sub	N.A

Water Swivel Repair Kit

Description	Part No.	Weight	
		lbs.	kg
AW	40033	1.0	0.45

Light Duty Water Swivel

Acker low pressure water swivels are designed for general field conditions and provide good thrust at high or low speeds. Packing arrangements help insure against leakage. A built-in bail aids in handling. Note: For long strings of tools and high pressures, Acker heavy duty swivels are recommended.



Light Duty Water Swivel

Side Feed Water Swivel – Ball Bearing Type
Maximum Working Pressure – 150 p.s.i.

Size	Part No.	Water Course Diameter		Hose Connection	Weight	
		Inches	mm		lbs.	kg
EW	21059-2	7/16	11.1	3/4 in. NPT	11.0	5.0
A	21059-3	9/16	14.8	3/4 in. NPT	13.0	5.9
AW	21059-4	5/8	15.9	3/4 in. NPT	13.0	5.9
B	21060-1	11/16	17.4	1-1/4 in. NPT	15.0	6.8
BW	21060-2	3/4	19.0	1-1/4 in. NPT	15.0	6.8
N	21060-3	1	25.4	1-1/4 in. NPT	18.0	8.2
NW	21060-4	1-3/8	34.9	1-1/4 in. NPT	18.0	8.2

Side Feed Water Swivel – Spare Parts

Size	Description *(Item)*						
	1	2	3	4	5	6	7
	Stem Part No.	Body Part No.	Bearing *(2 Req'd.)* Part No.	O-Ring *(2 Req'd.)* Part No.	Ring *(2 Req'd.)* Part No.	Nipple Part No.	Grease Fitting Part No.
EW	110456	110454	90071-109	90759-329	90202-177	90313-24	90359-7
A	110457	110454	90071-109	90759-329	90202-177	90313-24	90359-7
AW	110458	110454	90071-109	90759-329	90202-177	90313-24	90359-7
B	110460	110459	90071-114	90759-336	90202-275	90313-55	90359-7
BW	110461	110459	90071-114	90759-336	90202-275	90313-55	90359-7
N	110462	110459	90071-114	90759-336	90202-275	90313-55	90359-7
NW	110463	110459	90071-114	90759-336	90202-275	90313-55	90359-7

Additional Connections Available.

