24" ∅ FLAP VALVE

CRAFT

CRAFT MACHINE WORKS, INC.
2102 48th Street, Hampton, Virginia 23661
Tele: (804) 380-8615 Fax: (804) 380-9120

SUGGESTED CAST IRON TIDE GATE SPECIFICATIONS

Tide Gates shall be solid, ribbed tide gates, complete with frames, bronze, neoprene, or cast iron seat facing, double adjustable hinges, posts and links, mounted to wall thimbles, or walls, as manufactured by Craft Machine Works, Inc. of Hampton, Virginia.

Materials

Flap & Frame	- Cast Iron ASTM A126 Class B
Hinge Links	- Ductile Iron
Hinges	- Manganese Bronze
Hinge Posts & Pins	- Silicon Bronze
Adjusting Screws	- Silicon Bronze
Anchor Studs & Nuts	- Stainless Steel ASTM A276 Type 316
Wall Thimble (if required)	- Cast Iron ASTM A126 Class B
Seat Face	- Bronze, Neoprene or Cast Iron

Flap

The Tide Gate Flap shall be of Cast Iron ASTM A126 Class B with vertical and horizontal ribs capable of withstanding the design head with a safety factor of 5.

Frame

The Tide Gate Frame shall be Cast Iron ASTM A126 Class B. The flange shall be faced and drilled to match the anchor bolt layout provided. The seat facing of the frame shall be sloped from the vertical with a dovetail groove machined to accept the neoprene or bronze seat which shall be mechanically retained without the use of fasteners. Metal thickness of the frame shall not be less than 1" with flanges not less than 1-1/2" thick.

Seats

Seat facings shall be malleable extruded bronze of a composition which will resist dezincification and will increase in working ability with cold working. The seat facings shall be machined to a 63 micro-inch finish or better, or neoprene Seats made from stock of the best grade of neoprene having a tensile strength of 1,500 p.s.i., a minimum elongation of 400 percent and a durometer hardness number 60±5 on the shore "A" scale.

The installed seat facing will be made of a special shape to fill and permanently lock into the machined dovetail grooves when installed.

Seats shall be cast iron machined to a 125 micro-inch finish or better.

CRAFT

CRAFT MACHINE WORKS, INC.
2102 48th Street, Hampton, Virginia 23661
Tele: (804) 380-8615 Fax: (804) 380-0120

SUGGESTED CIRCULAR FLAP VALVES SPECIFICATIONS

Circular Flap Valves where shown in the valve schedule and contract drawings, shall be as manufactured by the Craft Machine Works, Inc., Hampton, Virginia.

Valves shall have a cast iron flanged frame, cast iron flap, with iron to iron, bronze, or neoprene seating. The hinge arms and flap shall be cast in one piece, and shall be attached to the frame by means of a bronze pivot pin.

Flap valves less than Six inch in diameter with bronze or neoprene seating shall have a cast bronze flap, otherwise the flap is of cast iron.

CRAFT

SUGGESTED CAST IRON TIDE GATE SPECIFICATIONS

HINGE LINKS

Hinge Links shall be of ductile iron, bronze bushed and provided with noncorrosive grease fittings. Adjustable hinges shall be of manganese bronze. Hinge posts, hinge pins, and adjusting studs shall be of silicon bronze.

CASTINGS

Casting shall be true to pattern, sound, smooth, and without injurious cold shunts, swells, lump scabs, scoria, sand holes and other defects and imperfections.

Plugging and filling will not be allowed where the physical strength of the casting will be impaired. All castings shall be thoroughly cleaned, inside and outside, of sand and dirt. Sandblasting, wire brushes, scrapers or other approved mechanical appliances shall be used for this purpose. Acid or other corrosive liquids shall not be used in the cleaning of castings.

WALL THIMBLES

Wall Thimbles shall be of the section ("F") and depth as indicated on the plans and listed in the gate schedule. They shall be Cast Iron, one piece construction, of adequate strength to withstand all operational and reasonable installation stresses. Wall thimbles shall be internally braced during concrete placement. A center ring or waterstop will be cast around the periphery of the thimble. The front flange will be machined and have tapped holes for the Tide Gate attaching studs. Large rectangular wall thimbles will be provided with holes in the invert to allow satisfactory concrete placement beneath the thimble.

WORKING DRAWINGS

Detailed working drawings and descriptions shall be furnished in conformity with the General Conditions of the Contract Documents.

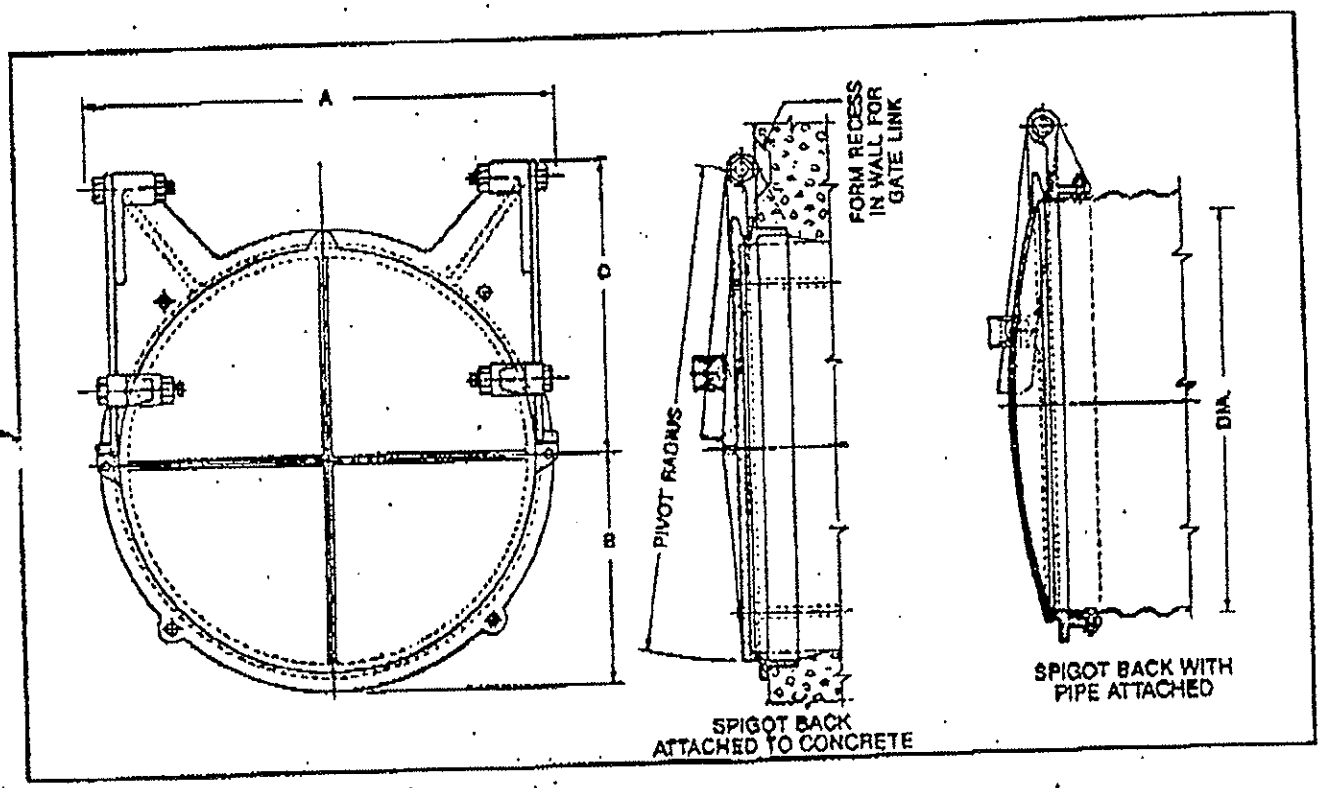
MODEL 10C FLAP GATE

- For seating heads to 10 feet
- Round opening
- Spigot back
- Cast Iron seating surfaces

The Model 10C flap gate consists of the simplest possible design with double hinge action for heads to 10 feet. Pivot points are stationary. Ring and flap are of cast iron with galvanized steel hinge arms and assembly bolts and bronze bushings. Extension of the cast iron bosses of the flap over the top of the pivot arms limits the double hinge action, and prevents the bottom of the flap from folding inside the ring and wedging the gate in the open position.

The gate is made in spigot back for attaching to corrugated steel pipe. Most sizes are now available in flat back for attaching to a concrete wall. Anchor bolts are placed in the original pour of concrete. After the gate is in place on the anchors and properly aligned using the double nuts, grout is packed between the gate seat and the wall.

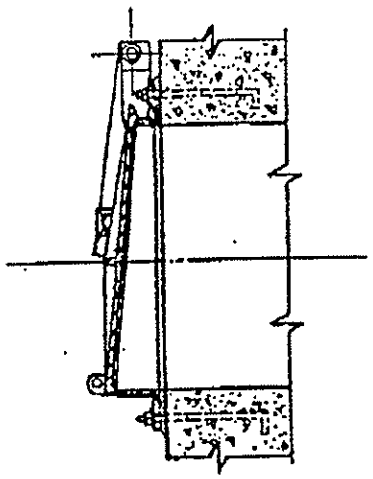
This gate opens under a minimum head differential, yet is positive closing under a few inches of water on the face of the gate. A lifting eye is cast integrally with the flap to permit manual operation.



(All Dimensions In Inches)

SIZE	A*	B	C	PIVOT RADIUS
6	8.75	3.75	4.75	7.50
8	10.75	5.00	6.50	10.25
10	12.75	6.25	8.00	12.50
12	15.25	7.25	9.25	15.00
15	18.75	9.00	11.50	18.50
18	21.75	10.50	13.75	22.25
21	24.75	12.25	16.00	26.00
24	27.75	13.75	18.00	29.75
30	34.25	17.00	21.75	36.25
36	41.50	20.50	26.25	43.75
42	47.50	23.50	31.00	51.50
48	54.00	27.00	35.50	58.75

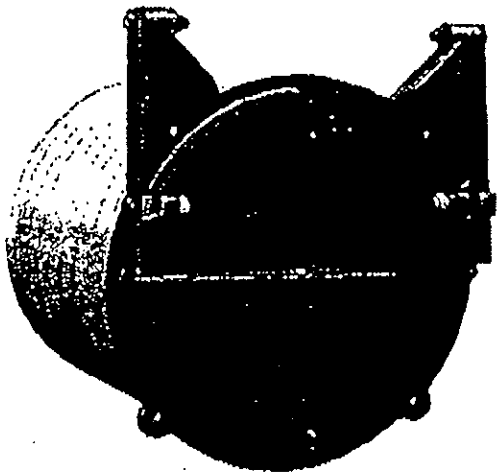
*Maximum width of gate may occur at top or on horizontal center line. "A" dimension is shown for maximum horizontal width of gate.



FLAT BACK ATTACHED TO CONCRETE

Revised 8-85

SPECIFICATIONS FOR MODEL 10C FLAP GATE



General
Flap gates shall be ~~Armco~~ FRESNO Model 10C or approved equal. Similar installations shall have operated successfully for five years or more. All component parts shall be of the type material shown in the Materials section of this specification.

Seat
The spigot back seat shall be one-piece cast iron with a raised section around the perimeter of the waterway to provide the seating face. The seat shall be shaped to provide two pivot bosses extended above the top of the waterway opening.

Cover
The cover shall be one-piece cast iron with pivot point bosses, a lifting eye and a reinforced section around the perimeter of the waterway opening. Pivot bosses shall be designed to limit the double hinge action, preventing the cover from rotating sufficiently to become wedged in the open position.

Seating Faces
The cast iron seating faces of the seat and cover shall be machined to a plane with a minimum 63 micro-inch finish.

Links
The links connecting the cover and the upper pivot bosses shall be one-piece galvanized steel and of sufficient section to safely withstand the normal forces encountered during gate operation. Each link shall be provided with a commercial grade bronze bushing at the pivot points.

Fasteners
All anchor bolts, assembly bolts and nuts shall be galvanized steel and of ample section to safely withstand forces created by operation of the gate under the heads shown in the Gate Schedule. Quantity and size of the fasteners shall be as recommended by the manufacturer. Anchor bolts shall be furnished with two nuts each to install gates attached to concrete.

Painting
Exposed machined or bearing surfaces shall be coated with a water-resistant rust preventive compound. All assembled units shall be shop painted in accordance with the manufacturer's standard practice.

Installation
Installation of the flap gates shall be done by the contractor in a workmanlike manner in accordance with the manufacturer's instructions.

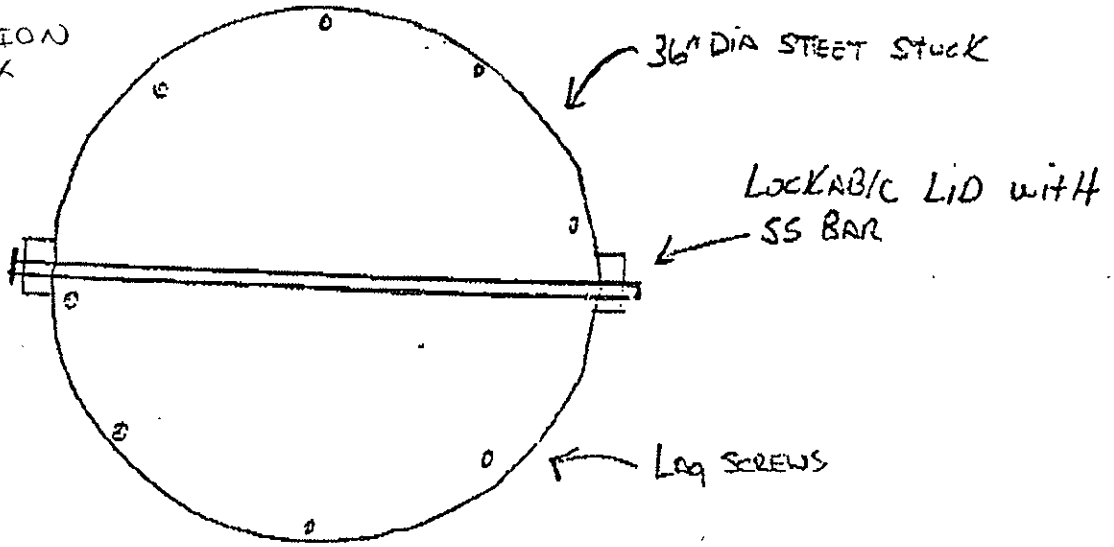
Materials
Materials shall conform to the requirements of the following ASTM Standards.

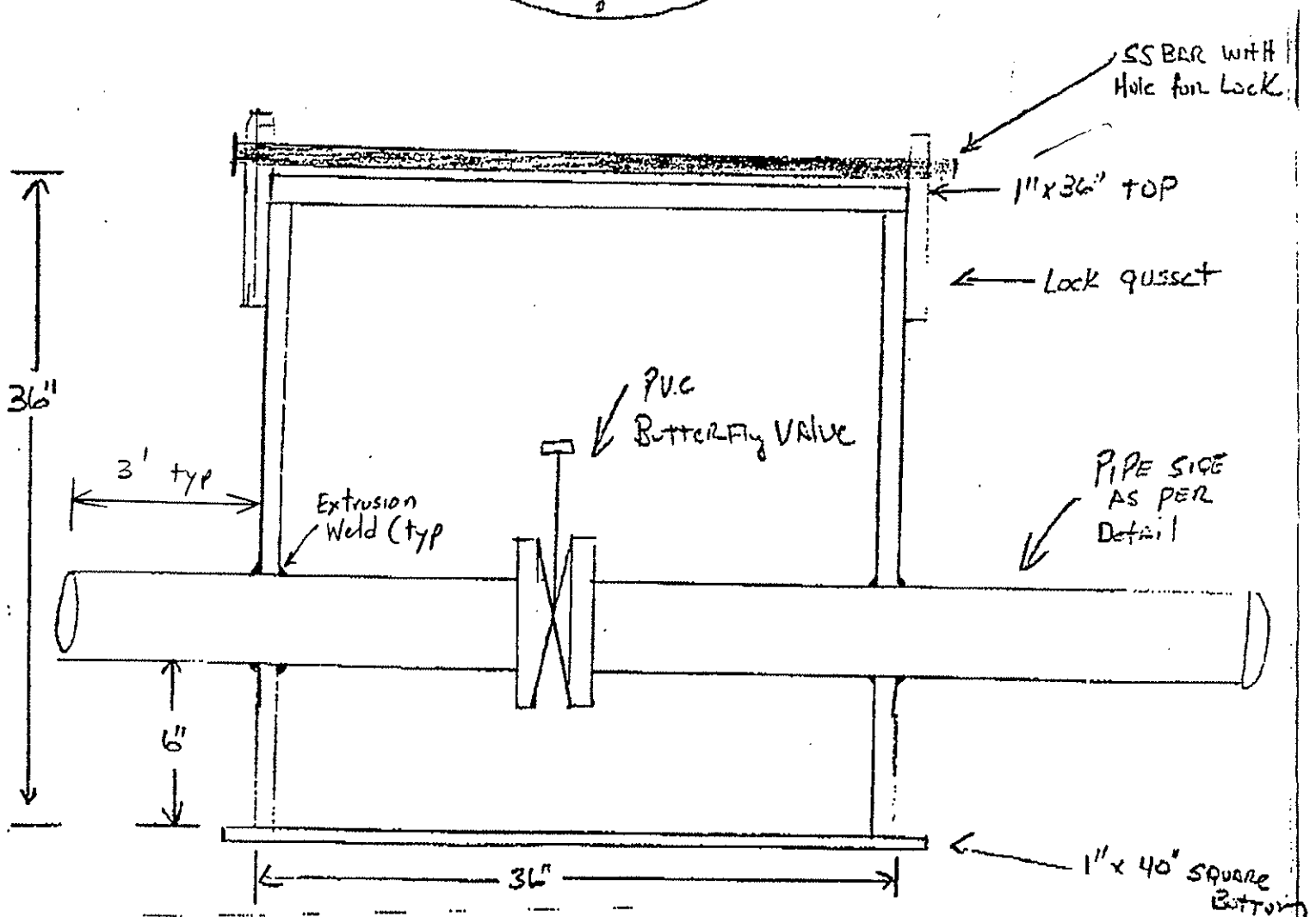
CAST IRON	A 126, Class B
GALVANIZED STEEL (Fasteners)	A 307 (Bolts) A 164 (Galvanized Coating)
GALVANIZED STEEL	A 36 or A 306 (Carbon Steel) A 123 (Galvanized Coating)

GATE SCHEDULE

QUANTITY REQUIRED	SIZE OPENING	SEATING HEAD	REMARKS

GAS EXTRACTION VALVE BOX

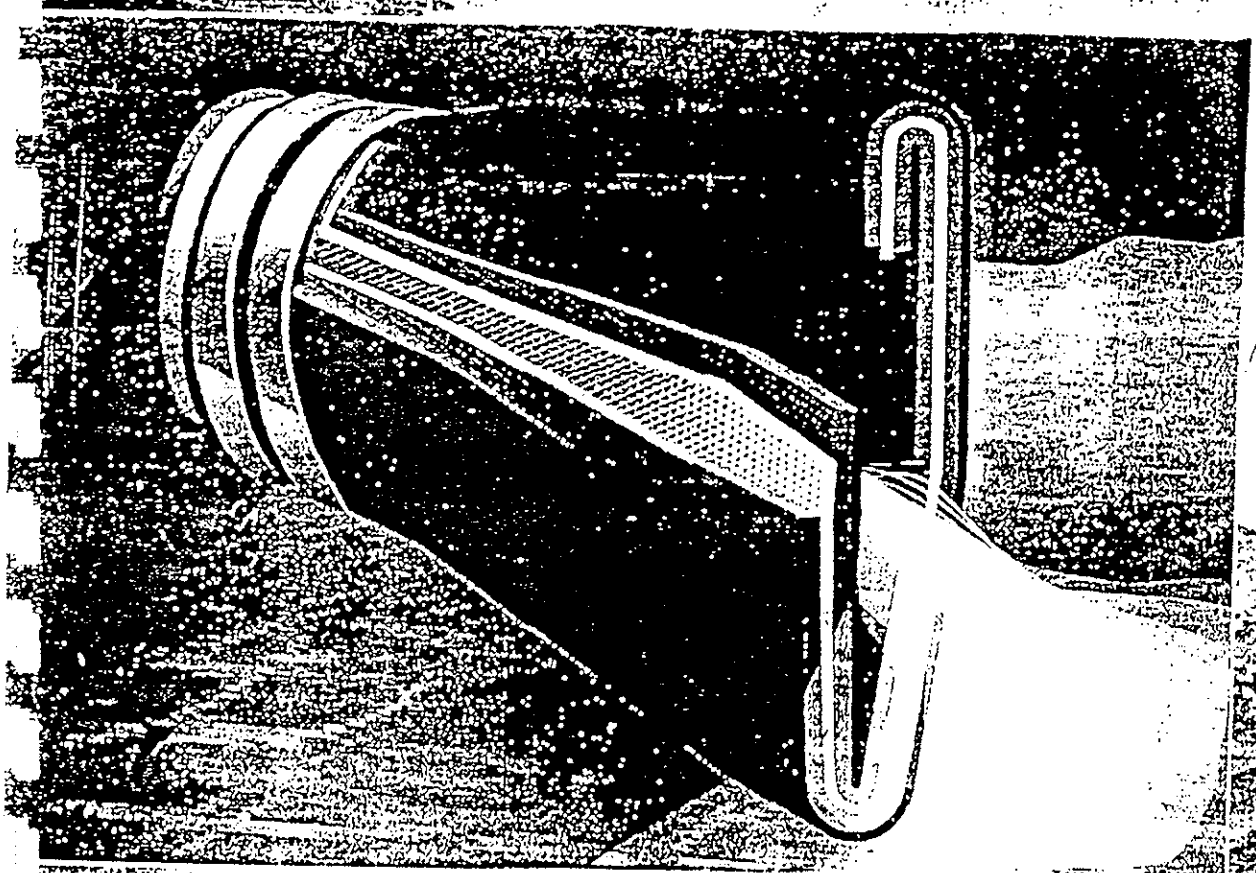




LEE SUPPLY CO., INC.
• DIVERSIFIED PIPING SYSTEMS • INDUSTRIAL • MINING • ENVIRONMENTAL PRODUCTS
P.O. Box 35 Charleroi, PA 15022
Phone: 412-483-3543 FAX: 412-483-0577

PIPE Detail

Valve Box	Pipe ϕ
1	4"
2	8"
3	8"
4	6"
5	4"



TIDE FLEX
CHECK VALVES

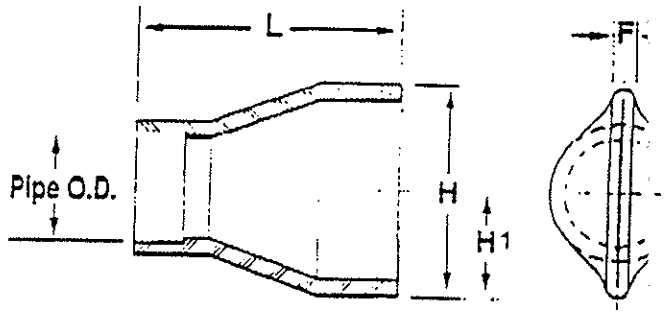
Tideflex™

RFORMANCE

Ordering Information

Specifying information required to custom-build a Tideflex™ Valve for your exact application includes line pressure, back pressure, flow rate and velocity and O.D. of pipeline.

Red Valve manufactures Tideflex™ Valves to special O.D. dimensions and can also provide a mounting thimble.



Ordering a Tideflex™ Valve is as easy as completing this chart!

	Minimum	Maximum
Back Pressure	_____	_____
Line Pressure	_____	_____
Maximum Flow Rate	_____	
Maximum Flow Velocity	_____	

Discharge To: ☐ Atmosphere ☐ Under Water

Pipe O.D._____ Pipe Material _____

VALVE SIZE (NOM.)	STEEL PIPE O.D.*	MAXIMUM LENGTH L	MAXIMUM HEIGHT H**	CENTERLINE TO BASE HEIGHT H1	Wi
1/2"	.840	2-1/2"	1-3/16"	19/32"	
3/4"	1.050	2-3/4"	1-15/16"	31/32"	
1"	1.315	3"	2"	1"	
1-1/4"	1.660	3"	2"	1"	
1-1/2"	1.900	6-1/4"	2-13/16"	1-13/32"	
2"	2-3/8"	6"	3-3/4"	1-7/8"	
2-1/2"	2-7/8"	7"	4-9/16"	2-9/32"	
3"	3-1/2"	8"	5-1/4"	2-5/8"	
4"	4-1/2"	9"	7-1/4"	3-5/8"	
5"	5-9/16"	16"	10-5/8"	5-5/16"	1-
6"	6-5/8"	13"	10-3/8"	5-3/16"	
8"	8-5/8"	16"	13-1/16"	6-17/32"	15.
10"	10-3/4"	19"	15-3/8"	7-11/16"	
12"	12-3/4"	22"	17-13/16"	8-29/32"	
14"	14"	22"	21-1/2"	10-3/4"	1-
16"	16"	24"	22-1/4"	11-1/8"	1-
18"	18"	26"	26-3/4"	13-3/8"	1-
20"	20"	27"	29-3/4"	14-7/8"	1-
24"	24"	36"	37-1/4"	18-5/8"	1-
30"	30"	38"	43-3/4"	21-7/8"	
32"	29-1/4"	46"	46-1/2"	23-1/4"	
36"	36"	50"	51-3/8"	25-11/16"	2-
42"	42"	64"	61-1/2"	30-3/4"	2-
48"	48"	65"	61-1/2"	30-3/4"	2-
51"	50-3/4"	74"	64-1/2"	32-1/4"	2-
60"	60"	78"	80-3/4"	40-3/8"	2-
72"	72"	95"	103"	51-1/2"	
78"	78"	92"	111"	55-1/2"	
84"	84"	88"	111"	55-1/2"	
90"	90"	98"	119-1/2"	59-3/4"	3

Steel, Concrete, and Ductile Iron pipe O.D.s vary. It is important to verify p. for proper sizing.

**Height may vary slightly due to customized construction.*

TIDEFLEX™ PE

E.P.A. Tests Call Tideflex™ an "Excellent Solution."

The Environmental Protection Agency's (E.P.A.) recent test results proved Red Valve's patented Tideflex™ Check Valve to be an excellent solution to eliminate maintenance costs and operational failures with traditional flap gate valves.

According to the report:

"Problems with malfunctioning flap gates, like frozen hinge pins, accumulation of debris, worn seats, misalignment, warpage and corroded parts and costs of maintenance crews are eliminated with the Tideflex™ Valve."

Today, thousands of patented Tideflex™ Valves and diffuser valve systems are operating maintenance-free worldwide. These valves have successfully withstood severe winter freezes, typhoons, hurricanes and flooding, minimizing damage to wetlands, beaches and residential areas, eliminating hydraulic surges to waste water treatment plants and saving municipalities millions of dollars in maintenance and treatment costs.

PROBLEM

These traditional flap gate valves were held open by telephone poles to eliminate loud clanging noises and allow for better outflow. Unfortunately, they no longer prevented backflow into the city's water treatment plant.

SOLUTION

Tideflex™ all rubber check valves were installed, and eliminated the noise as well as completely preventing the backflow problem. Simply Revolutionary!

Function

The Tideflex™ Valve is manufactured of flexible elastomer material reinforced with synthetic fabric much like an automobile tire. Neoprene construction with a special EPDM cover for ozone protection is furnished as a standard. Pure Gum Rubber, Hypalon, Butyl, Buna-N, EPDM and Viton are also available, and come with standard EPDM covers.

Forward hydraulic pressure opens the valve automatically without any additional energy source and reverse hydraulic pressure seals the valve automatically. The Tideflex™ Valve is simple to install. Two metal bands easily connect it to the O.D. of a pipeline.

By engineering the elastomer fabric matrix in varying degrees of flexibility, each Tideflex™ Valve is customized to your exact application to open with minimum specified head pressure and withstand maximum specified back pressure.

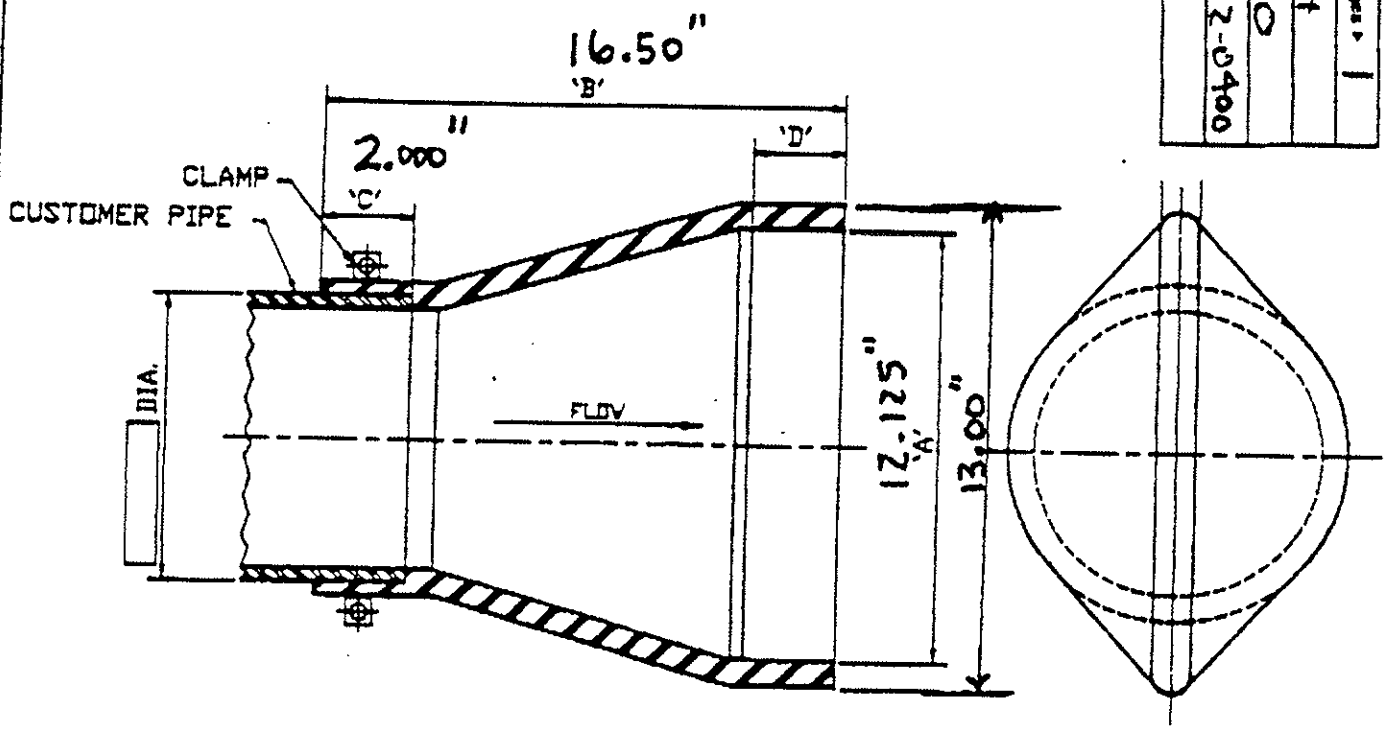
This versatile design of the Tideflex™ Valve also allows it to be used as a vacuum breaker on pipelines and pressure vessels to prevent closing.

The inherent cushioning action of the Tideflex™ Valve's elastomer design completely eliminates noise. The valve's heavy-duty construction makes it vandal-proof and reduces the likelihood of children entering a pipeline.

A number of other custom-designed check valves like Red Valve's Series 33 are available for in-line service.

TYPICAL SUBMITTAL DRAWING

CHECK VALVE SIZE	A	B	C	D	E
1/4	.687	3	.500	1.062	.500
1/2	.687	2.500	.500	.500	.500
3/4	1.437	2.750	.750	.500	.500
1	1.375	3	.750	.750	.625
1-1/4	1.375	3	.750	.750	.625
1-1/2	2.187	4	.875	.750	.625



NOTES:

1. MAXIMUM BACK PRESSURE - 6 FEET
   LINE PRESSURE - GRAVITY / MIN. TO OPEN
2. MATERIAL TO BE BUNA-N
3. VALVE IS FURNISHED WITH 3/8 STAINLESS STEEL MOUNTING CLAMPS
4. VALVE IS TO BE MOUNTED WITH THE OUTLET IN THE VERTICAL POSITION
5. TIDEFLEX TO FIT ON A 8 5/8 DIA. ~~PIPE~~ HDPE PIPE

CUSTOMER APPROVAL
SIGNED _____ DATE _____

02223_
2.3

RED VALVE PRODUCT NO. _____

TF-2 TIDEFLEX CHECK VALVE

DWG. BY V. KISH CHK'D BY MVK DATE 96-11-25 DATA BY:	CUSTOMER ORDER NO.	RV	RED VALVE CO., INC. 700 NORTH BELL AVENUE CARNEGIE, PA 15106	DWG. NO. RVS- REV. 0
		FILENAME: TF2T3DIA		S.O. NO.

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To JEFF
Co. BARELLA
Dept.
Fax #

From KEITH
Co. TNSCO
Phone # 281-492-0400
Fax #

15100 - 2.2

KENNEDY VALVE KENSEAL II RESILIENT WEDGE VALVES

KENNEDY VALVE

KENNEDY VALVE AWWA Resilient Wedge Gate Valves Meet or Exceed the Requirements of AWWA Standard C509 UL-262/FM-1120/1130 ULC-Underwriters' of Canada

Size Range	Water Working Pressure psi	Bubble-Tight Test psi	Hydrostatic Shell Test psi
2"-12"	200	200	400

Available in either non-rising stem or outside screw & yoke.

Available End Connections & Size Range		Figure No. (STD)	Figure No. with Post Plate
Flg. End (NRS)	2" - 12"	4561	4701 (3" - 12")
→ M.J.	2" - 12" (except 2 1/2")	4571	4071 (3" - 12")
Flg. & M.J.	3" - 12"	4572	4072
Push-on for PVC (SDR)	2" - 8"	4597	4597P (3" - 8")
Flg. End (OS & Y)	2 1/2" - 12"	4068	N/A
M.J. for Tapping	4" - 12"	4950	4950P
Push-on for D.I. & C900 PVC	4" - 12"	4901	4901P
M.J. Cutting-in	4" - 8"	4576	(Consult K.V.)
Push-on D.I. X Flg.	4" - 12"	4902	4902P
Threaded	2" - 3"	4057	4057P (3" only)

Accessories

Indicator Posts
"T" Handles
Stem Guides
→ 2" Sq. Operating Nuts
Handwheels
Extension Stems
Floor Boxes
Chain Wheels
Floorstands (non-rising stem)

D-16A

LISTED UL 668H

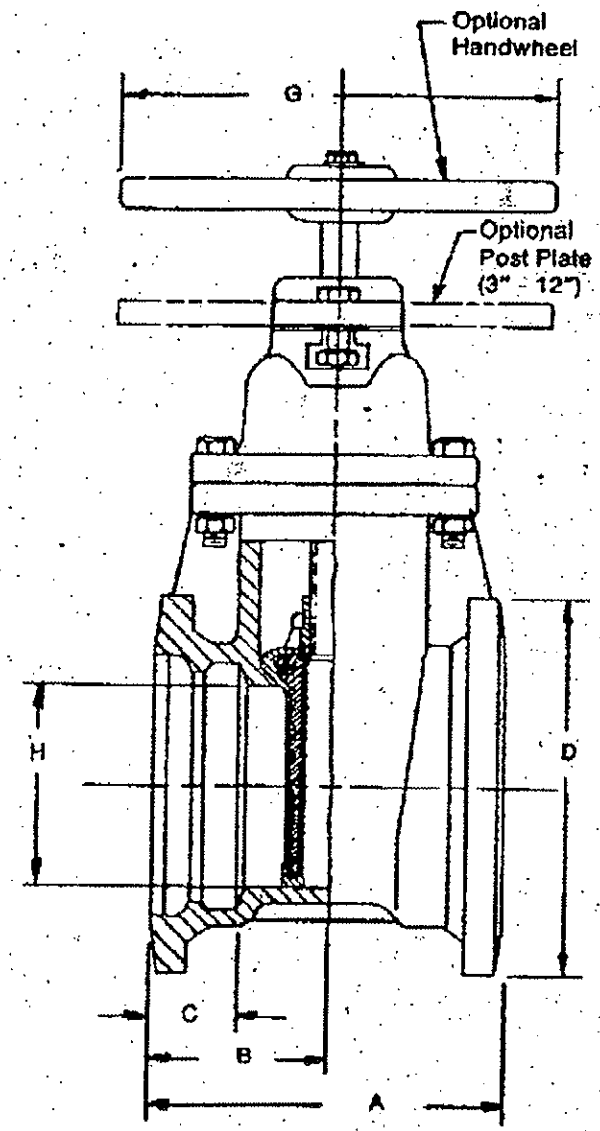
FM APPROVED

ULC

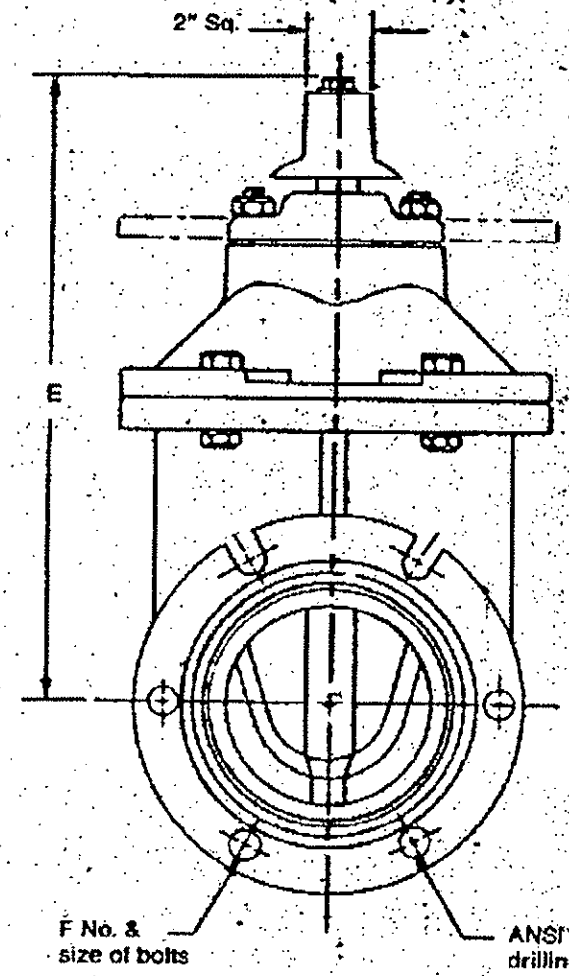
2" - 12" KENSEAL II R/W VALVE SMJ ENDS GENERAL DIMENSION

KENNEDY VALVE

A.W.W.A Standard C509



4571 Standard
4071 with Post Plate (3" - 12").



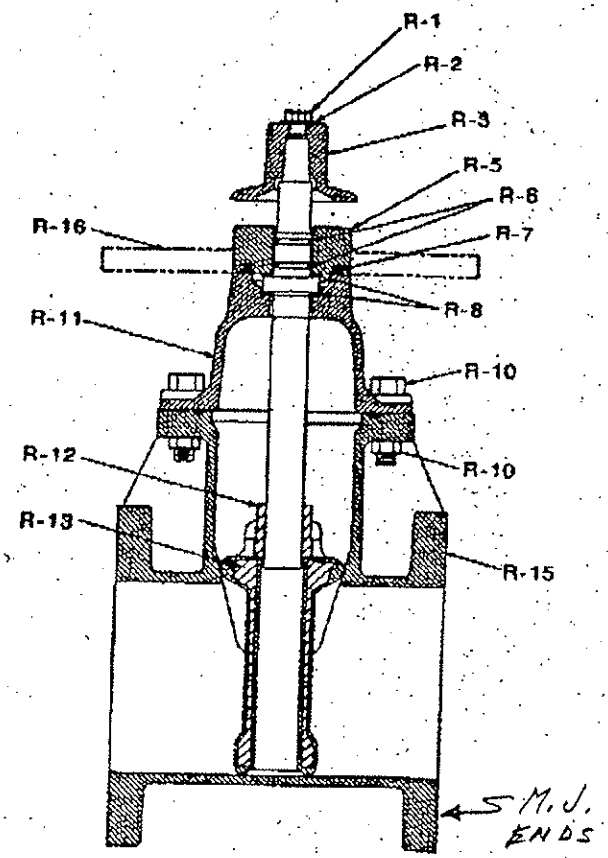
VALVE SIZE	A	B	C	D	E	F	G	H	Weight*
2	8-1/4	4-1/8	2.50	4-1/2	10-7/8	2-5/8	7-1/4	2	38
2-1/2	--------	--------	--------	--------	--------	--------	--------	--------	--------
3	8-1/2	4-1/4	2.50	7-3/4	12-3/8	4-5/8	10	3	63
4	9-1/2	4-3/4	2.50	9-1/8	14-3/4	4-3/4	10	4-1/4	85
6	10	5	2.50	11-1/8	19	6-3/4	12	6-1/4	128
8	10-1/2	5-1/4	2.50	13-3/4	22-1/2	6-3/4	14	8-14	200
10	12	6	2.50	15-3/4	26-1/2	8-3/4	18	10-1/4	309
12	13	6-1/2	2.62	18	30	8-3/4	18	12-1/4	471

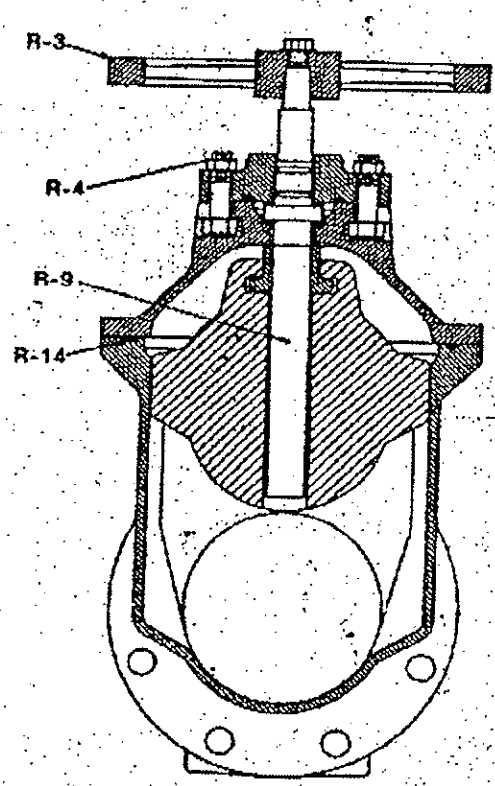
*Add 16# for Indicator Post Plate (3"-12" only)

D-16B

RESILIENT SET GATE VALVE
N.R.S. ASSEMBLY
KENSEAL II

KENNEDY VALVE





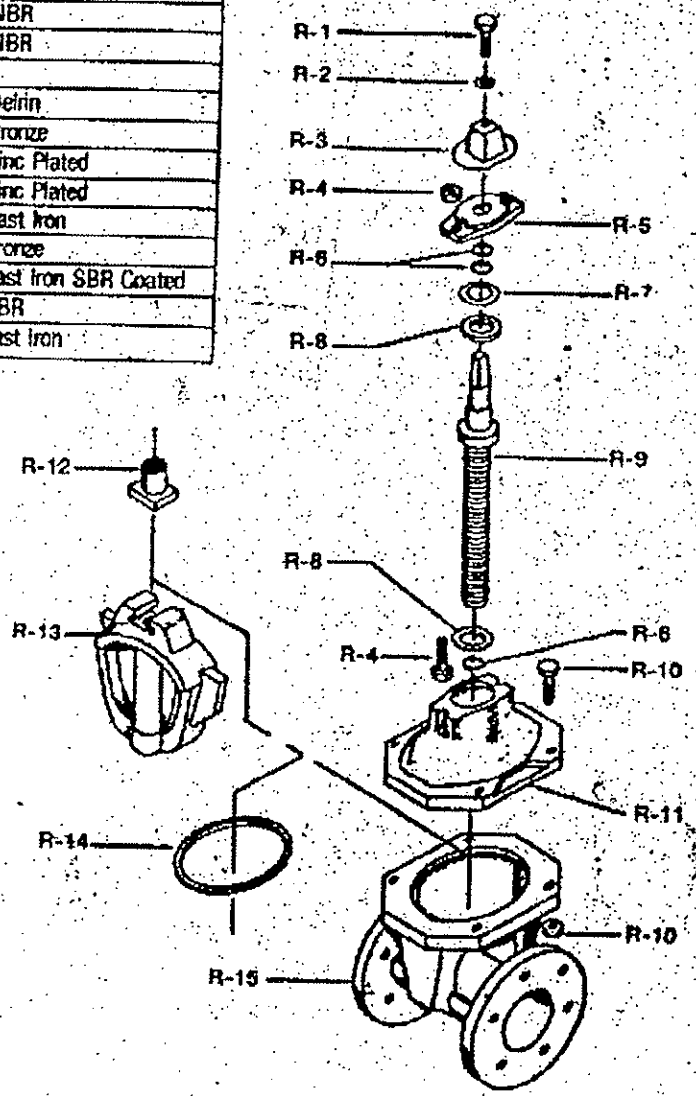
DET.	NAME OF PART		MATERIAL	ASTM SPEC.
R-1	Hex Head Bolt		Zinc Plated Steel	ASTM A307
R-2	Flat Washer		Zinc Plated Steel	ASTM A307
R-3	Operating Nut		Cast Iron	ASTM A126 Class B
	Handwheel		Cast Iron	ASTM A126 Class B
R-4	Hex. Bolt & Nut		Zinc Plated Steel	ASTM A307/A563
R-5	Stuffing Box	2" thru 8"	Cast Iron	ASTM A126 Class B
		10" and 12"	Ductile Iron	ASTM A536 Gr. 65-45-10
R-6	O-Ring (Stem)		Buna - N	----------
R-7	O-Ring (Stuffing Box)		Buna - N	----------
R-8	Thrust Washer		Delrin	----------
R-9	Stem (AWWA Grade C)		Manganeze Bronze	ASTM B584 CDA 867
R-10	Hex. Head Cover Bolts & Nuts		Zinc Plated Steel	ASTM A307/A563
R-11	Cover		Cast Iron	ASTM A126 Class B
R-12	Stem Nut (AWWA Grade A)		Bronze (Low Zinc)	ASTM B584 CDA 844
R-13	Wedge Disc		C.I. SBR Coated	ASTM A126 Class B
R-14	O-Ring (Cover)		Buna - N	----------
R-15	Body (All Types)		Cast Iron	ASTM A126 Class B
R-16	Plate		Cast Iron	ASTM A126 Class B

D-167

RESILIENT SEAT GATE VALVE
KENSEAL II (1992)
ASSEMBLY — EXPLOSION

KENNEDY VALVE

DET.	QTY.	DESCRIPTION	MATERIALS
R-1	1	Hold Down Hex Bolt	Zinc Plated Steel
R-2	1	Hold Down Bolt Washer	Zinc Plated Steel
R-3	1	Sq. Operating Nut OR *Handwheel (Not Shown)	Cast Iron
R-4	2	Bolt & Nut (Stuffing Box)	Zinc Plated
R-5	1	Stuffing Box	Cash Iron
R-6	2	O-Ring (Stem)	NBR
R-7	1	O-Ring (Stuffing Box)	NBR
R-8	1	Thrust Washer (Sizes 2" - 2 1/2")	
	2	Thrust Washer (Sizes 3" thru 12")	Delrin
R-9	1	Stem	Bronze
R-10	4	Cover Bolts & Nuts (Sizes 2" thru 6")	Zinc Plated
	8	Cover Bolts & Nuts (Sizes 8" thru 12")	Zinc Plated
R-11	1	Cover	Cast Iron
R-12	1	Stem Nut	Bronze
R-13	1	Wedge Disc	Cast Iron SBR Coated
R-14	1	O-Ring (Cover)	NBR
R-15	1	Body	Cast Iron



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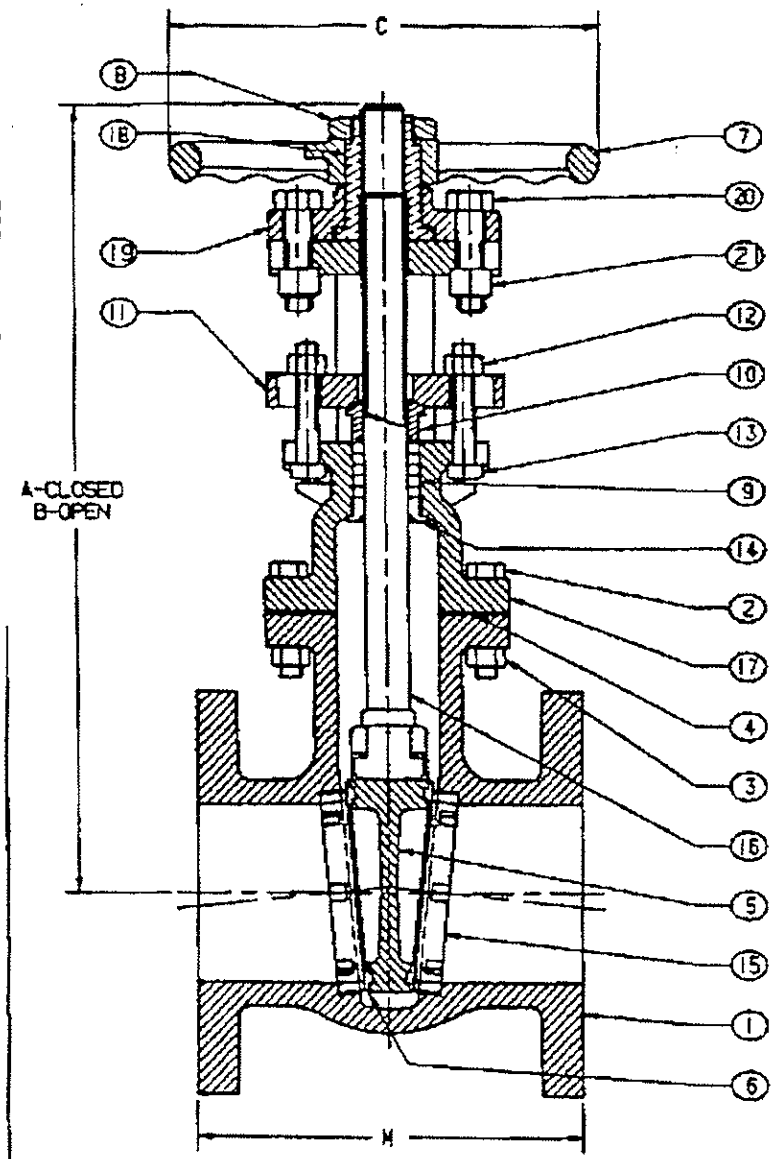


NO.	DESCRIPTION	MATERIAL	ASTM SPEC. (UNS NO.)
1	BODY	CAST IRON	A126 CL. B
2	BONNET BOLT	STEEL	A307 GR. A
3	BONNET BOLT NUT	STEEL	A563 GR. A
4	BONNET GASKET	COMPRESSED NON-ASB	
5	DISC (SIZES 2-3)	BRONZE	B584 (CB4400)
5	DISC (SIZES 4-8)	CAST IRON	A126 CL. B
6	DISC RING (SIZES 4-8)	BRONZE	B584 (CB4400)
7	HANDWHEEL (SIZES 2-4)	MALL. IRON	A197
7	HANDWHEEL (SIZES 6-8)	CAST IRON	A126 CL. B
8	HANDWHEEL LOCKNUT	MALL. IRON	A197
9	PACKING	NON-ASBESTOS	
10	PACKING GLAND	IRON	
11	PACKING GLAND FLANGE (SIZES 2-3, 8)	MALL. IRON	A197
11	PACKING GLAND FLANGE (SIZES 4-6)	CAST IRON	A126 CL. B
12	PACKING GLAND FLANGE NUT	STEEL (EZP)	A563 GR. A
13	PACKING GLAND FLANGE BOLT-SQ HD.	STEEL	A307 GR. A
14	REPACKING BUSHING	BRONZE	B62 (CB3600)
15	SEAT RING	BRONZE	B584 (CB4400)
16	STEM	BRONZE	B584 AL. B75
17	YOKE BONNET	CAST IRON	A126 CL. B
18	YOKE BUSHING	BRONZE	B62 (CB3600)
19	YOKE CAP	CAST IRON	A126 CL. B
20	YOKE CAP BOLT	STEEL	A307 GR. A
21	YOKE CAP BOLT NUT-SQ.	STEEL	A563 GR. A

SIZE	A	B	C	H
2	12.83	15.19	7.00	7.00
2 1/2	13.57	16.44	7.00	7.50
3	14.69	17.98	8.00	8.00
4	17.75	22.27	10.00	9.00
6	23.78	30.12	12.00	10.50
8	28.13	36.53	14.00	11.50
10	32.81	43.31	14.00	13.00

CONFORMS TO MSS-SP-70 TYPE I AND WW-V-58 TYPE I, CLASS I

INFORMATION ON THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE

FILE NO. A1024C

WKN	1-6-88
DR.	DATE
CHN	1-7-88
DES.	DATE
JDG	1-8-88
APP.	DATE

FIG. G-623
CLASS 125, FLANGED END
IBBM, OUTSIDE SCREW & YOKE
IRON GATE VALVE

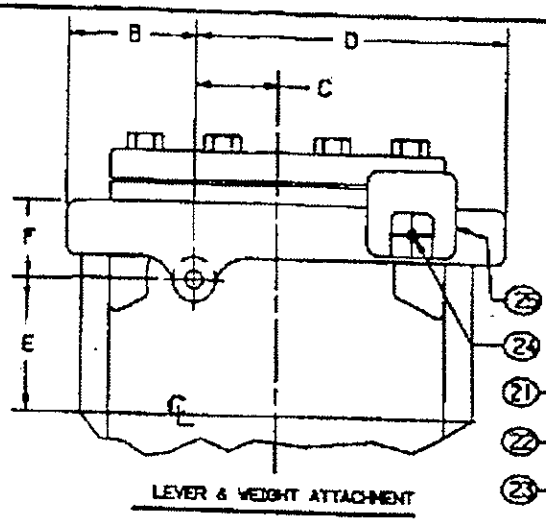
STOCKHAM VALVES & FITTINGS

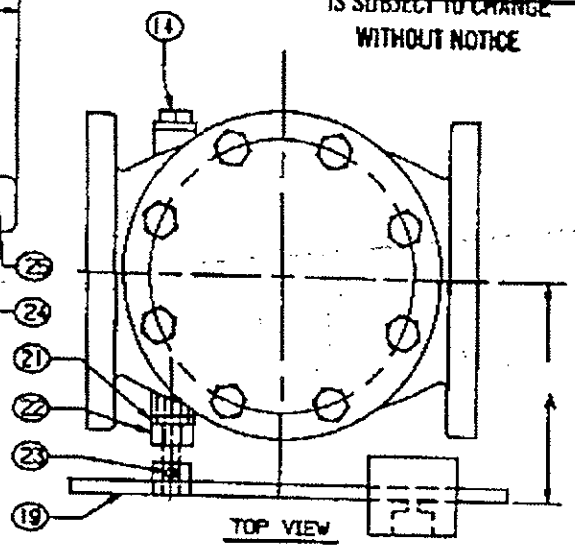
IV1176 C

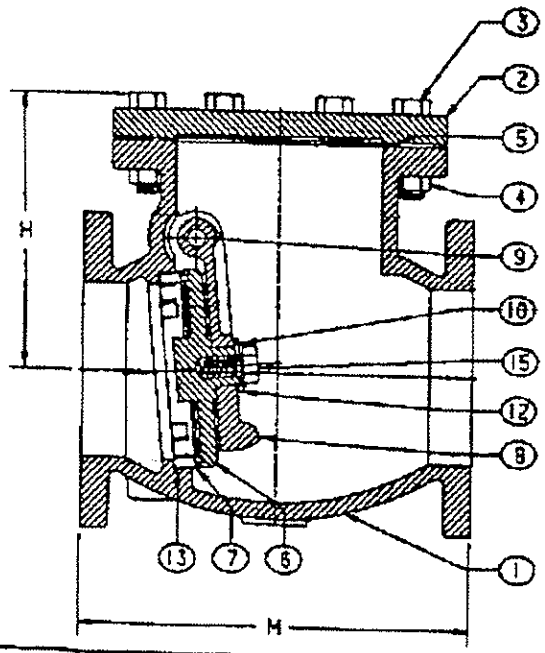
D-17

15100 - 2.3

INFORMATION ON THIS DOCUMENT
IS SUBJECT TO CHANGE
WITHOUT NOTICE







NO.	DESCRIPTION	MATERIAL	ASTM SPEC.	UNS NO.
1	BODY	CAST IRON	A126 CLASS B	
2	CAP	CAST IRON	A126 CLASS B	
3	CAP BOLT	STEEL	A307 GRADE A	
4	CAP BOLT NUT	STEEL	A563 GRADE A	
5	CAP GASKET	NON-ASB		
6	DISC (2-3)	BRONZE	B62	(C83600)
6	DISC (4-30)	CAST IRON	A126 CLASS B	
7	DISC RING (4-30)	BRONZE	B62	(C83600)
8	HINGE (2-3)	BRONZE	B62	(C83600)
8	HINGE (4-6)	MALL. IRON	A197	
8	HINGE (8-30)	DUCTILE	A395	
9	HINGE PIN (2-6)	STAINLESS STEEL	A276	(S31600)
9	HINGE PIN (8-24)	STAINLESS STEEL	A276	(S41000)
10	LOCKWASHER (2-3)	18-8 SS PASSIVATED		
10	LOCKWASHER (4-30)	STEEL-EZP		
11	NAMEPLATE (NOT SHOWN)	STAINLESS STEEL		
12	PLAIN WASHER (2-3)	18-8 SS PASSIVATED		
12	PLAIN WASHER (4-30)	STEEL-EZP		
13	SEAT RING	BRONZE	B62	(C83600)
14	SIDE PLUG	BRONZE	B62	(C83600)
15	CAPSCREW (2-3)	18-8 SS PASSIVATED		
15	CAPSCREW (4-20)	STEEL-EZP	A307 GRADE A	
16	STUD (18-30) (NOT SHOWN)	STEEL-EZP	A307 GRADE A	
17	STUD NUT (18-30) (NOT SHOWN)	STEEL-EZP	A563 GRADE A	
18	STUD PIN (18-30) (NOT SHOWN)	STAINLESS STEEL	A276	(S31600)
19	LEVER (2-14)	MALL. IRON	A197	
19	LEVER (16-30)	STEEL	A197	
21	STUFFING BOX	BRONZE	B62	(C83600)
22	PACKING NUT	BRONZE	B62	(C83600)
23	LEVER SET SCREW	STEEL	A307 GRADE A	
24	WEIGHT SET SCREW	STEEL	A307 GRADE A	
25	WEIGHT	CAST IRON	A126 CLASS B	
26	PACKING (NOT SHOWN)	TYE IMP. NON-ASB		
27	LEVER KEY (NOT SHOWN)	STEEL		
28	HINGE KEY (8-30) (NOT SHOWN)	STEEL		
29	PACKING GLAND (NOT SHOWN)	BRASS		618 (C36000)

SIZE	H	R	SIZE	N	M
2	6.81	8.00	10	13.06	24.50
2-1/2	5.63	8.50	12	15.25	27.50
3	6.00	9.50	14	16.88	31.00
4	8.00	11.50	16	19.05	36.00
5	8.94	13.00	18	24.00	38.00
6	9.75	14.00	20	27.56	42.00
8	11.38	19.50	24	34.06	48.00
			30	38.00	60.00

SIZE	A	B	C	D	E	F
2	4.31	3.25	.94	8.00	1.81	1.75
2-1/2	4.63	3.25	1.25	8.00	2.25	1.75
3	5.83	3.50	1.41	8.50	2.59	2.06
4	6.81	4.50	1.81	9.00	3.47	2.13
5	7.31	5.00	2.44	12.00	4.13	2.56
6	7.69	5.00	2.94	12.00	4.69	2.56
8	9.50	6.00	3.78	14.00	5.00	2.88

SIZE	A	B	C	D	E	F
10	10.88	7.00	4.75	16.00	7.25	3.25
12	12.38	8.00	5.84	18.00	8.56	3.25
14	11.75	9.00	6.97	24.00	9.94	3.37
16	13.56	10.00	8.38	28.00	11.25	3.63
18	14.50	11.00	9.84	30.00	13.50	3.63
20	16.75	12.00	11.50	32.50	15.25	4.13
24	18.69	12.00	13.50	37.00	17.63	4.13
30	22.38	15.00	17.94	47.00	21.06	4.25

DWN	12-19-84	
CHK	12-19-84	
JDG	12-19-84	

FIG. G-931 L & W
IBBM SWING CHECK VALVE
WITH LEVER & WEIGHT ATTACHMENT
CLASS 125, FLANGED END

FILE NO. A04688

STOCKHAM VALVES & FITTINGS

G-931 L & W | E

D-17B
E-1

CHARLOTTE PIPE AND FOUNDRY COMPANY

VALVE BOX
LEACHATE
COLLECTION

15100-
2.5

VALVE BOX BASES
FOR THREE-PIECE VALVE BOXES

No. 160 Oval Base

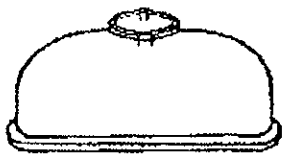
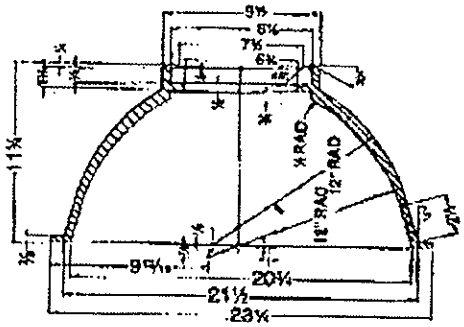


Fig. UTL 279



	Size Valve Inches	Weight	List Each
160 Oval	16 or Smaller	90	$72.00

VALVE BOX EXTENSION SECTIONS - SCREW TYPE
5¼" SHAFT

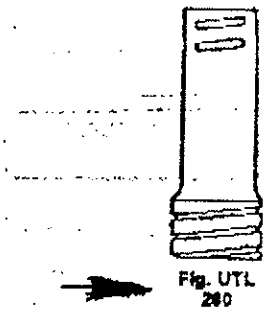
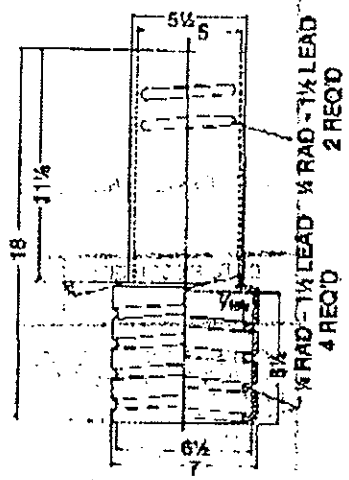


Fig. UTL 280



	Weight	List Each
Increases Length of 6¼" Screw Type Boxes 12 inches	28	$34.00

Weights are approximate and are for shipping purposes only.

D-23

CHARLOTTE PIPE AND FOUNDRY COMPANY

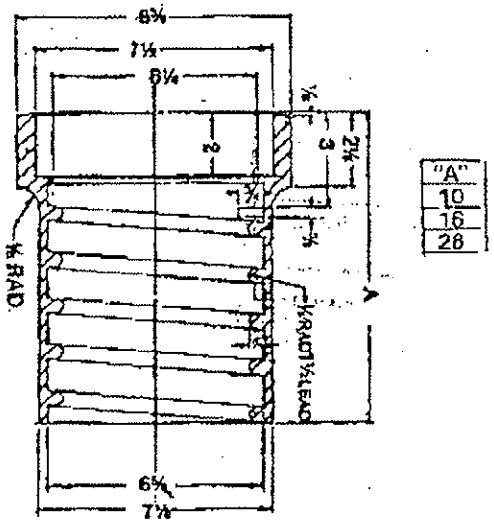
Fig. UTL 273

TWO PIECE VALVE BOXES

For Gas or Water Mains, Diameter of Shaft, 5¼ Inches
Screw Type for 16" and Smaller Valves

Screw Type	Extension, Inches	Complete Lbs. Wt.	Complete Each List,	Top and Cover Ins. Lgth.,	Top and Cover Lbs. Wt.	Top and Cover Each List,	Bottom Ins. Lgth.,	Bottom Lbs. Wt.	Bottom Each List,
461-S	18-24	60	$ 73.00	10	35	$44.00	15	25	$29.00
562-S	24-36	80	89.00	16	45	50.00	24	35	39.00
564-S	36-48	92	101.00	16	47	50.00	36	45	51.00
664-S	39-60	106	116.00	28	63	67.00	36	45	51.00

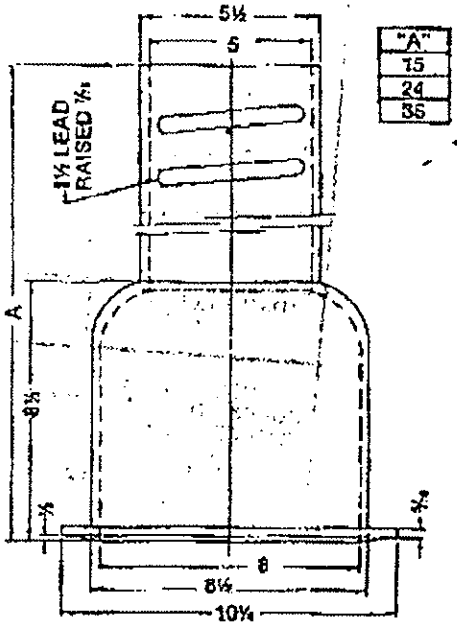
Drop Cover marked "WATER" furnished unless otherwise specified.



TOP SECTION

NOTE:

Covers on page 14



BOTTOM SECTION

Weights are approximate and are for shipping purposes only.

D-23

SECTION 9

Instrumentation
nd Control
Gas
Flare
Unit

JOHN ZINK COMPANY (JZ) A DIVISION OF KOCH ENGINEERING	SPECIFICATION CONTROL PANEL BILL OF MATERIALS	SPEC.NO. 1 S.O.NO. BF -A0012224 PAGE 1 OF 2

LOCATION: NEW YORK CITY, NEW YORK		CUSTOMER: BRECO	
FACILITY: PHELHAM BAY LANDFILL			
INQ.:	JZ.PO.NO:	CUST.PO.NO.:	

ITEM	QTY	TAG NUMBER(s)	DESCRIPTION	JZ P/N
1	1	PNL 101	HOFFMAN #A-48H3612SSLP NEMA4X ENCLOSURE WITH #A-48P36 PANEL	900995
				010268
2	4	S-1,S-2,S-3,S-4	ALLEN BRADLEY #800H-HR2A SELECTOR SWITCH, 2-POS'N., NEMA 4,	001208
			1-N/O,1-N/C CONTACT	
4	1	S-5	ALLEN BRADLEY #800H-JR2KA7AXXX SELECTOR SWITCH, 3-POS'N., NEMA 4	300390
5	1	L-9	ALLEN BRADLEY #800H-PR16A AMBER PILOT LIGHT,NEMA 4, TRANSFORMER TYPE	001598
				010232
6	1	L-7	ALLEN BRADLEY #800H-PR16B BLUE PILOT LIGHT,NEMA 4, TRANSFORMER TYPE	001598
				010233
7	3	L-2,L-4,L-5	ALLEN BRADLEY #800H-PR16G GREEN PILOT LIGHT,NEMA 4, TRANSFORMER TYPE	001598
				010234
8	1	L-1	ALLEN BRADLEY #800H-PR16W WHITE PILOT LIGHT,NEMA 4, TRANSFORMER TYPE	001598
				010235
9	4	L-6,L-8,L-11,L-12	ALLEN BRADLEY #800H-PR16R RED PILOT LIGHT,NEMA 4, TRANSFORMER TYPE	001598
				010104
11	3	PB-1,PB-3,PB-4	ALLEN BRADLEY #800H-R2A BLACK PUSHBUTTON, 1-N/O, 1N/C CONTACT, NEMA 4	001608
12	1	PB-2	ALLEN BRADLEY #800T-FX6D4 RED PUSHBUTTON (MAINTAINED)	022791
13	1	FB-1	GOULD #30313R FUSE BLOCK FOR MIDGET FUSES 3 POLE, 600VAC/30AMP RATING	402378
14	3	F-1,F-2,F-3	GOULD #TMR-3 FUSE, 250V/3 AMP RATING	402474
15	2	PDB-4,PDB-5	MARATHON 1431553-POLE POWER DISTRIBUTION BLOCK, 1 PRI./6 SEC.	404962
17	2	CB-9,CB-14	SQUARE D #QOU120 CIRCUIT BREAKER, 20 AMP/120VAC (1-POLE)	010225
18	1	CB-13	SQUARE D #QOU110 CIRCUIT BREAKER, 10 AMP/120VAC (1-POLE)	010223
19	1	RCPT-1	PERFECTLINE #T11 WEATHERPROOF BOX, LEVITON #6599 GFCI RECEPT, WGF100-CV COVER	030157

NOTES: ALL ITEMS TO BE U.L. LABELED

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE: 07/26/1995	APP: CL	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE: 07/06/1995	APP: CL	Shipment Promise Date: / /

IZ401.02 ADOPTED SPDX 1SA-20-1975

JOHN ZINK COMPANY

A DIVISION OF KOCH ENGINEERING

SPECIFICATION

CONTROL PANEL BILL OF MATERIALS

SPEC.NO. 1

S.O.NO. BF -A0012224

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO

FACILITY: PHELHAM BAY LANDFILL

INQ.: | JZ.PO.NO: | CUST.PO.NO.:

ITEM	QTY	TAG NUMBER(s)	DESCRIPTION	JZ P/N
20	1	SL-1	APPLETON #LPSL-10150-G/MT 100 WATT, WHITE, HIGH PRESSURE SODIUM LIGHT WITH	030162
			INTERMATIC #K4221 PHOTOCELL	
	1	SL-2	APPLETON #LU 100HPS HIGH PRESSURE SODIUM LAMP	401504
21	1	H-1	WATLOW #020150C1-C-040-HOIT SILICONE RUBBER ENCLOSURE HEATER, 150 WATT/120VAC	030158
			(2" X 15"), WITH BUILT-IN THERMOSTAT (40° F SETTING).	
			HEATER BONDED TO ALUMINUM PLATE ON SIDE OPPOSITE FLANGE.	
22	1	W-1	TEGAM AW 2228SS WINDOW DOOR NEMA 4X '	401136
23	1	GFI-1	LEVITON #6599 GFI RECEPTACLE WITH COVER AND RACO #660 OR EQUAL OUTLET BOX	401112
26	4	CR-24,CR-68,CR-73,CR-81	POTTER-BRUMFIELD #KUP14A15, 120V/60HZ RELAY, 3PDT, WITH ALLEN BRADLEY	016478
			#700HN127 BASE	901624
27	100		JOHN ZINK #JZ16KX THERMOCOUPLE EXTENSION WIRE (100 FEET)	022724
			(SHIP LOOSE FOR CUSTOMER FIELD INSTALLATION)	
28	25'		DELCO #440 HIGH VOLTAGE IGNITION LEAD (25 FEET)	002167
			(SHIP LOOSE FOR CUSTOMER FIELD INSTALLATION)	
	1	HS-201	ALLEN-BRADLEY # 801H-HR2B SELECTOR SWITCH, 2 POS'N, NEMA 4	001521
			2-N/O & 2-N/C CONTACTS	001708
				001708

NOTES: ALL ITEMS TO HAVE U.L. LABEL

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase:	/ /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:	
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd:	Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date:	/ /

JOHN ZINK COMPANY (JZ) A DIVISION OF KOCH ENGINEERING	SPECIFICATION FLAME DETECTION SYSTEM	SPEC.NO. 2 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK	CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL	
INQ.:	JZ.PO.NO: CUST.PO.NO.:

FLAME SCANNER	Manufacturer	HONEYWELL	JZ P/N
	Model No.	#C7012E1112 SELF CHECKING FLAME SCANNER	026441
	Type	■ Ultra-Violet ☐ Infra-Red ☐ Flame Rod Other	
	Quantity	1	
	Power Requirement	120 VAC/60 HZ.	
	Lead Length		
	Mounting Connection	NEMA 4.	
	Tag Number(s)	BE-103	
FLAME RELAY	Manufacturer	HONEYWELL	
	Model No.	#R4075C1005	001615
	Type	FLAME RELAY WITH SUB-BASE AND AMPLIFIER	
	Quantity	1	
	Power Requirement	120 VAC / 60 HZ.	
	Amplifier	R7247C1001	001506
	Wiring Base	Q295A-1039	001511
	F.F.R.T.	2 TO 4 SEC	
	Tag Number(s)	BS-103	

Notes: FLAME SCANNER BE-103 SHIP LOOSE, FLAME RELAY BS-103 MOUNTED IN PNL-101
ALL ITEMS TO BE U.L. LABELED

PREPARED : G.GORDON	DATE: 04/04/1995	REV ⚠ DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV ⚠ DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV ⚠ DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV ⚠ DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY
A DIVISION OF KOCH ENGINEERING

SPECIFICATION
POTENTIOMETER INSTRUMENTS

SPEC.NO. 3
S.O.NO. BF -A0012224
PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL | TAG.NO. : TSH-101
INQ.: | JZ.PO.NO: | CUST.PO.NO.:

GENERAL	1	Service	HIGH STACK TEMP SHUT-DOWN
	2	Function	Record ☐ Indicate ■ Control ☐ Blind ☐ Transmit ☐
			Other:
	3	Type	Auto Bal. ■ Man Bal. ☐ Galv ☐ Other:
	4	Case	MFR STD ■ Nom Size Color: MFR STD ☐ Other:
	5	Mounting	Flush ■ Surface ☐ Rack ☐ Multi-case ☐ Other:
			For Multiple Case, See Spec. Sheet
	6	Enclosure Class	Gen Purpose ■ Weather Proof ☐ Explosion-Proof ☐ Class Other:
	7	Power Supply	117 V 60Hz ■ Other:
	8	Chart	Strip ☐ Circ ☐ Time Marks ☐ Range No.
			Chart Speed: Change Gears
	9	Scales	Type Range 1 2
	10	Printout	No. of Points Sec Per Point Full Travel Speed
			Print Character and Color Point Select ☐
	11	Selector Switches	No. and Form In Case ☐ External ☐
			Switch Cabinet Specs
XMTR	12	Trans Output	4-20 mA ☐ 10-50 mA ☐ 21-103 kPa (3-15 psig) ☐ Other:
			Input-Output Isolation ☐ For Receiver See Sheet
CONTROLLER	13	Control Modes	P =Prop(Gain), I =Integral(Auto Reset), D =Derivative(Rate),Sub: s =Slow, f =fast
			P ☐ PI ☐ PD ☐ PID ☐ If ☐ Df ☐ Is ☐ Ds ☐
			Other:
	14	Action	On Meas. Increase Output: Increases ☐ Decreases ☐
	15	Auto-Man Switch	None ☐ MFR STD ☐ Specify:
	16	Set Point Adj.	Manual ☐ External ☐ Remote ☐ Specify:
	17	Manual Reg.	None ☐ MFR STD ☐ Other:
	18	Output	4-20 mA ☐ 10-50 mA ☐ 21-103 kPa (3-15 psig) ☐ Other:
INPUT	19	Thermocouple Type	J(IC) ☐ K(CA) ■ T(CC) ☐ E(CHR-CON) ☐ Other:
			Ref Junction Comp ☐ Lead Resistance (Galv)
	20	Other Input	Resistance Temp Sensor ☐ Calibration
			Other:
ALARMS	21	Alarm Switches	Quantity 2 Form
	22	Function	Meas. Var. ■ Deviation ☐ Contacts to OPEN Measure
			Other:
	23		Front Adj. Back Adj.
OPTIONS	24	T/C Burnout Drive	None ☐ Upscale ■ Downscale ☐
	25	Accessories	Case Illuminator ☐
			Filter Reg. ☐ Other:
	26	MFR & Model No.	OMRON E5C2-R20K-32DEG-2192-AC-120 ⚠1

Notes: MOUNT IN PNL-101
JZ PART NO. *-003

MOUNT: PANEL ■ SKID ☐ FIELD ☐ OTHER ☐

PREPARED : G.GORDON	DATE: 04/04/1995	REV ⚠ DATE:	APP:	Release for Purchase: __/__/__
CHECKED :	DATE: / /	REV ⚠ DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV ⚠ DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV ⚠1 DATE: 07/26/1995	APP: CL	Shipment Promise Date: __/__/__

JOHN ZINK COMPANY A DIVISION OF KOCH ENGINEERING	SPECIFICATION POTENTIOMETER INSTRUMENTS	SPEC.NO. 4 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK		CUSTOMER: BRECO	
FACILITY: PHELHAM BAY LANDFILL		TAG.NO. : TR-201	
INQ.:	JZ.PO.NO:	CUST.PO.NO.:	QTY.:1

GENERAL	1	Service	TEMPERATURE RECORDER
	2	Function	Record ■ Indicate □ Control □ Blind □ Transmit □
			Other:
	3	Type	Auto Bal. □ Man Bal. □ Galv □ Other:
	4	Case	MFR STD ■ Nom Size Color: MFR STD ■ Other:
	5	Mounting	Flush □ Surface ■ Rack □ Multi-case □ Other:
			For Multiple Case, See Spec. Sheet
	6	Enclosure Class	Gen Purpose ■ Weather Proof □ Explosion-Proof □ Class Other:
	7	Power Supply	117 V 60Hz ■ Other:
	8	Chart	Strip □ Circ ■ Time Marks □ Range No.
			Chart Speed: Change Gears
	9	Scales	Type Range 1 (4-20mA) 0-4000 ACFM 2 (4-20ma) 0-2400 F
	10	Printout	No. of Points Sec Per Point Full Travel Speed
			Print Character and Color Point Select □
	11	Selector Switches	No. and Form In Case □ External □
			Switch Cabinet Specs
XMTR	12	Trans Output	4-20 mA □ 10-50 mA □ 21-103 kPa (3-15 psig) □ Other:
			Input-Output Isolation □ For Receiver See Sheet
CONTROLLER	13	Control Modes	P =Prop(Gain), I =Integral(Auto Reset), D =Derivative(Rate),Sub: s =Slow, f =fast
			P □ PI □ PD □ PID □ If □ Df □ Is □ Ds □
			Other:
	14	Action	On Meas. Increase Output: Increases □ Decreases □
	15	Auto-Man Switch	None □ MFR STD □ Specify:
	16	Set Point Adj.	Manual □ External □ Remote □ Specify:
	17	Manual Reg.	None □ MFR STD □ Other:
	18	Output	4-20 mA □ 10-50 mA □ 21-103 kPa (3-15 psig) □ Other:
INPUT	19	Thermocouple Type	J(IC) □ K(CA) □ T(CC) □ E(CHR-CON) □ Other:
			Ref Junction Comp □ Lead Resistance (Galv)
	20	Other Input	Resistance Temp Sensor □ Calibration
			Other:
ALARMS	21	Alarm Switches	Quantity NONE Form
	22	Function	Meas. Var. □ Deviation □ Contacts to Measure
			Other:
	23		Front Adj. Back Adj.
OPTIONS	24	T/C Burnout Drive	None ■ Upscale □ Downscale □
	25	Accessories	Case Illuminator □
			Filter Reg. □ Other:
	26	MFR & Model No.	HONEYWELL # DR45AT-1100-00-000-A-000S00-0

Notes: TR201 MOUNTED IN PNL 101
JZ PART NO. 404296

MOUNT: PANEL ■ SKID □ FIELD □ OTHER □

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY

A DIVISION OF KOCH ENGINEERING

SPECIFICATION

THERMOCOUPLES AND THERMOWELLS

SPEC.NO. 5

S.O.NO. BF -A0012224

PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK

CUSTOMER: BRECO

FACILITY: PHELHAM BAY LANDFILL

INQ.: JZ.PO.NO: CUST.PO.NO.: QTY.:4

1. Complete Assembly ■ Other:
   MFR. & Model No. TSC #494-3647-18-K

ELEMENT

   MFR. & Model No.
2. ISA Type "K" Wire Size 14 AWG
3. Sheathed: 5/16" O.D. Material 310 S.S
   Exposed □ Grounded □ Ungrounded ■
   Enclosed □ Beaded Insulators □ Spring Loaded □
4. Nipple Size Dimension "N" 6" Union ■
5. Packed Connector

HEAD

6. Screwed-Cap & Chain ■ Others :
7. Material: CAST IRON Conduit Conn. 3/4"
8. Terminal Block: Single ■ Duplex □

WELL OR TUBE

9. Material 99.5% ALUMINA
10. Construction: Tapered □ Straight ■
    Drilled □ Built-Up □ Closed End Tube ■
11. Dimension: MFR. STD. □ O.D. 11/16" I.D. 7/16"
12. Connections: Process 1.0" INT.
13. Style: Screwed □ Flanged □

Rev.	Tag No.	Well Dimes. "U"	Well Dimes. "T"	Element Length	Single Duplex	Type	Gage	Service	JZ Part No.
	TE-101	18"		MFG. STD.	SINGLE	K	14	HIGH STACK TEMP. SHUT-DOWN TSH-101	022963
	TE-201A	18"		MFG. STD.	SINGLE	K	14	TEMP. CONTROL TIC-201	022963
	TE-201B	18"		MFG. STD.	SINGLE	K	14	TEMP. CONTROL TIC-201	022963

Notes: SHIP LOOSE

MOUNT: SKID □ FIELD ■ OTHER □

PREPARED : G.GORDON	DATE: 04/04/1995	REV 1 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 1 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 1 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