Side Feed Water Swivel

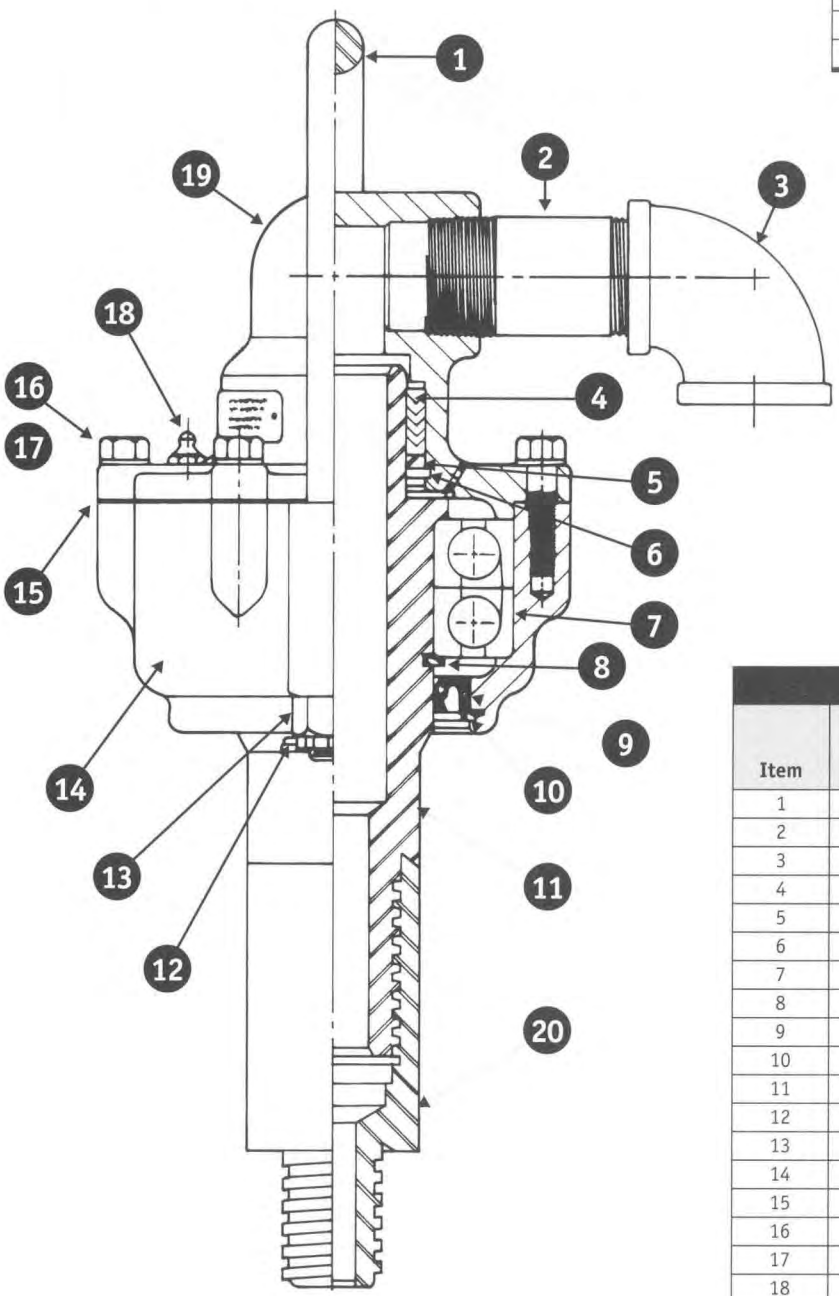
Side Feed Water Swivel

For drill units not equipped with a hollow spindle, the Side Feed Swivel adapts to the bottom of the Kelly. Water is fed through a side port and through the drill rods. The swivel is ideal for high or low speed rotation.

Heavy Duty Water Swivel

A water swivel connects to the top of the drill rods and provides a water tight rotating joint that allows water under pressure to be pumped to the bottom of the drill string while the drill tools are rotating. Swivels are designed to handle a variety of drilling requirements. Lifting capacities and pressure ratings should be considered when making a selection.

The Acker heavy-duty water swivel is designed for deep hole drilling using heavy rods and either fresh water or drilling muds at high pressures. The swivel is easy to service with a grease fitting for internal lubrication. *(The lifting bail is part of the assembly.)*



Heavy Duty Water Swivel
High Pressure Ball Bearing Type – With Bail

Size	Assembly Part No.	Weight		Max. Working Pressure	Static Hoisting Capacity	Inlet Size	Water Course Diameter	
		lbs.	kg				Inches	mm
BW	21066-2	30.0	13.6	650 p.s.i.	10,000 lbs.	1-1/4 in. NPT	3/4	19.0
NW	21066-6	30.0	13.6	650 p.s.i.	10,000 lbs.	1-1/4 in. NPT	1-3/8	34.9

Sub Adapters

Description	Part No.	Weight	
		lbs.	kg
NW Box to B Wire Line Pin	110047-39	4.0	1.8
NW Box to N Wire Line Pin	110047-40	4.0	1.8
NW Box to H Wire Line Pin	110047-50	4.0	1.8
NW Box to P Wire Line Pin	110047-51	4.0	1.8