IZ400.28 ADOPTED FROM ISA-20-1975 DW 07-24-1995 10:56:50

JOHN ZINK COMPANY

A DIVISION OF KOCH ENGINEERING

SPECIFICATION
PRESSURE CONTROL VALVES AND REGULATORS

SPEC.NO. 6

S.O.NO. BF -A0012224

PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO

FACILITY: PHELHAM BAY LANDFILL

INQ.: | JZ.PO.NO: | CUST.PO.NO.: | QTY.: 1

	1	Tag. No.		PCV-608								
	2	Service		PILOT GAS								
	3	Line No./Vessel No.										
	4	Line Size/Sched. No.		1/2"								
	5	Function		REGULATOR								
BODY	6	Type of Body										
	7	Body Size	Port Size	1/2"	1/4"							
	8	Guiding	No. Of Ports									
	9	End Conn. & Rating		1/2"								
	10	Body Material		ALUMINUM								
	11	Packing Material		BRASS								
	12	Lubricator	Isolating Valve									
	13	Seal Type										
	14	Trim Form										
	15	Trim Material		NITRILE								
	16	Seat Material		NITRILE								
	17	Required Seat Tightness										
	18	Max. Allow.,Sound Level dBA										
ACTUATOR	19	Type of Actuator										
	20	Pilot										
	21	Supply to Pilot										
	22	Self Cont.	Ext. Conn.									
	23	Diaphragm Material										
	24	Diaphragm Rating										
	25	Spring Range	PSIG	5-35								
	26	Set Point	PSIG	10								
	27											
ACCESSORIES	28	Filt. Reg.	Supply Gage									
	29	Line Strainer										
	30	Housing Vent										
	31	Internal Relief										
	32											
	33											
SERVICE	34	FLOW UNITS		LIQUID		STEAM				GAS		
	35	Fluid		PROPANE								
	36	Quant. Max	C	30 SCFH								
	37	Quant. Oper.	C									
	38	Valve C	Valve FL									
	39	Norm. Inlet Press.	∆ P	15 PSIG								
	40	Max. Inlet Press.	PSIG	250								
	41	Max. Shut Off ∆ P										
	42	Temp. Max.	Operating	150 °F								
	43	Oper. sp. gr.	Mol. Wt.	1.52								
	44	Oper. Visc.	% Flash									
	45	% Superheat	% Solids									
	46	Vapor Press.	Crit. Press.									
	47	Predicted Sound Level dBA										
SHIPMENT	48	Manufacturer		FISHER								
■ SKID MOUNT	49	Model No.		#64-27								
□ SHIP LOOSE	50	JZ Part No.		016414								

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /	
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:	
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes	No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /	

JOHN ZINK COMPANY
A DIVISION OF KOCH ENGINEERING

SPECIFICATION
SOLENOID VALVES

SPEC.NO. 7
S.O.NO. BF -A0012224
PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL
INQ.: | JZ.PO.NO: | CUST.PO.NO.: | QTY.: 1

GENERAL	1	Tag. No.		FV-609									
	2	Service		PILOT GAS									
	3	Line No./Vessel No.											
	4	Quantity		1									
VALVE BODY	5	Type											
	6	Size: Body	Port	1/2" SCRD	3/4"								
	7	Rating	Type Conn.	50 PSIG @	125 °F								
	8	Material -- Body		ALUMINUM									
	9	Material -- Seat		BUNA N									
	10	Material -- Diaphragm		BUNA N									
	11	Operation Direct/Pilot		DIRECT									
	12	Packless or Type Packed											
	13	Manual Re-Set		NO									
	14	Manual Operator											
	15												
	16												
WHEN DE-ENERGIZED	17	2-Way Valve Opens/Close			CLOSES								
	18	3-Way											
	19	Vent Port Opens/Close											
	20	Press Port Opens/Close											
	21	4-Way											
	22	Press to Cyl.1 / Cyl.2											
	23	Exh. from Cyl.1 / Cyl.2											
	24												
	25												
SOLENOID	26	Enclosure		NEMA 4,7									
	27	Voltage / HZ		120 VAC	60 HZ								
	28	Style of Coil											
	29	Single or Double Coil											
	30												
	31												
SERVICE CONDITIONS	32	Fluid		PROPANE									
	33	Qty. Maximum		30 SCFH									
	34	Oper. Diff. Min / Max		0	50								
	35	Allow. Diff. Min / Max											
	36	Temp. Norm / Max. Degree°F			125								
	37	Oper. sp. gr.		1.52									
	38	Oper. Viscosity											
	39	Required Cv											
	40	Valve Cv		4.4									
	41												
	42												
	43												
	44	Manufacturer		ASCO									
	45	Model Number		EF8215G20									
	46	John Zink Part Number		012004									

Notes:

MOUNT: SKID ■ FIELD □ OTHER □

PREPARED : G.GORDON	DATE: 04/04/1995	REV 1 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 1 DATE:	APP:	No. Vendor Lit. Req'd:
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JZ/00-7(ADAPTED FROM ISA-20-1975)

JOHN ZINK COMPANY

A DIVISION OF KOCH ENGINEERING

SPECIFICATION
MANUAL BALL VALVE

SPEC.NO. 8

S.O.NO. BF -A0012224

PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO

FACILITY: PHELHAM BAY LANDFILL

INQ.: | JZ.PO.NO: | CUST.PO.NO.:

GENERAL	Manufacturer	WATTS
	Model No.	C7000
	Port Type	Reduced ■ Full Port □
	Process Connection	NPT ■ Socket Weld □ Flanged □ ANSI Other: SCREWED
MATERIALS	Body	CARBON STEEL
	Ball	CARBON STEEL
	Stem	CARBON STEEL
	Seal / Seat	TFE/TFE
	Packing	TFE
	Handle	

QTY	TAG	Nominal Size INCH	Op. Press. PSI	Op. Temp. ° F	Service	JZ Part No.
1	HV-606	1/2	10	80	PILOT PRESSURE INDICATOR (PROPANE)	012635
1	HV-610	1/2	10	80	PILOT MANUAL SHUT-OFF (PROPANE)	012635

Notes:

MOUNT: PANEL □ SKID ■ FIELD □ OTHER □

PREPARED : G.GORDON	DATE: 04/04/1995	REV 1 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 1 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 1 DATE:	APP:	Quotation Att'd: Yes No
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J2401.03 ADOPTED FROM ISA-20-1975

JOHN ZINK COMPANY

A DIVISION OF KOCH ENGINEERING

SPECIFICATION
PRESSURE GAGES

SPEC.NO. 9

S.O.NO. BF -A0012224

PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO

FACILITY: PHELHAM BAY LANDFILL

INQ.: | JZ.PO.NO: | CUST.PO.NO.:

1. Type: Direct Reading ■ 3-15 lb Receiver □
   Other:
2. Mounting: Surface □ Local ■ Flush □
3. Dial: Diameter 4 1/2" Color WHITE
4. Case: Cast Iron □ Aluminum □ Phenol ■
   Other:
5. Ring: Screwed □ Hinged □ Slip □ Std □
   Other:
6. Blow-out Protection: None □ Back □ Disc □
   Solid Front □ Other:
7. Lens: Glass □ Plastic □ OTHER:
8. Options: Syphon □ Material
   Snubber □
   Pressure Limit Valve □
   Movement Damping □
9. Nominal Accuracy Required
10. MFR. & Model No. U.S. GAUGE 1982
11. Press. Element: Bourdon ■ Bellows □
    Other:
12. Element Mtl: Bronze □ Steel □ 316 SS
    Other:
13. Socket Mtl: Bronze □ Steel ■ SS
    Other:
14. Connection-NPT: 1/4 in. □ 1/2 in. ■ Other:
    Bottom ■ Back □
15. Movement: Bronze □ SS ■ Nylon □
    Other:
16. Diaphragm Seal
    MFG Type
    Wetted Part Mtl. Other Mtl.
    Fill Fluid
    Process Conn. Gage Conn.
    JOHN ZINK P/N

Rev.	Quan.	Tag No.	Range PSIG	Oper.Press. PSIG	Service	JZ PART No.
	1	PI-612	0-30	.10	PILOT GAS	030373

Notes:

MOUNT: PANEL □ SKID □ FIELD ■ OTHER □

PREPARED : G.GORDON	DATE: 04/04/1995	REV △ DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV △ DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV △ DATE:	APP:	Quotation Att'd: Yes No
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J7400.19 ADOPTED FROM ISA-20-1975

RH 07-26-1995 10:57:03

JOHN ZINK COMPANY
A DIVISION OF KOCH ENGINEERING

SPECIFICATION
DIFFERENTIAL PRESSURE INSTRUMENTS

SPEC.NO. 10
S.O.NO. BF -A0012224
PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL | TAG.NO. : PDSL-203
INQ.: | JZ.PO.NO: | CUST.PO.NO.: | QTY.: 1

GENERAL	1	Service	DIFFERENTIAL PRESSURE
	2	Function	Record ☐ Indicate ☐ Control ■ Blind ☐ Trans ☐ Integ ☐ Other:
	3	Case	MFR STD ■ Nom Size 3.5"X5" Color: MFR STD ■ Other:
	4	Mounting	Flush ☐ Surface ■ Yoke ☐ Other:
	5	Enclosure Class	General Purpose ☐ Weather Proof ■ Explosion-Proof ■ Class 1
			For Use in intrinsically Safe System. ☐ Other:
	6	Power Supply	117 V 60Hz ■ Other ac dc ☐ Volts
	7	Chart	12 in Circ. ☐ Other Range Time Marks
	8	Chart Drive:	24 hr Other: Elec. ☐ Spring ☐ Other:
	9	Scales	Type Range 1 2 3
XMTR	10	Transmitter Output	4-20 mA ☐ 10-50 mA ☐ 21-103 kPa (3-15 psig) ☐ Other:
			For Receiver See Spec . Sheet
CONTROLLER	11	Control Modes	P =Prop(Gain), I =Integral(Auto Reset), D =Derivative(Rate),Sub: s =Slow, f =fast
			P ☐ PI ☐ PD ☐ PID ☐ If ☐ Df ☐ Is ☐ Ds ☐
			Other:
	12	Action	On Meas. Increase Output: Increase ☐ Decrease ☐
	13	Auto-Man Switch	None ☐ MFR STD ☐ Other:
	14	Set Point Adj.	Manual ☐ External ■ Remote ☐ Other:
	15	Manual Reg.	None ☐ MFR STD ☐ Other:
	16	Output	4-20 mA ☐ 10-50 mA ☐ 21-103 kPa (3-15 psig) ☐ Other:
UNIT	17	Service	Flow ☐ Level ☐ Diff. Pressure ■ Other:
	18	Element Type	Diaphragm ■ Bellows ☐ Mercury ☐ Other:
	19	Material	Body CAST ALUMINUM Element FLUORSILICONE RUBBER
	20	Rating	Overrange Body Rating 10 psig
	21	Diff. Range	Fixed ■ Adj. Range Set At 0.5" W.C.
	22		Elevation Suppression
	23	Process Data	Fluid AIR Max. Temp. AMBIENT Max. Press. ATMOSPHERE
	24	Process Conn.	1/2 in. NPT ☐ Other: 1/8" NFT
OPTIONS	25	Alarm Switches	Quantity 1 Form SPDT Rating
	26	Function	Meas. Var. ■ Deviation ☐ Contact to on Incr. Meas.
	27	Options	Pressure Element ☐ Range Material
			Temp. Element ☐ Range Type
			Filt. Reg. ☐ Sup. Gage ☐ Output Gage ☐ Charts
			Valve Manifold
			Cond. Pots ☐ Adj. Damp ☐ Integral Sq. Rt. Ext. ☐
			Integrator
			Other:
	28	MFR & Model No.	DWYER 1950-1

Notes: PDSL-203 SHIP LOOSE

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	JZ PART NO.: 024372
CHECKED :	DATE: / /	REV 3 DATE:	APP:	
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	

JOHN ZINK COMPANY A DIVISION OF KOCH ENGINEERING	SPECIFICATION MISCELLANEOUS INSTRUMENTS PURGE AIR BLOWER	SPEC.NO. 11 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK	CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL	TAG.NO. : BL-202

INQ.:	JZ.PO.NO:	CUST.PO.NO.:	QTY.: 1

TAG/ITEM	DESCRIPTION
BL-202	AMERICAN FAN COMPANY PURGE AIR BLOWER
	MODEL: #SC-800, ARRANGEMENT 4-FM
	1750 RPM @ .5BHP
	DUTY: 700 CFM @ 1.7" W.C. STATIC PRESSURE @ 100 °F
	@ .071 DENSITY
	MOTOR: 3/4 HP, 1800 RPM, TEFC, 230/460 VAC, 3 PHASE, 60 HZ,
	56-C FRAME
	ACCESORIES: OUTLET FLANGE, INLET SCREEN, 50% CUT-OFF DAMPER, DRAIN

NOTES: BL-202 SHIP LOOSE
JZ PART NO. 303553

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY

A DIVISION OF KOCH ENGINEERING

SPECIFICATION

ACTUATED CONTROL DAMPER

SPEC.NO. 12

S.O.NO. BF -A0012224

PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO

FACILITY: PHELHAM BAY LANDFILL

INQ.: | JZ.PO.NO: | CUST.PO.NO.:

GENERAL	Manufacturer	AMERICAN WARMING AND VENTILATING DAMPER
	Model No.	#VC-412 OPPOSED BLADE
	Process Connection	NPT ☐ Socket Weld ☐ Flange ☐ ANSI Other:
	Type	Round ☐ Rectangular ☐
	Dimensions	I.D.■ O.D.☐ 48"W X 40"H
MATERIAL	Body	
	Blade	
	Shaft	
	Shaft Bearing	
	Packing	
	Seal	
	Max. Cv	
	Accessories	
ACTUATOR	Manufacturer	HONEYWELL (SUPPLY TO THE DAMPER MFG. BY J.Z.)
	Model No.	#M7284Q-1009
	Type	Pneumatic ☐ Electrical ■
	Supply	PSIG 120 Volts
	Input Signal	PSIG 4-20 mA.DC
	Output	PSIG
	Action	Spring-Return ☐ Double-Acting ☐

QTY	TAG	Nominal Size INCH	Op. Press. PSIG	Op. Temp. °	Service	JZ Part No.
1	TCV-201A	48"WIDEX40"HIGH	AMBIENT		ACTUATED AIR DAMPER	020557

Notes: ENCLOSURE: NEMA 4 DAMPER TO BE OPEN @ 4 mA INPUT, CLOSED @ 20 mA

TCV-201A SHIP LOOSE

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY A DIVISION OF KOCH ENGINEERING	SPECIFICATION MANUAL DAMPER	SPEC.NO. 13 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK		CUSTOMER: BRECO	
FACILITY: PHELHAM BAY LANDFILL			
INQ.:	JZ.PO.NO:	CUST.PO.NO.:	

GENERAL	Manufacturer	AMERICAN WARMING AND VENTILATING DAMPER
	Model No.	#VC-412 OB-HG 1
	Process Connection	NPT ☐ Socket Weld ☐ Flange ☐ ANSI Other:
	Type	Round ☐ Rectangular ☐
	Dimensions	I.D.■ O.D.☐ 48"W X 40"H
MATERIAL	Body	
	Blade	
	Shaft	
	Shaft Bearing	
	Packing	
	Seal	
	Max. Cv	
	Accessories	

QTY	TAG	Nominal Size INCH	Op. Press. PSIG	Op. Temp. °	Service	JZ Part No.
1	TCV-201B	48"WIDEX40"HIGH	AMBIENT		MANUAL DAMPER	*-013 1

Notes: ACTUATOR: MANUAL QUAD PLATE AND HANDLE ATTACHED/THIS DAMPER IS HINGED ON ONE SIDE 1
TCV-201B SHIP LOOSE

PREPARED : G.GORDON	DATE: 04/04/1995	REV 1 DATE:	APP:	Release for Purchase: / /	
CHECKED :	DATE: / /	REV 1 DATE:	APP:	No. Vendor Lit. Req'd:	
SECT.APP.:	DATE: / /	REV 1 DATE:	APP:	Quotation Att'd: Yes No	
PROJ.APP.:	DATE: / /	REV 1 DATE: 07/10/1995	APP: CL	Shipment Promise Date: / /	

JOHN ZINK COMPANY (JZ) A DIVISION OF KOCH ENGINEERING	SPECIFICATION FLASH-BACK ARRESTER	SPEC.NO. 14 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK	CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL	TAG.NO. : FA-104

INQ.:	JZ.PO.NO:	CUST.PO.NO.:	QTY.: 1

GENERAL	Manufacturer	VAREC
	Model No.	5010-0-1
	Flame Check ☐ / Flame Arrestor ■	
	Process Connection	NPT ☐ Socket Weld ☐ Flanged ■ FF ANSI Other:
	DRAIN CONNECTION	1/2-IN NPT
MATERIALS	Housing	ALUMINUM
	Element	ALUMINUM

QTY	TAG	Nominal Size INCH	Op. Press. IN-W.C.	Op. Temp. ° F	Service	JZ Part No.
1	FA-104	10-IN			LAND FILL GAS	400810

Notes:

MOUNT: SKID ☐ FIELD ■ OTHER ☐ SHIP LOOSE

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY
A DIVISION OF KOCH ENGINEERING

SPECIFICATION
POTENTIOMETER INSTRUMENTS
TEMPERATURE CONTROLLER

SPEC.NO. 15
S.O.NO. BF -A0012224
PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL | TAG.NO. : TIC-201
INQ.: | JZ.PO.NO: | CUST.PO.NO.: | QTY.:1

GENERAL	1	Service	TEMPERATURE CONTROLLER
	2	Function	Record ☐ Indicate ■ Control ■ Blind ☐ Transmit ☐
			Other:
	3	Type	Auto Bal. ■ Man Bal. ☐ Galv ☐ Other:
	4	Case	MFR STD ■ Nom Size Color: MFR STD ☐ Other:
	5	Mounting	Flush ■ Surface ☐ Rack ☐ Multi-case ☐ Other:
			For Multiple Case, See Spec. Sheet
	6	Enclosure Class	Gen Purpose ■ Weather Proof ☐ Explosion-Proof ☐ Class Other:
	7	Power Supply	117 V 60Hz ■ Other:
	8	Chart	Strip ☐ Circ ☐ Time Marks ☐ Range No.
			Chart Speed: Change Gears
	9	Scales	Type Range 1 2
	10	Printout	No. of Points Sec Per Point Full Travel Speed
			Print Character and Color Point Select ☐
	11	Selector Switches	No. and Form In Case ☐ External ☐
			Switch Cabinet Specs
XMTR	12	Trans Output	4-20 mA ☐ 10-50 mA ☐ 21-103 kPa (3-15 psig) ☐ Other:
			Input-Output Isolation ☐ For Receiver See Sheet
CONTROLLER	13	Control Modes	P =Prop(Gain), I =Integral(Auto Reset), D =Derivative(Rate),Sub: s =Slow, f =fast
			P ☐ PI ☐ PD ☐ PID ■ If ☐ Df ☐ Is ☐ Ds ☐
			Other: RANGE: 0 TO 2, 400 °F
	14	Action	On Meas. Increase Output: Increases ☐ Decreases ■
	15	Auto-Man Switch	None ☐ MFR STD ■ Specify:
	16	Set Point Adj.	Manual ■ External ■ Remote ☐ Specify: 1400 °F
	17	Manual Reg.	None ☐ MFR STD ☐ Other:
	18	Output	4-20 mA ■ 10-50 mA ☐ 21-103 kPa (3-15 psig) ☐ Other:
INPUT	19	Thermocouple Type	J(IC) ☐ K(CA) ■ T(CC) ☐ E(CHR-CON) ☐ Other:
			Ref Junction Comp ☐ Lead Resistance (Galv)
	20	Other Input	Resistance Temp Sensor ☐ Calibration
			Other: DIGITAL INPUT (2)
ALARMS	21	Alarm Switches	Quantity 2 Form SPDT 5 AMPS @ 120 VACR
	22	Function	Meas. Var. ■ Deviation ☐ Contacts to OPEN Measure BELOW S.P.
			Other:
	23		Front Adj. Back Adj.
OPTIONS	24	T/C Burnout Drive	None ☐ Upscale ■ Downscale ☐
	25	Accessories	Case Illuminator ☐
			Filter Reg. ☐ Other: AUXILIARY OUTPUT: (4-20mA)
	26	MFR & Model No.	HONEYWELL DC300K-E-203-10-0A00

Notes: CONTROL ACTION:REVERSE, CONTROLLER RANGE: 0-2400 °F, ALARM CONTACTS TO CLOSE ABOVE SETPOINT
TIC-201 MOUNTED IN PNL-101
UL LABLE REQUIRED
JZ PART NO. 404054

MOUNT: PANEL ■ SKID ☐ FIELD ☐ OTHER ☐

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY
A DIVISION OF KOCH ENGINEERING

SPECIFICATION
CONTROL VALVES

SPEC.NO. 16
S.O.NO. BF -A0012224
PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL | TAG.NO. : FCV-102/ZSO-102/ZSO-102/SV-103
INQ.: | JZ.PO.NO: | CUST.PO.NO.: | QTY.:1

GENERAL	1	Tag. No.			FCV 102								
	2	Service			LANDFILL GAS								
	3	Line No./Vessel No.											
	4	Line Size/Sched. No.											
BODY	5	Type of Body			BUTTERFLY								
	6	Body Size	Port Size		10"								
	7	Guiding	No. Of Ports			1							
	8	End Conn. & Rating			WAFER 150#								
	9	Body Material			C.S.								
	10	Packing Material			PTFE								
	11	Lubricator	Isolating Valve										
	12	Bonnet Type											
	13	Trim Form											
	14	Trim Material	Seat/Plug		316 S.S.								
			Shaft Mtl.										
	15	Required Seat Tightness			BUBBLE TIGHT								
	16	Max. Allow.,Sound Level dBA											
ACTUATOR	17	Model No. & Size			BETTIS C8525SR100		ACCESSORIES: OPEN		AND CLOSED LIMIT		SWITCHES:3R-021AFC		
	18	Type of Actuator			PNEUMATIC		PILOT		SOL. VALVE: ASCO #		EF8320G184		
	19	Close at	Open at		0 PSIG	100 PSIG							
	20	Flow Action to											
	21	Fail Position			CLOSED								
	22	Handwheel & Location											
POSITIONER	23	MFR. & Model No.											
	24	Filt Reg.	Gages	Bypass									
	25	Input Signal											
	26	Output Signal											
	27	Air Supply Pressure											
TRANSDUCER	28	MFR. & Model No.											
	29	Input Signal											
	30	Output Signal											
OPTIONS	31	Tubing and Fitting Mat'l			S.S.								
	32	OPEN/CLOSE SPEED CONTL VALVE			YES								
SERVICE	33	FLOW UNITS SCFM			LIQUID		STEAM				GAS LANDFILL GAS (METHANE)		
	34	Fluid			LANDFILL GAS								
	35	Quant. Max	C		3150								
	36	Quant. Oper.	C										
	37	Valve C	Valve FL										
	38	Norm. Inlet Press.	∆ P		1" W.C.								
	39	Max. Inlet Press.			12" W.C.								
	40	Max. Shut Off ∆ P											
	41	Temp. Max. F	Operating F		350	100							
	42	Oper. sp. gr.	Mol. Wt.										
	43	Oper. Visc.	% Flash										
	44	% Superheat	% Solids										
	45	Vapor Press.	Crit. Press.										
	46	Predicted Sound Level dBA											
SHIPMENT	47	Manufacturer			XOMOX								
☐ SKID MOUNT	48	Model No.			#801-2-6-7-ST1								
■ SHIP LOOSE	49	JZ Part No.			402310								

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:
CHECKED :	DATE: / /	REV 3 DATE:	APP:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:

Release for Purchase: / /
No. Vendor Lit. Req'd:
Quotation Att'd: Yes No
Shipment Promise Date: / /

JOHN ZINK COMPANY (JZ) A DIVISION OF KOCH ENGINEERING	SPECIFICATION MISCELLANEOUS INSTRUMENTS AUTO-DIALER	SPEC.NO. 17 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK		CUSTOMER: BRECO	
FACILITY: PHELHAM BAY LANDFILL			
INQ.:	JZ.PO.NO:	CUST.PO.NO.:	QTY.: 1

RACO MODEL # VSS-4C AUTOMATIC DIALER

4 DRY CONTACT INPUTS

CHANNEL 1: FLAME FAILURE (OPEN TO ALARM)

CHANNEL 2: UNIT OVERTEMPERATURE (OPEN TO ALARM)

CHANNEL 3: TANK LEAK (OPEN TO ALARM)

CHANNEL 4: TANK HIGH LEVEL (OPEN TO ALRAM)

1 DAUGHTER CARD ASSY

POWER: 120 V/60 Hz (20 HOUR BATTERY BACK-UP)

JZ PART NO. 404880

U.L. LABER REQUIRED

PREPARED : G.GORDON	DATE: 04/04/1995	REV 1 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 1 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 1 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY A DIVISION OF KOCH ENGINEERING	SPECIFICATION IGNITION TRANSFORMER IGN.PANEL (PNL 103)	SPEC.NO. 18 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK		CUSTOMER: BRECO	
FACILITY: PHELHAM BAY LANDFILL		TAG.NO. : PNL-103	
INQ.:	JZ.PO.NO:	CUST.PO.NO.:	QTY.: 1

TRANSFORMER	Manufacturer	WEBSTER
	Model No.	612-6A7
	Quantity	ONE (1)
	Primary Power Req.	120VAC
	Secondary Power Req.	6000V
	Tag Number	IT-1
	John Zink Part No.	002558
ENCLOSURE	Manufacturer	HOFFMAN
	Enclosure Model No.	A1412NF
	Quantity	ONE (1)
	Enclosure Type	NEMA 4
	Dimensions	O.D.■ I.D.□
	John Zink Part No.	015278
SUB-PANEL	Manufacturer	HOFFMAN
	Sub-Panel Model No.	A14P12
	John Zink Part No.	003527

Notes: ALL ITEMS TO BE U.L. LISTED

MOUNT: PANEL □ SKID □ FIELD ■ OTHER □ MOUNT ON STACK

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY

A DIVISION OF KOCH ENGINEERING

SPECIFICATION

PROGRAMMABLE LOGIC CONTROLLER

SPEC.NO. 19

S.O.NO. BF -A0012224

PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK | CUSTOMER: BRECO

FACILITY: PHELHAM BAY LANDFILL

INQ.: | JZ.PO.NO: | CUST.PO.NO.:

MANUFACTURER : ALLEN BRADLEY

PROGRAMMABLE LOGIC CONTROLLER SYSTEM CONSISTING OF THE FOLLOWING COMPONENTS

ITEM	QTY	PART No.	DESCRIPTION	JZ Part No
1	1	1747-L40A	SLC-500 FIXED PLC, 24 INPUTS (120V,60HZ),16 OUTPUTS RELAY(120V/60HZ)	402023
			(120V/60 HZ POWER)	
2	1	1747-M1	EEPROM	036491

Notes:

MOUNT: PANEL ■ SKID □ FIELD □ OTHER □

PREPARED : G.GORDON	DATE: 04/04/1995	REV 1 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 1 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 1 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

JOHN ZINK COMPANY (JZ) A DIVISION OF KOCH ENGINEERING	SPECIFICATION CONTROL PANEL BILL OF MATERIALS CONTROL POWER TRANSFORMER	SPEC.NO. 20 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK	CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL	

INQ.:	JZ.PO.NO:	CUST.PO.NO.:	

ITEM	QTY	TAG NUMBER(s)	DESCRIPTION	JZ P/N
1	1	TX-1	HEVI-DUTY # HS5F3AS CONTROL TRANSFORMER	404388
			(240/480V PRIMARY / 120/240V SECONDARY / 3 KVA)	
			(RACK MOUNTED)	

NOTES: PANEL MTG.
U.L. LABEL REQUIRED

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: / /

17/01.02 ADOPTED FROM ISA-20-1975 PU 07-26-1995 10:57:00

JOHN ZINK COMPANY (JZ) A DIVISION OF KOCH ENGINEERING	SPECIFICATION CONTROL PANEL BILL OF MATERIALS MAIN DISCONNECT AND FUSES	SPEC.NO. 21 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW'YORK	CUSTOMER: BRECO
FACILITY: PHELHAM BAY LANDFILL	
INQ.:	JZ.PO.NO: / CUST.PO.NO.:

ITEM	QTY	TAG NUMBER(s)	DESCRIPTION	JZ P/N
1	1	DS-1	GENERAL ELECTRIC TH3362SS 3P SAFETY SWITCH △1	*-021A
			600 VAC/ 60 AMP/3 POLE	
			(MOUNTED ON RACK)	
2	3	F1, F2, F3	GOULD # TRS40R 40 AMP FUSE △1	*-021B

NOTES:

PREPARED : G.GORDON	DATE: 04/04/1995	REV △ DATE:	APP:	Release for Purchase: / /
CHECKED :	DATE: / /	REV △ DATE:	APP:	No. Vendor Lit. Req'd:
SECT.APP.:	DATE: / /	REV △ DATE:	APP:	Quotation Att'd: Yes No
PROJ.APP.:	DATE: / /	REV △1 DATE: 07/06/1995	APP: CL	Shipment Promise Date: / /

JOHN ZINK COMPANY A DIVISION OF KOCH ENGINEERING	SPECIFICATION CONTROL PANEL BILL OF MATERIALS PANEL 102	SPEC.NO. 22 S.O.NO. BF -A0012224 PAGE 1 OF 1

LOCATION: NEW YORK CITY, NEW YORK		CUSTOMER: BRECO	
FACILITY: PHELHAM BAY LANDFILL			
INQ.:	JZ.PO.NO:	CUST.PO.NO.:	

ITEM	QTY	TAG NUMBER(s)	DESCRIPTION	JZ P/N
1	1	PNL 102	HOFFMAN #A36H2408SS NEMA 4X ENCLOSURE WITH # A-39P24 PANEL	*-022
2	1	PDB-1	MARATHON #1433553 3 POLE POWER DISTRIBUTION BLOCK, 1 PRI., 6 SEC./ POLE	034502
3	1	PDB-3	MARATHON #1423570 3 POLE POWER DISTRIBUTION BLOCK, 1 PRI., 3 SEC./ POLE	'900034
4				
5				
6				
7	1	CB-6	WESTINGHOUSE #EHD2015 MOLDED CASE CIRCUIT BREAKER, THERMAL MAGNETIC,	404385
			FIXED TRIP, 480V, 2-POLE, 15 AMP	
8	1	CB-7	WESTINGHOUSE #EHD1030 MOLDED CASE CIRCUIT BREAKER, THERMAL MAGNETIC,	404563
			FIXED TRIP, 480V, 1-POLE, 30 AMP	
9				
10	1	M-3	CUTLER-HAMMER #AN16ANOAC M.S.,120V COIL, 1-N/O AUX. CONTACT, H-2005B HEATERS	405574
			3 PHASE, 3/4 HP, NEMA SIZE "00" 480V, 60 HZ.	
11				
12	25'		#6 AWG WIRE, WHITE, THHN	401151
13	50'		#6 AWG WIRE, BLACK, THHN	042962
14	20'		#8 AWG WIRE, BLACK, THHN	042963
15	25'		#12 AWG WIRE, WHITE, THHN	405575
16	50'		#12 AWG WIRE, BLACK, THHN	405576
17	35'		#2 AWG WIRE, BLACK, THHN	042960
18	30'		#2/0 AWG WIRE, BLACK, THHN	043151
19	25'		#4 AWG WIRE, BLACK, THHN	042961
20				
21				
22	1	FB-2	GOULD #60328R 30A ,600V 3 POLE FUSE BLOCK	404881
23	3	F-10,F-11,F-12	GOULD #TRS3R 600V, 3 AMP ,RK5 CLASS FUSE	404005
24	50'		#10 AWG WIRE, BLACK, THHN	042968

NOTES: U.L. LABEL REQUIRED

PREPARED : G.GORDON	DATE: 04/04/1995	REV 4 DATE:	APP:	Release for Purchase: __/__/__
CHECKED :	DATE: / /	REV 3 DATE:	APP:	No. Vendor Lit. Req'd: _____
SECT.APP.:	DATE: / /	REV 2 DATE:	APP:	Quotation Att'd: ___Yes ___No
PROJ.APP.:	DATE: / /	REV 1 DATE:	APP:	Shipment Promise Date: __/__/__

SECTION 10

RIGID GALVANIZED CONDUIT

Wheatland TURF COMPANY

G.C. Monaco & Daughter, Inc
PELHAM BAY LANDFILL
RIGID STEEL CONDUIT

16010
2.1B

Hot-Dipped Galvanized Rigid Steel Conduit

DIMENSIONS

Trade Size (Inches)	Threads per Inch	Inside Diameter (Inches)	Outside Diameter (Inches)	Wall Thickness (Inches)	Length without coupling (Feet and Inches)	Wheatland Minimum Weight per 100 ft. (10 ft. lengths with couplings)
½	14	0.622	0.840	0.109	9-11¼	80
¾	14	0.824	1.050	0.113	9-11¼	110
1	11½	1.049	1.315	0.133	9-11	163
1¼	11½	1.380	1.660	0.140	9-11	222
1½	11½	1.610	1.900	0.145	9-11	268
2	11½	2.067	2.375	0.154	9-11	343
2½	8	2.469	2.875	0.203	9-10½	533
3	8	3.068	3.500	0.216	9-10½	704
3½	8	3.548	4.000	0.226	9-10¼	856
4	8	4.026	4.500	0.237	9-10¼	1000
5	8	5.047	5.563	0.258	9-10	1344
6	8	6.065	6.625	0.280	9-10	1738

PACKAGING

Trade Size (Inches)	N.E.M.A. Color Code Thread Protectors	Pieces per Bundle	Quantity per Crane Lift	Feet per Lift	Wheatland Wt. per Crane Lift
½	Black	10	25 Bundles	2,500	2,000 lbs.
¾	Red	5	40 Bundles	2,000	2,200 lbs.
1	Blue	5	25 Bundles	1,250	2,050 lbs.
1¼	Red	3	34 Bundles	1,020	2,244 lbs.
1½	Black	3	34 Bundles	1,020	2,631 lbs.
2	Blue	—	50 Pieces	500	1,715 lbs.
2½	Black	—	25 Pieces	250	1,357 lbs.
3	Blue	—	25 Pieces	250	1,785 lbs.
3½	Black	—	20 Pieces	200	1,712 lbs.
4	Blue	—	20 Pieces	200	2,000 lbs.
5	Blue	—	15 Pieces	150	2,016 lbs.
6	Blue	—	10 Pieces	100	1,798 lbs.

D-15

Use of Wheatland Rigid Steel Conduit in Conformance to the 1984 National Electrical Code

Though the National Electrical Code deals primarily with proper field application, it presumes that the conduit meets the standards necessary to perform properly under approved conditions. Wheatland rigid steel conduit is made to provide all the qualities required for proper installation as specified in the Code.

For your convenience in designing and specifying raceway systems of rigid steel conduit, the applicable articles from the National Electrical Code are enumerated below.

ARTICLE 346—RIGID METAL CONDUIT

Use (346-1)—The use of rigid metal conduit shall be permitted under all atmospheric conditions and occupancies subject to the following.

(a) Protected by Enamel. Ferrous raceways and fittings protected from corrosion solely by enamel shall be permitted only indoors and in occupancies not subject to severe corrosive influences.

(b) Dissimilar Metals. Where practicable, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action. *Exception:* Aluminum fittings and enclosures shall be permitted to be used with steel rigid metal conduit, and also, steel fittings and enclosures shall be permitted to be used with aluminum rigid metal conduit.

(c) Corrosion Protection. Ferrous or nonferrous metal conduit, elbows, couplings and fittings shall be permitted to be installed in concrete, in direct contact with the earth, or in areas subject to severe corrosive influences where protected by corrosion protection and judged suitable for the condition.

Cinder Fill (346-3)—Conduit shall not be used in or under cinder fill where subject to permanent moisture. *Exception No. 1:* Where of corrosion-resistant material suitable for the purpose. *Exception No. 2:* Where protected on all sides by a layer of non-cinder concrete at least 2 inches thick. *Exception No. 3:* Where the conduit is at least 18 inches under the fill.

Wet Locations (346-4)—All supports, bolts, straps, etc. shall be of corrosion-resistant materials or protected against corrosion by corrosion-resistant materials.

Minimum Size (346-5)—Conduit smaller than ½ inch electrical trade size shall not be used. *Exception No. 1:* For underplaster extensions as permitted in Section 344-2. *Exception No. 2:* For enclosing the leads of motors as permitted in Section 430-145 (b)

Number of Conductors in Conduit (348-6)—The number of conductors permitted in a single conduit shall not exceed the percentage fill specified in the N.E.C. (See pages 6 and 7 for number of conductors permitted in each conduit trade size.)

Reaming and Threading (346-7)—

(a) Reamed. All cut ends of conduits shall be reamed or otherwise finished to remove rough edges.

(b) Threaded. Where conduit is threaded in the field, a standard conduit cutting die with a ¾-inch (19-mm) taper per foot (305 mm) shall be used

Bushings (346-8)—Where a conduit enters a box or other fitting, a bushing shall be provided to protect the wire from abrasion unless the design of the box or fitting is such as to afford equivalent protection.

Couplings and Connectors (346-9)—

(a) Threadless. Threadless couplings and connectors used with conduit shall be made tight. Where buried in masonry or concrete, they shall be of the concrete-tight type. Where installed in wet locations, they shall be of the rain-tight type.

(b) Running Threads. Running threads shall not be used on conduit for connection at couplings.

Bends—How Made (346-10)—Bends of rigid metal conduit shall be so made that the conduit will not be injured and that the internal diameter of the conduit will not be effectively reduced. The radius of the curve of the inner edge of any field bend shall not be less than shown in Table 346-10

Table 346-10
Radius of Conduit Bends (Inches)

Size of Conduit (In.)	Conductors Without Lead Sheath (In.)	Conductors With Lead Sheath (In.)
½	4	6
¾	5	8
1	6	11
1¼	8	14
1½	10	18
2	12	21
2½	15	25
3	18	31
3½	21	36
4	24	40
5	30	50
6	36	61

For SI units: (Radius) one inch = 25.4 millimeters.

Exception: For field bends for conductors without lead sheath and made with a single operation (one shot) bending machine designed for the purpose, the minimum radius shall not be less than indicated in Table 346-10 Exception.

Table 346-10 Exception
Radius of Conduit Bends (Inches)

Size of Conduit (In.)	Radius to Center of Conduit (In.)
½	4
¾	4½
1	5¾
1¼	7¼
1½	8¼
2	9½
2½	10½
3	13
3½	15
4	16
5	24
6	30

For SI units: (Radius) one inch = 25.4 millimeters.

Bends—Number in One Run (346-11) A run of conduit between outlet and outlet fitting and fitting, or outlet and fitting shall not contain more than the equivalent of four quarter bends (360 degrees, total) including those bends located immediately at the outlet or fitting.

Supports (346-12)—Rigid metal conduit shall be installed as a complete system as provided in Article 300 and shall be securely fastened in place. Conduit shall be firmly fastened within 3 feet of each outlet box, junction box, cabinet or fitting. Conduit shall be supported at least every 10 feet. *Exception No. 1:* If made up with threaded couplings, it shall be permissible to support straight runs of rigid metal conduit in accordance with Table 346-12, provided such supports prevent transmission of stresses to termination where conduit is deflected between supports. *Exception No. 2:* The distance between supports may be increased to 20 feet for exposed vertical risers from machine tools and the like, provided the conduit is made up with threaded couplings, is firmly supported at the top and bottom of the riser, and no other means of intermediate support is readily available.

Table 346-12
Supports for Rigid Metal Conduit

Conduit Size (Inches)	Maximum Distance Between Rigid Metal Conduit Supports (Feet)
½-¾	10
1	12
1¼-1½	14
2-2½	16
3 and larger	20

For SI units: (Supports) one foot = 0.3048 meter

Boxes and Fittings (346-13)—Boxes and fittings shall comply with the applicable provisions of Article 370.

Splices and taps (346-14)—Splices and taps shall be made only in junction boxes, outlet boxes or conduit bodies. See Article 370.

CONSTRUCTION SPECIFICATIONS

General (346-15)—Rigid metal conduit shall comply with (a) through (c) below.

(a) **Standard Lengths.** Rigid metal conduit as shipped shall be in standard lengths of 10 feet (3.05 m) including coupling, one coupling to be furnished with each length. Each length shall be reamed and threaded on each end. For specific applications or uses, it shall be permissible to ship lengths shorter or longer than 10 feet, (3.05 m), with or without couplings and with or without threads.

(b) **Corrosion-Resistant Material.** Nonferrous conduit of corrosion-resistant material shall have suitable markings.

(c) **Durably Identified.** Each length shall be clearly and durably identified in every 10 feet (3.05 m) as required in the first sentence of Section 110-21.

Maximum Number of Conductors in Trade Sizes of Conduit or Tubing

Conduit Trade Size (Inches)		½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
Type Letters	Conductor Size AWG, MCM												
TW, T, RUH, RUW, XHHW (14 thru 8)	14	9	15	25	44	60	99	142					
	12	7	12	19	35	47	78	111	171				
	10	5	9	15	26	38	60	85	131	176			
	8	2	4	7	12	17	28	40	62	84	108		
RHW and RHH (without outer covering). THW	14	6	10	18	29	40	65	93	143	192			
	12	4	8	13	24	32	53	76	117	157			
	10	4	6	11	19	26	43	61	95	127	163		
	8	1	3	5	10	13	22	32	49	66	85	133	
TW	6	1	2	4	7	10	18	23	36	48	62	97	141
T, THW, RUH (6 thru 2), RUW (6 thru 2)	4	1	1	3	5	7	12	17	27	36	47	73	106
	3	1	1	2	4	6	10	15	23	31	40	63	91
	2	1	1	2	4	5	9	13	20	27	34	54	78
	1		1	1	3	4	6	9	14	19	25	39	57
FEPB (6 thru 2), RHW and RHH (without outer covering)	0		1	1	2	3	5	8	12	16	21	33	49
	00		1	1	1	3	5	7	10	14	18	29	41
	000		1	1	1	2	4	6	9	12	15	24	35
	0000			1	1	1	3	5	7	10	13	20	29
	250			1	1	1	2	4	6	8	10	18	23
	300			1	1	1	2	3	5	7	9	14	20
	350				1	1	1	3	4	6	8	12	18
	400				1	1	1	2	4	5	7	11	16
	500				1	1	1	1	3	4	6	9	14
	600					1	1	1	3	4	5	7	11
	700					1	1	1	2	3	4	7	10
	750					1	1	1	2	3	4	6	9
THWN	14	13	24	39	69	94	154						
	12	10	18	29	51	70	114	164					
	10	6	11	18	32	44	73	104	160				
	8	3	5	9	16	22	36	51	79	106	136		
THHN, FEP (14 thru 2), FEPB (14 thru 8), PFA (14 thru 4/0), PFAH (14 thru 4/0) Z (14 thru 4/0) XHHW (4 thru 500MCM)	6	1	4	6	11	15	26	37	57	78	98	154	
	4	1	2	4	7	9	16	22	35	47	60	94	137
	3	1	1	3	6	8	13	19	29	39	51	80	116
	2	1	1	3	5	7	11	16	25	33	43	67	97
	1		1	1	3	5	8	12	18	25	32	50	72
	0		1	1	3	4	7	10	15	21	27	42	61
	00		1	1	2	3	6	8	13	17	22	35	51
	000		1	1	1	3	5	7	11	14	18	29	42
	0000		1	1	1	2	4	6	9	12	15	24	35
	250			1	1	1	3	4	7	10	12	20	28
	300			1	1	1	3	4	6	8	11	17	24
	350			1	1	1	2	3	5	7	9	15	21
	400				1	1	1	3	5	6	8	13	19
	500				1	1	1	2	4	5	7	11	15
	600				1	1	1	1	3	4	5	9	13
	700					1	1	1	3	4	5	8	11
	750					1	1	1	2	3	4	7	11
XHHW	6	1	3	5	9	13	21	30	47	63	81	128	185
	600				1	1	1	1	3	4	5	9	13
	700					1	1	1	3	4	5	7	11
	750					1	1	1	2	3	4	7	10
RHW	14	3	6	10	18	25	41	58	90	121	155		
	12	3	5	9	15	21	35	50	77	103	132		
	10	2	4	7	13	18	29	41	64	88	110		
	8	1	2	4	7	9	16	22	35	47	60	94	137
RHH (with outer covering)	6	1	1	2	5	6	11	15	24	32	41	64	93
	4	1	1	1	3	5	9	12	18	24	31	50	72
	3	1	1	1	3	4	7	10	16	22	28	44	63
	2		1	1	3	4	6	9	14	19	24	38	56
	1		1	1	1	3	5	7	11	14	18	29	42
	0		1	1	1	2	4	6	9	12	16	25	37
	00			1	1	1	3	5	8	11	14	22	32
	000			1	1	1	3	4	7	9	12	19	28
	0000			1	1	1	2	4	6	8	10	16	24
	250				1	1	1	3	5	6	8	13	19
	300				1	1	1	3	4	5	7	11	17
	350				1	1	1	2	4	5	6	10	15
	400				1	1	1	1	3	4	6	9	14
	500				1	1	1	1	3	4	5	8	11
	600					1	1	1	2	3	4	6	9
	700					1	1	1	1	3	3	6	8
	750						1	1	1	3	3	5	8

Maximum Number of Fixture Wires in Trade Sizes of Conduit or Tubing

Conduit Trade Size (Inches)	½					¾					1					1¼					1½					2				
Wire Types	18	16	14	12	10	18	16	14	12	10	18	16	14	12	10	16	16	14	12	10	18	16	14	12	10	18	16	14	12	10
PTF, PTFF, PGFF, PGF, PFF, PF, PAF, PAFF, ZF, ZFF	23	18	14			40	31	24			65	50	39			115	90	70			157	122	95			257	200	156		
TFFN, TFN	19	15				34	26				55	43				97	76				132	104				216	169			
SF-1	16					29					47					83					114					186				
SFF-1, FFH-1	15					26					43					76					104					169				
CF	13	10	8	4	3	23	18	14	7	6	38	30	23	12	9	66	53	40	21	16	91	72	55	29	22	149	118	90	48	37
TF	11	10				20	18				32	30				57	53				79	72				129	118			
RFH-1	11					20					32					57					79					129				
TFF	11	10				20	17				32	27				56	49				77	66				126	109			
AF	11	9	7	4	3	19	16	12	7	5	31	26	20	11	8	55	46	36	19	15	75	63	49	27	20	123	104	81	44	34
SFF-2	9	7	6			16	12	10			27	20	17			47	36	30			65	49	42			106	81	68		
SF-2	9	8	6			16	14	11			27	23	18			47	40	32			66	55	43			108	90	71		
FFH-2	9	7				15	12				25	19				44	34				60	46				99	75			
RFH-2	7	5				12	10				20	16				36	28				49	39				80	62			
KF-1, KFF-1, KF-2, KFF-2	36	32	22	14	9	64	55	39	25	17	103	89	63	41	29	182	158	111	73	49	248	216	152	100	67	406	353	248	163	110

Percent of Cross Section of Conduit and Tubing for Conductors

Number of Conductors	1	2	3	4	Over 4
All conductor types except lead-covered (new or rewiring)	53	31	40	40	40
Lead-covered conductors	55	30	40	38	35

Notes to Tables

1. Each of the tables apply only to complete conduit or tubing systems and are not intended to apply to short sections of conduit or tubing used to protect exposed wiring from physical damage.
2. Equipment grounding conductors, when installed, shall be included when calculating conduit or tubing fill. The actual dimensions of the equipment grounding conductor (insulated or bare) shall be used in the calculation.
3. When conduit nipples having a maximum length not to exceed 24 inches are installed between boxes, cabinets, and similar enclosures, the nipple shall be permitted to be filled to 60 percent of its total cross-sectional area.
4. See table on left, for allowable percentage of conduit or tubing fill.

Rigid Steel Conduit Specifications

Wheatland Hot-dipped Galvanized Rigid Steel Conduit is manufactured in conformance to standards established by the American National Standard Institute, the Underwriter s Laboratories and the Federal Specification. In preparing bids, it may be stated that Wheatland Rigid Steel Conduit conforms to:

- American National Standard Institute C80.1-1983
- Federal Specification WW-C-581e
- Underwriter s Laboratories Specification No. 6
- National Electrical Code—Article 346

UNDERWRITER S LABORATORIES SPECIFICATION NO. 6

The specifications for rigid steel conduit established by the Underwriter s Laboratories cover both the manufacture and testing of the conduit in detail. The sections referring to the qualifications of the conduit are condensed and summarized below. Be assured that Wheatland Hot-dipped Galvanized Rigid Steel Conduit meets the UL specifications in every way.

The Tube

Each tube used in the manufacture of rigid metal conduit shall be steel (or other suitable metal) and shall have a circular cross-section sufficiently accurate to permit the cutting of clean, true threads. The wall thickness shall be uniform through the length of the tube. The welding of all seams shall be thoroughly well done. The welded seam shall be free from metal trimmings, sharp edges and sharp projections.

Both the inside and outside surfaces of the tube shall be thoroughly cleaned so that the protective coating will have a smooth finish. Before the protective coating is applied, the interior surface of the tube shall be examined to be sure it is free from scale.

Each tube used for rigid metal conduit shall be capable of being bent cold into a quarter circle around a mandrel, the radius of which is four times the trade size of the tube, without developing cracks or opening a weld.

The Protective Coating

Both the inside and outside of ferrous metal rigid conduit shall be protected against corrosion by a coating of zinc (or enamel or equivalent corrosion-resistant coating). The coating shall be sufficiently elastic to prevent its cracking or flaking off when a finished sample of ½-inch conduit is tested up to a year after manufacture by bending it into a semi-circle, the inner edge of which has a radius of 3½ inches.

A protective coating of zinc shall be such that a sample of finished rigid ferrous-metal conduit will not show a fixed deposit of copper after four one-minute immersions in a standard copper sulfate solution.

The Threads

Each length of conduit is to be threaded on both ends and chamfered to remove burrs and sharp edges on the interior surface.
All threads are to be clean and full cut. If threads are cut after the protective coatings are applied, they shall be treated to prevent corrosion before the conduit is installed.

The Finished Conduit

Every piece of conduit is to be inspected prior to shipment to be sure it is free from poor coating, scale, burrs or fins, embossing on interior surfaces or other defects.

Each length of conduit shall be marked "rigid metal conduit" and indicate the type of material. In addition, it shall be marked with manufacturer's name or trade mark.

FEDERAL SPECIFICATION WW-C-581e

This specification covers zinc-coated rigid steel conduit in all common trade sizes. Its general requirements are that products furnished under this specification conform as applicable to ANSI C80.1 and UL 6 for rigid steel conduit.

Other provisions of WW-C-581e which should be noted when preparing bids are summarized here. For details on packaging and quality assurance, refer to the full specification.

Standard Commercial Product

The conduit shall, as a minimum, be the manufacturer's standard commercial product with any added features needed to comply with the requirements.

Identical Items

Conduit, couplings, elbows and nipples of the same classification furnished under any specific contract shall be physically and mechanically identical. No deviation will be acceptable without prior written approval of the contracting officer.

Material

All material shall be new and unused. Material not specified shall be of the same quality used for the intended purpose in commercial practice. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual component or the overall assembly.

Fire and Casualty Hazards
Each contractor shall submit proof that the conduit proposed under this specification conforms to UL6. The UL listing mark may be accepted as evidence that the conduit conforms to this requirement.

Marking
Conduit shall be permanently marked in accordance with ANSI C80.1 and UL6.

Workmanship
All threaded portions of conduit shall be clean and undamaged. Plastic thread protectors shall be furnished on all exposed conduit threads. The exterior zinc coating, and all other protective coatings, including the interior coating and thread coating, shall completely and uniformly cover the metal substrate.

AMERICAN NATIONAL STANDARD INSTITUTE SPECIFICATION FOR ZINC-COATED RIGID STEEL CONDUIT

The ANSI Specification C80.1 is very precise and explicit in setting standards for rigid steel conduit. Wheatland's rigid steel conduit matches these standards in every way. It meets the general requirements of having an accurate circular cross section, a uniform wall thickness, a defect-free interior surface and continuously welded seams. It is thoroughly cleaned before coating so the protective coating adheres well and is smooth. The exterior surface is thoroughly and evenly coated with metallic zinc applied directly to the steel so that metal-to-metal contact and galvanic protection against corrosion are provided. The interior surface is protected by zinc for corrosion resistance

DETAILED REQUIREMENTS
Some of the pertinent detailed requirements of Specification C80.1 are interpreted and summarized below for your reference and assurance that Wheatland Rigid Steel Conduit is produced to precise standards

Zinc Coating
The zinc content of the coating on the outside surface shall be equivalent to a minimum thickness of 0.0008 inches.

Threading and Chamfering
Each length of conduit shall be threaded on both ends, and each end shall be chamfered or otherwise treated to remove burrs and sharp edges. If threads are cut after the zinc coating has been applied, the threads shall be treated with a protective coating to prevent corrosion before installation. This treatment shall not impair electrical continuity through couplings or fittings after installation.

Identification
Each length of conduit shall be identified with the manufacturer's name and trade mark and the words "Rigid Steel Conduit"

Threads
The number of threads per inch and the length of the threaded portion at each end of each length conduit shall be as shown in the accompanying table and shall conform to American Standard Pipe Threads. The perfect thread shall be tapered for its entire length, and the taper shall be 3/4 in/ft.

Dimensions of Threads for Rigid Steel Conduit, Zinc Coated

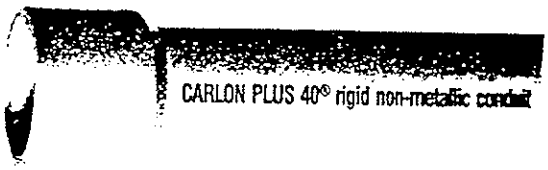
Nominal or Trade Size of Conduit (inches)	Threads per Inch	Pitch Diameter at End of Thread E_0	Length of Thread (Inches)	
		Taper ¾ Inch per Foot	Effective L_2	Overall L_6
⅜	18	0.6120	0.41	0.60
½	14	0.7584	0.53	0.78
¾	14	0.9677	0.55	0.79
2	11½	2.2890	0.76	1.06
2½	8	2.7195	1.14	1.57
3	8	3.3406	1.20	1.63

See Section 16010, Part 2.1

CARLON PLUS 40® RIGID NON-METALLIC CONDUIT (Heavy Wall EPC)

For underground applications, encased in concrete or direct burial. Also for use in exposed or concealed applications aboveground.

- U.L. Listed
- Sunlight resistant
- Rated for use with 90°C conductors
- Reduced emissions of smoke and HCL
- Superior weathering characteristics



PLUS 40 Heavy Wall

Nom. Size	Cat. No.	O.D.	I.D.	Wall	Wt. Per 100 Feet	Feet Per Bundle
½	49005	.840	.622	.109	17	100
¾	49007	1.050	.824	.113	23	100
1	49008	1.315	1.049	.133	34	100
1¼	49009	1.660	1.380	.140	46	50
1½	49010	1.900	1.610	.145	55	50
2	49011	2.375	2.067	.154	73	50
2½	49012	2.875	2.469	.203	125	10
3	49013	3.500	3.066	.216	164	10
3½	49014	4.000	3.548	.226	198	10
4	49015	4.500	4.026	.237	234	10
5	49016	5.563	5.047	.258	316	10
6	49017	6.625	6.065	.280	412	10

Rigid non-metallic conduit is normally supplied in standard 10' lengths with one belled end per length. For specific requirements, it may be produced in lengths shorter or longer than 10', with or without belled ends.

CARLON PLUS 80® RIGID NON-METALLIC CONDUIT (Extra Heavy Wall EPC-80)

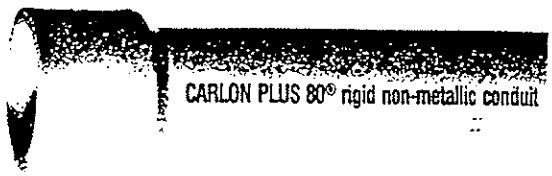
Please see corrosion R's Pg 3 of 3

For use in aboveground and below ground applications that are subject to severe physical abuse.

- U.L. Listed
- Sunlight resistant
- Rated for use with 90°C conductors

16010 - 2.1A

PVC GALVANIZED CONDUIT



PLUS 80 Extra Heavy Wall

Nom. Size	Cat. No.	O.D.	I.D.	Wall	Wt. Per 100 Feet	Feet Per Bundle
½	49405	.840	.546	.147	22	100
¾	49407	1.050	.742	.154	29	100
1	49408	1.315	.957	.179	43	100
1¼	49409	1.660	1.278	.191	59	50
1½	49410	1.900	1.500	.200	72	50
2	49411	2.375	1.939	.218	99	10
2½	49412	2.875	2.323	.276	152	10
3	49413	3.500	2.900	.300	212	10
4	49415	4.500	3.826	.337	310	10
5	49416	5.563	4.813	.357	431	10

Rigid non-metallic conduit is normally supplied in standard 10' lengths, with one belled end per length. For specific requirements, it may be produced in lengths shorter or longer than 10', with or without belled ends.

G.C. MONACO ELECTRIC & DAUGHTER, INC.
261 W. LINCOLN AVE.
MT. VERNON, NY 10550

SUPPORT OF CARLON RIGID NON-METALLIC CONDUIT IN ABOVEGROUND INSTALLATIONS

Distances between supports should be based on temperatures and the specific application. Because non-metallic conduit is lighter in weight, it does not require as strong a support system. The following chart illustrates the support requirements as outlined in the National Electric Code based on 50°C (122°F) air temperature and 90°C conductor temperature

Plastic conduit should always be installed away from steam lines, etc. Support straps should be tightened only enough to allow for lineal movement caused by expansion and contraction.

-L-85-16010

Conduit Size (in.)	Maximum Spacing Between Supports (feet)
½ - 1	3
1¼ - 2	5
2½ - 3	6
3½ - 5	7
6	8

THE UNION BOY LANDFILL
CONT = X16 WP
CONDUIT IN TRENCH

RIGID NON-METALLIC CONDUIT

Properties, Wire Fill Data and Weight Comparisons

2 of 3

See Section 16010, Part 2.1

PROPERTIES

Thermal

	ASTM Test	Typical Values
Co-efficient of Thermal Expansion-inch/inch/°C	D696	5.13×10^{-5}
Co-efficient of Thermal Expansion-inch/inch/°F (properties @73.4°F)	D696	2.89×10^{-5}
Heat Distortion °F at 264 psi	D648	162°F
Thermal Conductivity BTU (hr) (ft) (°F/in.)	N/A	1.3

Mechanical

	ASTM Test	Typical Values
Specific Gravity	D792	1.43
Tensile Strength (psi) @73.4°F	D638	6,000
Izod Impact ft lbs. /in. of notch	D256	0.65 - 1.5
Flexural Strength (psi)	D650	12,500
Compressive Strength (psi)	D695	9,000
Hardness (Durometer D)	D676	85

Electrical

	ASTM Test	Typical Values
Dielectrical Strength volts/mil	D149	1100
Dielectric Contant 60 CPS @ 30°C	D150	4.00
Power Factor 60 CPS @ 30°C	D150	1.93

Impedance (Volts lost per ampere per 100 feet)

	3Ø 90% P.F.	80% P.F.	1Ø 90% P.F.	80% P.F.
Steel Conduit	.0118	.0123	.0136	.0142
Plus 40	.0105	.0106	.0121	.0122

Using 250 MCM Cu. conductor. Comparable values for other conductor sizes.

WIRE FILL

Maximum Number of Conductors in Schedule 40 PVC Conduit

Table 3B (Based on Table 1, Chapter 9 of the N.E.C.)

Type Letters	Conductor Size AWG, MCM	Conduit Trade Size (Inches) ½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
THWN,	14	13	24	39	69	94	154							
	12	10	18	29	51	70	114	164						
	10	6	11	18	32	44	73	104	160					
	8	3	5	9	16	22	36	51	71	106	136			
THHN, FEP (14 thru 2), FEPB (14 thru 8), PFA (14 thru 4/0) PFAH (14 thru 4/0)	6	1	4	6	11	15	26	37	57	76	98	125	154	
	4	1	2	4	7	9	16	22	35	47	60	75	94	137
	3	1	1	3	6	8	13	19	29	39	51	64	80	116
	2	1	1	3	5	7	11	16	25	33	43	54	67	97
	1		1	1	3	5	8	12	18	25	32	40	50	72
Z (14 thru 4/0) XHHW (4 thru 500MCM)	1/0		1	1	3	4	7	10	15	21	27	33	42	61
	2/0		1	1	2	3	6	8	13	17	22	28	35	51
	3/0		1	1	1	3	5	7	11	14	18	23	29	42
	4/0			1	1	2	4	6	9	12	15	19	24	35
	250			1	1	1	3	4	7	10	12	16	20	28
	300			1	1	1	3	4	6	8	11	13	17	24
	350			1	1	1	2	3	5	7	9	12	15	21
	400				1	1	1	3	5	6	8	10	13	19
	500				1	1	1	2	4	5	7	9	11	16
	600				1	1	1	1	3	4	5	7	9	13
	700					1	1	1	3	4	5	6	8	11
	750					1	1	1	2	3	4	6	7	11
XHHW	6	1	3	5	9	13	21	30	47	63	81	102	128	185
	600				1	1	1	1	3	4	5	7	9	13
	700					1	1	1	3	4	5	6	7	11
	750					1	1	1	2	3	4	6	7	10

Maximum Conductors in Schedule 80 PVC Conduit

Conductor Size AWG, MCM		Conduit Trade Size ½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"
# 14	THW	4	8	13	24	34	57	82	128		
	THHN	10	19	33	58	81	135	194	0		
12	THW	3	6	11	20	28	47	67	105	183	
	THHN	8	14	24	43	60	100	144	0		
10	THW	3	5	9	16	22	37	54	85	148	
	THHN	5	9	15	27	38	64	92	143		
8	THW	1	2	4	3	11	19	28	44	77	121
	THHN	1	4	7	13	18	31	45	70	123	195
6	THW	1	1	3	6	8	14	20	32	56	88
	THHN	1	3	5	9	13	22	32	50	88	140
4	THW	0	1	2	4	6	10	15	24	42	66
	THHN	1	1	3	6	8	13	20	31	54	86
3	THW	0	1	1	4	5	9	13	20	36	57
	THHN	1	1	2	5	7	11	17	26	46	73
2	THW	0	1	1	3	4	8	11	17	31	49
	THHN	1	1	1	4	5	9	14	22	38	61
1	THW	0	1	1	1	3	5	8	13	22	35
	THHN	0	1	1	3	4	7	10	16	28	45
0	THW	0	0	1	1	2	4	7	11	19	30
	THHN	0	1	1	2	3	6	8	13	24	38
00	THW	0	0	1	1	1	4	6	9	16	26
	THHN	0	1	1	1	3	5	7	11	20	32
000	THW	0	0	1	1	1	3	5	8	14	22
	THHN	0	0	1	1	2	4	6	9	16	26
0000	THW	0	0	1	1	1	3	4	6	11	18
	THHN	0	0	1	1	1	3	5	8	14	22
250	THW	0	0	0	1	1	1	3	5	9	14
	THHN	0	0	0	1	1	2	4	6	11	18
300	THW	0	0	0	1	1	1	3	4	8	13
	THHN	0	0	0	1	1	1	3	5	9	15
350	THW	0	0	0	1	1	1	2	4	7	11
	THHN	0	0	0	1	1	1	3	4	8	13
400	THW	0	0	0	0	1	1	1	3	6	10
	THHN	0	0	0	1	1	1	2	4	7	12
500	THW	0	0	0	0	1	1	1	3	5	8
	THHN	0	0	0	0	1	1	1	3	6	10
500	THW	0	0	0	0	0	1	1	1	4	7
	THHN	0	0	0	0	1	1	1	3	5	8
700	THW	0	0	0	0	0	1	1	1	3	6

WEIGHT COMPARISON

Carlon Plus 40 rigid non-metalic conduit compared to other rigid conduit in pounds per 100 feet (approx.)

Nom. Size	Carlon Plus 40 Rigid Non-metallic Conduit	Aluminum	Electrical Metallic Tubing (EMT)	Intermediate Metal Conduit (IMC)	Rigid Steel (GALV)
½	17	27	30	57	79
¾	23	36	46	78	105
1	34	53	66	112	153
1¼	46	70	96	114	201
1½	55	86	112	176	246
2	73	116	142	230	334
2½	125	183	230	393	527
3	164	239	270	483	690
3½	198	288	350	561	831
4	234	340	400	625	982
5	318	465	Not Made	Not Made	1344
6	412	612	Not Made	Not Made	1770

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CORROSION RESISTANCE OF CARLON PLUS 40® AND PLUS 80® CONDUIT

Carlon Plus 40 and Plus 80 are generally acceptable for use in environments containing the chemicals below. These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. In many applications the Plus 40 and Plus 80 can be used in process areas where these chemicals are manufactured or used because worker safety requirements dictate that any air presence or splashing be at a very low level.

See Section 16010, part 2.1

If there are any questions for specific suitability in a given environment, prototype samples should be tested under actual conditions.

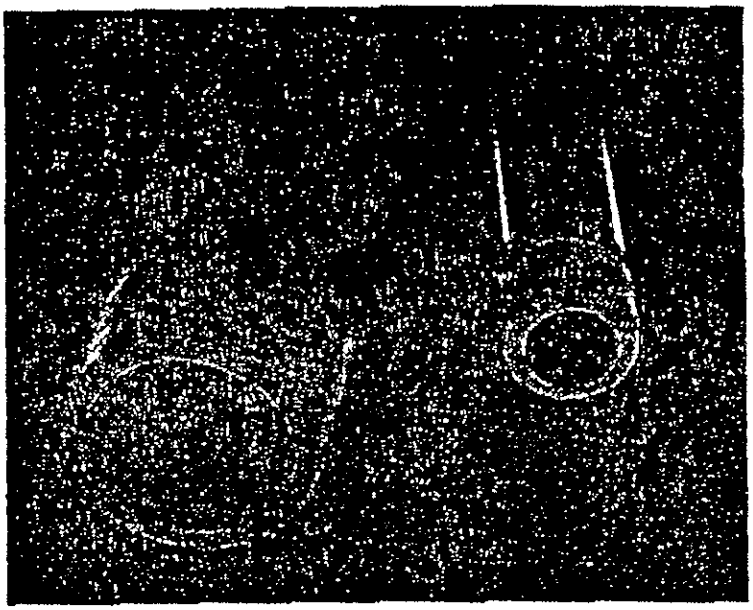
Acetic Acid 0-20%
Acetic Acid 20-30%
Acetic Acid 30-60%
Acetic Acid 80%
Acetic Acid — Glacial
Acetic Acid Vapors
Acetylene
Adipic Acid
Alum
Aluminum Chloride
Aluminum Fluoride
Aluminum Hydroxide
Aluminum Oxychloride
Aluminum Nitrate
Aluminum Sulfate
Ammonia-Dry Gas
Ammonium Bifluoride
Ammonium Carbonate
Ammonium Chloride
Ammonium Hydroxide 28%
Ammonium Metaphosphate
Ammonium Nitrate
Ammonium Persulfate
Ammonium Phosphate — Neutral
Ammonium Sulfate
Ammonium Sulfide
Ammonium Thiocyanate
Amyl Alcohol
Anthraquinone
Anthraquinonesulfonic Acid
Antimony Trichloride
Aqua Regia
Arsenic Acid 80%
Arylsulfonic Acid
Barium Carbonate
Barium Chloride
Barium Hydroxide
Barium Sulfate
Barium Sulfide
Beet — Sugar Liquor
Benzine Sulfonic Acid 10%
Benzoic Acid
Bismuth Carbonate
Black Liquor (Paper Industry)
Bleach — 12.5% Active CL_2
Borax
Boric Acid
Brine
Breeder Pellets — Deriv Fish
Bromic Acid
Bromine — Water
Butane
Butadiene
Butyl Alcohol
Butyl Phenol
Butylene
Butyric Acid
Calcium Bisulfite
Calcium Carbonate
Calcium Chlorate
Calcium Chloride
Calcium Hydroxide
Calcium Hypochlorite
Calcium Nitrate
Calcium Sulfate
Carbonic Acid
Carbon Dioxide Gas — Wet
Carbon Dioxide — Aqueous Solution
Carbon Monoxide
Caustic Potash
Caustic Soda
Chloracetic Acid
Chlorine Hydrate
Chlorine Gas (Dry)
Chlorine Gas (Moist)
Chlorine Water
Chlorosulfonic Acid
Chrome Alum
Chromic Acid 10%
Chromic Acid 30%
Chromic Acid 40%
Chromic Acid 50%
Citric Acid
Copper Chloride
Copper Cyanide
Copper Fluoride
Copper Nitrate
Copper Sulfate
Cottonseed Oil
Cresylic Acid 50%
Crude Oil — Sour
Crude Oil — Sweet
Demineralized Water
Dextrin
Dextrose
Dichromic Acid
Dicalcium Phosphate
Ethanolamine
Ethylene Glycol
Ferric Nitrate
Ferric Chloride
Ferric Fluoride
Ferric Nitrate
Ferric Sulfate
Ferrous Chloride
Ferrous Sulfate
Fluosilicic Acid — Wet
Fluosilicic Acid — Dry
Formaldehyde
Formic Acid
Freon
Fruit Juices
Fuel Oil
Fuel Oil (Dry)
Fuel Oil (Wet)
Gasoline — Sour
Gasoline — Refined
Gelatin
Glucose (Dextrol)
Glue
Glycerine
Glycolic Acid
Hydrazine
Hydrochloric Acid 20%
Hydrochloric Acid 0% - 25%
Hydrochloric Acid 25% - 40%
Hydrocyanic Acid or Hydrogen Cyanide
Hydrofluoric Acid 10%
Hydrofluorosilicic Acid
Hydrogen Phosphide
Hydrogen Sulfide — Dry
Hydrogen Sulfide — Aqueous Solution
Hydroquinone
Hydroxylamine Sulfate
Iodine
Kerosene
Lactic Acid 28%
Lauric Acid
Lauryl Chloride
Lauryl Sulfate
Lead Acetate
Lime Sulfur
Linoleic Acid
Linseed Oil
Lubricating Oils
Magnesium Carbonate
Magnesium Chloride
Magnesium Hydroxide
Magnesium Nitrate
Magnesium Sulfate
Maleic Acid
Malic Acid
Mercuric Chloride
Mercuric Cyanide
Mercurous Nitrate
Mercury
Methyl Sulfate
Methylene Chloride
Mineral Oils
Naphthalene
Nickel Chloride
Nickel Nitrate
Nitric Acid, Anydrous
Nitric Acid 20%
Nitric Acid 40%
Nitric Acid 60%
Nitrobenzene
Nitrous Oxide
Oils and Fats
Oils — Petroleum — (See Type)
Oleic Acid
Oxalic Acid
Palmitic Acid 10%
Perchloric Acid 10%
Phenylhydrazine Hydrochloride
Phosgene, Gas
Phosphoric Acid — 0—25%
Phosphoric Acid — 25-50%
Phosphoric Acid — 50-85%
Photographic Chemicals
Plating Solutions
Potassium Bicarbonate
Potassium Bichromate
Potassium Borate
Potassium Bromide
Potassium Carbonate
Potassium Chloride
Potassium Chromate
Potassium Cyanide
Potassium Dichromate
Potassium Ferricyanide
Potassium Ferrocyanide
Potassium Fluoride
Potassium Hydroxide
Potassium Nitrate
Potassium Perborate
Potassium Perchlorite
Potassium Permanganate 10%
Potassium Persulfate
Potassium Sulfate
Propane
Propyl Alchohol
Silicic Acid
Silver Cyanide
Silver Nitrate
Silver Plating Solutions
Sodium Acetate
Sodium Arsenite
Sodium Benzoate
Sodium Bicarbonate
Sodium Bisulfate
Sodium Bisulfite
Sodium Bromide
Sodium Chlorate
Sodium Chloride
Sodium Cyanide
Sodium Dichromate
Sodium Ferricyanide
Sodium Ferrocyanide
Sodium Fluoride
Sodium Hydroxide
Sodium Hypochlorite
Sodium Nitrate
Sodium Nitrite
Sodium Sulfate
Sodium Sulfide
Sodium Sulfite
Sodium Thiosulfate (Hypo)
Stannic Chloride
Stannous Chloride
Stearic Acid
Sulfur
Sulfur Dioxide — Gas Dry
Sulfur Trioxide
Sulfuric Acid — 0-10%
Sulfuric Acid — 10-75%
Sulfuric Acid — 75-90%
Sulfurous Acid
Tannic Acid
Tanning Liquors
Tartaric Acid
Titanium Tetrachloride
Triethanolamine
Trimethyl Propane
Trisodium Phosphate
Turpentine
Urea
Vinegar
Whiskey
White Liquor (Paper Industry)
Wines
Zinc Chloride
Zinc Chromate
Zinc Cyanide
Zinc Nitrate
Zinc Sulfate

16010 - 2.1A

OCAL-BLUE CONDUIT

1) The conduit is hot dipped galvanized after fabricaion.
2) The threads are hot dipped galvanized.
3) A coating of 1/2 mil acrylic epoxy over the entire pipe inside & out including the threads
4) A clear urethane coating over threads
5) A minimum 40 mil PVC coating on the outside
6) A nominal 2 mil blue urethane on the inside

G.C. MONACO&DAUGHTER,INC
PELHAM BAY LANDFILL
OCAL-BLUE CONDUIT

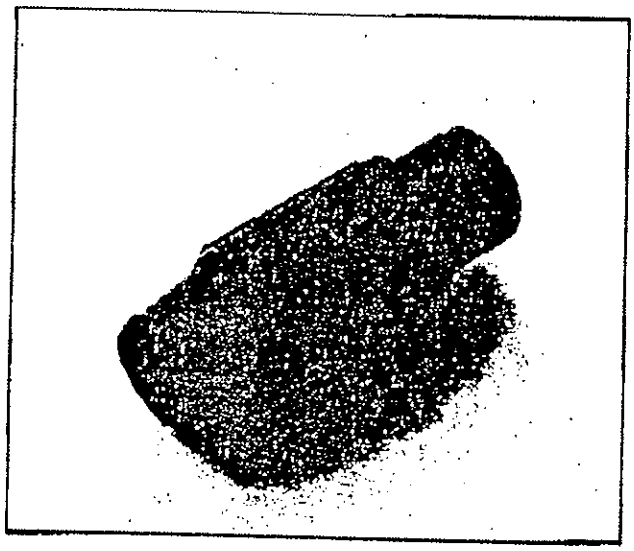


	OCAL-BLUE COATED CONDUIT							
Size in Inches	Outside Diameter Steel Only In Inches	Outside Diameter With PVC In Inches	Minimum Wall Thickness Steel Only In Inches	Minimum Wall Thickness With PVC In Inches	Inside Diameter In Inches	Cross Section Area In Square Inches	Length Without Couplings In Feet	Minimum Weight Per Foot In LBS.
1/2	.840	.880	.100	.140	.622	.304	9'11 1/4"	.79 lbs
3/4	1.050	1.090	.105	.145	.824	.533	9'11 1/4"	1.05 lbs
1	1.315	1.355	.123	.163	1.049	.864	9'11"	1.53 lbs
1 1/4	1.660	1.700	.126	.166	1.380	1.495	9'11"	2.01 lbs
1 1/2	1.900	1.940	.135	.175	1.610	2.036	9'11"	2.40 lbs
2	2.375	2.415	.140	.180	2.067	3.355	9'11"	3.32 lbs
2 1/2	2.875	2.915	.187	.227	2.469	4.788	9'10 1/2"	5.27 lbs
3	3.500	3.540	.195	.235	3.068	7.393	9'10 1/2"	6.83 lbs
3 1/2	4.000	4.040	.208	.248	3.548	9.866	9'10 1/4"	8.31 lbs
4	4.500	4.540	.218	.258	4.026	12.730	9'10 1/4"	9.75 lbs
5	5.563	5.603	.235	.275	5.047	20.006	9'10"	13.14 lbs
6	6.625	6.665	.260	.300	6.065	28.891	9'10"	17.46 lbs

D-14

OCAL-BLUE COUPLINGS

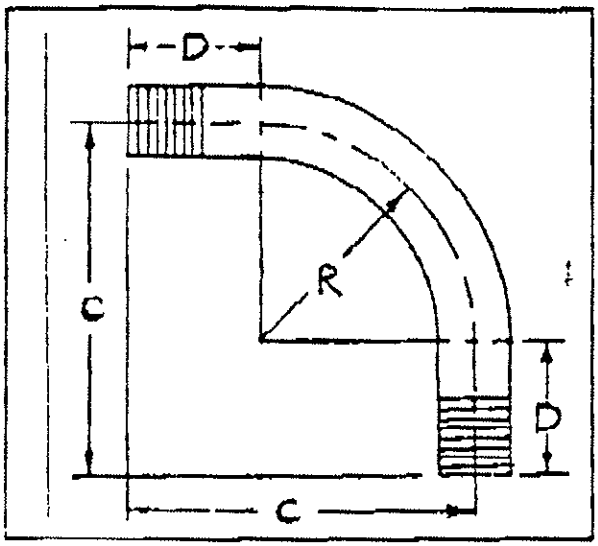
1) All couplings are coated with .0005" (1/2 mil) of epoxy acrylic inside & out
2) A 40 mil minimum PVC coating outside
3) A clear urethane coating inside
4) Molded ribs on outer coating
5) Couplings have straight threads (not tapered)
6) Couplings have patented sleeves to seal the connection



OCAL-BLUE COUPLINGS			
Coupling Size in Inches	Length of Metal in Inches	Total Length Including Sleeve	Weight in LBS.
1/2	1.625	4"	0.13
3/4	1.625	4"	0.19
1	2.000	4 15/16"	0.33
1 1/4	2.031	4 3/4"	0.43
1 1/2	2.062	4 7/8"	0.56
2	2.125	5 1/4"	0.77
2 1/2	3.187	6 5/8"	1.85
3	3.312	6 7/8"	2.70
3 1/2	3.406	7 1/8"	3.78
4	3.515	7 1/4"	3.08
5	3.953	7 3/8"	5.00
6	4.250	7 7/8"	8.00

OCAL-BLUE STANDARD AND LARGE RADIUS ELBOWS

1) OCAL-BLUE elbows are fabricated from ocal blue conduit
2) Both standard & special radiuses are available in 90°, 45°, 60° and 30°
3) Radiuses and degrees not listed are also available upon request



STANDARD RADIUS ELBOWS

Size In Inches	Radius "R" in Inches	Offset "C" in Inches	Straight End "D" in Inches	Unbent Length In Inches	Weight Per Each
1/2	4.00	6.50	2.12	11.25	0.73
3/4	4.50	7.25	2.75	12.50	1.07
1	5.75	8.63	2.88	14.75	1.93
1 1/4	7.25	10.44	3.19	17.75	2.85
1 1/2	8.25	11.63	3.38	19.75	4.26
2	9.50	13.31	3.81	22.50	6.50
2 1/2	10.50	16.50	5.75	28.00	11.50
3	13.00	18.75	5.79	32.00	18.00
3 1/2	15.00	22.96	7.96	39.50	26.25
4	16.00	23.18	7.96	39.50	32.00
5	24.00	34.90	10.90	59.50	70.00
6	30.00	43.44	14.40	76.00	100.00

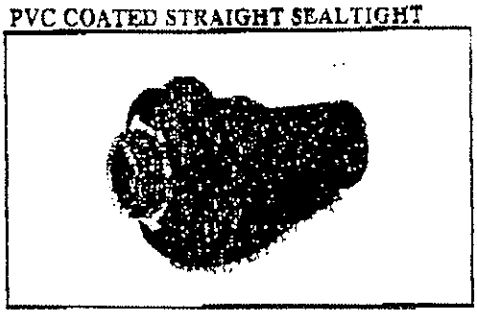
LARGE RADIUS ELBOWS

Radius "R" in Inches	12"	15"	18"	24"	30"	36"	42"	48"	60"
Offset "C"	1'9"	2'0"	2'4"	2'11"	3'5"	3'11"	4'6"	5'0"	6'0"
Straight End "D"	9"	9"	10"	11"	11"	11"	12"	12"	12"
Unbent Length	3'0"	3'6"	4'0"	4'11"	5'9"	6'6"	7'6"	8'6"	9'10"
Pipe Sizes Available	1 - 2 1/2" incl.	1-3" incl.	1-4" incl.	1-5" incl.	1-6" incl.	1-6" incl.	1-6" incl.	1-6" incl.	2 1/2 - 6" incl.

SEALTIGHT CONNECTORS

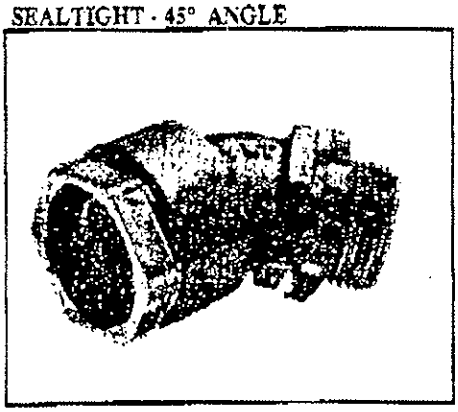
1) 40 mil minimum PVC exterior coating
2) Patented sleeves are designed to seal over sealtight conduit
3) Available also with a grounding lug (use suffix G)
4) Available in straight, 45°& 90°

PVC COATED STRAIGHT SEALTIGHT

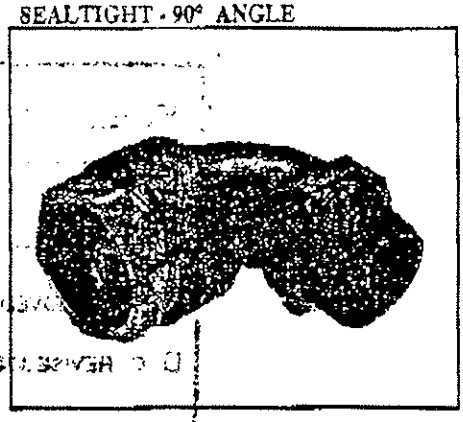


	SEALTIGHT CONNECTORS		
	STRAIGHT	45°	90°
Pipe Size	Catalog Number	Catalog Number	Catalog Number
1/2	ST1-2	ST1-245	ST1-290
3/4	ST3-4	ST3-445	ST3-490
1	ST1	ST145	ST190
1 1/4	ST11-4	ST11-445	ST11-490
1 1/2	ST11-2	ST11-245	ST11-290
2	ST2	ST245	ST290
2 1/2	ST21-2	ST21-245	ST21-290
3	ST3	ST345	ST390
4	ST4	ST445	ST490

SEALTIGHT - 45° ANGLE



SEALTIGHT - 90° ANGLE



SEALTIGHT- STRAIGHT WITH GROUND

OCAL-BLUE CONDUIT

16010 - 2.1 A

OCAL-BLUE CONDUIT

1) The conduit is hot dipped galvanized after fabricaion.
2) The threads are hot dipped galvanized.
3) A coating of 1/2 mil acrylic epoxy over the entire pipe inside & out including the threads
4) A clear urethane coating over threads
5) A minimum 40 mil PVC coating on the outside
6) A nominal 2 mil blue urethane on the inside

	OCAL-BLUE COATED CONDUIT							
Size in Inches	Outside Diameter Steel Only In Inches	Outside Diameter With PVC In Inches	Minimum Wall Thickness Steel Only In Inches	Minimum Wall Thickness With PVC In Inches	Inside Diameter In inches	Cross Section Area In Square Inches	Length Without Couplings In Feet	Minimum Weight Per Foot In LBS.
1/2	.840	.880	.100	.140	.622	.304	9'11 1/4"	.79 lbs
3/4	1.050	1.090	.105	.145	.824	.533	9'11 1/4"	1.05 lbs
1	1.315	1.355	.123	.163	1.049	.864	9'11"	1.53 lbs
1 1/4	1.660	1.700	.126	.166	1.380	1.495	9'11"	2.01 lbs
1 1/2	1.900	1.940	.135	.175	1.610	2.036	9'11"	2.40 lbs
2	2.375	2.415	.140	.180	2.067	3.355	9'11"	3.32 lbs
2 1/2	2.875	2.915	.187	.227	2.469	4.788	9'10 1/2"	5.27 lbs
3	3.500	3.540	.195	.235	3.068	7.393	9'10 1/2"	6.83 lbs
3 1/2	4.000	4.040	.208	.248	3.548	9.886	9'10 1/4"	8.31 lbs
4	4.500	4.540	.218	.258	4.026	12.730	9'10 1/4"	9.73 lbs
5	5.563	5.603	.235	.275	5.047	20.006	9'10"	13.14 lbs
6	6.625	6.665	.260	.300	6.065	28.891	9'10"	17.46 lbs

PELHAM BAY LANDFILL
CONT. # 875 NP
SPEC SEC. # 16010
L-86-1610

G.C. MONACO ELECTRIC
& DAUGHTER, INC.
261 W. LINCOLN AVE.
MT. VERNON, NY 10550

OCAL-BLUE

PVC Coated Conduit with Blue Urethane Interior Coating

is the answer to internal corrosion, and is necessary because of the large quantities of corrosive atmosphere that are breathed into the conduit system.