Water Swivel Repair Kit

Description	Part No.	Weight	
		lbs.	kg
BW	40041-0	4.0	1.8
NW	40041-0	4.0	1.8

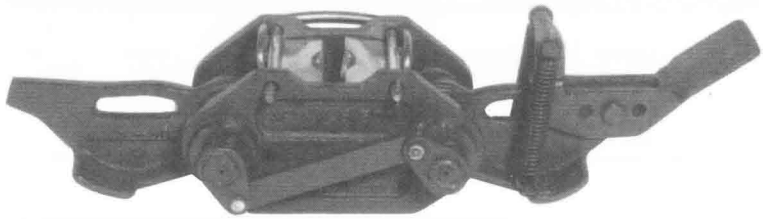
Repair Kit Contents

Item	Description	Part No.	Quantity
4	Packing Set	150045-13	1
6	Retaining Ring	90201-250	1
7	Duplex Bearing	90849-1	1
8	Retaining Ring	90202-275	1
9	Seal	90364-251	1
10	Retaining Ring	90201-375	1
15	Gasket	110299-0	1

Spare Parts

Item	Description	Size	
		BW Part No.	NW Part No.
1	Ball	110078	110078
2	Nipple	90313-119	90313-119
3	Elbow	90411-22	90411-22
4	Packing	150045-13	150045-13
5	Washer	110573	110573
6	Retaining Ring	90201-250	90201-250
7	Duplex Ring	90849-1	90849-1
8	Retaining Ring	90202-275	90202-275
9	Seal	90364-251	90364-251
10	Retaining Ring	90201-375	90201-375
11	Stem	110536	110572
12	Cotter Pin	90456-20	90456-20
13	Castle Nut	90299-8	90299-8
14	Body	110075	110075
15	Gasket	110299	110299
16	Bolt	90214-115	90214-115
17	Lockwasher	90343-6	90343-6
18	Grease Fitting	90359-1	90359-1
19	Top Cap	110074	110074
20	Sub	110046-16	N.A.

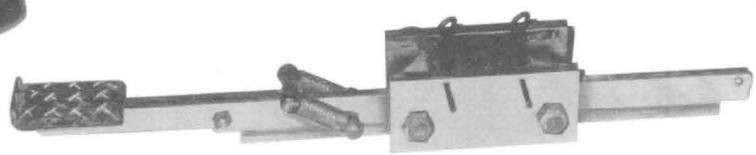
Drill Supplies



Heavy Duty Foot Clamp

Safety Foot Clamps

Safety Foot Clamps are utilized with replaceable carbide steel jaws to hold the drill string suspended in the bore hole. Jaws are available for a wide range of sizes.



Standard Duty Foot Clamp

Carbide Insert Jaws for Safety Foot Clamps

Size	Standard Duty (2 Req'd.)			Heavy Duty (2 Req'd.)		
	Part No.	Weight		Part No.	Weight	
		lbs.	kg		lbs.	kg
EW	310891-6	1.0	0.45	—	—	—
AW	310891-4	1.5	0.68	111232-13	26.9	12.2
BW	310891-2	1.5	0.68	111232-14	21.0	9.5
NW	310891-7	1.5	0.68	111232-12	19.5	8.8
AWL	310891-4	1.5	0.68	111232-13	26.9	12.9
BWL	310891-12	1.5	0.68	111232-14	21.0	9.5
NWL	310891-11	1.5	0.68	111232-16	17.5	7.9
HWL	—	—	—	111232-17	13.5	6.1
86mm	—	—	—	111232-9	16.0	7.3
101mm	—	—	—	111232-10	12.5	5.7
108mm	—	—	—	111232-20	12.5	5.7
116mm	—	—	—	111232-11	10.5	4.8
EW Casing	310891-9	1.0	0.45	—	—	—
AW Casing	310891-8	1.0	0.45	111232-21	20.5	9.3
BW Casing	310891-10	1.0	0.45	111232-22	16.0	7.3
NW Casing	—	—	—	111232-15	14.9	6.7
HW Casing	—	—	—	111232-8	11.5	5.2

Safety Foot Clamp (Less Jaws)

Description	Part No.	Weight	
		lbs.	kg
Standard Duty	21027-20	49.0	22.2
Heavy Duty	21128-10	53.0	24.0