We start by manufacturing the rigid conduit and do our special Hot Dipped Galvanizing after fabrication. The galvanizing is done after the threading, producing Hot Dipped Galvanized threads and providing extra protection against corrosion.

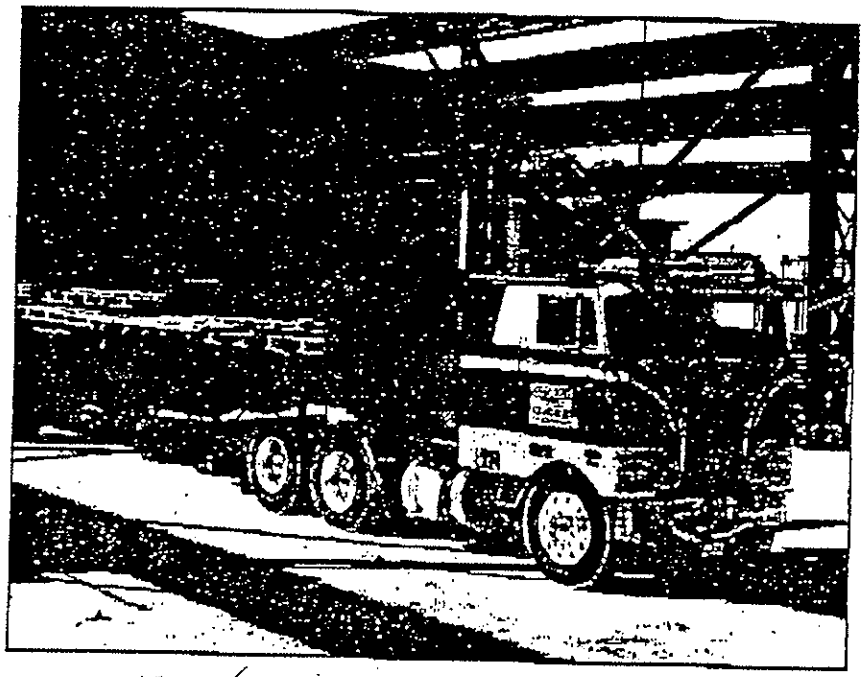
The PVC compounds are made from primary materials without the addition of fillers or secondary materials. The end result is sealing characteristics that outperform any other corrosion prevention system.

Occidental Coating Company also offers fittings, elbows, wireways, light fixtures, panel boards and other electrical accessories coated with the OCAL-BLUE process.

For custom orders, special colors or large quantities Occidental's manufacturing capabilities guarantee delivery time unmatched in the industry.

Finally, our reputation for dependability and customer service has made Occidental Coating Company the most trusted name in corrosion protection for the electrical industry.

OCAL coatings have been tested against more than 120 chemical solutions and have been proven the most effective, long-lasting corrosion protection systems available.

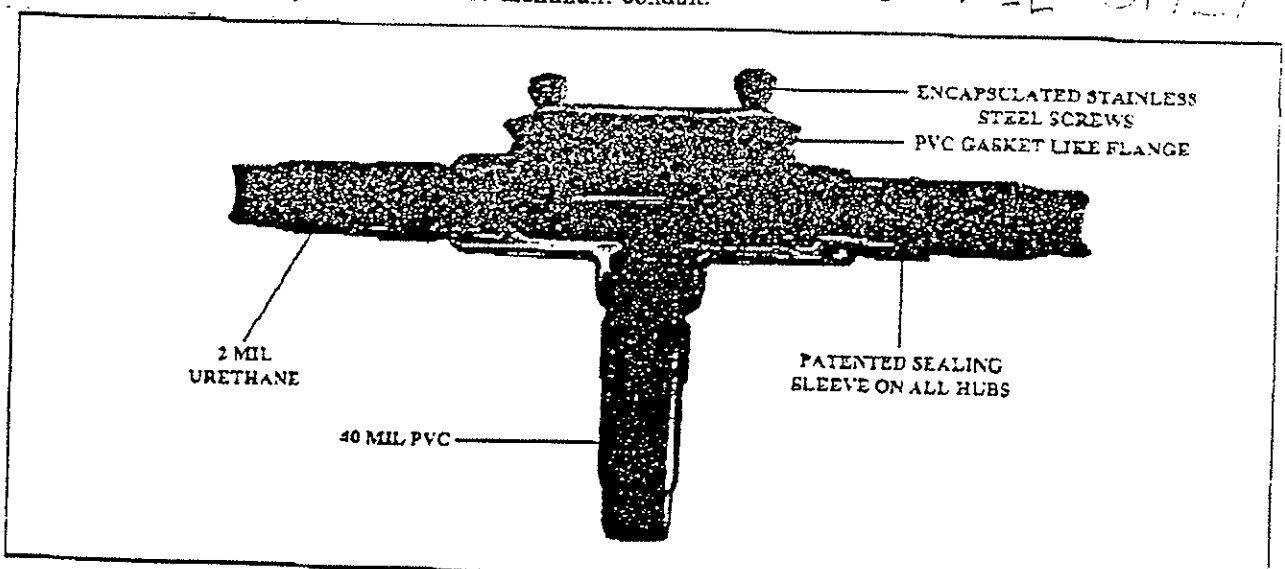


Aluminum

OCAL-BLUE PVC Coated Aluminum Conduit has the same corrosion protection qualities as regular OCAL-BLUE except that it combines the protection of OCAL-BLUE with lightweight copper-free aluminum conduit.

Occidental Coating company protects each shipment of OCAL-BLUE products with protective packaging for damage-free distribution.

STEEL CONDUIT



G.C. MONACO ELECTRIC
& DAUGHTER, INC.
261 W. LINCOLN AVE.
MT. VERNON, NY 10550

PELHAM BOY LANDFILL
CONT # 875 NP
SPEC SEC. #16010

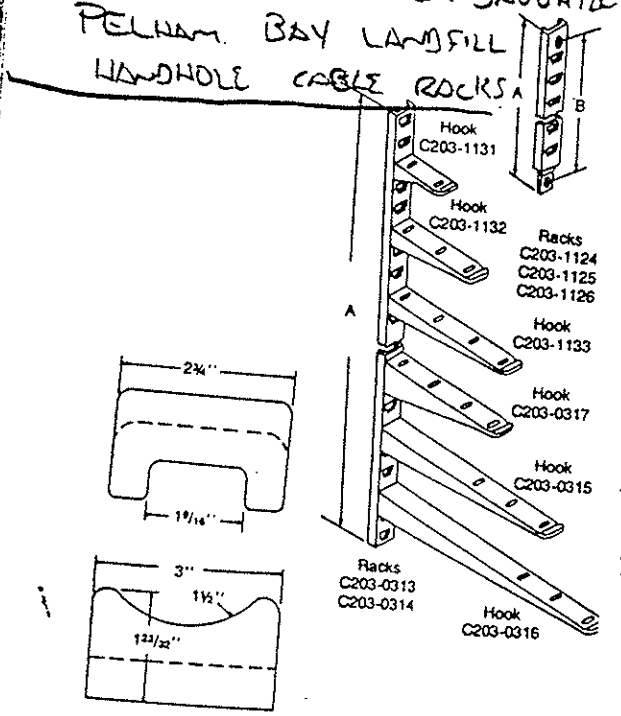
CABLE RACKS FOR MANHOLE

16010 - 2.1 D

RACKS, UNDERGROUND CABLE

Channel-Steel Type

G.C. MONACO ELEC & DAUGHTER
PELHAM BAY LANDFILL
HANDHOLE CABLE RACKS



No. C203-1120

Cable Racks

Hot-dip galvanized racks with hook holes 1½" apart. Fasten to manhole or interior walls with ½" x 4" expansion bolts (not included). Mounting slots ⅝" x ¾" at top and bottom of 15", 24" and 30" lengths overlap for assembly in combinations for overall length desired.

1½" x 7/16" x 7/16" Channel Steel

Catalog Number	No. of Hook Holes	Dimensions A	Dimensions B	Wt. Per 100 Pcs.
†C203-1124	9	15"	13½"	162
†C203-1125	14	24"	22½"	230
†C203-1126	18	30"	28½"	260
C203-0313	37	55¾"	–	570
C203-0314	47	70¼"	–	720

For extra clearance from wall, see Supports, Cable Rack, page 5-36.
†REA Accepted.

Cable Rack Hooks

Hot-dip galvanized hooks with rounded surfaces have ⁹/₁₆" x ¹³/₁₆" slots for lock clips, below. For hooks with 0.080" plastisol coating, contact Chance ServiCenter.

Catalog Number	Length from Face of Rack	Channel Steel Size, Inches	Wt. per 100 Pcs.
†C203-1131	4"	1½ x 1½ x 5/16	42
†C203-1132 *C203-1128	7½"	1½ x 1½ x 5/16	96
†C203-1133 *C203-1129	10"	1½ x 1½ x 5/16	116
C203-0317	10"	1½ x 2 7/16 x 13/64	175
†C203-0315	14"	1½ x 1 29/64 x 5/16	204
†C203-0316	18"	1½ x 1 29/64 x 5/16	260

†REA Accepted.
*Plastisol coated.

No. L-1100

Cable Rack Insulator (White Glaze)

Catalog No.	Dimensions in Inches: Radius	Length Along Hook	Width	Approx. Ship. Wt., Lbs. Per 100 Pcs.
C203-1120	1½	3	2¾	80

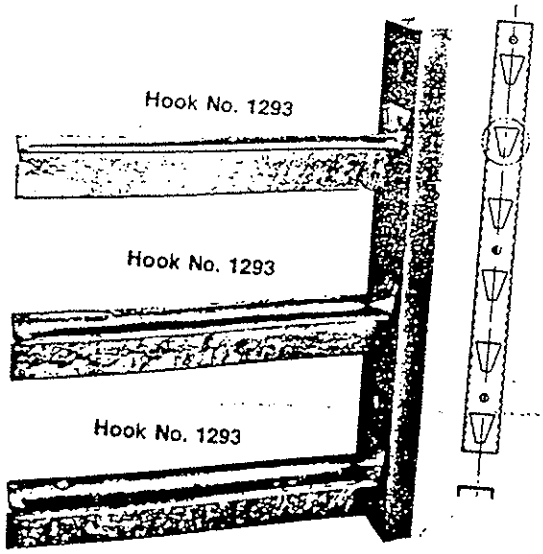
Cable Rack Hook Lock Clip

Catalog No.	Material	Size Inches	Approx. Ship. Wt., Lbs., Per 100 Pcs.
L-1100	Zinc	18 Ga. x ⅝	2

RACKS, UNDERGROUND CABLE

Heavy Channel-Steel Type

Made from 4" x 1 5/32" x 5/16" channel steel. Hot dip galvanized. Either expansion or anchor bolts can be used to mount them to the manhole wall. Pressed-steel hooks have stops to keep insulators from sliding off. Mounting holes ¾" on all except C203-0047 which has 7/16" mounting holes.

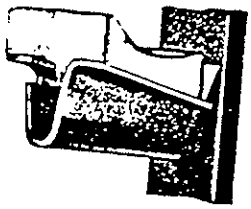


Rack No. R1473

Cable Racks

Catalog No.	Dimensions in Inches: No. of Slots	Hook Slot Spacing	Overall Length	Mtg. Hole Spacing	Approx. Ship. Wt., Lbs. Per 100 Pcs.
R1473	3	8	24	16	1000
R1474	4	8	32	24	1400
R1476	6	8	48	40	2100
*C203-0047	6	8	48	22⅝ & 40	1000

*Same as R1476 except three mounting holes . . . lower right two slotted.



Insulator No. 1115

Cable Rack Hooks

Catalog No.	No. of Insulators Accommodated	Dimensions in Inches: Extension from Face of Rack	Overall Length	Steel Size	Approx. Ship. Wt., Lbs. Per 100 Pcs.
1292	2	10¼	12	12 Ga.	244
1293	3	16¾	18	12 Ga.	340

Cable Rack Insulators (White Glaze)

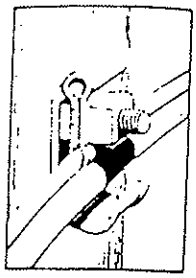
Catalog No.	Dimensions in Inches: Radius for Cable	Overall Length	Overall Width	Approx. Ship. Wt., Lbs. Per 100 Pcs.
1115	2¾	4½	2⅝	134

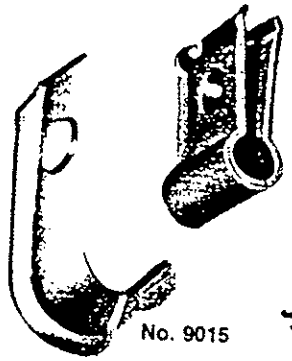
L-86-1610

HELHAM BAY (MDFILL
TEMP CABLE SUPPORTS FOR TRAILER POWER.

HANGER

Figure 8 Cable





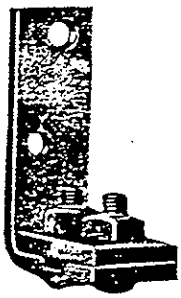
No. 9015

Used to support integrated messenger telephone cable — commonly referred to as Figure 8 Cable. Hanger is in two parts, hook and clamp, both galvanized steel. Installed with a ½" machine bolt and two square nuts. One nut is placed between hook and clamp for spacing. The other is used to tighten the clamp member. Order nuts and bolts separately. Accommodates .109 or .134 solid messenger wire.

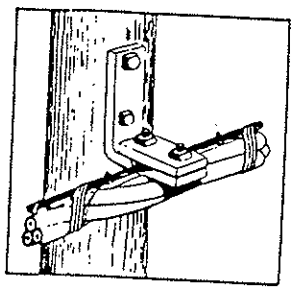
Catalog No.	Description	Approx. Ship. Wt., Lbs., Per 100 Pcs.
9015	Hook and Clamp	54

HANGERS, MESSENGER

Universal Type



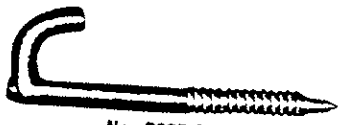
No. 7911



Used on corners and straight runs. Messenger is securely clamped by two ½" carbon-steel guy clamp bolts. Mounted with a ⅝" thru-bolt and a ½" lag screw, neither of which is included. Hot dip galvanized.

Catalog No.	Dimensions in Inches			Approx. Ship. Wt., Lbs. Per 100 Pcs.
	Steel Size	Ext. from Pole	Strand Size	
7911	½ x 2	4¼	5/16 to ½	370
7912	⅜ x 1¾	3¾	5/16 to ½	250

HOOKS, DRIVE AND SCREW



No. C205-0190

No. 0317

Hooks used to attach wedge type service drops and deadend clamps to crossarms, poles or buildings. No. C205-0190 Drive Hook is furnished with 7/16" fetter drive threads and a pilot point for easy starting. No. 0317 Screw Hook has ⅜" gimlet threads.

Catalog No.	Dimensions in Inches			Approx. Ship. Wt. Lbs. Per 100 Pcs.
	Thread Dia.	Lgth.	Overall Lgth.	
C205-0190	7/16	2½	4¾	27
0317	⅜	2	4	13

HOOKS, GUY

No. 6584

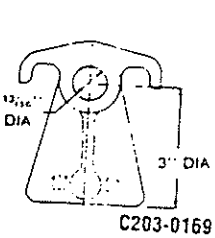
No. 5004

Keeps guy wire from creeping downward when pole is guyed sharply. Nos. 5001, and 5004 are used for storm guying. Hooks should be used under bolt heads for maximum shewr strength. For Guy hooks mounted on strain plates, see page 5-37.

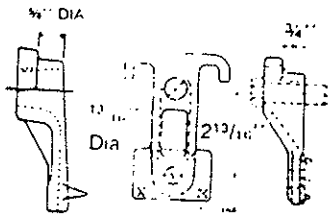
Catalog No.	Description	Material Size, Inches	Hole Dia Inches	Approx. Ship. Wt., Lbs. Per 100 Pcs.
5001	2-Bolt Storm	¼ x 1½ x 7	7/16 & 13/16	108
†5004	1-Bolt Storm, ¾"R	¼ x 1½ x 4⅝	11/16	79
†6584	1-Bolt Standard	7/16 x 1¾ x 4	11/16	78

†REA Acccepted.

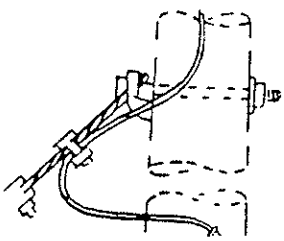
HOOKS, GUY, DUCTILE IRON



C203-0169



No. C203-0166



Ductile Iron — Hot Dip Galvanized — Less corrosive than malleable iron — No hydrogen or galvanizing embrittlement — Characteristically superior in withstanding shock loads.

Will accommodate a maximum guy strand of 7/16" diameter at a 90° angle to the pole. May be used for down guy attachment with excellent load holding capabilities. The guy strand loop may be made up on the ground to simplify installation.

Catalog No.	Type	Wgt. Per 100 Pcs.
†C203-0166	*2 Bolt	100 lbs.
C203-0169	1 Bolt	96 lbs.

*The mounting hole spacing 2 13/16" on center
†REA Accepted

L-87-1601O

Triangle PWC, Inc.
A SUBSIDIARY OF TRIANGLE INDUSTRIES, INC.
P.O. Box 711 New Brunswick, New Jersey 08903

TF-250XH

16020-
2.1 B

PELHAM BAY LANDFILL

L-142

Everene® Insulation - 600 Volts (Cross-Linked Polyethylene)

EVERENE® BUILDING WIRE TYPE XHHW

application

Everene Insulated Type XHHW building wire is approved for circuits not exceeding 600 volts where the maximum operating temperature does not exceed 75°C in wet locations and 90°C in dry locations.

The National Electrical Code permits the use of Type XHHW wire in duct or conduit installed underground, in concrete slabs or other masonry in direct contact with earth, in wet locations, and where condensation and moisture accumulations within the raceway may occur. Also suitable for direct burial on non-code installations per IPCEA Pub. No. S-66-524, NEMA Pub. No. WC-7.

description

Everene Type XHHW building wire is lighter and smaller in diameter than rubber insulated wire which requires an additional covering of braid or a protective jacket.

Everene insulated building wire is highly resistant to abrasion, chemicals, ozone and crushing. In addition Everene has excellent resistance to sunlight, moisture and flame, and combines the superior electrical properties which borderline high molecular weight polyethylene with the thermal properties of rubber.

specifications

specifications:	Underwriters' Laboratories Standard No. 44 Type XHHW, Federal Specifications JC-30 and JC103E. IPCEA Pub. No. S-66-524 and NEMA Pub. No. WC-7.
conductor:	Copper or Aluminum.
insulation:	Everene (Cross-Linked Polyethylene)
cover:	none
voltage:	600
temperature:	75°C (Wet or Dry) Type XHHW 90°C (Dry Locations) Type XHHW 90°C (Wet or Dry Locations) Per IPCEA-NEMA Specifications

Conductors:

Copper:
Solid or concentric stranded soft copper is used, conforming with ASTM Specifications B3 or B8, and Underwriters' Laboratories Standard UL44 for Rubber insulated wires.

Aluminum:
Aluminum conductors No. 8 AWG solid and smaller shall be of three-quarter hard aluminum. Stranded conductors 8 AWG and larger shall be either three-quarter hard or hard aluminum in accordance with underwriters' laboratories standard UL44.

insulation:

Conductors are insulated with Everene (Cross-Linked Polyethylene) conforming to Underwriters' Laboratories requirements for types XHHW insulation, with a conductor operating temperature of 90°C in dry locations and 75°C in wet locations.

Everene also conforms to the requirements of IPCEA Pub. No. S-66-524 and NEMA Pub. No. WC-7 for cross-linked Polyethylene insulation suitable for use on power cables in wet or dry locations and conductor operating temperatures not exceeding 90°C.

outer covering:

No outer covering is required on Everene cables.

SINGLE CONDUCTOR EVERENE®

TYPE XHHW 600 VOLTS

Size Awg or MCM	No. of Strands	Insulation Thickness (MILS.)	Approx. O.D. (Inches)	Ampacity			
				Copper Conductors		Aluminum Conductors	
				XHHW 75°C	XHHW 90°C	XHHW 75°C	XHHW 90°C
14	1	30	.128	15	15 (T)	–	–
12	1	30	.145	20	20 (T)	15	15*
10	1	30	.166	30	30 (T)	25	25*
8	1	45	.224	45	50	40	40
14	7	30	.137	15	15 (T)	–	–
12	7	30	.165	20	20 (T)	15	15*
10	7	30	.178	30	30 (T)	25	25*
8	7	45	.241	45	50	40	40
6	7	45	.279	65	70	50	55
4	7	45	.327	85	90	65	70
2	7	45	.387	115	120	90	95
1	19	55	.448	130	140	100	110
1/0	19	55	.489	150	155	120	125
2/0	19	55	.534	175	185	135	145
3/0	19	55	.586	200	210	155	165
4/0	19	55	.644	230	235	180	185
250	37	65	.711	255	270	205	215
300	37	65	.766	285	300	230	240
350	37	65	.817	310	325	250	260
500	37	65	.949	380	405	310	330
600	61	80	1.060	420	455	340	370
750	61	80	1.165	475	500	385	405
1000	61	80	1.319	545	585	445	480

COPPER CONDUCTORS

(T) – The ampacities for type XHHW conductors for sizes 14, 12 & 10 AWG are the same as designated for 75°C conductors, per N.E.C. table 310-16.

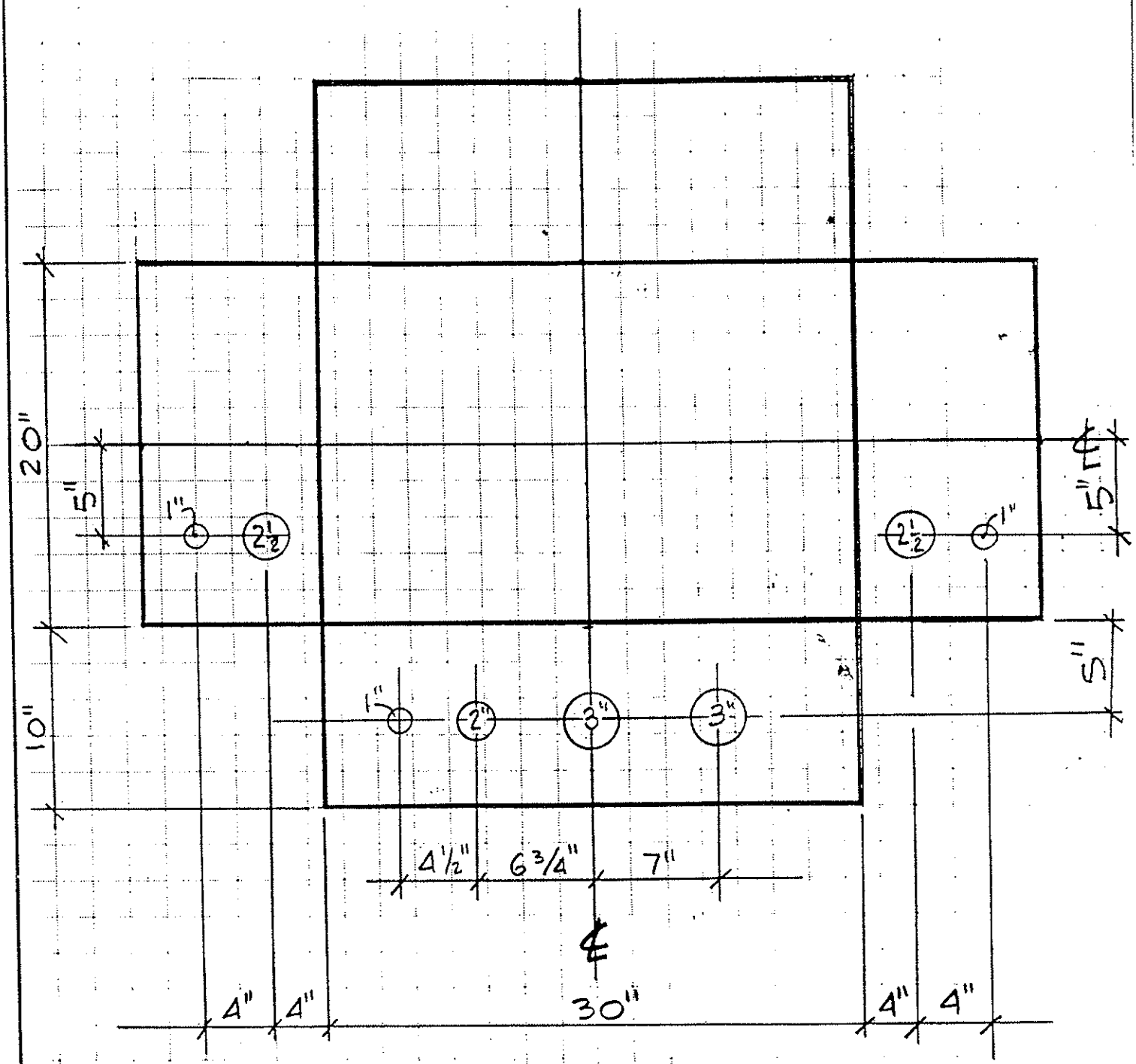
ALUMINUM CONDUCTORS

* – The ampacities for type XHHW conductors for sizes 12 & 10 AWG are the same as designated for 75°C conductors, per N.E.C. Table 310-18.

All ampacities are based on three (3) single conductor cables in conduit at a 30°C maximum ambient air temperature and 75°C or 90°C maximum conductor operating temperature.

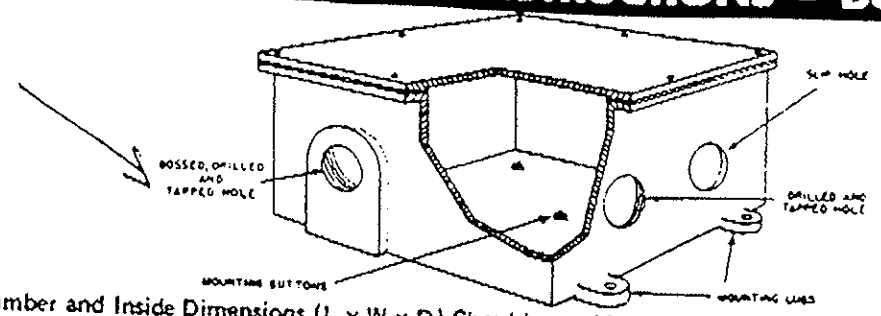
G. C. MONACO ELECTRIC & DAUGHTER, INC.
261 West Lincoln Avenue
MOUNT VERNON, NEW YORK 10550
TEL: 914 - 668-7858
FAX: 914 - 668 - 7997

JOB PELHAM BAY LANDFILL
SHEET NO. 1 OF 1
CALCULATED BY RC DATE 10/8/94
CHECKED BY DATE
SCALE NONE



VIEW LOOKING INTO BOX WITH SIDES LAID DOWN

ORDERING INSTRUCTIONS – BOXES



L-127-16030

16030-2.1B

Catalog Number and Inside Dimensions (L x W x D) Should be specified.

Conduit Entrances – Sizes and Locations Should be furnished on a drilling template (or comparable sketch) similar to the Drilling Template shown on page 27. These templates, in pad form, are available upon request with small supply in pocket at back of binder.

Conduit Entrances – Types Should be specified as follows:

1. Slip Hole (drilled only – for conduit clearance).
2. Drilled and Tapped Hole (D&T). If Thread Chart in next column shows that the box wall thickness does not permit required number of threads, specify bosses.
3. Bossed, Drilled and Tapped hole to provide a minimum of five full threads (Boss-D&T)
4. Boss only, for drilling and tapping in field – specify conduit size.

Conduit Spacings Minimum spacing between conduit centers and their distance from corner and back of box are given in tables on page 27. When not specified, spacings will be selected at our discretion.

Mounting Lugs Standard on Types HF, HC-T, HC-S, RB, EX and DH boxes, optional on other types. Unless locations are otherwise specified, lugs will be placed on each long side of box and will be spaced and drilled to our standards. See additional mounting lug data in the tables on page 26.

Mounting Buttons For mounting equipment in back of box - location should be indicated on sketch or drilling template. Buttons are usually 3/8" high and 3/4" diameter with larger sizes available at the same price, and buttons are normally blind tapped for 1/4"-20 screws.

THREAD CHART

CONDUIT SIZE	NUMBER OF THREADS PER INCH	WALL THICKNESS REQUIRED INCHES		
		5 THREADS	3½ THREADS	3 THREADS
3/8"	18	9/32	7/32	3/16
1/2" to 3/4"	14	3/8	1/4	7/32
1" to 2"	11-1/2	7/16	5/16	9/32
2-1/2" to 6"	8	5/8	7/16	3/8

UL requirements: 1/4" minimum wall thickness, EX boxes – 5 threads, DH & DH-A boxes – 3-1/2 threads, other box styles – 3 threads.

ADDITIONAL BOX CHARGES

TABLE A
(ALL BOX TYPES EXCEPT HF, HF-A & EX)

CONDUIT SIZE	DRILLING ONLY (SLIP HOLE) LIST	DRILLING & TAPPING (NO BOSS) LIST	BOSS ONLY NO TAPPING LIST	BOSS FOR 5 THREADS & TAPPING LIST
3/8", 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 3-1/2", 4", 4-1/2", 5", 6"	For Prices, contact Distributor or Sales Representative.			

TABLE B
(BOX TYPES HF & HF-A)

CONDUIT SIZE	DRILLING & TAPPING (NO BOSS) LIST	BOSS FOR 5 THREADS & TAPPING LIST
3/8", 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 3-1/2", 4", 4-1/2", 5", 6"	For Prices, contact Distributor or Sales Representative.	

TABLE C
(BOX TYPE EX)

DRILLING & TAPPING 5 THREADS LIST
**

MOUNTING LUGS WITH BOLT HOLES

BOX SIZE	NO. OF LUGS	LIST PRICE
Up to 6"L. x 4"W.	2, 4	**
Sizes 6"L. x 6"W. Up to 12"L. x 4"W.	2, 4	
Sizes 12"L. x 6"W. Up to 18"L. x 16"W.	2, 4	
18"L. x 18"W. & Larger	4	

Mounting lugs are standard equipment on Box Types HF, HF-A and EX

HINGES

TYPE	LENGTH HINGED SIDE	BUTT HINGES PER BOX	LIST PRICE PER BOX
Stainless Steel Butt for JR boxes	Up to 12"	2	**
Stainless Steel Plano – 1 per box, all styles	13" to 18"	2	
	19" to 24"	3	
	25" to 36"	3	
Cast Ductile Iron for HF & EX boxes	Up to 24"	2	
Cast Aluminum for HF-A boxes	Over 24"	3	

INTERIOR MOUNTING BUTTONS
BLIND TAPPED FOR 1/4"-20

NUMBER PER BOX	LIST PRICE
1, 2, 3	**

HASPS & STAPLES
GALVANIZED STEEL
EXCLUDES LOCK

BOX SIZE	LIST PRICE
Up to 12" x 12"	**

COMBINATION
DRAIN-BREATHER FITTINGS,
INCLUDES TAPPED HOLE

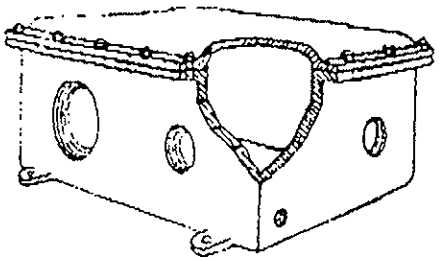
SIZE	LIST PRICE
3/8"	

SPRING CITY ELECTRICAL MFG. CO., SPRING CITY, PA. 19475

EXPLOSION-PROOF JUNCTION BOXES

TYPE EX — for surface mounting

DUST-TIGHT AND EXPLOSION-PROOF
(NEMA 7, CLASS I, GROUP D)
(NEMA 9, CLASS II, GROUPS E,F&G)



Type EX boxes are explosion-proof as well as dust-tight. All joints are the metal-against-metal type with no gasket. The wide flanges are ground to very close tolerances and with the larger number of cap screws used in assembling provide an explosion-proof enclosure in hazardous concentrations of atmospheres containing gasoline, hexane, naphtha, benzene, butane, propane, alcohol, acetone, benzol, laquer solvent vapors or methane (NEMA 7). The generous radii where box walls meet back of box reduces usable inside depth.

Standard Construction:

1. Extra heavy cast iron box and cover
2. Hot-dip galvanized finish
3. Stainless steel cover screws
4. Mounting lugs

At Additional Cost:

(See page 24)

1. Drilled and tapped holes
2. Bosses to provide five full threads
3. Interior mounting buttons, blind tapped
4. Mounting plate
5. Hinges for covers - located on long side and right side unless otherwise specified

For ordering instructions, see pages 24 & 27

CATALOG NUMBER	INSIDE DIMENSIONS INCHES L x W x D	LIST PRICE	MAXIMUM CONDUIT SIZE*	APPROX. WEIGHT LBS.
EX 040402	4 x 4 x 2	For Prices, contact Distributor or Sales Representative.	3/4	15
EX 040404	4 x 4 x 4		2	21
EX 050504	5 x 5 x 4		2	24
EX 060604	6 x 6 x 4		2	39
EX 060606	6 x 6 x 6		2	48
EX 080404	8 x 4 x 4		2	38
EX 080604	8 x 6 x 4		2	47
EX 080606	8 x 6 x 6		2	60
EX 080804	8 x 8 x 4		2	57
EX 080806	8 x 8 x 6		2	72
EX 080808	8 x 8 x 8		2	78
EX 090804	8½ x 7⅛ x 4		2	65
EX 100804	10 x 8 x 4		2	69
EX 100806	10 x 8 x 6		2	84
EX 100808	10 x 8 x 8		2	92
EX 101004	10 x 10 x 4		2	83
EX 101006	10 x 10 x 6		2	100
EX 101008	10 x 10 x 8		2	110
EX 120604	12 x 6 x 4		2	60
EX 120606	12 x 6 x 6		2	70
EX 120804	12 x 8 x 4		2	80
EX 120808	12 x 8 x 8		2	120
EX 121204	12 x 12 x 4		2	115
EX 121206	12 x 12 x 6		2	140
EX 121208	12 x 12 x 8		2	160
EX 121210	12 x 12 x 10		2	175
EX 121212	12 x 12 x 12		2	195
EX 140806	14 x 8 x 6		2	120
EX 140808	14 x 8 x 8		2	135
EX 141006	14 x 10 x 6		2	138
EX 141008	14 x 10 x 8		2	154
EX 160606	16 x 6 x 6		2	140
EX 161204	16 x 12 x 4		2	180
EX 161206	16 x 12 x 6		2	210
EX 161208	16 x 12 x 8		2	240
EX 161210	16 x 12 x 10		2	270

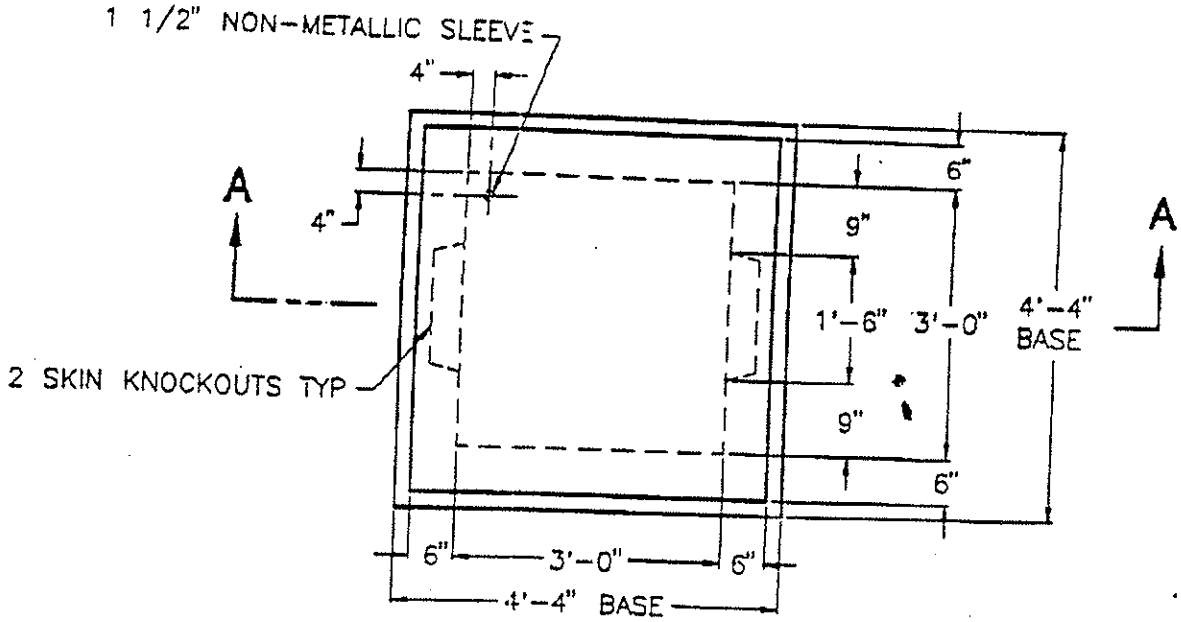
CATALOG NUMBER	INSIDE DIMENSIONS INCHES L x W x D	LIST PRICE	MAXIMUM CONDUIT SIZE*	APPROX. WEIGHT LBS.
EX 161212	16 x 12 x 12	For Prices, contact Distributor or Sales Representative.	2	295
EX 181806	18 x 18 x 6		2	290
EX 181808	18 x 18 x 8		2	345
EX 181812	18 x 18 x 12		2	450
EX 201006	20 x 10 x 6		2	180
EX 201008	20 x 10 x 8		2	210
EX 201208	20 x 12 x 8		2	280
EX 240404	24 x 4 x 4		2	100
EX 241206	24 x 12 x 6		2	230
EX 241208	24 x 12 x 8		2	260
EX 241210	24 x 12 x 10		2	290
EX 241212	24 x 12 x 12		2	330
EX 241806	24 x 18 x 6		2	300
EX 241808	24 x 18 x 8		2	330
EX 241810	24 x 18 x 10		2	370
EX 241812	24 x 18 x 12		2	400
EX 242408	24 x 24 x 8		2	580
EX 242412	24 x 24 x 12		2	725
EX 301208	30 x 12 x 8		2	305
EX 301210	30 x 12 x 10		2	335
EX 301212	30 x 12 x 12		2	370
EX 301808	30 x 18 x 8		2	390
EX 301810	30 x 18 x 10		2	425
EX 301812	30 x 18 x 12		2	455
EX 302408	30 x 24 x 8		2	490
EX 302410	30 x 24 x 10		2	525
EX 302412	30 x 24 x 12		2	570
EX 303008	30 x 30 x 8		2	725
EX 303010	30 x 30 x 10		2	900
EX 303012	30 x 30 x 12		2	1000
EX 321208	32 x 12 x 8		2	330
EX 340404	34 x 4 x 4		2	120
EX 362408	36 x 24 x 8		2	800
EX 362412	36 x 24 x 12		2	900
EX 363010	36 x 30 x 10		6	1100
EX 470906	46½ x 9 x 6		6	340

*Maximum size conduit entrance which will allow five full threads (required in all Type EX bosses). Larger conduit

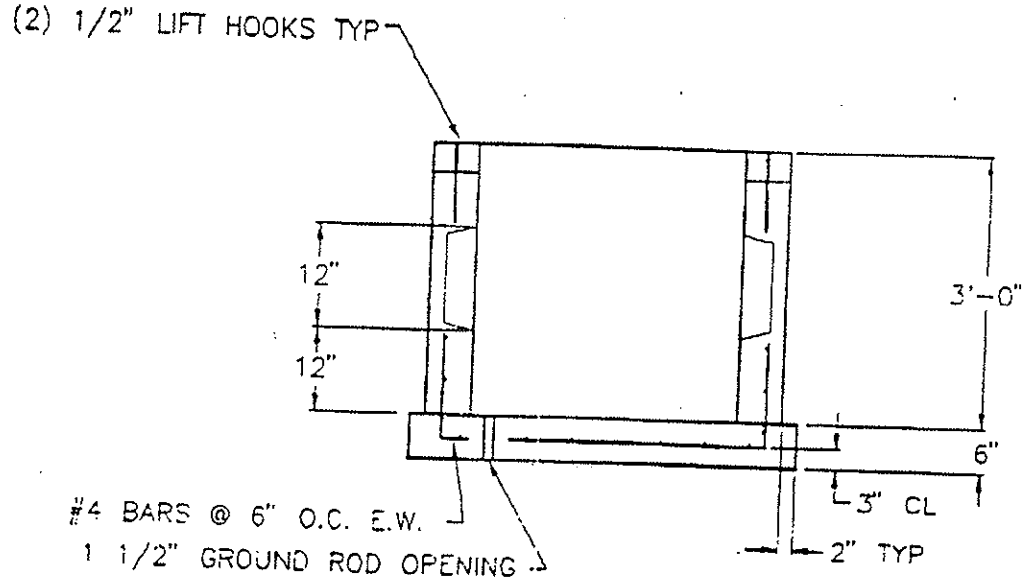
G.C. MONACO ELECTRIC
& DAUGHTER, INC.
261 W. LINCOLN AVE.
MT. VERNON, NY 10550

PELHAM BAY LANDFILL
CONT #875 HP
CONCRETE ELEC HANDHOLE.

16030 -
2.1 B



PLAN



SECTION A-A

L-93-16030

NOTES:
1. CONCRETE TO TEST 4000 P.S.I. @ 28 DAYS
2. REINFORCEMENT MEETS A.S.T.M. A-615 SPECIFICATIONS

AFCO Precast corp.
MAIN OFFICE
350 Orchard Road,
Lake Success,
NEW YORK, 11772
MANUFACTURES OF QUALITY PRECAST CONCRETE
PHONE (516) 654-3370 FAX (516) 654-3708

TITLE: 3'-0"x3'-0"x3'-0" HANDHOLE

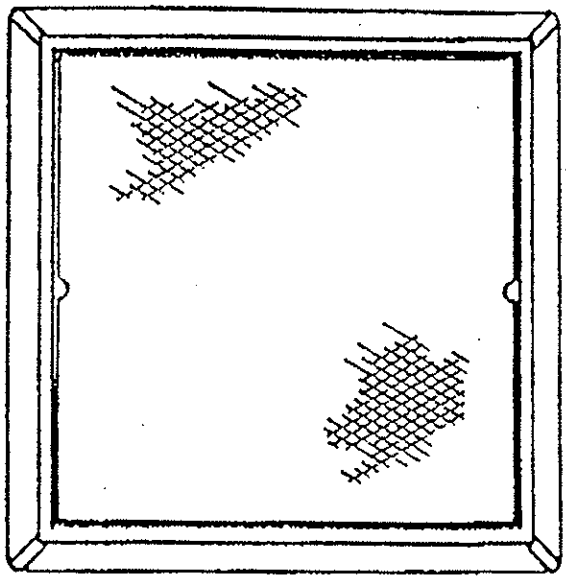
CATALOG NO: 3X3X3HH DRAWN BY: S.I.

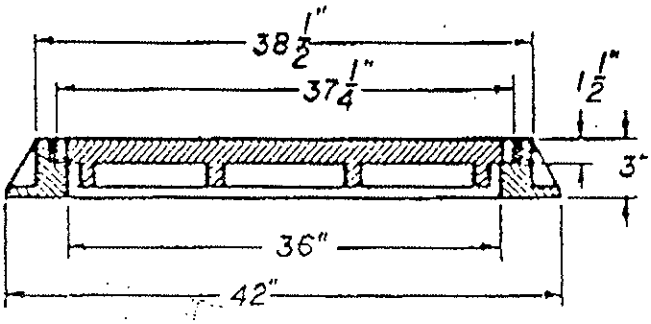
P-1233

PATTERN NO. 2804A

HEAVY DUTY will safely withstand A.A.S.H.T.O. H20-S16 Highway Loading and will support the heaviest wheel load permitted by State Governments.

16030-2.1.B





This drawing shows the general configuration of the casting or castings to be supplied. Dimensions are approximate and may vary. Drawings should not be scaled where no dimensions are shown. Weight of castings is based on final dimension and is estimated only. There are no representations made concerning the suitability of the design or the materials specified since the manufacturer has no control over such matters except the final application or installation of the product named for them.

G.C. MONACO ELECTRIC
& DAUGHTER, INC.
261 LINCOLN AVE.
MT. VERNON, NY 10550

PELHAM BAY LANDFILL
CONT #875 PP
CAST IRON COVER FOR ELEC H.H
L-82-16030

GRAY IRON		
SPECIFICATION	TENSILE STRENGTH	CLASS
ASTM A 48-83	30,000 psi	30B

CAMPBELL
Construction
Castings

Underground Duct Bank - Conduit & Wire

Conduit

Galvanized Rigid Steel Conduit

½" thru 6" Diameters

SPECIFICATIONS

INDUSTRY STANDARDS

UL 6 - Rigid Metal Electrical Conduit
Federal Spec. WWC-581-E - Conduit, Metal, Rigid, and Intermediate
ANSI Standard C80-1 - Rigid Steel Conduit, Zinc Coated

APPLICATIONS:

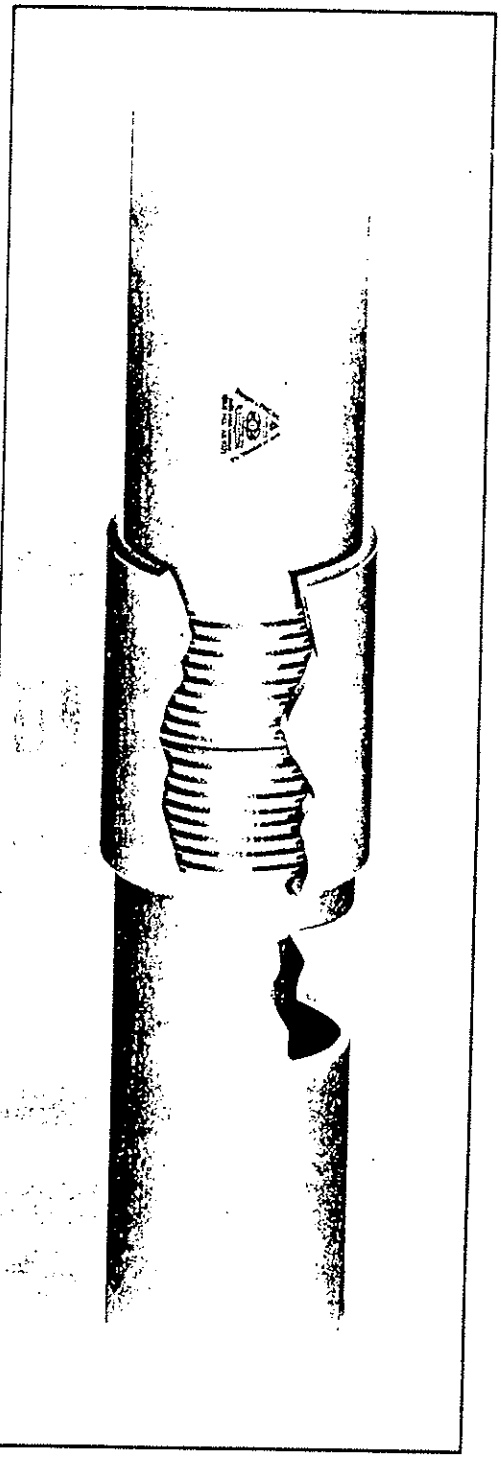
Galvanized Rigid Metal Conduit shall be installed in accordance with the National Electrical Code's Article 346 - "Rigid Metal Conduit."

- Under all atmospheric conditions and occupancies
- In concrete, in direct contact with earth or in areas subject to severe corrosive influences.
- In or under cinder fill where subject to permanent moisture when protected on all sides by a layer of non-cinder concrete not less than 2 inches thick; when the conduit is not less than 18 inches under the fill.

CONSTRUCTION:

Triangle PWC hot-dipped galvanized rigid steel conduit is produced from high grade raw steel pipe which has been thoroughly cleaned prior to final coating to insure permanent adhesion. It is completely protected from any corrosion by a special protection process:

1. The interior as well as the exterior are coated with a solid, unbroken layer of zinc. The tenacious bond between the zinc and steel layers is formed by the co-mingling of steel and zinc into a transitional steel/zinc alloy layer, providing the superior protective bonding of an alloyed interface.
2. The threads on the conduit are zinc coated after cutting by Triangle's exclusive Galv-Coat process.
3. The conduit is coated with a durable bichromate finish or other suitable treatments which prevent oxidation and white rust.



Triangle PWC, Inc.
P.O. Box 711 / New Brunswick, New Jersey 08903
Telephone (908) 745-5500

Conduit

Galvanized Rigid Steel Conduit

½" thru 6" Diameters

STANDARD SIZES

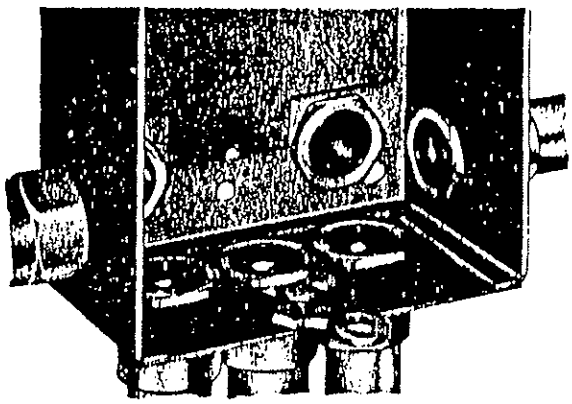
Trade Size of Conduit	Outside Diameter, Inches	Wall Thickness, Inches	Length Feet & Inches (without Coupling)	Approx. Weight Per 10 Lengths with Couplings	Quantity in Primary Bundle Feet	Quantity in Master Bundle Feet	Approx. Weight of Master Bundle
½	.840	.109	9'-11¼"	81	100	2500	2025
¾	1.050	.113	9'-11¼"	108	50	2000	2160
1	1.315	.133	9'-11"	155	50	1250	1938
1¼	1.660	.140	9'-11"	204	—	900	1836
1½	1.900	.145	9'-11"	249	—	800	1992
2	2.375	.154	9'-11"	336	—	600	2016
2½	2.875	.203	9'-10½"	548	—	370	2028
3	3.500	.216	9'-10½"	690	—	300	2070
3½	4.000	.226	9'-10¼"	861	—	250	2153
4	4.500	.237	9'-10¼"	982	—	200	1964
5	5.563	.258	9'-10"	1370	—	150	2055
6	6.625	.280	9'-10"	1812	—	100	1812

Suitable for Hazardous Location
Class I, Div. 2;
Class II, Div. 1 and 2;
Class III, Div. 1 and 2;
NEC 501-4(b), 502-4(a), 503-3(a)

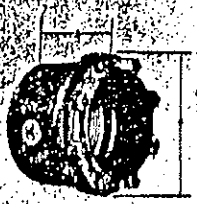
UL LISTED File #E14814A CSA File #13053

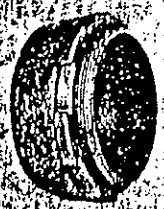
Trade Net Price Sheet
Effective October 5, 1987
CF-2-1087

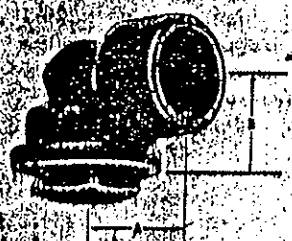
Threaded Rigid and IMC Conduit Hubs



Appleton's Uni-Seal Rigid Conduit Hubs eliminate the need for welded hubs. Efficiency of installation is built into the superior design; single wrench installation. Patented hex-hub wedge adaptor fits nearly flush against inside walls of enclosures; provides maximum wiring room. Simple two-piece construction. Protective insulated throats, positive grounding and water-tight sealing action. Flame resistant insulated throat eliminates need for end bushings. Locking edge of body bites into enclosure wall, makes hub self-locking; eliminates the need for locknuts, provides continuous 360° pressure on both sides of enclosure wall, forms positive grounding and vibration-resistant connection. Built-in recessed neoprene gasket.







Catalog No.	Size	Hole Dia. Min.	Hole Dia. Max.	Wall Thickness Min.	Wall Thickness Max.	Dimensions A	Dimensions B	Wt. Lbs. Per 100	Ctn. Qty.	Std. Pkg.	Trade Net Price Per 100 Less Than Std./Ctn.	Trade Net Price Per 100 Carton Qty.	Trade Net Price Per 100 Standard Pkg.
Straight													
HUB-50	1/2	7/8	15/16 31/32	1/16 3/32	5/64 1/4	15/64	17/64	16.0	25	100	$540.80	$422.50	$338.00
HUB-75	3/4	1 3/32	1 5/32 1 7/32	1/16 3/32	5/64 1/4	17/64	1 3/8	23.0	25	100	613.20	479.06	383.25
HUB-100	1	1 11/32	1 13/32 1 15/32	1/16 3/32	5/64 1/4	1 1/4	1 23/32	39.0	10	50	767.76	599.81	479.85
HUB-125	1 1/4	1 11/16	1 25/32 1 27/32	1/16 3/32	5/64 5/16	1 51/64	2 5/16	77.0	5	25	959.28	749.44	599.55
HUB-150	1 1/2	1 15/16	2 1/32 2 3/32	1/16 3/32	5/64 5/16	1 53/64	2 5/8	92.0	5	10	1120.56	875.44	700.35
HUB-200	2	2 25/64	2 17/32 2 19/32	1/16 3/32	5/64 5/16	1 7/8	3 1/8	134.0	—	5	1454.40	....	909.00
HUB-250	2 1/2	2 57/64	3 1/64	3/32	5/16	2 25/64	3 5/8	236.0	1	5	....	2221.25	1777.00
HUB-300	3	3 33/64	3 41/64	3/32	5/16	2 31/64	4 5/16	310.0	1	2	....	3133.75	2507.00
HUB-350	3 1/2	4 1/64	4 1/8	3/32	5/16	2 9/16	4 13/16	400.0	—	1	....	....	3602.00
HUB-400	4	4 33/64	4 5/8	3/32	5/16	2 5/8	5 7/16	475.0	—	1	....	....	4505.00
HUB-500†	5	5 19/32	5 13/16	1/8	3/4	2 1/16	6 5/8	834.0	—	1	....	....	10,856.00
HUB-600†	6	6 21/32	6 7/8	1/8	3/4	2 1/16	7 11/16	1000.0	—	1	....	....	17,007.00
90°—Malleable Iron													
HUB-90 50	1/2	7/8	15/16 31/32	1/16 3/32	5/64 1/4	1 9/32	7/8	36.0	25	50	534.24	417.38	333.90
HUB-90 75	3/4	1 3/32	1 5/32 1 7/32	1/16 3/32	5/64 1/4	1 7/16	1 5/16	50.0	10	50	697.20	544.69	435.75
HUB-90 100	1	1 11/32	1 13/32 1 15/32	1/16 3/32	5/64 1/4	1 5/8	1 1/8	75.0	5	25	944.00	737.50	590.00

Available with **PVC** COATING—REFER TO FACTORY FOR PRICE AND DETAILS.

†U.S. Pat #3,059,663 (Not UL Listed
Can. Pat #706,255

Discount Schedule CF-2
This Cancels CF-2-0787
Prices subject to change without notice.

Appleton ELECTRIC COMPANY
1701 W. Wellington Ave.
Chicago, Illinois 60657

Suitable for Hazardous Location
Class I, Div. 2;
Class II, Div. 1 and 2;
Class III, Div. 1 and 2;
NEC 501-4(b), 502-4(a) (2), 503-3(a)

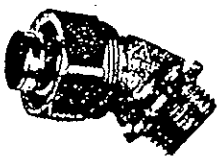
UL LISTED File #14814A

CSA File #13053

Liquid Tight "ST" Flexible Metal Conduit Connectors§

Steel 3/8"—1"

Malleable Iron 1¼"—6"



Steel 3/8"—1"
Malleable Iron 1¼"—4"

Steel 3/8"—1"
Malleable Iron 1¼"—4"

Catalog No.	Size	Wt. Lbs. Per 100	Ctn. Qty.	Std. Pkg.	Trade Net Price Per 100 Less Than Std./Ctn.	Carton Qty.	Standard Pkg.
Straight							
ST-38	3/8 flex, 1/2 hub	16.0	25	100	$ 260.32	$ 203.38	$ 162.70
~~ST-50~~	~~1/2~~	15.0	25	100	260.32	203.38	162.70
ST-75	3/4	22.0	25	50	372.48	291.00	232.80
ST-100	1	34.0	5	25	546.24	426.75	341.40
ST-125	1¼	84.0	5	25	940.40	734.69	587.75
ST-150	1½	120.0	2	10	1336.32	1044.00	835.20
ST-200	2	165.0	1	5	....	1918.38	1534.70
ST-250	2½	350.0	1	5	....	9238.75	7391.00
ST-300	3	450.0	1	5	....	10,400.00	8320.00
ST-350	3½	525.0	1	5	....	12,318.75	9855.00
ST-400	4	664.0	1	5	....	12,318.75	9855.00
ST-500†	5	1000.0	—	1	....	....	17,779.00
ST-600†	6	1900.0	—	1	....	....	42,105.00
45°							
ST-4538	3/8 flex, 1/2 hub	19.0	25	50	404.24	315.81	252.65
~~ST-4550~~	~~1/2~~	19.0	25	50	404.24	315.81	252.65
ST-4575	3/4	32.0	25	50	616.40	481.56	385.25
ST-45100	1	46.0	5	25	1249.44	976.13	780.90
ST-45125	1¼	103.0	5	25	1921.60	1501.25	1201.00
ST-45150	1½	165.0	2	10	2321.60	1813.75	1451.00
ST-45200	2	245.0	1	5	....	2648.75	2119.00
ST-45250	2½	760.0	1	5	....	11,706.25	9365.00
ST-45300	3	962.0	—	1	....	....	11,327.00
ST-45400	4	1512.0	—	1	....	....	12,873.00
90°							
ST-9038	3/8 flex, 1/2 hub	22.8	25	50	404.24	315.81	252.65
~~ST-9050~~	~~1/2~~	23.0	25	50	404.24	315.81	252.65
ST-9075	3/4	39.0	10	50	616.40	481.56	385.25
ST-90100	1	62.0	5	25	1249.44	976.13	780.90
ST-90125	1¼	114.0	5	25	1920.00	1500.00	1200.00
ST-90150	1½	195.0	2	10	2321.60	1813.75	1451.00
ST-90200	2	290.0	1	5	....	2648.75	2119.00
ST-90250	2½	843.0	1	5	....	11,706.25	9365.00
ST-90300	3	1100.0	—	1	....	....	11,327.00
ST-90400	4	2100.0	—	1	....	....	14,626.00

AVAILABLE WITH PVC COATING—REFER TO FACTORY FOR PRICE AND DETAILS.

U.S. Pat 2,782,060
2,687,757
Can. Pat 507,070
708,255
†UL Listing Not Applicable

Discount Schedule ST
This Cancels ST-287.
Prices subject to change without notice.

Appleton ELECTRIC COMPANY
1701 W. Wellington Ave.
Chicago, Illinois 60657

CF-2

Trade Net Price Sheet
Effective October 5, 1987

CF-2-1087

Threaded Rigid Conduit and IMC Couplings and Connectors

UL LISTED File #E14814

CSA File #LR13053

½"-2"—Steel

1"-6"—Malleable Iron

Catalog No.	Size	Dimensions A	Dimensions B	Dimensions C	Wt. Lbs. Per 100	Ctn. Qty.	Std. Pkg.	Trade Net Price Per 100 Less Than Std./Ctn.	Carton Qty.	Standard Pkg.
Three Piece Unions—Concrete Tight										
~~EC-50~~	~~½~~	1 7/16	1 7/16	—	16.5	10	100	$ 259.20	$ 202.50	$ 162.00
EC-75	¾	1 9/16	1 9/16	—	24.0	10	100	336.08	262.56	210.05
EC-100	1	1 11/16	2	—	58.0	5	25	642.08	501.63	401.30
EC-125	1¼	2 1/8	2 7/16	—	98.0	5	25	1182.08	923.50	738.80
EC-150	1½	2 3/16	2 11/16	—	134.0	5	25	1488.00	1162.50	930.00
EC-200	2	2 7/16	3 1/4	—	198.0	5	25	2976.00	2325.00	1860.00
EC-250	2½	2 5/8	3 13/16	—	255.0	2	10	6369.60	4976.25	3981.00
EC-300	3	2 5/8	4 5/8	—	394.0	1	10	....	7563.75	6051.00
EC-350	3½	2 5/8	5 3/16	—	380.0	1	5	....	12,173.75	9739.00
EC-400	4	3 7/16	5 11/16	—	700.0	1	5	....	14,316.25	11,453.00
EC-500	5	3½	6 15/16	—	788.0	1	2	....	.....	23,596.00
EC-600	6	3½	8 1/8	—	825.0	—	1	....	....	31,444.00
90° Female Gasketed Pulling Elbows—Watertight—Malleable Iron										
~~FFL-50~~	~~½~~	1 3/16	—	—	31.0	10	100	506.64	395.81	316.65
FFL-75	¾	1 11/32	—	—	46.0	10	50	590.24	461.13	368.90
FFL-100	1	1 19/32	—	—	76.0	5	25	991.52	774.63	619.70
FFL-125	1¼	3 7/8	—	—	120.0	5	25	1326.40	1036.25	829.00
FFL-150	1½	4 1/2	—	—	160.0	5	10	1878.40	1467.50	1174.00
FFL-200	2	5 5/8	—	—	293.0	5	10	3041.60	2376.25	1901.00
90° Male to Female Gasketed Pulling Elbows—Watertight—Malleable										
~~MFL-50~~	~~½~~	1 3/16	1 7/16	15/32	36.0	10	100	506.64	395.81	316.65
MFL-75	¾	1 11/32	1 17/32	½	55.0	10	50	590.24	461.13	368.90
MFL-100	1	1 19/32	1¾	9/16	90.0	5	25	991.52	774.63	619.70
MFL-125*	1¼	3 7/8	2 5/8	15/16	141.0	5	25	1326.40	1036.25	829.00
MFL-150*	1½	4 1/2	3	1	192.0	5	10	1878.40	1467.50	1174.00
MFL-200*	2	5 5/8	3 11/16	1¼	335.0	5	10	3041.60	2376.25	1901.00
90° Female Pulling Elbows—Malleable Iron††										
~~PFFL-50~~	~~½~~	2 7/16	1 1/8	—	49.0	10	100	944.00	737.50	590.00
PFFL-75	¾	2 23/32	1 3/8	—	76.0	5	50	999.60	780.94	624.75
PFFL-100	1	3 1/4	1 23/32	—	121.0	5	20	1307.04	1021.13	816.90
90° Female Elbows††										
~~LF90-50~~	~~½~~	1½	—	—	39.0	10	100	.....	356.25	285.00
LF90-75	¾	1 11/16	—	—	53.0	10	100	.....	431.25	345.00
90° Male to Female Long Bushed Elbows—Malleable Iron††										
~~LMFL90-50~~	~~½~~	1¾	1 25/32	19/32	32.5	25	100	328.24	256.44	205.15
LMFL90-75	¾	2¼	2 9/32	11/16	50.0	5	25	451.92	353.06	282.45
LMFL90-100	1	2 21/32	2 11/16	¾	87.0	5	25	1034.88	808.50	646.80
LMFL90-125	1¼	3 5/16	3 11/32	1	126.0	5	20	1560.00	1218.75	975.00
LMFL90-150	1½	3 15/16	3 31/32	1 1/16	170.0	5	10	2659.20	2077.50	1662.00
LMFL90-200	2	4	4	1 1/16	410.0	1	10	.....	3025.00	2420.00
90° Male to Female Short Bushed Elbows—Malleable Iron††										
~~LMF90-50~~	~~½~~	1¼	1 13/32	½	23.0	25	100	258.08	201.63	161.30
LMF90-75	¾	1 7/16	1 11/16	13/16	36.0	25	100	352.80	275.63	220.50
LMF90-100	1	1 21/32	1 15/16	1	58.0	10	100	592.00	462.50	370.00
90° Male to Female Short Box Connectors—Malleable Iron††										
~~LMF90-50L~~	~~½~~	1¼	1 3/32	7/16	26.0	25	50	368.00	287.50	230.00
LMF90-75L	¾	1 7/16	1¼	7/16	34.0	25	50	470.40	367.50	294.00

††Not CSA Certified *Furnished with Removable Nipple

Discount Schedule CF-2
This Cancels CF-2-287.
Prices subject to change without notice.

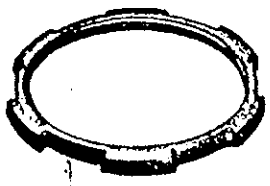
Appleton ELECTRIC COMPANY

1701 W. Wellington Ave.
Chicago, Illinois 60657

UL LISTED
File #E14814

Rigid Conduit and IMC Locknuts

½"—2" Steel



2½"—6" Malleable Iron

½"—2" Steel

2½"—6" Malleable Iron

Non-Locking Type

Catalog No.	Size	Dimensions A	Dimensions B	Dimensions C	Wt. Lbs. Per 100	Ctn. Qty.	Std. Pkg.	Trade Net Price Per 100 Less Than Std./Ctn.	Trade Net Price Per 100 Carton Qty.	Trade Net Price Per 100 Standard Pkg.
"Tiger Grip" Locknuts										
BL38	3/8	15/16	1/8	—	1.4	100	2500	$ 26.00	$ 20.31	**$ 16.25**
~~**BL50**~~	~~1/2~~	1 1/8	1/8	—	1.3	100	1000	15.52	12.13	**9.70**
BL75	3/4	1 3/8	5/32	—	2.4	100	1000	24.56	19.19	**15.35**
BL100	1	1 11/16	3/16	—	4.0	50	500	42.32	33.06	**26.45**
BL125	1 1/4	2 9/32	3/16	—	5.5	50	200	53.92	42.13	**33.70**
BL150	1 1/2	2 9/16	3/16	—	10.0	50	100	80.40	62.81	**50.25**
BL200	2	3 5/32	3/16	—	13.9	25	100	119.60	93.44	**74.75**
BL250	2 1/2	3 1/2	3/8	—	24.0	10	50	305.28	238.50	**190.80**
BL300	3	4 3/16	3/8	—	32.0	10	50	391.44	305.81	**244.65**
BL350	3 1/2	4 3/4	7/16	—	47.0	5	20	662.40	517.50	**414.00**
BL400	4	5 11/32	7/16	—	60.0	5	20	827.20	646.25	**517.00**
BL500	5	6 5/8	1/2	—	98.0	5	10	1761.60	1376.25	**1101.00**
BL600	6	7 7/8	9/16	—	160.0	5	10	3012.80	2353.75	**1883.00**
Gasketed Sealing Locknuts—Steel										
~~**BLSG50**~~	~~1/2~~	1 1/8	1/4	—	1.4	100	1000	83.20	65.00	**52.00**
BLSG75	3/4	1 7/16	1/4	—	2.6	100	1000	97.12	75.88	**60.70**
BLSG100	1	1 3/4	9/32	—	5.0	50	500	146.48	114.44	**91.55**
BLSG125	1 1/4	2 3/32	9/32	—	6.8	50	200	227.44	177.69	**142.15**
BLSG150	1 1/2	2 13/32	9/32	—	11.5	50	100	292.16	228.25	**182.60**
BLSG200	2	2 15/16	5/16	—	14.7	25	100	376.32	294.00	**235.20**
BLSG250	2 1/2	3 1/2	3/8	—	24.0	20	100	985.60	770.00	**616.00**
BLSG300	3	4 3/16	3/8	—	32.0	10	50	1523.20	1190.00	**952.00**
BLSG350	3 1/2	4 3/4	7/16	—	47.0	10	50	1852.80	1447.50	**1158.00**
BLSG400	4	5 11/32	7/16	—	60.0	5	25	2100.80	1641.25	**1313.00**
BLSG500	5	6 5/8	1/2	—	98.0	1	5	....	2867.50	**2294.00**
BLSG600	6	7 7/8	9/16	—	160.0	1	5	....	5112.50	**4090.00**
Grounding Locknuts—Malleable Iron										
~~**GL-50**~~	~~1/2~~	1 3/16	1/4	19/32	3.0	100	1000	97.44	76.13	**60.90**
GL-75	3/4	1 3/8	1/4	21/32	3.0	50	500	122.16	95.44	**76.35**
GL-100	1	1 11/16	1/4	1	5.0	50	500	168.00	131.25	**105.00**
GL-125	1 1/16	2 1/16	1/4	1 1/32	6.0	50	500	208.00	162.50	**130.00**
GL-150	1 1/2	2 11/32	1/4	1 1/8	7.0	50	500	257.60	201.25	**161.00**
GL-200	2	2 29/32	9/32	1 3/8	13.0	25	250	350.40	273.75	**219.00**
GL-250	2 1/2	3 19/32	1/4	1 7/8	18.0	10	100	656.00	512.50	**410.00**
GL-300	3	4 5/32	3/8	2 1/4	37.0	10	100	827.20	646.25	**517.00**
GL-350	3 1/2	4 7/8	3/8	2 1/2	45.0	5	50	1355.20	1058.75	**847.00**
GL-400	4	5 3/8	3/8	2 3/4	50.0	5	50	1728.00	1350.00	**1080.00**

U.S. Pat. #2,687,757
Can. Pat. #507,070

Appleton ELECTRIC COMPANY
1701 W. Wellington Ave.
Chicago, Illinois 60657

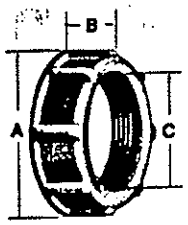
CF-2

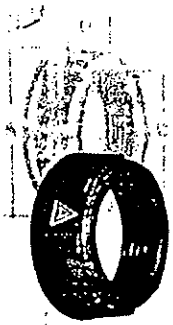
Trade Net Price Sheet
Effective October 5, 1987

CF-2-1087

UL LISTED

Rigid Conduit and IMC Bushings





Catalog No.	Size	Dimensions A	Dimensions B	Dimensions C	Wt. Lbs. Per 100	Ctn. Qty.	Std. Pkg.	Trade Net Price Per 100: Less Than Std./Ctn.	Trade Net Price Per 100: Carton Qty.	Trade Net Price Per 100: Standard Pkg.
Bushings—Malleable Iron										
~~BU50~~	~~1/8~~	1 1/16	11/32	19/32	2.0	100	1000	$ 30.00	$ 23.44	$ 18.75
BU75	3/4	1 1/4	3/8	13/16	3.2	100	1000	39.92	31.19	24.95
BU100	1	1 5/8	1/2	1	8.2	50	500	63.68	49.75	39.80
BU125	1 1/4	2	1/2	1 11/32	11.0	50	200	90.00	70.31	56.25
BU150	1 1/2	2 5/16	1/2	1 9/16	13.0	50	200	132.16	103.25	82.60
BU200	2	2 29/32	9/16	2	24.0	25	100	206.40	161.25	129.00
BU250	2 1/2	3 1/4	3/4	2 1/2	36.0	10	50	473.60	370.00	296.00
BU300	3	3 7/8	13/16	3	45.0	10	50	569.60	445.00	356.00
BU350	3 1/2	4 9/16	13/16	3 17/32	85.0	5	20	1161.60	907.50	726.00
BU400	4	5 1/16	13/16	4	100.0	5	20	1428.80	1116.25	893.00
BU500	5	6 5/16	1	4 7/8	155.0	1	10	....	2315.00	1852.00
BU600	6	7 7/16	1	5 7/8	265.0	1	10	....	4147.50	3318.00
Bushings—Insulated—Malleable Iron										
~~BU50 I~~	~~1/2~~	1 1/16	13/32	19/32	2.3	100	1000	103.68	81.00	64.80
BU75 I	3/4	1 1/4	7/16	13/16	2.7	100	1000	154.24	120.50	96.40
BU100 I	1	1 5/8	19/32	1	7.0	50	500	222.08	173.50	138.80
BU125 I	1 1/4	2	19/32	1 11/32	12.0	50	200	322.24	251.75	201.40
BU150 I	1 1/2	2 5/16	19/32	1 9/16	13.0	50	200	400.00	312.50	250.00
BU200 I	2	2 29/32	21/32	2	23.0	25	100	577.60	451.25	361.00
BU250 I	2 1/2	3 1/4	7/8	2 1/2	37.0	10	50	1144.00	893.75	715.00
BU300 I	3	3 7/8	29/32	3	41.0	10	50	1563.20	1221.25	977.00
BU350 I	3 1/2	4 9/16	15/16	3 17/32	87.5	5	20	1993.60	1557.50	1246.00
BU400 I	4	5 1/16	15/16	4	102.5	5	20	2521.60	1970.00	1576.00
BU500 I	5	6 5/16	1 3/16	4 7/8	160.0	1	10	....	4236.25	3389.00
BU600 I	6	7 7/16	1 3/16	5 7/8	271.0	1	10	....	6517.50	5214.00
Capped Bushings—Malleable Iron										
~~BUC50~~	~~1/2~~	1 1/16	11/32	—	2.7	100	1000	71.04	55.50	44.40
BUC75	3/4	1 1/4	3/8	—	4.0	100	1000	85.36	66.69	53.35
BUC100	1	1 5/8	1/2	—	8.0	50	500	108.56	84.81	67.85
BUC125	1 1/4	2	1/2	—	12.8	50	200	151.52	118.38	94.70
BUC150	1 1/2	2 5/16	1/2	—	16.0	10	100	204.80	160.00	128.00
BUC200	2	2 29/32	9/16	—	26.0	10	100	292.00	228.13	182.50
BUC250	2 1/2	3 1/4	3/4	—	44.0	5	50	828.80	647.50	518.00
BUC300	3	3 7/8	13/16	—	51.0	5	25	1145.60	895.00	716.00
BUC350	3 1/2	4 9/16	13/16	—	96.0	5	25	1681.60	1313.75	1051.00
BUC400	4	5 1/16	13/16	—	110.0	5	20	2340.80	1828.75	1463.00
Impact Resistant Plastic Bushings—105°C Temperature Rating										
~~BBU50~~	~~1/2~~	1 1/16	13/32	19/32	0.6	100	400	16.40	12.81	10.25
BBU75	3/4	1 5/16	13/32	25/32	0.8	100	400	25.36	19.81	15.85
BBU100	1	1 9/16	9/16	1	1.5	50	200	41.84	32.69	26.15
BBU125	1 1/4	1 29/32	9/16	1 5/16	2.3	25	100	58.24	45.50	36.40
BBU150	1 1/2	2 5/16	9/16	1 9/16	3.0	25	100	79.20	61.88	49.50
BBU200	2	2 11/16	5/8	2	4.0	25	50	144.48	112.88	90.30
BBU250	2 1/2	3 3/16	23/32	2 13/32	7.8	10	20	312.48	244.13	195.30
BBU300	3	3 27/32	3/4	3	10.0	10	20	344.40	269.06	215.25
BBU350	3 1/2	4 11/32	3/4	3 13/32	13.0	5	10	426.72	333.38	266.70
BBU400	4	4 27/32	25/32	3 29/32	11.0	5	10	523.20	408.75	327.00
BBU500	5	6 3/8	1	4 15/16	44.0	—	2	1155.20	902.50	722.00
BBU600	6	7 1/2	1	5 7/8	50.0	—	2	2235.20	1746.25	1397.00

Discount Schedule CF-2
This Cancels CF-2-287.
Prices subject to change without notice.

Appleton ELECTRIC COMPANY

1701 W. Wellington Ave.
Chicago, Illinois 60657

4-2

Unilet® Conduit Outlet Bodies: Form 35®, Form 85, Mogul and LBD Conduit Outlet Boxes: JB, GS, and SEH

For Use with Rigid Steel, Rigid Aluminum, IMC, and EMT Conduit.

Not to be used in Handhole or below grade

Applications

- Serve as pulling fittings.
- Make bends in conduit system.
- Provide openings for splicing.
- Connect and change direction of conduit runs.
- Allow connections for branch runs.
- Permit access to conductors for maintenance.
- Form 35, Form 85, JB, and GS when used with cover and gasket provide enclosed and gasketed raintight fit.
- Mogul Unilets have larger wiring chambers for heavy or numerous conductors.
- LBD Unilets have larger wiring chambers with specially designed covers to facilitate pulling stiff, heavy conductors.

Features: All Unilet conduit outlet boxes and bodies

- Malleable iron Unilets: high tensile strength and ductility. High corrosion-resistance, high impact and shock resistance.
- Aluminum Unilets: copper-free aluminum (max. 4/10ths of 1% copper content). Light weight, high corrosion resistance. Self-oxidizing, self-renewing.
- Roomy interiors: more wiring space.
- Smooth, rounded integral bushing in each hub protects conductor insulation.
- Accurately tapped, tapered threads for tight, rigid joints and ground continuity.

Features: Form 35

❶Exclusive built-in easy-pulling rollers in type C (1-1/4" thru 4") and type LB (1-1/4" thru 4")—eliminate damage when cable is pulled through hubs.

- Sizes with flat-back design ideal where fitting is mounted flat against surface.
- Complete line of conduit bodies, covers and receptacles.
- All covers have captive stainless steel screws to speed installation, prevent "freezing" of screws.
- Blank covers domed for extra wiring space.

Features: Form 85

❷Exclusive built-in easy-pulling rollers in type C (2-1/2" thru 4") and type LB (2-1/2" thru 4")—eliminate damage when cable is pulled through hubs.

Appleton® ELECTRIC COMPANY

1701 W. Wellington Ave.
Chicago, Illinois 60657

Unilet® Conduit Outlet Bodies: Form 35®, Form 85, Mogul and LBD. Conduit Outlet Bodies: GS, and SEH.

For Use with Rigid Steel, Rigid Aluminum, IMC, and EMT Conduit.

- Light weight aluminum facilitates shipping, handling and installing.
- Sizes with flat-back design ideal where fitting is mounted flat against surface.
- Complete line of conduit bodies, covers and receptacles.
- All covers have captive stainless steel screws to speed installation, prevent "freezing" of screws.
- Blank covers domed for extra wiring space.

Features: Mogul Unilets

❸For installations requiring extra wiring space— excellent for heavy, stiff conductors.

- Raised cast covers for additional wiring area..
- Covers have captive stainless steel screws to speed installation, prevent "freezing" of screws.

Features: LBD Unilets

❹Serve as pulling fittings—ideal for heavy, difficult-to-bend conductors.

- Make 90° bends in conduit—straight pull through hubs in either direction.
- Excellent for use as conductor entrance to buildings, motors.
- Complete with gasketed covers.

Features: JB Series

❺Enclosed and gasketed boxes when used with hub or blank covers provide raintight fit.

- Suitable for exposed or concealed installations.
- Blind cover screw holes prevent conductor damage during installation, provide water-tightness.
- Available in three inside depths—1-5/16", 2-1/16", and 3-1/8".
- Available with or without mounting lugs.
- Furnished with four tapped holes and two close-up plugs.
- Available in malleable iron or aluminum.
- Cushion fixture hangers enclosed and gasketed (vaportight).

Features: GS Series

❻Enclosed and gasketed boxes when used with hub or blank covers provide raintight fit.

- Extra wide mating surfaces of GS box and cover provide greater gasket contact for more positive seal.
- Suitable for exposed or concealed installations.
- GSU-20 can be fitted with connection block.
- Universal design—furnished with four threaded universal 3/4" hubs, four 3/4" to 1/2" reducers, and three close-up plugs.
- Furnished with mounting lugs.
- Cushion fixture hangers enclosed and gasketed (vaportight).

Features: SEH Series

❼Economy cast conduit outlet box.

- Take wiring devices designed for 4" octagonal outlet boxes.
- Two 8-32 screw holes tapped on 3-1/2" centers.

Standard Materials

- *Form 35 Unilet conduit outlet bodies:* malleable iron.
- *Form 85 Unilet conduit outlet bodies:* aluminum—copper-free (max. 4/10th of 1%). 1/2" thru 2"—pressure cast. 2-1/2" thru 4" sand cast.
- *Mogul Unilets and covers:* malleable iron.
- *LBD Unilets and covers:* malleable iron (some sizes also in aluminum).
- *Covers for Form 35 and 85:* blank—malleable iron, steel and aluminum. Duplex grounding receptacle—phenolic. Lamp receptacle—porcelain. Wiring device and switch covers—aluminum.
- *JB, GS, and SEH conduit outlet boxes and covers plus JB and GS fixture hangers:* malleable iron.
- *JB-A boxes and covers:* copper-free aluminum.
- *Gaskets:* Neoprene or composition fiber.