Open Style Pull Plate

Closed Style Pull Plate

Pulling Plates

Size	Open Type			Closed Type		
	Part No.	Weight		Part No.	Weight	
		lbs.	kg		lbs.	kg
EW	111181-11	6.0	2.7	111181-3	7.0	3.2
AW	111181-12	6.0	2.7	111181-4	7.0	3.2
BW	111181-14	9.0	4.1	111181-6	10.0	4.5
NW	111181-16	10.5	4.8	111181-8	12.0	5.4

Pulling Plates

Useful tool for removing drill rods from moderate depths. A hoisting rope is attached to the ring while the rod is slid through the hole in the plate. An upward pull on the rope tilts the plate and holds the rod securely.

Open Type Holding Iron

Closed Type Holding Iron

Holding Irons

Size	Open Type Part No.	Closed Type Part No.	Weight	
			lbs.	kg
EW	110638-2	110637-2	11.0	5.0
AW	310638-4	110637-4	11.0	5.0
BW	310640	110639	11.0	5.0
NW	310640-2	110639-2	18.0	8.2

Holding Irons

Open and closed holding irons have been used for many years and are simple but effective. Irons hold drill rods firmly when lowering or hoisting.

Hoisting Plugs

This ball bearing type swivel is for hoisting and lowering drill rods and casings. The swivel design permits turning the rods or casings while they're suspended.

Hoisting Plug Ball Bearing TYpe

Hoisting Plugs				
Rod Size	Part No.	Weight		Rated Static Capacity
		lbs.	kg	
EW	21055-8	5.5	2.5	5 Tons
AW	21055-2	6.5	2.9	5 Tons
BW	21055-10	15.5	7.0	7.5 Tons
NW	21055-4	16.5	7.5	7.5 Tons
AWJ	21055-35	6.5	2.9	5 Tons
NWJ	21055-36	16.5	7.5	7.5 Tons

Sheaves

Heavy duty single sheave wheel *(Style A)* is for use with 1-inch manila rope. Sheave is lubricated through a grease fitting. Can be furnished with a shackle or safety hook.

Double sheave type *(Style B)* handles both wire and manila rope.

Large size, heavy duty sheave *(Style C)* is for use with wire or manila rope. Ideal for use with a 20 ft. tripod telescopic derrick.

Heavy Duty Single Sheave Style A

Sheaves						
Part No.	Sheave Diameter *(Inches)*	No. Of Sheaves	Wire Rope Size *(Inches)*	Manila Rope Size *(Inches)*	Weight	
					lbs.	kg
25031-3	12	2	3/8	1	85.0	38.5
25031-10	12	1	3/8	—	62.0	28.1
25031-18	6-1/4	1	—	1	13.5	6.1
25031-19	12	2	1/2	1	53.0	24.0
25031-24	12	2	1/2	1	85.0	38.5

Clevis and Bolts

The clevis acts as a hanger for the sheave wheel, while the bolt connects and holds together the legs of the steel or wood derrick.

Clevis and Bolt

Clevis and Bolts			
Size *(Inches)*	Part No.	Weight	
		lbs.	kg
3/4	25123-1	4.5	2.0
1	25123-3	5.0	2.3
1-1/4	—	24.0	10.9
1-1/2	—	44.0	19.9

Safety Hooks

The bail type safety hook is attached to the hoisting cable for connection to hoisting plugs, lifting bars, water swivels, etc. Safety hooks come with a safety latch kit. Extra latch kits may be ordered separately.

Safety Hooks

Safety Hooks – Swivel Type For Wire and Manila Rope					
Size *(Inches)*	Capacity *(Tons)*	Part No.	Weight		Safety Latch Kit Assembly Part No.
			lbs.	kg	
1/4 Wire	1.5	90351-1	1.3	0.59	91090-3
5/16 Wire	3.0	90351-2	2.5	1.13	91090-4
3/8 Wire	3.0	90351-2	2.5	1.13	91090-4
1/2 Wire	4.5	90351-3	4.5	2.0	91090-5
5/8 Wire	7.0	90351-4	9.3	4.22	—
3/4 Manila*	3.0	90351-2	2.5	1.13	91090-4
1 Manila*	4.5	90351-3	4.5	2.0	91090-4
**Hook ratings exceed Manila Rope Ratings approx. 6:1.*					

Circle Wrenches				
Size	Inner Tube Part No.	Outer Tube Part No.	Weight	
			lbs.	kg
AWL/AWL	90842-25	90842-24	8.4	3.8
BWL/AWL	90842-27	90842-26	8.8	4.0
NWL/AWL	90842-29	90842-28	9.7	4.4
HWL/AWL	90842-31	90842-30	12.6	5.4
PWL/AWL	90842-33	90842-32	16.4	7.4
AWG	90842-36	—	8.4	3.8
BWG	90842-35	—	8.8	4.0
NWG	90842-34	—	9.7	4.4
HWG	90842-37	—	12.6	5.4

Circle Wrench

Circle Wrenches

Designed for handling wire line rods, circle wrenches help prevent gouges and damage to the rods. Circle wrenches are used in pairs, one for the inner tube and one for the outer tube.

Chain Tongs			
Size	Part No.	Weight	
		lbs.	kg
1/4 in. to 2-1/2 in.	90841-3	22.0	10.0
3/4 in. to 4 in.	90841-4	24.0	10.9
1 in. to 6 in.	90841-5	30.0	13.6
1-1/2 in. to 8 in.	90841-6	32.0	14.5
2 in. to 12 in.	90841-7	34.0	15.4

Chain Tong

This chain tong is used to couple and uncouple large diameter pipe and casing.

Pipe Wrenches			
Size *(Inches)*	Part No.	Weight	
		lbs.	kg
6	90857-1	1.0	0.45
8	90857-2	1.0	0.45
10	90857-3	2.0	0.91
12	90857-4	2.5	1.13
14	90857-5	3.5	1.59
18	90857-6	6.0	2.72
24	90857-7	10.0	4.54
36	90857-8	20.0	9.1
48	90857-9	35.0	15.9
60	90857-10	50.0	22.7

Pipe Wrenches

Pipe wrenches are handy for coupling pipe, casing, rods and pump connections.

Pipe Wrench

Fishing and Recovery Tools

Recovery Tools are essential at every drill site. Listed below are the most commonly used tools. Taps for left-hand strings of drill rods are available on request.

Fishing Spears
For Miscellaneous Broken Tools

Size	Thread Head Connection	Part No.	Weight	
			lbs.	kg
AW	AW	110058-16	3.0	1.4
BW	BW	110058-15	5.0	2.3
NW	NW	110058-17	6.0	2.7

Fishing Spear

Fishing Spears

A fishing spear is usually the first recovery tool employed when tools are broken off in the bore hole. The spear screws directly on the drill rods and will withstand light driving to aid in spearing the last tool. Fishing spears are easy to easy to break loose if the drill tools cannot be recovered.

Bell Type Recovery Tap

Pin Type Recovery Tap

Heavy Duty Casing Retriever

Recovery Taps (Pin & Bell Types)

This type of recovery tool is designed to slip over broken tools or spear inside of rod and barrel parts.

Heavy Duty Casing Retriever

The casing retriever is attached to the drill rod and carefully lowered into the top portion of the lost section. Withdrawing the retriever causes the sliding jaws to wedge securely against the inner wall of the casing. The retriever is removed from the casing by pushing the assembly out the bottom end. If the retriever becomes stuck in the hole, the unit is designed to break off at the replaceable nose.