Standard Finishes

- *Form 35, Mogul and LBD malleable iron bodies:* triple-coat—(1) zinc electroplate, (2) dichromate, and (3) aluminum polymer enamel.
- *Form 85 and LBD aluminum bodies:* aluminum polymer enamel.
- *Form 35 Covers:* steel: zinc electroplate. Malleable iron, 1/2" thru 1-1/2": zinc electroplate and clear chromate. Malleable iron, 2" thru 4": triple-coat—(1) zinc electroplate, (2) dichromate, and (3) aluminum polymer enamel.
- *Mogul and LBD malleable iron covers:* triple-coat—(1) zinc electroplate, (2) dichromate, and (3) aluminum polymer enamel.
- *Form 85 stamped aluminum covers:* natural finish.
- *Form 85 and LBD cast aluminum covers:* aluminum polymer enamel.
- *Malleable iron conduit outlet boxes, GS fixture hangers, 3/4" JB and GS hub covers, and SEH hub covers:* triple-coat—(1) zinc electroplate, (2) dichromate, and (3) aluminum polymer enamel.
- *JB fixture hangers, JB and GS 1/2" hub and blank covers and SEH blank cast cover:* zinc electroplate and clear chromate.
- *SEH blank steel cover:* zinc electroplate.
- *Aluminum JB conduit outlet boxes:* aluminum polymer enamel.

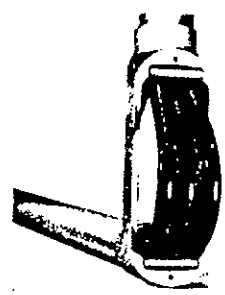
Standards

- UL Standard 514.
- Federal Spec. W-C-586B.
- Suitable for classified location use in Class I, Division 2 areas, if installed in compliance with NEC 501-4(b).
- Appleton malleable iron products conform to ASTM A47-77, Grade 32510, which has the following properties: tensile strength, 50,000 psi; yield, 32,000 psi; and elongation, 10%.
- Appleton aluminum products are produced from a high strength copper-free (4/10 of 1% max.) alloy.

Explosion-Proof Materials

- For explosion-proof conduit outlet bodies and boxes, see Catalog Section J.

Patented rollers make cable-pulling easier, eliminate insulation damage.

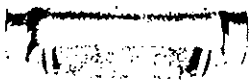
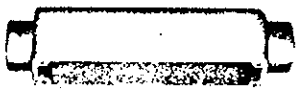
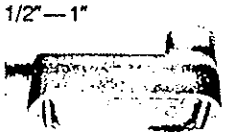
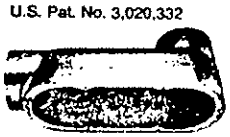
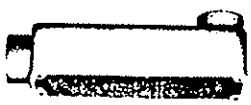


Appleton® ELECTRIC COMPANY

1701 W. Wellington Ave.
Chicago, Illinois 60657

Unilet™ Conduit Outlet Bodies: Form 35™ and Mogul, Malleable Iron; Form 85, Aluminum.

UNILETS® for Use with Threaded Rigid Metal Conduit and IMC.

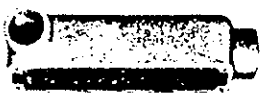
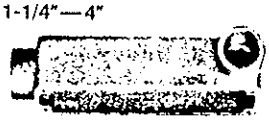
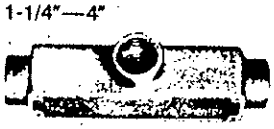
	Type	Size (Inches)	Catalog Number Malleable Iron Form 35	Malleable Iron Mogul	Aluminum Form 85
 1/2"—1"	C	1/2	C50-M		C50-A
		3/4	C75-M		C75-A
		1	C100-M	MC100-M	C100-A
 1-1/4"—4" U.S. Pat. No. 3,020,332		1-1/4	**C125-M**	MC125-M	C125-A
		1-1/2	**C150-M**	MC150-M	C150-A
	Patented Roller Feature—Listings in Bold Type	2	**C200-M**	MC200-M	C200-A
		2-1/2	**C250-M**	MC250-M	**C250-A**
		3	**C300-M**	MC300-M	**C300-A**
		3-1/2	**C350-M**	MC350-M	**C350-A**
 Mogul: 1"—4"		4	**C400-M**	MC400-M	**C400-A**
 1/2"—1"	E	1/2	E50-M		E50-A
		3/4	E75-M		E75-A
		1	E100-M		E100-A
 1-1/4"—2"		1-1/4	E125-M		
		1-1/2	E150-M		
		2	E200-M		
 1/2"—1"	LB	1/2	LB50-M		LB50-A
		3/4	LB75-M		LB75-A
		1	LB100-M	MLB100-M	LB100-A
 1-1/4"—4" U.S. Pat. No. 3,020,332		1-1/4	**LB125-M**	MLB125-M	LB125-A
		1-1/2	**LB150-M**	MLB150-M	LB150-A
		2	**LB200-M**	MLB200-M	LB200-A
 5"—6"	Patented Roller Feature—Listings in Bold Type	2-1/2	**LB250-M**	MLB250-M	**LB250-A**
		3	**LB300-M**	MLB300-M	**LB300-A**
		3-1/2	**LB350-M**	MLB350-M	**LB350-A**
		4	**LB400-M**	MLB400-M	**LB400-A**
		5	LB500-M		
		6	LB600-M		
 Mogul: 1"—4"					

Discount Schedule UD
Refer to Pricing Index for price, weight, and standard package

Appleton ELECTRIC COMPANY
1701 W. Wellington Ave.
Chicago, Illinois 60657

Unilet Conduit Bodies
Form 35 and Mogul Malleable Iron; Form 85, Aluminum

For Use with Threaded Rigid Metal Conduit and IMC.

	Type	Size (Inches)	Catalog Number Malleable Iron Form 35	Malleable Iron Mogul	Aluminum Form 85
 1/2"—1"	LL	1/2	LL50-M		LL50-A
		3/4	LL75-M		LL75-A
		1	LL100-M	MLL100-M	LL100-A
 1-1/4"—4"		1-1/4	LL125-M	MLL125-M	LL125-A
		1-1/2	LL150-M	MLL150-M	LL150-A
		2	LL200-M	MLL200-M	LL200-A
		2-1/2	LL250-M	MLL250-M	LL250-A
		3	LL300-M	MLL300-M	LL300-A
		3-1/2	LL350-M	MLL350-M	LL350-A
 Mogul: 1"—4"		4	LL400-M	MLL400-M	LL400-A
 1/2"—1"	LR	1/2	LR50-M		LR50-A
		3/4	LR75-M		LR75-A
		1	LR100-M	MLR100-M	LR100-A
 1-1/4"—4"		1-1/4	LR125-M	MLR125-M	LR125-A
		1-1/2	LR150-M	MLR150-M	LR150-A
		2	LR200-M	MLR200-M	LR200-A
		2-1/2	LR250-M	MLR250-M	LR250-A
		3	LR300-M	MLR300-M	LR300-A
		3-1/2	LR350-M	MLR350-M	LR350-A
 Mogul: 1"—4"		4	LR400-M	MLR400-M	LR400-A
	LRL LRL Unilets have a double opening with blank cover on one side	1/2	LRL50-M		
		3/4	LRL75-M		
		1	LRL100-M		
		1-1/4	LRL125-M		
		1-1/2	LRL150-M		
		2	LRL200-M		
 1/2"—1"	T	1/2	T50-M		T50-A
		3/4	T75-M		T75-A
		1	T100-M	MT100-M	T100-A
 1-1/4"—4"		1-1/4	T125-M	MT125-M	T125-A
		1-1/2	T150-M	MT150-M	T150-A
		2	T200-M	MT200-M	T200-A
		2-1/2	T250-M	MT250-M	T250-A
		3	T300-M	MT300-M	T300-A
		3-1/2	T350-M	MT350-M	T350-A
 Mogul: 1"—4"		4	T400-M	MT400-M	T400-A

Discount Schedule UD
Refer to Pricing Index for price, weight, and standard package

Appleton ELECTRIC COMPANY

1701 W. Wellington Ave.
Chicago, Illinois 60657

Unilet Conduit Outlet Bodies: Form 35, Malleable Iron; Form 85, Aluminum.

For Use with Threaded Rigid Metal Conduit and IMC.

	Type	Size (Inches)	Catalog Number Malleable Iron Form 35	Catalog Number Aluminum Form 85
	TA	1/2	TA50-M	
		3/4	TA75-M	
		1	TA100-M	
	TB	1/2	TB50-M	TB50-A
		3/4	TB75-M	TB75-A
		1	TB100-M	TB100-A
		1-1/4	TB125-M	TB125-A
		1-1/2	TB150-M	TB150-A
		2	TB200-M	TB200-A
 1/2"—1"	X	1/2	X50-M	X50-A
		3/4	X75-M	X75-A
		1	X100-M	X100-A
 1-1/4"—2"		1-1/4	X125-M	
		1-1/2	X150-M	
		2	X200-M	

Unilet Body Sizes for various Conduit Applications (inches)*

Unilet Body	Flat Back	Round Back
Form 35		
C,LB	1/2 thru 2	2-1/2 and up
E	1/2 thru 1	1-1/4 thru 2
LL,LR,T	1/2 thru 2	2-1/2 and up
TB	1-1/4, 1-1/2	1/2, 3/4, 1, 2
X	1/2 thru 1	1-1/4 and up
Form 85		
C,LB,LL,LR,T	1/2 thru 2	2-1/2 thru 4
TB	1-1/4, 1-1/2	1/2, 3/4, 1, 2
E,X	1/2 thru 1	

*All mogul Unilets are flat back design. All TA Unilets are round back design.

Discount Schedule UD
Refer to Pricing Index for price, weight, and standard package

Unions, Sealing Fittings, Flexible Couplings, Elbows, Drain/Breather, Close-Up Plugs: Explosion-Proof.

UNILETS® for Use with Threaded Metal Conduit.

Features: Non-Expansion Unions

❶Concentric ring interlocked design of 1/2", 3/4" and 1" sizes makes possible smaller diameter, allowing use in tighter spaces. 1-1/4" and larger UNY sizes have removable male nipple.

- Choice of malleable iron or aluminum.

Features: Expansion Unions

❷One-piece design eliminates need for disassembly during installation.

- Telescoping cylinder within cylinder design permits expansion or contraction.
- Standard or long types available.
- Small external diameters—excellent in restricted areas in wiring of pumps, motors, and other equipment.
- Internal phosphor bronze "bonding jumper" ring assures positive ground between telescoping cylinders.

Features: Sealing Fittings

❸Raintight construction.

- Removable nipple in male sealing fitting may be used interchangeably in top or bottom hub.
- EYSF/EYSM—for sealing vertical conduit. Large opening for damming and filling.
- ESUF/ESUM for sealing vertical or horizontal conduit. Pouring spout rotates 90°. Removable cover provides full access for damming. 2-1/2" thru 4" sizes have threaded cover openings for damming.
- EYF/EYM—close radius type for sealing vertical or horizontal conduit runs.
- EYDM Drain Sealing Fittings—close radius type for sealing vertical conduit runs. Access cover has drain valve for automatic draining of water accumulation above the seal.
- SF/SFM Drain Sealing Fittings—for sealing vertical conduit runs. Provide continuous, automatic draining of water accumulation above the seal.
- APEcountO sealing cement is a specially formulated water soluble powder. Mixed to the proper proportions, it is poured in sealing fittings and hardens to contain and restrict the passage of gases and explosions in classified areas.
- Fiber Filler—makes dams around and between all conductors to prevent sealing compound from leaking while being poured in its liquid state.

Features: Flexible Couplings

❹Heavy duty design resists mechanical abuse. Watertight.

- Electrical conductivity equal to rigid conduit on a similar length basis—no bonding jumper required.
- Interior insulating liner protects conductors from abrasion under vibrating conditions.
- EXGJH—both end fittings are female, each furnished with a removable male nipple.
- EXLK—female end fitting with union at one end plus a female end fitting with a removable male nipple at the other end.

Standard Materials

- *UNY and UNF (Non-Expansion) Unions, 1/2" thru 1":* steel or aluminum.
- *UNY and UNF (Non-Expansion) Unions, 1-1/4" thru 6":* malleable iron or aluminum.
- *UNY and UNF Expansion Unions:* steel.
- *UNL Unions:* malleable iron and steel.
- *EYSF/EYSM, EYF/EYM and EYDM Seals:* malleable iron or aluminum.
- *ESUF/ESUM and SF/SFM Seals:* malleable iron.
- *EXGJH and EXLK Couplings, 1/2" thru 2":* outer bronze braid, inner brass core with insulating liner. End Fittings: 1/2" thru 1-1/4"—steel; 1-1/2" thru 2"—brass.
- *EXGJH Couplings, 2-1/2" thru 4":* outer stainless steel braid, inner stainless steel core with insulating liner and stainless steel end fittings.
- *PLG Close-Up Plugs:* malleable iron, steel, or aluminum.
- *BR Reducers:* malleable iron or aluminum.
- *EL and UNA Elbows:* malleable or cast iron.
- *ECDB Combination Drain/Breather:* stainless steel.

Standard Finishes

- *Unions, Malleable Iron—UNY and UNF (Non-Expansion), and UNL:* triple-coat—(1) zinc electroplate, (2) dichromate, and (3) aluminum polymer enamel.
- *Unions, Steel—UNY and UNF (Non-Expansion), and UNY and UNF (Expansion):* zinc electroplate.
- *Unions, Aluminum—UNY and UNF (Non-Expansion),* 1/2" thru 2"—natural finish; 2-1/2" thru 4"—aluminum polymer enamel.
- *Sealing Fittings, Malleable Iron—EYSF/EYSM, ESUF/ESUM, EYF/EYM, EYDM and SF/SFM:* triple-coat—(1) zinc electroplate, (2) dichromate, and (3) aluminum polymer enamel.
- *Sealing Fittings, Aluminum—EYSF/EYSM, EYF/EYM and EYDM:* aluminum polymer enamel.
- *Flexible Couplings—EXGJH and EXLK:* steel end fittings—zinc electroplate and clear chromate; braid—natural finish.
- *Close-up Plugs—PLG:* malleable iron—zinc electroplate and clear chromate; steel—zinc electroplate; aluminum—natural finish.
- *Bell Reducers—BR:* malleable iron—zinc electroplate and clear chromate; aluminum—natural finish.
- *Elbows, Malleable Iron—EL and UNA:* triple-coat—(1) zinc electroplate, (2) dichromate, and (3) aluminum polymer enamel.
- *Combination Drain/Breathers, stainless steel—ECDB:* natural finish.

Options

- For EXGJH or EXLK Flexible Couplings, a special protective coating can be applied for use in severe corrosive atmospheres. Consult factory for details and pricing.

Compliances

- UL Standard 886
- Appleton malleable iron products conform to ASTM A47-77, Grade 32510, which has the following properties: tensile strength, 50,000 psi; yield, 32,000 psi; and elongation, 10%.
- Appleton aluminum products are produced from a high strength copper-free (4/10 of 1% max.) alloy.
- Class I, Div. 1 & 2, and Class II, Div. 1 & 2, if installed as follows: *Unions, Elbows, Plugs, Flex. Couplings*—NEC 501-4 (a)(b); *Seals*—NEC 501-5 (a)(b)(c)(d)(e) and NEC 502-5; *Drains*—NEC 501-5(f).

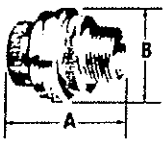
Appleton ELECTRIC COMPANY
1701 W. Wellington Ave.
Chicago, Illinois 60657

Class I, Groups A,B, •C,D
Class II, Groups E,F,G
Class III

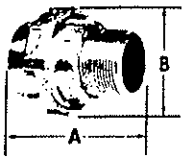
Unions: UNY, UNF, and UNL; Explosion-Proof, Dust-Ignition-Proof

UNILETS® for Use with Threaded Metal Conduit.

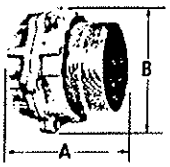
Size (Inches)	Dimen. in Inches A	B	Dimen. in Millimeters A	B	Catalog Number Steel (1/2" to 1") and Malleable (1-1/4" to 6")	Catalog Number Aluminum (1/2" to 4")
UNY Unions						
For connecting conduit to enclosure						
Male						
1/2	1.94	1.47	49.2	37.3	UNY50NR	UNY50NR-A
3/4-1/2‡	1.94	1.47	49.2	37.3	UNY75-50NR	UNY75-50NR-A
3/4	1.94	1.75	49.2	44.5	UNY75NR	UNY75NR-A
1	2.34	2.00	59.5	50.8	UNY100NR	UNY100NR-A
Male/Female (Removable Male Nipple)						
1-1/4	3.13	2.81	79.4	71.4	UNY125NR	UNY125NR-A
1-1/2	3.25	3.06	82.6	77.8	UNY150NR	UNY150NR-A
2	3.63	3.72	92.1	94.5	UNY200NR	UNY200NR-A
2-1/2	4.81	4.88	122.2	123.8	UNY250R	UNY250R-A
3	4.81	5.38	122.2	136.5	UNY300R	UNY300R-A
3-1/2	4.94	5.88	125.4	149.2	UNY350R	UNY350R-A
4	5.13	6.44	130.2	163.5	UNY400R	UNY400R-A
5	5.63	8.33	142.9	212.7	UNY500R	
6	5.75	9.63	146.1	244.5	UNY600R	
UNF Female Unions						
For connecting conduit to conduit						
1/2	1.47	1.47	37.3	37.3	UNF50NR	UNF50NR-A
3/4-1/2‡	1.47	1.47	37.3	37.3	UNF75-50NR	UNF75-50NR-A
3/4	1.47	1.75	37.3	44.5	UNF75NR	UNF75NR-A
1	1.72	2.00	43.7	50.8	UNF100NR	UNF100NR-A
1-1/4	2.19	2.81	55.6	71.4	UNF125NR	UNF125NR-A
1-1/2	2.19	3.06	55.6	77.8	UNF150NR	UNF150NR-A
2	2.31	3.72	58.7	94.5	UNF200NR	UNF200NR-A
2-1/2	3.38	4.88	85.7	123.8	UNF250R	UNF250R-A
3	3.38	5.38	85.7	136.5	UNF300R	UNF300R-A
3-1/2	3.38	5.88	85.7	149.2	UNF350R	UNF350R-A
4	3.50	6.44	88.9	163.5	UNF400R	UNF400R-A
5	3.88	8.38	98.4	212.7	UNF500R	
6	4.00	9.63	101.6	244.5	UNF600R	
UNL 90° Elbow Unions						
For connecting conduit to enclosure						
	A	B	C	A	B	C
1/2-1/2	2.47	1.47	1.78	62.7	37.3	45.2	UNL50N
1/2-3/4†	2.47	1.75	1.78	62.7	44.5	45.2	UNL50-75N
3/4-1/2†	2.00	1.75	1.59	50.8	44.5	40.5	UNL75-50N
3/4-3/4	2.00	1.47	1.59	50.8	37.3	40.5	UNL75N



1/2"— 1"



1-1/4"— 4"



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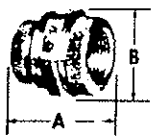

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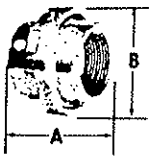

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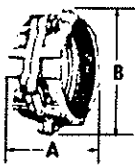

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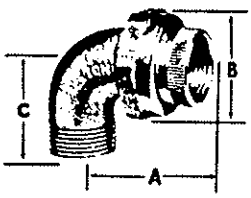


•Shaded area indicates items suitable for Class I, Groups A and B in addition to Class I, Groups C,D; Class II, Groups E,F,G; and Class III.

‡Size of right end is given first. †Male end given first.

Discount Schedule UD
Refer to Pricing Index for price, weight, and standard package

Appleton ELECTRIC COMPANY
1701 W. Wellington Ave.
Chicago, Illinois 60657

Class I, Groups A,B, C,D
Class II, Groups E,F,G
Class III

Sealing Fittings: EYS and ESU; Explosion-Proof, Dust-Ignition-Proof, Raintight.

UNILETS® for Use with Threaded Metal Conduit.


1/2"— 3"


4"

Size (Inches)	Turning Radius† Inches	(cm)	APELCO Cement Req'd. Ozs.	(Grams)	Catalog Number Malleable Iron	Aluminum
EYS Vertical Conduit Seals						
Female						
1/2	1.81	(4.5)	2	(56.7)	EYSF-50	EYSF-50A
3/4	2.25	(5.7)	3	(85.1)	EYSF-75	EYSF-75A
1	2.38	(6.0)	5	(141.7)	EYSF-100	EYSF-100A
1-1/4	2.94	(7.5)	11	(311.8)	EYSF-125	EYSF-125A
1-1/2	3.50	(8.9)	19	(538.6)	EYSF-150	EYSF-150A
2	4.13	(10.5)	31	(878.8)	EYSF-200	EYSF-200A
2-1/2	4.75	(12.1)	46	(1304.1)	EYSF-250	EYSF-250A
3	5.63	(14.3)	82	(2324.7)	EYSF-300	EYSF-300A
4	6.50	(16.5)	92	(2608.2)	EYSF-400	EYSF-400A


1/2"— 3"


4"

Male/Female (Removable Male Nipple)						
1/2	1.81	(4.5)	2	(56.7)	EYSM-50	EYSM-50A
3/4	2.25	(5.7)	3	(85.1)	EYSM-75	EYSM-75A
1	2.38	(6.0)	5	(141.7)	EYSM-100	EYSM-100A
1-1/4	2.94	(7.5)	11	(311.8)	EYSM-125	EYSM-125A
1-1/2	3.50	(8.9)	19	(538.6)	EYSM-150	EYSM-150A
2	4.13	(10.5)	31	(878.8)	EYSM-200	EYSM-200A
2-1/2	4.75	(12.1)	46	(1304.1)	EYSM-250	EYSM-250A
3	5.63	(14.3)	82	(2324.7)	EYSM-300	EYSM-300A
4	6.50	(16.5)	92	(2608.2)	EYSM-400	EYSM-400A


1/2"—2"


2-1/2"—4"

ESU Vertical and Horizontal Conduit Seals					
Female					
1/2	1.25	(3.2)	4	(113.4)	ESUF-50
3/4	1.25	(3.2)	4	(113.4)	ESUF-75
1	1.38	(3.5)	5	(141.8)	ESUF-100
1-1/4	1.56	(4.0)	8	(226.8)	ESUF-125
1-1/2	2.06	(5.2)	19	(538.6)	ESUF-150
2	2.19	(5.6)	27	(765.4)	ESUF-200
2-1/2	2.69	(6.8)	36	(1020.6)	ESUF-250
3	3.13	(7.9)	61	(1729.3)	ESUF-300
3-1/2	3.44	(8.7)	89	(2523.1)	EYF-350
4	3.69	(9.4)	114	(3231.8)	EYF-400


1/2"—2"


2-1/2"—4"

Male/Female (Removable Male Nipple)					
1/2	1.25	(3.2)	4	(113.4)	ESUM-50
3/4	1.25	(3.2)	4	(113.4)	ESUM-75
1	1.38	(3.5)	5	(141.7)	ESUM-100
1-1/4	1.56	(4.0)	8	(226.8)	ESUM-125
1-1/2	2.06	(5.2)	19	(538.6)	ESUM-150
2	2.19	(5.6)	27	(765.4)	ESUM-200
2-1/2	2.69	(6.8)	36	(1020.6)	ESUM-250
3	3.13	(7.9)	61	(1729.3)	ESUM-300
3-1/2	3.44	(8.7)	89	(2523.1)	EYM-350
4	3.69	(9.4)	114	(3231.8)	EYM-400

[redacted] for Class I, Groups A, B, C, D; Class II, Groups E, F, G; and Class III

†Turning radius with cover or plug removed.

Discount Schedule UD
Refer to Pricing Index for price, weight, and standard package

Appleton® ELECTRIC COMPANY

1701 W. Wellington Ave.
Chicago, Illinois 60657

*Class I, Groups A,B,C,D
*Class II, Groups E,F,G
*Class III

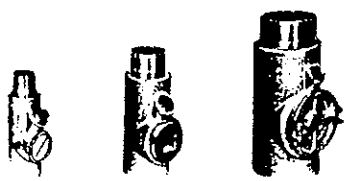
Sealing Fittings for Close Turning Radius: EY; Explosion-Proof, Dust-Ignition-Proof, Raintight.

UNILETS® for Use with Threaded Metal Conduit.

Female EYF

1/2"— 1" 1-1/4"— 3" 3-1/2"—6"

Male EYM



1/2"— 1" 1-1/4"— 3" 3-1/2"—6"

Size (Inches)	Turning Radius† Inches	(cm)	APELCO Cement Req'd. Ozs.	(Grams)	Catalog Number Malleable Iron	Aluminum
EY Vertical and Horizontal Conduit Seals for Close Turning Radius						
Female						
1/2	1.06	(2.7)	1	(28.4)	EYF-50	EYF-50A
3/4	1.19	(3.0)	2	(56.7)	EYF-75	EYF-75A
1	1.38	(3.5)	4	(113.4)	EYF-100	EYF-100A
1-1/4	1.75	(4.5)	7	(198.4)	EYF-125	EYF-125A
1-1/2	2.06	(5.2)	13	(368.5)	EYF-150	EYF-150A
2	2.31	(5.9)	22	(623.7)	EYF-200	EYF-200A
2-1/2	2.69	(6.8)	36	(1020.6)	EYF-250	EYF-250A
3	3.13	(7.9)	61	(1729.3)	EYF-300	EYF-300A
3-1/2	3.44	(8.7)	89	(2523.1)	EYF-350	EYF-350A
4	3.69	(9.4)	114	(3231.8)	EYF-400	EYF-400A
5	4.69	(11.9)	202	(5726.6)	EYF-500	
6	5.38	(13.7)	230	(6520.4)	EYF-600	
Male/Female (Removable Male Nipple)						
1/2	1.06	(2.7)	1	(28.4)	EYM-50	EYM-50A
3/4	1.19	(3.0)	2	(56.7)	EYM-75	EYM-75A
1	1.38	(3.5)	4	(113.4)	EYM-100	EYM-100A
1-1/4	1.75	(4.5)	7	(198.4)	EYM-125	EYM-125A
1-1/2	2.06	(5.2)	13	(368.5)	EYM-150	EYM-150A
2	2.31	(5.9)	22	(623.7)	EYM-200	EYM-200A
2-1/2	2.69	(6.8)	36	(1020.6)	EYM-250	EYM-250A
3	3.13	(7.9)	61	(1729.3)	EYM-300	EYM-300A
3-1/2	3.44	(8.7)	89	(2523.1)	EYM-350	EYM-350A
4	3.69	(9.4)	114	(3231.8)	EYM-400	EYM-400A
5	4.69	(11.9)	202	(5726.6)	EYM-500	
6	5.38	(13.7)	230	(6520.4)	EYM-600	

Shaded area (1/2", 3/4", 1" malleable) indicates items suitable for Class I, Groups A and B as well as Class I, Groups C and D; Class II, Groups E, F and G; and Class III.

***1/2", 3/4" or 1" Sizes Malleable:** Suitable for Class I, Groups A,B,C and D; Class II, Groups E,F and G, and Class III.

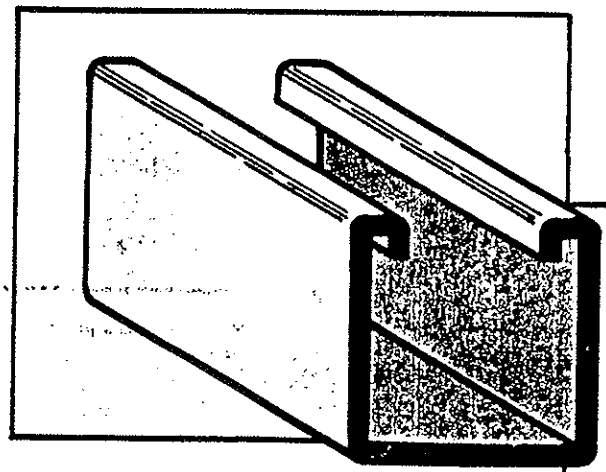
***1-1/4", 1-1/2" and 2" Sizes Malleable:** Suitable for Class I, Groups C and D; Class II, Groups E,F and G, and Class III. Consult factory for Class I, Group B location use.

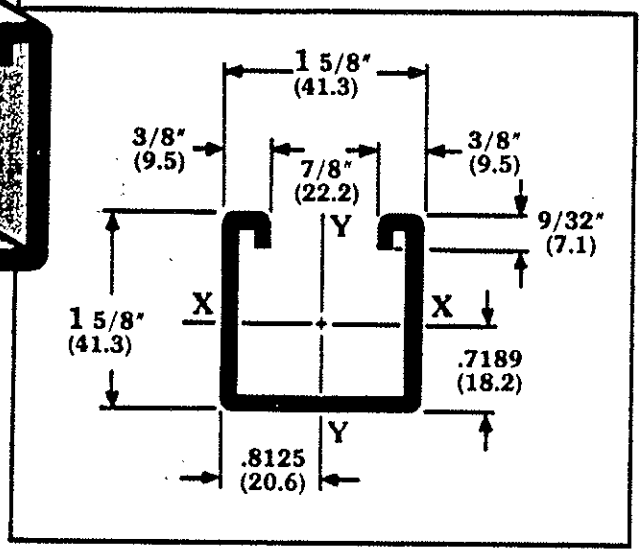
***2-1/2" thru 6" Sizes Malleable and 1/2" thru 4" Sizes Aluminum:** Suitable for Class I, Groups C and D; Class II, Groups E, F and G, and Class III.

†Turning radius with cover or plug removed.

Discount Schedule UD
Refer to Pricing Index for price, weight, and standard package

Appleton ELECTRIC COMPANY
1701 W. Wellington Ave.
Chicago, Illinois 60657



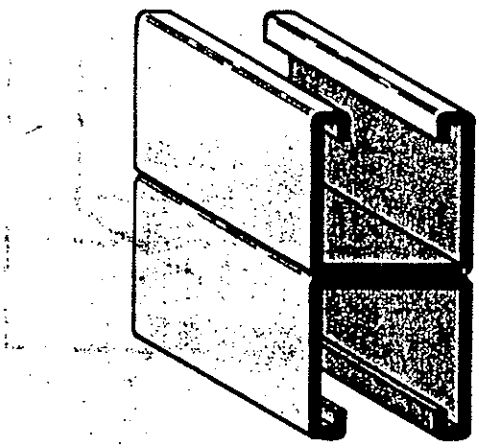


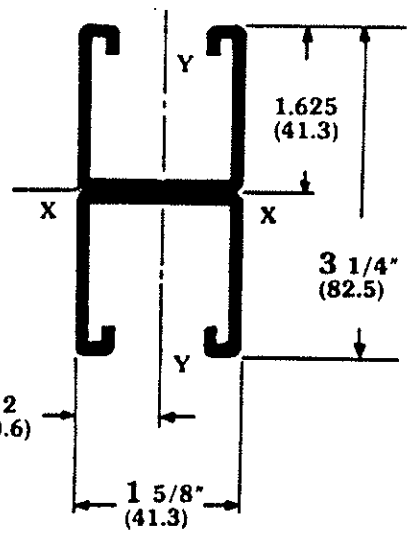
B22
WEIGHT: 1.90 Lbs./Ft. (2.83 kg/m)
THICKNESS: 12 Gauge (2.6 mm)
STANDARD LENGTHS: 10' (3.05 m) & 20' (6.09 m)
FINISHES: Plain, Dura-Green Epoxy and Pre-Galvanized

SECTION PROPERTIES

Channel	Weight		Areas of Section		X – X Axis						Y – Y Axis					
					Moment of Inertia (I)		Section Modulus (S)		Radius of Gyration (R)		Moment of Inertia (I)		Section Modulus (S)		Radius of Gyration (R)	
	lbs./ft.	kg/m	sq. in.	cm^2	$in.^4$	cm^4	$in.^3$	cm^3	in.	cm	$in.^4$	cm^4	$in.^3$	cm^3	in.	cm
B22	1.90	2.83	.559	3.61	.1850	7.70	.2042	3.34	.580	1.47	.2340	9.74	.2880	4.72	.653	1.66
B22A	3.80	5.65	1.118	7.21	.9379	39.04	.5772	9.46	.924	2.34	.4681	19.48	.5761	9.44	.653	1.66
B22X	6.70	9.97	1.950	12.58	4.1279	171.81	1.6935	27.75	1.450	3.68	1.1069	46.07	1.2064	19.77	.751	1.91

Calculations of section properties are based on metal thicknesses as determined by the AISI Cold-Formed Steel Design Manual.





B22A COMBINATION
Wt. 3.80 Lbs./Ft. (5.65 kg/m)

Triangle PWC, Inc.
P.O. Box 711 / New Brunswick, New Jersey 08903
Telephone (908) 745-5500

Building Wire

N-A® Type THHN OR THWN
90° C—600 Volts

SINGLE CONDUCTOR — TYPE THHN-THWN

Size AWG	Number of Strands	Vinyl Insulation	Nylon Jacket	O.D. Inch	AMPACITY†	Approx. Ship. Weight M/ft.
~~Solid~~	~~Stranded~~	.015	.004	.11	15	16
		.015	.004	.12	20	24
		.020	.004	.15	30	37
*18	16	.015	.004	.09	6	8
*16	26	.015	.004	.10	8	12
14	19	.015	.004	.11	15	16
12	19	.015	.004	.13	20	24
10	19	.020	.004	.17	30	39
8	19	.030	.005	.22	55	64
6	19	.030	.005	.26	75	96
4	19	.040	.006	.33	95	154
3	19	.040	.006	.36	110	191
2	19	.040	.006	.39	130	236
1	19	.050	.007	.45	150	302
1/0	19	.050	.007	.49	170	375
2/0	19	.050	.007	.54	195	465
3/0	19	.050	.007	.59	225	578
4/0	19	.050	.007	.65	260	719
250 MCM	37	.060	.008	.72	290	858
300 MCM	37	.060	.008	.77	320	1021
350 MCM	37	.060	.008	.83	350	1182
400 MCM	37	.060	.008	.87	380	1350
500 MCM	37	.060	.008	.96	430	1662
600 MCM	61	.070	.009	1.06	475	2019
750 MCM	61	.070	.009	1.17	535	2502

*Listed as TFFN 90°C Appliance Wiring Material (60°C exposed to oil) and 90°C MTW
†90°C Ampacity based on not more than three type THHN single conductors in a raceway in free air at ambient temperature of 30°C.

Building Wire

N-A® Type THHN OR THWN 90° C—600 Volts

SPECIFICATIONS

INDUSTRY STANDARDS

UL 83 - Thermoplastic insulated wire and cable
Fed. Spec. JC 30B - cable and wire, electrical

APPLICATION

Trioseal® (Polyvinyl Chloride) insulated, nylon jacketed Type THHN-THWN smallest diameter wire is an all purpose construction suitable for new construction or rewiring and is approved for 600 volt applications where the maximum operating temperature does not exceed 75°C for wet locations and 90°C for dry locations in accordance with the National Electrical Code's Article 310 - "Conductors for General Wiring" and Article 210 - "Branch Circuits."

Suitable for lighting and power in residential and industrial installations, machine tool, and appliance wire applications.

Type THHN or THWN Trioseal insulated-nylon jacketed wire permits greater utilization of existing space in raceways or conduit. The overall nylon jacket is abrasion resistant for easy pulling through conduit and is highly resistant to flame, acids, alkalis, chemicals, oil, gasoline and grease. The insulation is free stripping, bright and smooth.

CONSTRUCTION

Conductor:
Bare, annealed, solid per ASTM B-3 or stranded copper per UL-83.

Insulation:
High quality proprietary VW-1 rated polyvinyl chloride (Trioseal) compound rated at 90°C and listed by Underwriters' Laboratories.

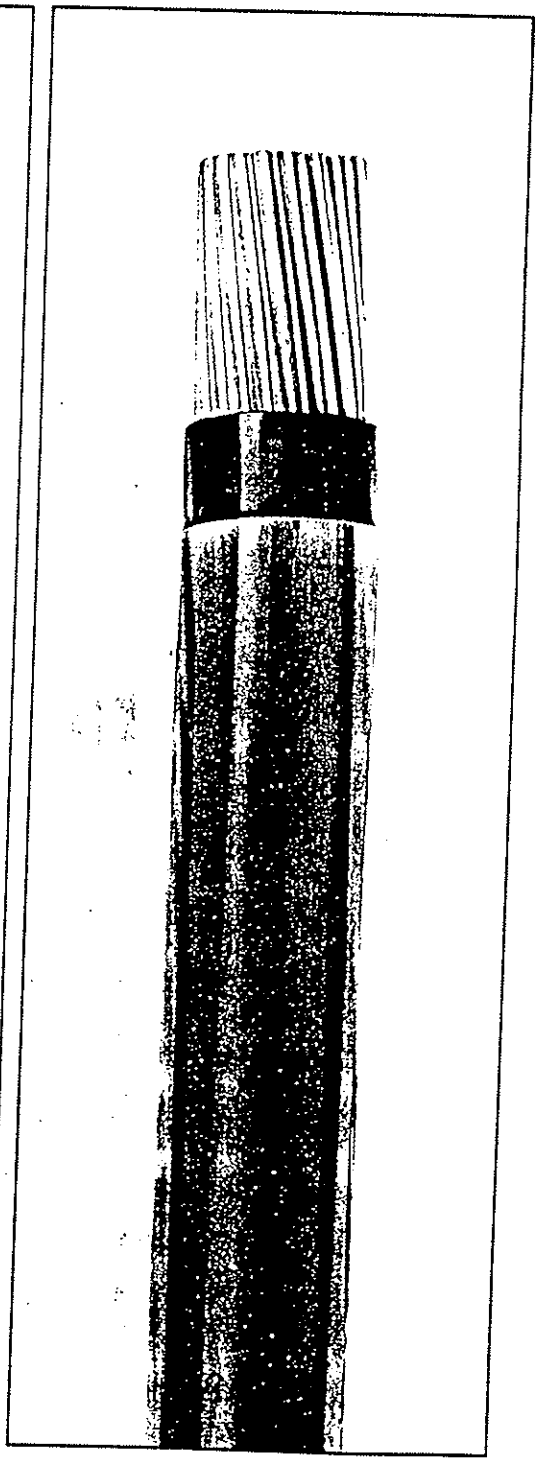
Insulation Covering:
Tough, heat and light stabilized, low moisture absorption nylon (N-A®: Nylon Armored) conforming to Underwriters' Laboratories requirements for Types THHN or THWN.

UL LISTINGS:

THHN - 90°C dry building wire
THWN - 75°C wet and dry building wire
MTW-90°C Machine tool wire
AWM-105°C appliance wire
Gasoline and Oil Resistant
VW-1 Rated
For OT Use - 1/0 AWG & larger, when identified
Sunlight Resistant - 1/0 AWG & larger, when identified

VOLTAGE:

600 volts
Note: Sizes 18 and 16 AWG listed as TFFN



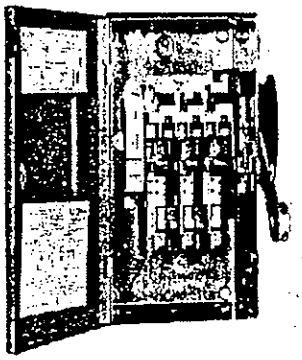
DRY TYPE TRANSFORMER

DH

WHEN ORDERING SPECIFY

- Catalog Number

- UL listed, File E5239.
- Meets UL 98 for enclosed switches and NEMA Std. KS-1.
- Suitable as service entrance equipment, except 1200A on grounded Wye systems, per NEC-230-95, and 4-pole switches.