Recovery Taps —Bell Type*
For Rods and Couplings

Size	R.H. Thread Head Connection	Part No.	Weight	
			lbs.	kg
AW	AW	110600-11†	3.0	1.4
BW	BW	110600-2	3.0	1.4
NW	NW	110600-4	7.0	3.2

**Left Hand Threads Available on Request.*
†For use only in BW or NW holes.

Bit Recovery Taps — Pin Type
For Bits and Shells

Size	R.H. Thread Head Connection	Part No.	Weight	
			lbs.	kg
AWG	AW	110595-56	3.9	1.8
BWG	BW	110595-23	7.5	3.4
NWG	NW	110595-60	14.0	6.4
AWL	AWL	110595-71	3.9	1.8
BWL	BWL	110595-67	7.5	3.4
NWL	NWL	110595-68	14.0	6.4

Recovery Taps —Pin Type*
For Rods, Couplings and Core Barrels

Size	R.H. Thread Head Connection	Part No.	Weight	
			lbs.	kg
AW	AW	110595-4	2.4	1.1
BW	BW	110595-6	4.7	2.1
NW	NW	110595-8	5.5	2.5
AWL	AWL	110595-69	1.4	0.6
BWL	BWL	110595-63	2.4	1.1
NWL	NWL	110595-64	4.7	2.1
HWL	HWL	110595-82	5.5	2.5

**Left Hand Threads Available on Request.*

Casing Recovery Taps — Pin Type
For Rods, Couplings and Core Barrels

Size	R.H. Thread Head Connection	Part No.	Weight	
			lbs.	kg
AX/AW	AWL	110595-70	4.2	1.9
BX/BW	BWL	110595-65	7.0	3.2
NX/NW	NWL	110595-66	10.0	4.5
HW	HWL	110595-95	14.0	6.4
AX/AW	AW	110595-14	4.6	2.1
BX/BW	BW	110595-15	7.2	3.3
NX/NW	NW	110595-16	11.0	5.0

Casing Retriever Assembly

Casing Size Used		Part No.	Drill Rod Box	Weight	
Inches	mm			lbs.	kg
2-1/2	63.5	21037-5	AW	14.0	6.4
3	76.2	21038-7	BW	23.0	10.4
3-1/2	88.9	21039-8	NW	34.0	15.4
4	101.6	21040-16	NW	46.0	20.9

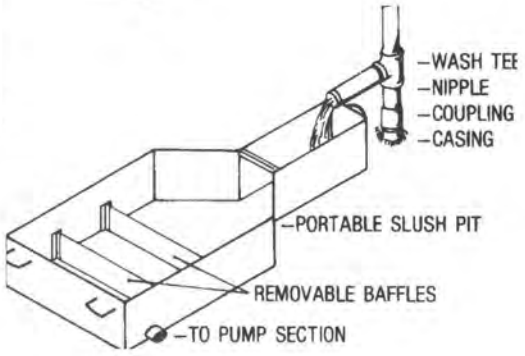
Drill Supplies

Clean Out Taps

Taps are used to straighten threads on used or damaged drill rods and core barrels. Clean out taps are made from heat treated, quality steel and are designed for all size drill rod threads.

Clean Out Taps
Drill Rod Box Threads

Size	Part No.	Weight	
		lbs.	kg
AW	21054-5	2.0	0.9
BW	21054-7	3.0	1.4
NW	21054-9	5.0	2.3
N3 TPI	21054-11	3.0	1.4
Additional Sizes Available			



Portable Slush Pit

A portable slush pit eliminates digging earthen pits at drill sites. Ther tank is designed with baffles, handles and pump suction fittings. The pit is extremely handy when drilling mud, collecting wash boring samples and setting drill water for recirculation.

Portable Slush Pit

Capacity		Part No.	Length		Width		Height		Weight	
Gal.	L		in.	cm	in.	cm	in.	cm	lbs.	kg
75	284	310715	72	183.9	32	81.3	10	25.4	150	68.0

Marsh Funnel/ Measuring Cup

Simple viscometer is used to check the viscosity of the drilling muds. The funnel is filled to the screen with a slurry or mud and the time is recorded to empty the funnel. The elapsed time is stated as, for example, a 60 or 70 seconds mud. The funnel has a 1000cc capacity.

Marsh Funnel/Measuring Cup

Description	Part No.	Weight	
		lbs.	kg
Marsh Funnel *(Viscosimeter)*	110894	1.5	0.68
Measuring Cup *(1000cc)*	110895	1.0	0.45

Cotton Wicking

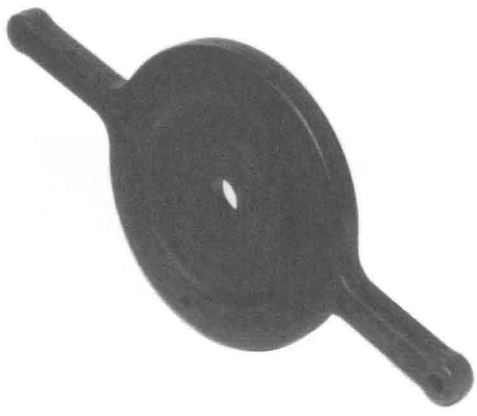
Cotton wicking is cut in short pieces and applied at each joint of a string of tools. It helps to seal the rods and prevents loss of circulating water. Cotton wicking should not be used with wire line drill rods. When ordering—advise the number of balls desired.

Cotton Wicking

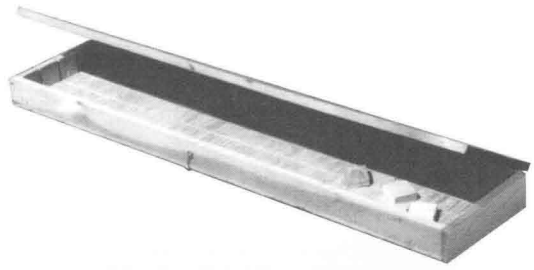
Part No.	Weight	
	oz.	g
110717	2.0	56.7

Rod Wipers

Rod wipers are used to clean drill rods as they are removed from the drill hole. Wipers are ideal when muds are used.



Rod Wipers								
	With Handle					Without Handle		
Rod Size	O.D.		Part No.	Weight		Part No.	Weight	
	in.	mm		lbs.	kg		lbs.	kg
AW	1-3/4	44.45	90888-2	6.5	2.9	90889-2	8.0	3.6
BW	2-1/8	53.98	90888-4	6.5	2.9	90889-4	8.0	3.6
NW	2-5/8	66.68	90888-6	6.5	2.9	90889-6	8.0	3.6
HW	3-1/2	88.9	90888-8	6.5	2.9	90889-8	8.0	3.6



Core Boxes

Core boxes are designed to carry and store cores in an orderly fashion. The boxes are made as short as possible to accommodate carrying in an automobile or truck and light enough to be easily hand carried. Removable spacers are provided to separate sections of core. Lids are hinged and include a simple latch.

Wooden Core Boxes											
Core Size	Part No.	Core Capacity		Length		Width		Depth		Weight	
		ft.	m	ft.	m	in.	cm	in.	mm	lbs.	kg
EWG	21085-3	32	9.8	4.0	1.2	9-5/8	24.4	1-3/4	44.5	25.0	11.3
AWG/AWL	21085-4	24	7.3	4.0	1.2	9-5/8	24.4	2	50.8	25.0	11.3
BWG/BWL	21085-6	20	6.1	4.0	1.2	10-3/4	27.3	2	50.8	30.0	13.6
NWG/NWL	21085-7	16	4.9	4.0	1.2	11	27.9	2-1/4	57.2	30.0	13.6

Penetrometer Points

Penetrometer points are available in a variety of sizes. They are useful for locating bedrock and preparing a profile of underground rock formations. An adapter coupling connects directly to any size drill rod and permits the detachable point to be driven to refusal. The diameter of the penetrometer point is larger than the diameter of the drill rod to aid in withdrawing the rods.

Penetrometer Assembly and Extra Parts							
Rod Size	Assembly Part No.	Weight		Point Diameter		Point Only Part No.	Coupling Only Part No.
		lbs.	kg	Inches	mm		
EW	21078-10	1.0	0.45	2	50.8	110870	110711-9
AW	210078-12	1.5	0.68	2	50.8	110870	110711-10
BW	21078-14	1.5	0.68	2-3/4	69.9	110709-7	110711-11
NW	21078-16	2.0	0.90	2-3/4	69.9	110709-7	110711-12
E	21078-9	1.0	0.45	2	50.8	110870	110711-13
A	21078-11	1.5	0.68	2	50.8	110870	110711-14
B	21078-13	1.5	0.68	2-3/4	69.9	110709-7	110711-15
N	21078-15	2.0	0.90	2-3/4	69.9	110709-7	110711-16
AWJ	21078-20	1.5	0.68	2	50.8	110870	110711-20

Specifications for Drill Rods and Casings

Special and nonstandard Rods, Casings and Couplings are manufactured by Acker Drill Co., Inc. on request. In addition, Acker offers a complete range of metric rods and casings.

Specifications: Drill Rods and Couplings

Size	O.D.		I.D.		Threads Per Inch	Weight		Coupling I.D.		Coupling Wt.	
	Inches	mm	Inches	mm		lbs./ft.	kg/m	Inches	mm	lbs.	kg
EW	1-3/8	34.9	15/16	23.8	3	2.8	4.2	7/16	11.1	1.0	0.45
AW	1-3/4	44.4	1-1/4	31.8	3	4.3	6.4	5/8	15.8	2.0	0.90
BW	2-1/8	53.9	1-3/4	44.4	3	4.3	6.4	3/4	19.0	3.5	1.38
NW	2-5/8	66.6	2-1/4	57.1	3	5.5	8.2	1-3/8	34.9	5.5	2.50
HW	3-1/2	88.9	3-1/16	77.7	3	8.8	13.1	2-3/8	60.3	7.6	3.45
E	1-5/16	33.3	7/8	22.2	3	2.7	4.0	7/16	11.1	1.0	0.45
A	1-5/8	41.3	1-1/8	28.6	3	3.8	5.7	9/16	14.3	2.0	0.90
B	1-7/8	47.6	1-1/4	31.7	5	3.6	5.4	5/8	15.9	2.5	1.13
N	2-3/8	60.3	2	50.8	4	5.0	7.4	1	25.4	4.0	1.82
N3 TPI	2-3/8	60.3	2	50.8	3	5.0	7.4	1	25.4	4.0	1.82

Note: Specifications (O.D., I.D. and Weight) will depend on parallel or upset type of material.

"W" Design Flush Joint Casings

Size	O.D.		I.D.		Threads	Weight	
	Inches	mm	Inches	mm	Per Inch	lbs./ft	kg/m
EW	1-13/16	46.0	1-1/2	38.1	4	2.8	4.2
AW	2-1/4	57.1	1-29/32	48.4	4	3.9	5.8
BW	2-7/8	73.0	2-3/8	60.3	4	7.0	10.4
NW	3-1/2	88.9	3	76.2	4	8.4	12.5
HW	4-1/2	114.3	4	101.6	4	11.7	17.4

Specifications: Wire Line Drill Rods

Size*	Rod O.D.		Rod I.D.		Coupling O.D.		Coupling I.D.		Threads Per Inch
	in.	mm	in.	mm	in.	mm	in.	mm	
AWL	1-3/4	44.5	1-3/8	34.9	—	—	—	—	4
BWL	2-3/16	55.6	1-13/16	46.0	—	—	—	—	3
NWL	2-3/4	69.9	2-3/8	60.3	—	—	—	—	3
HWL	3-1/2	88.9	3-1/16	77.8	—	—	—	—	3
PWL	4-1/2	114.3	4-1/16	103.2	4-5/8	117.5	4-1/16	103.2	3