K-series 60A, Type 3R

FUSIBLE 277/480 — 600 VOLTS — Provision for Class H fuses through 600A — Class L for 800A & 1200A

System	Amperes	Enclosure Type 1 Indoor		Enclosure Type 3R Rainproof		Type 4 & 4X ❶ Watertight		Enclosure Type 12 12/3R for 30-200A Industrial		Maximum Hp Ratings With Time Delay Fuses					
										1ø ac		3ø ac		dc	
		Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price	480V	600V	480V	600V	250V	600V
2 POLE, 480 VOLTS AC — 600 VOLTS AC OR DC ❷															
	30	DH261FGK	$ 277.	❸	---	DH261FWK	$ 1330.	DH261FDK	$ 422.	7-1/2	10	---	---	---	15
	60	DH262FGK	332.	❸	---	❸	---	DH262FDK	482.	20	25	---	---	---	25
	100	DH263FGK	617.	❸	---	❸	---	DH263FDK	713.	30	40	---	---	---	25
	200	DH264FGK	890.	❸	---	DH264FWK	4108.	DH264FDK	1085.	50	50	---	---	---	50
	400	DH265FGK	2339.	❸	---	❸	---	DH265FDK	2573.	---	---	---	---	50	---
	600	DH266FGK	3718.	❸	---	❸	---	DH266FDK	4117.	---	---	---	---	---	---
	800	DH267FGK	5576.	❸	---	❸	---	DH267FDK	6868.	---	---	---	---	---	---
	1200	❸	---	❸	---	---	---	---	---	---	---	---	---	---	---
3 POLE, 480 VOLTS AC — 600 VOLTS AC															
	30	DH361FGK	287.	DH361FRK	$ 468.	DH361FWK	1240.	DH361FDK	448.	7-1/2	10	15	20	---	---
	60	DH362FGK	347.	DH362FRK	546.	DH362FWK	1404.	DH362FDK	490.	20	25	30	50	---	---
	100	DH363FGK	676.	DH363FRK	855.	DH363FWK	2828.	DH363FDK	761.	30	40	60	75	---	---
	200	DH364FGK	937.	DH364FRK	1181.	DH364FWK	3949.	DH364FDK	1297.	50	50	125	150	---	---
	400	DH365FGK	2359.	DH365FRK	2815.	DH365FWK	7731.	DH365FDK	3045.	---	---	250	350	---	---
	600	DH366FGK	4463.	DH366FRK	5985.	DH366FWK	11747.	DH366FDK	4988.	---	---	400	500	---	---
	800	DH367FGK	8295.	DH367FRK	8702.	DH367FWK	13857.	DH367FDK	9125.	---	---	500	500	---	---
	1200	DH368FGB	9062.	DH368FRB❹	11151.	---	---	---	---	---	---	---	---	---	---
4 WIRE S/N (3 BLADES, 3 FUSES) 277/480 VOLTS AC — 600 VOLTS AC															
NEUTRAL	30	DH361NGK	320.	DH361NRK	543.	DH361NWK	1392.	DH361NDK	586.	7-1/2	10	15	20	---	---
	60	DH362NGK	373.	DH362NRK	588.	DH362NWK	1524.	DH362NDK	578.	20	25	30	50	---	---
	100	DH363NGK	664.	DH363NRK	906.	DH363NWK	3163.	DH363NDK	882.	30	40	60	75	---	---
	200	DH364NGK	972.	DH364NRK	1318.	DH364NWK	4398.	DH364NDK	1466.	50	50	125	150	---	---
	400	DH365NGK	2669.	DH365NRK	3138.	DH365NWK	7942.	DH365NDK	3214.	---	---	250	350	---	---
	600	DH366NGK	4351.	DH366NRK❹	5972.	DH366NWK	11548.	DH366NDK	5040.	---	---	400	500	---	---
	800	DH367NGK	7462.	DH367NRK	9192.	---	---	---	---	---	---	500	500	---	---
	1200	❹	---	❹	---	---	---	---	---	---	---	---	---	---	---
4 POLE, 480 VOLTS AC — 600 VOLTS AC															
											2ø 600V				
	30	DH461FGK	464.	---	---	---	---	---	---	---	25	15	20	---	---
	60	DH462FGK	546.	---	---	---	---	---	---	---	50	30	50	---	---
	100	DH463FGK	910.	---	---	---	---	DH463FDK	1047.	---	50	60	75	---	---
	200	---	---	---	---	---	---	DH464FDK	1787.	---	50	125	150	---	---
	400	DH465FGK	4150.	---	---	---	---	---	---	---	---	250	350	---	---
	600	DH466FGK	6763.	---	---	---	---	---	---	---	---	400	500	---	---

❶ UL Type 4X stainless steel enclosures through 200A, Type 4 painted steel for 400-800A. For stainless steel enclosure on 400-800A, add suffix -SS and consult factory for availability.

❷ Dc rating for 400-800A switches is 250V.

❸ Use outside poles or 3 pole switch, for ac rating only.

❹ For four pole applications use three pole switch and control pole, Cat. No. **DS16CP**, listed on **Page DD-13**. Consult factory for application data.

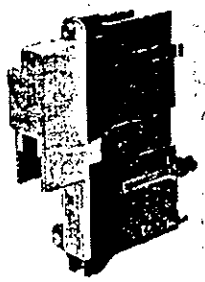
DS

FIELD INSTALLED KITS AND ACCESSORIES — Only for K-Series Design Switches

See Page DD-5 For Factory Installed K-Series Switch Options

ADD-ON PARTS & KITS
For **DG** (200-600A), **DH** and **DT** (30-800A)

Switch Amperes	Description	Catalog Number	Price
30-800	Control Pole, for 2-3 Pole Switches For DH, 30-200A DT, 400-600A DG	DS16CP	$ 112.00
	Neutral Block		
30-60	DH Only	DH030NK	39.90
100	DH Only	DH100NK	55.00
30-100	DT Only	DT100NK	59.00
200	DT Only	DT200NK	104.00
200	DH Only	DH200NK	96.00
200	DG – DH Type 1 & 3R	DG200NK	67.00
400	DG – DH	DS400NK	185.00
600	DG – DH	DS600NK	197.00
800	DH Only	DS800NK	413.00
	DH Only	DS1200NC	413.00
	DT Neutral Kit		
400	DT Non-Fusible Only	DT400NK	152.00
600	DT Non-Fusible Only	DT600NK	191.00
400-600	DT Fusible Only	DS800NK	413.00
	Copper Body Lug Kit for 6 Lugs		
30	DH – DT	DS16CL	16.80
60	DH – DT	DS26CL	25.50
100	DH – DT	DS36CL	41.00
200	DH Only	DS46CL	63.00
400	DG – DH	DS56CL	127.00
600	DG – DH	DS66CL	127.00
30-800	Electrical Interlock, 1NO–1NC	DS200EK1	118.00
	2NO–2NC	DS200EK2	134.00
	Equipment Ground Lug		
30-100		DS100GK	5.90
200		DS200GK	22.80
400-800		DS468GK	131.00
	"J" Fuse Adapter for 1 Pole		
60	250V Fuse Size DH – DT	DS22JK	14.00
60	600V Fuse Size DH – DT	DS26JK	14.00
600	250 & 600V Fuse Size DH	DS600JK	104.00
	"J" Fuse Adapter for 6 Poles		
400	DT 600V Size	DT400JK	299.00
	"R" Fuse Clip Kit for 3 Poles		
30	250V Size	DS12FK	13.10
30	600V Size	DS16FK	13.10
60	250V Size	DS16FK	13.10
60	600V Size	DS26FK	13.10
100	250 & 600V Size	DS36FK	25.50
200	250 & 600V Size	DS46FK	37.80
400	250 & 600V Size	DS56FK	64.00
600	250 & 600V Size	DS66FK	64.00
	"T" Fuse Mounting Kit for 3 Poles		
200	DH 250V Size	DS426TK	53.00
	DH 600V Size	DS466TK	69.00
	"T" Fuse Mounting Kit for 1 Pole		
400	250V Size	DS526TK	45.20
	600V Size	DS566TK	67.00
600	250V Size	DS626TK	53.00
	600V Size	DS666TK	76.00
800	250V Size	DS726TK	79.00
	600V Size	DS766TK	91.00
	Crimp Lug Pad Kit for DG – DH		
400-600	Kit for 3 Poles	DS56CK	127.00
800	Kit for 1 Pole	DS76CK	57.00
400-800	Kit for Neutral	DS800CNK	330.00



DS16CP

CONTROL POLE DESCRIPTION

Operation — The K-Series Control Pole provides one Normally Open contact, late-make, early-break operation. It mounts in the same position and pre-drilled holes as a Neutral Block, directly connected to the power pole operating shaft. Direct connection and visible blades provide more secure electrical interlocking than handle linkage operation of a snap switch type of interlock. This reliability meets the requirements of many specifications for 4-pole switches when the fourth pole is required for secure electrical interlocking.

Wire Size Range — #16 to #12 AWG, copper conductors.

Ratings — 10A continuous, Ac or Dc.

Ac Code Rating A600			Dc Code Rating N600	
Volts Ac	Make	Break	Volts Dc	Make & Break
120V	60A	6A	125V	2.2A
240V	30A	3A	250V	1.1A
480V	15A	1.5A	600V	0.4A
600V	12A	1.2A		

FUSE PULLER KITS

Amperes	Description	Catalog Number	Price
30-60	For DH 3 Pole	DS30FK	$ 12.00
60	DH 3 Pole, 240V	DS30FK1	12.00
60	DH 4 Pole	DS60FK	12.00
100	DH 3 Pole	DS100FK	27.30
200	DG – DH 3 Pole	DS200FK	64.00

CRIMP LUG ADAPTATION — DH30-200A

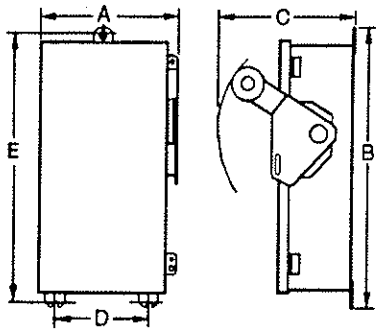
Heavy Duty Type DH Switches through 200A are adaptable to crimp lugs. Simply remove the box lugs.

DD

DH

HEAVY DUTY — Dimensions in Inches

Catalog Number	Wide A	High B	Deep C	Mounting D	Mounting E	Shipping Weight Lbs.
DH327FDK	26-3/8	71-3/4	14-1/4	20-1/4	70-1/2	230
DH327FGK	26-3/8	68-1/2	14-1/4	20-1/4	63-1/4	215
DH327FRK	26-3/8	69	14-1/4	20-1/4	63-1/4	225
DH327FWK ●	26-3/8	71-3/4	14-1/4	20-1/4	70-1/2	230
DH327NGK	26-3/8	68-1/2	14-1/4	20-1/4	63-1/4	220
DH327NRK	26-3/8	69	14-1/4	20-1/4	63-1/4	230
DH328FGB	39-5/8	71	25-7/8	31	64	385
DH328FRB	39-5/8	71	25-7/8	31	64	400
DH328NGB	39-5/8	71	25-7/8	31	64	400
DH328NRB	39-5/8	71	25-7/8	31	64	405
DH361FDK	8-7/8	17-7/8	10-1/4	5-1/2	17	20
DH361FGK	8-7/8	16	10-1/4	6-1/2	14-1/2	14
DH361FRK	8-7/8	16-1/4	10-1/4	6-1/2	14-1/4	17
DH361FWK	8-7/8	17-7/8	10-1/4	5-1/2	17	21
DH361NDK	8-7/8	17-7/8	10-1/4	5-1/2	17	20
DH361NGK	8-7/8	16	10-1/4	6-1/2	14-1/2	17
DH361NRK	8-7/8	16-1/4	10-1/4	6-1/2	14-1/4	20
DH361NWK	8-7/8	17-7/8	10-1/4	5-1/2	17	22
DH361UDK	8-7/8	11-1/4	10-1/4	5-1/2	12	16
DH361UDK-LS	8-7/8	17-7/8	10-1/4	5-1/2	17	19
DH361UGK	8-7/8	16	10-1/4	6-1/2	14-1/2	14
DH361UGK-RS	8-7/8	10-3/8	10-1/4	5-1/2	8	11
DH361URK	8-7/8	16-1/4	10-1/4	6-1/2	14-1/4	16
DH361UWK	8-7/8	11-1/4	10-1/4	5-1/2	12	17
DH361UWK-LS	8-7/8	17-7/8	10-1/4	5-1/2	17	20
DH362FDK	8-7/8	17-7/8	10-1/4	5-1/2	17	14
DH362FGK	8-7/8	16	10-1/4	6-1/2	14-1/2	14
DH362FRK	8-7/8	16-1/4	10-1/4	6-1/2	14-1/4	17
DH362FWK	8-7/8	17-7/8	10-1/4	5-1/2	17	21
DH362NDK	8-7/8	17-7/8	10-1/4	5-1/2	17	20
DH362NGK	8-7/8	16	10-1/4	6-1/2	14-1/2	17
DH362NRK	8-7/8	16-1/4	10-1/4	6-1/2	14-1/4	20
DH362NWK	8-7/8	17-7/8	10-1/4	5-1/2	17	22
DH362UDK	8-7/8	11-1/4	10-1/4	5-1/2	12	16
DH362UDK-LS	8-7/8	17-7/8	10-1/4	6-1/2	17	19
DH362UGK	8-7/8	16	10-1/4	6-1/2	14-1/2	14
DH362UGK-RS	8-7/8	10-3/8	10-1/4	5-1/2	8	11
DH362URK	8-7/8	16-1/4	10-1/4	6-1/2	14-1/4	16
DH362UWK	8-7/8	11-1/4	10-1/4	5-1/2	12	17
DH362UWK-LS	8-7/8	17-7/8	10-1/4	5-1/2	17	20
DH363FDK	11-7/8	24	10-1/4	8-1/2	23-1/8	29
DH363FGK	11-7/8	22	10-1/4	9-1/2	20	22
DH363FRK	11-7/8	22	10-1/4	7-1/2	20	26
DH363FWK	11-7/8	24	10-1/4	8-1/2	23-1/8	29
DH363NDK	11-7/8	24	10-1/4	8-1/2	23-1/8	30
DH363NGK	11-7/8	22	10-1/4	9-1/2	20	23
DH363NRK	11-7/8	22	10-1/4	7-1/2	20	27
DH363NWK	11-7/8	24	10-1/4	8-1/2	23-1/8	30
DH363UDK	11-7/8	24	10-1/4	8-1/2	23-1/8	26
DH363UGK	11-7/8	22	10-1/4	9-1/2	20	20
DH363URK	11-7/8	22	10-1/4	7-1/2	20	22
DH363UWK	11-7/8	24	10-1/4	8-1/2	23-1/8	28
DH364FDK	16-3/4	34-3/8	11-5/8	12-1/2	33	55
DH364FGK	16-3/4	28-1/8	11-1/4	12	24	43
DH364FRK	16-3/4	28-1/2	11-1/4	12	24	51
DH364FWK	16-3/4	34-3/8	11-5/8	12-1/2	33	56
DH364NDK	16-3/4	34-3/8	11-5/8	12-1/2	33	56
DH364NGK	16-3/4	28-1/8	11-1/4	12	24	43
DH364NRK	16-3/4	28-1/2	11-1/4	12-1/2	24	52
DH364NWK	16-3/4	34-3/8	11-5/8	12-1/2	33	61
DH364UDK	16-3/4	34-3/8	11-5/8	12	33	51
DH364UGK	16-3/4	28-1/8	11-1/4	12	24	43
DH364URK	16-3/4	28-1/2	11-1/4	12	24	46



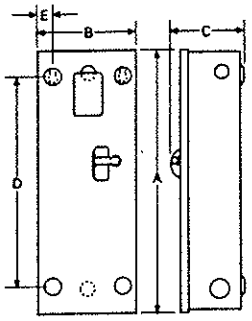
Catalog Number	Wide A	High B	Deep C	Mounting D	Mounting E	Shipping Weight Lbs.
DH364UWK	16-3/4	34-3/8	11-5/8	12-1/2	33	54
DH365FDK	25	63	14-1/4	19	61-3/4	102
DH365FGK	24	54-1/4	12-5/8	18	49	86
DH365FRK	24	54-3/4	12-5/8	18	49	94
DH365FWK ●	25	63	14-1/4	19	61-3/4	107
DH365NDK	25	63	14-1/4	19	61-3/4	105
DH365NGK	24	54-1/4	12-5/8	18	49	90
DH365NRK	24	54-3/4	12-5/8	18	49	101
DH365NWK ●	25	63	14-1/4	19	61-3/4	113
DH365UDK	25	63	14-1/4	19	61-3/4	86
DH365UGK	24	54-1/4	12-5/8	18	49	83
DH365URK	24	54-3/4	12-5/8	18	49	94
DH365UWK ●	25	63	14-1/4	19	61-3/4	101
DH366FDK	25	63	14-1/4	19	61-3/4	139
DH366FGK	25	59-3/4	14-1/4	19	54-1/4	120
DH366FRK	25	60-1/4	14-1/4	19	54-1/4	129
DH366FWK ●	25	63	14-1/4	19	61-3/4	147
DH366NDK	25	63	14-1/4	19	61-3/4	144
DH366NGK	25	59-3/4	14-1/4	19	54-1/4	125
DH366NRK	25	60-1/4	14-1/4	19	54-1/4	135
DH366NWK ●	25	63	14-1/4	19	61-3/4	152
DH366UDK	25	63	14-1/4	19	61-3/4	113
DH366UGK	25	59-3/4	14-1/4	19	54-1/4	105
DH366URK	25	60-3/4	14-1/4	19	54-1/4	109
DH366UWK ●	25	63	14-1/4	19	61-3/4	120
DH367FDK	26-3/8	71-3/4	14-1/4	20-1/4	70-1/2	235
DH367FGK	26-3/8	68-1/2	14-1/4	20-1/4	63-1/4	215
DH367FRK	26-3/8	69	14-1/4	20-1/4	63-1/4	225
DH367FWK ●	26-3/8	71-3/4	14-1/4	20-1/4	70-1/2	235
DH367NGK	26-3/8	68-1/2	14-1/4	20-1/4	63-1/4	220
DH367NRK	26-3/8	69	14-1/4	20-1/4	63-1/4	230
DH367UDK	26-3/8	71-3/4	14-1/4	20-1/4	70-1/2	220
DH367UGK	26-3/8	68-1/2	14-1/4	20-1/4	63-1/4	210
DH367URK	26-3/8	69	14-1/4	20-1/4	63-1/4	220
DH367UWK ●	26-3/8	71-3/4	14-1/4	20-1/4	70-1/2	225
DH368FGC	33-9/16	52-7/8	17-17/32	25-15/32	56-3/4	315
DH368FRC	33-9/16	52-7/8	17-17/32	25-15/32	56-3/4	315
DH368UGC	33-9/16	52-7/8	17-17/32	25-15/32	43-9/16	315
DH421FDK	12-3/4	17-7/8	10-1/4	9-1/4	17	28
DH421FGK	12-3/4	16	10-1/4	10	13-3/4	22
DH422FDK	16-1/4	24	10-1/4	12	23-1/8	37
DH422FGK		22	10-1/4	12-3/4	20	31
DH423FDK	16-1/4	24	10-1/4	12	23-1/8	45
DH423FGK	16-1/4	22	10-1/4	12-3/4	20	39
DH424FDK	16-3/4	34-3/8	11-5/8	12-1/2	33	56
DH461FGK	12-3/4	16	10-1/4	10	13-3/4	23
DH461UDK	12-3/4	17-7/8	10-1/4	9-1/4	17	24

● Suffix -SS, 4X stainless steel enclosure — 400 - 600A Dimensions: 25-1/8" Wide x 63" High x 14-1/4" Deep with 19" x 61-3/4" mounting
800A Dimensions: 26-3/8" Wide x 71-3/4" High x 14-1/4" Deep with 20-1/4" x 70-1/2" mounting

ENCLOSURE DIMENSIONS AND SHIPPING WEIGHTS

Not to be used for construction purposes unless approved.
Inches and Millimeters.

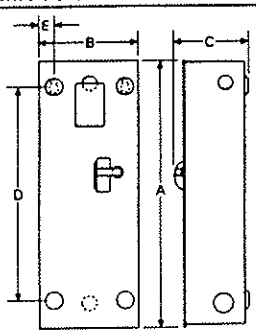
NEMA 1 Surface Mounted



Catalog Number	App. Wt. Lbs.	Max. Amps.	Dimensions A IN.	A MM	B IN.	B MM	C IN.	C MM	D IN.	D MM	E IN.	E MM	Conduit Sizes, Inches
2460S	4	60	8⅝	210	4⅝	117	2⅞	73					⅜ x 1 x 1¼ KO x ½ KO
3100S	7	100	15⅜	390	6¼	159	3¹⁵⁄₁₆	98					1¼ x 1½ x 2 KO
2125S	7	125	14¼	365	6⅝	168	3½	89					½ x ¾ x 1 K, ½ KO ½ x ¾ KO
SCAN225●	8	225	26¼	666	11¾	298	4⅝	117					1¼ x 1½ x 2 x 2½ KO 1 x 1¼ x 1½ KO
SGCN100	6	100	14⅛	362	8⅜	210	3⅝	99					½, 1¼, 1½, 2
SFDN100	12	100	17½	444	8¹³⁄₃₂	214	6⁵⁄₃₂	160	13½	331	1¾	91	¼, ½, ¾, 1, 1¼, 1½, 2, 2½
SFDN150	15	150	23¼	591	8¹³⁄₃₂	214	6⁵⁄₃₂	160	18¾	476	1¾	91	¼, ½, ¾, 1, 1¼, 1½, 2, 2½
SEDN225*													
SJDN250	31	250	34⁴⁶⁄₆₄	881	10⁴⁸⁄₆₄	227	7¹³⁄₆₄	183	30	762	1⅞	48	¼, ½, 2, 2½, 3
SKDN400	53	400	38¹³⁄₁₆	986	11⅛	281	10¹⁵⁄₁₆	278	34	869	2³⁄₃₂	58	½, ½, ¾, 1½, 2, 2½, 3, 3½
SLDN600	81	600	45⅞	1165	14⅝	364	12⅜	314	46⁹⁄₁₆	1183	1⅞	48	½, ½, ¾, 3, 3½, 4
SNDN1200	178	1200	61²⁷⁄₃₂	1555	21⅜	545	15¹³⁄₃₂	391	61²⁷⁄₃₂	1571	1¹⁵⁄₃₂	50	

*Availability to be announced.

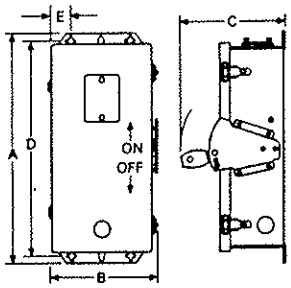
NEMA 1 Flush Mounted



Catalog Number	App. Wt. Lbs.	Max. Amps.	Dimensions A IN.	A MM	B IN.	B MM	C IN.	C MM	D IN.	D MM	E IN.	E MM	Conduit Sizes, Inches
2460F	4	60	8⅝	210	4⅝	117	2⅞	73					¾ x 1 x 1¼ KO, ½ KO
2125F	7	125	14¼	365	6⅝	168	3½	89					½ x ¾ x 1 KO, ½ KO
FCAN225●	8	225	26¼	667	11¹¹⁄₁₆	297	4⅝	118					½ x ¾ KO
FFDN100	12	100	18¹³⁄₁₆	478	9²³⁄₃₂	247	6⅝₃₂	160	13½	331	1⁵⁵⁄₆₄	47	¼, ½, ¾, 1, 1¼, 1½, 2, 2½
FFDN150	15	150	24⁵⁄₁₆	624	9²³⁄₃₂	247	6⅝₃₂	160	18¾	476	1⁵⁵⁄₆₄	47	¼, ½, ¾, 1, 1¼, 1½, 2, 2½
FEDN225*													
FJDN250	32	250	36¹⁄₆₄	915	12¹⁵⁄₆₄	311	7¹³⁄₆₄	183	30	762	1⅞	48	¼, ½, 2, 2½, 3
FKDN400	53	400	40⅛	1019	12⅜	314	10¹⁵⁄₁₆	278	34	869	2¹⁵⁄₁₆	75	¼, ½, ¾, 1½, 2, 2½, 3, 3½

*Availability to be announced.

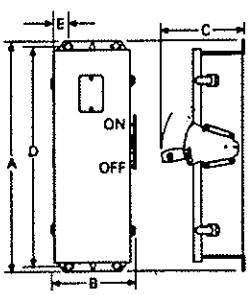
NEMA 12, 12K Dustproof



Catalog Number	App. Wt. Lbs.	Max. Amps.	Dimensions A IN.	A MM	B IN.	B MM	C IN.	C MM	D IN.	D MM	E IN.	E MM	Conduit Sizes, Inches
JFDN100	14	100	19²³⁄₃₂	606	8²⁷⁄₃₂	225	9⅜	237	18¹⁷⁄₃₂	471	1⁴⁵⁄₆₄	43	
JFDN150	18	150	25²¹⁄₃₂	652	8²⁷⁄₃₂	225	9⅜	237	24³⁄₃₂	617	1⁴⁵⁄₆₄	43	
JEDN225*													
JJDN250	37	250	37¹⁷⁄₃₂	953	11⅝	294	10⁷⁄₃₂	260	35⁴⁹⁄₆₄	909	1¹⁵⁄₁₆	49	
JKDN400	58	400	41¹³⁄₁₆	1059	11¾	298	14⅛	357	39¹⁵⁄₁₆	1014	1²¹⁄₃₂	50	
JLDN600	81	600	48⅝	1227	14²⁹⁄₃₂	379	15½	394	46⁹⁄₁₆	1183	1⁹⁄₆₄	49	
JNDPN800	110	800	63¹⁵⁄₃₂	1545	22	559	17⅝	448					
JNDN1200	170	1200	63¹⁵⁄₃₂	1545	22	559	17⅝	448	61²⁷⁄₃₂	1571	1¹⁵⁄₃₂	50	
DFDN100	18	100	19²³⁄₃₂	506	8²⁷⁄₃₂	225	9⅜	237					
DFDN150	19	150	25²¹⁄₃₂	652	8²⁷⁄₃₂	225	9⅜	237					
DJDN250	36	250	37¹⁷⁄₃₂	953	11⅝	294	10⁷⁄₃₂	260					
DKDN400	53	400	41¹³⁄₁₆	1059	11¾	298	14⅛	357					

*Availability to be announced.

NEMA 3R RFDN Through RNDN



Catalog Number	App. Wt. Lbs.	Max. Amps.	Dimensions A IN.	A MM	B IN.	B MM	C IN.	C MM	D IN.	D MM	E IN.	E MM	Conduit Sizes, Inches
2460R●	5	60	9¹³⁄₁₆	249	5	127	3¾	95					⅜ x 1 x 1¼ KO x ½ KO
3100R●	10	100	15¹⁵⁄₁₆	382	12⅜	314	4	101					1¼ x 1½ x 2 KO
2125R●	8	125	14¼	365	6⅝	168	3½	89					½ x ¾ x 1 KO
RCAN225●●	8	225	28¼	666	11¾	299	5⅛	130					½ x ¾ KO, ½ KO
RGCN100●	6	100	14¹⁵⁄₁₆	362	7¹⁵⁄₁₆	210	3¹³⁄₁₆	99					½, 1¼, 1½, 2, 2½
RFDN100	14	100	19²³⁄₃₂	458	8²⁷⁄₃₂	225	9⅜	237	18¹⁷⁄₃₂	471	1⁴⁵⁄₆₄	43	¼, ½, ¾, 1, 1¼, 1½, 2, 2½
RFDN150	19	150	25²¹⁄₃₂	603	8²⁷⁄₃₂	225	9⅜	237	24³⁄₃₂	617	1⁴⁵⁄₆₄	43	¼, ½, ¾, 1, 1¼, 1½, 2, 2½
REDN225*													
RJDN250	40	250	37½	891	11⅝	294	10⁷⁄₃₂	260	35⁴⁹⁄₆₄	909	1¹⁵⁄₁₆	49	½, ½, 2, 2½, 3
RKDN400	60	400	41¹³⁄₁₆	997	11¾	298	14⅛	357	39¹⁵⁄₁₆	1014	1²¹⁄₃₂	50	¼, ½, ¾, 2½, 3, 3½
RLDN600	84	600	48⅝	1227	14²⁹⁄₃₂	379	15½	394	46⁹⁄₁₆	1183	1⁹⁄₆₄	49	
RNDN1200	175	1200	63¹⁵⁄₃₂	1615	22	559	17⅝	448	61²⁷⁄₃₂	1571	1¹⁵⁄₃₂	50	

*Availability to be announced.

● To be discontinued.
● The RQP, RCAN and RGCN NEMA 3R enclosures have top hinged front covers with a padlock hasp/latch. The cover must be raised to operate the breaker handle. All other NEMA 3R enclosures have an external side-operated handle mechanism.

WESTINGHOUSE TRANSFORMERS
Dry-Type Distribution, Energy Efficient
3 Phase, 60 Hz – Type DT-3

DESCRIPTION

Features • Specifications

- U.L. listed.
- Low operating costs when operated at 115°C or 80°C rise.
- 220°C insulating system provides extended life when operated at 115°C or 80°C rise.
- Manufactured in accordance with NEMA/ANSI, UL and IEEE standards.
- Overload capability of 15% for 115°C rise units operated at 150°C rise and 30% for 80°C rise units operated at 150°C rise.
- Drip proof enclosure.
- Core constructed from stacked laminations that are braced and dipped in resin to assure quiet operation.
- Furnished with primary and secondary terminal pads.
- Front and rear panels provide for easy installation and maintenance.
- All units 100% tested prior to being shipped.

LIST PRICES AND STYLE NUMBERS

kVA	Style No.	List Price	UIC Item 78-6680-	Full Capacity Taps	Type	Deg. C. Temp. Rise	Dimensions, (In.)❶ Height	Width	Depth	Wt. (Lbs.)	Frame	Wiring❷ Diagram	Weathershield Kit Style No.
480Δ Volts to 208Y/120 Volts													
15	V48M28B15A⑤	$ 1967	14429	+ 2-2.5%, – 4-2.5%	DT-3	80	30⅛	20⅛	14⅛	230	910	280B	9715A69G02
30	V48M28B30A⑤	2901	32542	+ 2-2.5%, – 4-2.5%	DT-3	80	30⅛	20⅛	14⅛	310	912	280B	9715A69G02
45	V48M28B45R⑤	4351	32544	+ 2-2.5%, – 4-2.5%	DT-3	80	39⅜	26⅛	19⅛	480	914A	280B	9715A69G03
75	V48M28B75R⑤	5801	32546	+ 2-2.5%, – 4-2.5%	DT-3	80	39⅜	26⅛	19⅛	600	915A	280B	9715A69G03
112.5	V48M28B12R⑤	7329	32548	+ 2-2.5%, – 4-2.5%	DT-3	80	46½	26	20⅜₁₆	760	916	280B	9715A69G04
150	V48M28B49P⑤	9847	32550	+ 2-2.5%, – 4-2.5%	DT-3	80	56	31¼	24¼	1100	917	280B	9715A69G05
225	V48M28B22P⑤	13772	32552	+ 2-2.5%, – 4-2.5%	DT-3	80	56	31¼	24¼	1300	918	280B	9715A69G05
300	V48M28B33R⑤	16756	32553	+ 2-2.5%, – 4-2.5%	DT-3	80	75	44½	36	2600	919	275B	9715A69G06
500	V48M28B55R⑤	24810	99910	+ 2-2.5%, – 4-2.5%	DT-3	80	80	57	42	4500	921A	275B	9715A69G15
15	V48M28F15B⑤	1942	33340	+ 2-2.5%, – 4-2.5%	DT-3	115	25	20⅛	14⅛	215	909	280B	9715A69G01
30	V48M28F30R⑤	2710	32556	+ 2-2.5%, – 4-2.5%	DT-3	115	30⅛	20⅛	14⅛	230	910	280B	9715A69G02
45	V48M28F45R⑤	4084	32558	+ 2-2.5%, – 4-2.5%	DT-3	115	30⅛	20⅛	14⅛	310	912	280B	9715A69G02
75	V48M28F75R⑤	5421	32560	+ 2-2.5%, – 4-2.5%	DT-3	115	39⅜	26⅛	19⅛	480	914A	280B	9715A69G03
112.5	V48M28F12R⑤	6794	32562	+ 2-2.5%, – 4-2.5%	DT-3	115	39⅜	26⅛	19⅛	600	915A	280B	9715A69G03
150	V48M28F49P⑤	9060	32564	+ 2-2.5%, – 4-2.5%	DT-3	115	46½	26	20⅜₁₆	760	916	280B	9715A69G04
225	V48M28F22P⑤	12520	32566	+ 2-2.5%, – 4-2.5%	DT-3	115	56	31¼	24¼	1100	917	280B	9715A69G05
300	V48M28F33P⑤	15222	32568	+ 2-2.5%, – 4-2.5%	DT-3	115	56	31¼	24¼	1300	918	280B	9715A69G05
500	V48M28F55P⑤	22290	32569	+ 2-2.5%, – 4-2.5%	DT-3	115	75	44½	36	2400	919	275B	9715A69G06
750	V48M28F77T	36223	32565	+ 2-2.5%, – 4-2.5%	DT-3	115	80	57	42	4500	921A	275B	9715A69G15
480Δ Volts to 208Y/120 Volts, Copper Windings													
15	V48M28B15CU⑤	2708	33545	+ 2-2.5%, – 4-2.5%	DT-3	80	30⅛	20⅛	14⅛	230	910	280B	9715A69G02
30	V48M28B30CU⑤	3996	33550	+ 2-2.5%, – 4-2.5%	DT-3	80	30⅛	20⅛	14⅛	310	912	280B	9715A69G02
45	V48M28B45CU⑤	4810	33555	+ 2-2.5%, – 4-2.5%	DT-3	80	39⅜	26⅛	19⅛	480	914A	280B	9715A69G03
75	V48M28B75CU⑤	7248	33560	+ 2-2.5%, – 4-2.5%	DT-3	80	39⅜	26⅛	19⅛	600	915A	280B	9715A69G03
112.5	V48M28B12CU⑤	9644	33565	+ 2-2.5%, – 4-2.5%	DT-3	80	46½	26	20⅜₁₆	760	916	280B	9715A69G04
150	V48M28B49CU	12599	33570	+ 2-2.5%, – 4-2.5%	DT-3	80	56	31¼	24¼	1100	917	280B	9715A69G05
225	V48M28B22CU	16799	33575	+ 2-2.5%, – 4-2.5%	DT-3	80	56	31¼	24¼	1300	918	280B	9715A69G05
300	V48M28B33CU	27267	33580	+ 2-2.5%, – 4-2.5%	DT-3	80	75	44½	36	2600	919	275B	9715A69G06
500	V48M28B55CU	34139	33585	+ 2-3.1%, – 2-3.1%	DT-3	80	76	60	50	4650	921AG	266GG	❹
15	V48M28F15CU⑤	2343	33500	+ 2-2.5%, – 4-2.5%	DT-3	115	25	20⅛	14⅛	215	909	280B	9715A69G01
30	V48M28F30CU⑤	3528	33505	+ 2-2.5%, – 4-2.5%	DT-3	115	30⅛	20⅛	14⅛	230	910	280B	9715A69G02
45	V48M28F45CU⑤	4244	33510	+ 2-2.5%, – 4-2.5%	DT-3	115	30⅛	20⅛	14⅛	310	912	280B	9715A69G02
75	V48M28F75CU⑤	6396	33515	+ 2-2.5%, – 4-2.5%	DT-3	115	39⅜	26⅛	19⅛	480	914A	280B	9715A69G03
112.5	V48M28F12CU	8510	33520	+ 2-2.5%, – 4-2.5%	DT-3	115	39⅜	26⅛	19⅛	600	915A	280B	9715A69G03
150	V48M28F49CU	11116	33525	+ 2-2.5%, – 4-2.5%	DT-3	115	46½	26	20⅜₁₆	760	916	280B	9715A69G04
225	V48M28F22CU	14823	33530	+ 2-2.5%, – 4-2.5%	DT-3	115	56	31¼	24¼	1100	917	280B	9715A69G05
300	V48M28F33CU	19006	33535	+ 2-2.5%, – 4-2.5%	DT-3	115	56	31¼	24¼	1300	918	280B	9715A69G05
500	V48M28F55CU	30123	33540	+ 2-2.5%, – 4-2.5%	DT-3	115	75	44½	36	2400	919	275B	9715A69G06
750	V48M28F77CU	46620	32567	+ 1-3.5%, – 1-3.5%	DT-3	115	76	60	50	5400	921AG	286GG	❹
480Δ Volts to 240Δ Volts													
30	V48M24B30P⑤	2901	32571	+ 2-2.5%, – 4-2.5%	DT-3	80	30⅛	20⅛	14⅛	310	912	280B	9715A69G02
45	V48M24B45P⑤	4351	32573	+ 2-2.5%, – 4-2.5%	DT-3	80	39⅜	26⅛	19⅛	480	914A	281B	9715A69G03
75	V48M24B75P⑤	5921	32575	+ 2-2.5%, – 4-2.5%	DT-3	80	39⅜	26⅛	19⅛	600	915A	281B	9715A69G03
112.5	V48M24B12P	7478	32577	+ 2-2.5%, – 4-2.5%	DT-3	80	46½	26	20⅜₁₆	760	916	281B	9715A69G04
150	V48M24B49P	9847	32579	+ 2-2.5%, – 4-2.5%	DT-3	80	56	31¼	24¼	1100	917	281B	9715A69G05
225	V48M24B22P	13772	32581	+ 2-2.5%, – 4-2.5%	DT-3	80	56	31¼	24¼	1300	918	281B	9715A69G05
300	V48M24B33P	16749	32583	+ 2-2.5%, – 4-2.5%	DT-3	80	75	44½	36	2600	919	274B	9715A69G06
500	V48M24B55N	24810	32584	+ 2-2.5%, – 4-2.5%	DT-3	80	80	57	42	4500	921A	274B	9715A69G15
30	V48M24F30P⑤	2710	32586	+ 2-2.5%, – 4-2.5%	DT-3	115	30⅛	20⅛	14⅛	230	910	281B	9715A69G02
45	V48M24F45P	4084	32588	+ 2-2.5%, – 4-2.5%	DT-3	115	30⅛	20⅛	14⅛	310	912	281B	9715A69G02
75	V48M24F75P	5421	32590	+ 2-2.5%, – 4-2.5%	DT-3	115	39⅜	26⅛	19⅛	480	914A	281B	9715A69G03
112.5	V48M24F12P	6794	32592	+ 2-2.5%, – 4-2.5%	DT-3	115	39⅜	26⅛	19⅛	600	915A	281B	9715A69G03
150	V48M24F49P	9060	32594	+ 2-2.5%, – 4-2.5%	DT-3	115	46½	26	20⅜₁₆	760	916	281B	9715A69G04
225	V48M24F22P	12775	32596	+ 2-2.5%, – 4-2.5%	DT-3	115	56	31¼	24¼	1100	917	281B	9715A69G05
300	V48M24F33P	15222	32598	+ 2-2.5%, – 4-2.5%	DT-3	115	56	31¼	24¼	1300	918	281B	9715A69G05
500	V48M24F55N	22290	32599	+ 2-2.5%, – 4-2.5%	DT-3	115	75	44½	36	2600	919	274B	9715A69G06
750	V48M24F77N	36223	32569	+ 2-2.5%, – 4-2.5%	DT-3	115	80	57	42	4500	921A	274B	9715A69G15

❶ Not for construction. Refer to TCS47-720 by frame number for certification.
❷ For wiring diagram, refer to TCS47-730 by diagram number.
❹ Refer to Cutler-Hammer.
⑤ Normally stock. Any style not normally stocked is available on a QWIK ENTRY (Q) suffix.

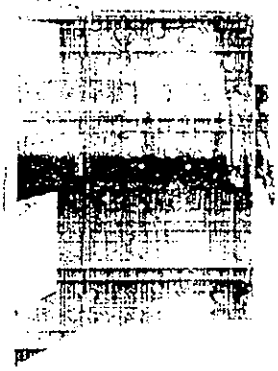
NOTE: Refer to Cutler-Hammer for availability of custom designs.

DISCOUNT SYMBOL DT-1

WHEN ORDERING SPECIFY:

- Catalog Number

- UL listed, File E6239.
- Meets UL 98 for enclosed switches and NEMA Std. KS-1.
- Suitable as service entrance equipment, except 1200A on grounded Wye systems, per NEC-230-95, and 4-pole switches.



K-series 60A Type 1

NON-FUSIBLE — 240-600 VOLTS

System	Amperes	Enclosure Type 1 Indoor Catalog Number	Price	Enclosure Type 3R Raintight Catalog Number	Price	Type 4 & 12 ❶ Watertight Catalog Number	Price	Enclosure Type 12, 12/3R for 30-200A Industrial Catalog Number	Price	Maximum Hp Ratings 2φ ac 240V	600V	3φ ac 240V	600V	250
2 POLE 240 VOLTS AC — 600 VOLTS AC OR DC ❷														
	30	DH261UGK	S 142.	❸	---	❸	---	DH261UDK	S 249.	7½	15			
	60	❸	---	❸	---	❸	---	262UDK	297.	20	25			
	100	263UGK	428.	❸	---	❸	---	263UDK	455.	30	40	---	---	---
	200	❸	---	❸	---	---	---	264UDK	660.	50	50	---	---	---
	400	265UGK	1465.	❸	---	❸	---	265UDK	1625.					
	600	266UGK	2600.	❸	---	❸	---	266UDK	2773.					
	800	267UGK	4141.	❸	---	---	---	267UDK	4511.					
	1200	❹	---	❹	---	---	---	---	---					
3 POLE, 240 VOLTS AC — 600 VOLTS AC — 250 VOLTS DC (3φ A – AC														
	30	DH361UGK ❺	138.	DH361URK ❺	S248.	DH361UWK ❺	S 1015.	DH361UDK ❺	313.					
	30	361UGK-RS	138.	361URK-RS	246.	361UWK-LS	1015.	361UDK-LS	313.					
	60	362UGK ❺	245.	362URK ❺	433.	362UWK ❺	1217.	362UDK ❺	410.					
	60	362UGK-RS	245.	---	---	362UWK-LS	1217.	362UDK-LS	410.					
	100	363UGK	399.	363URK	618.	363UWK	2407.	363UDK	570.	30	50	75	150	5
	200	364UGK	581.	364URK	725.	364UWK	3398.	364UDK	767.	50	50	125	150	5
	400	365UGK	1347.	365URK	1696.	365UWK	6579.	365UDK	2021.	---	---	250	350	5
	600	366UGK	2466.	366URK	3781.	366UWK	9180.	366UDK	3252.	---	---	400	500	---
	800	367UGK	4973.	367URK	6647.	367UWK	12910.	367UDK	5431.	---	---	500	501	---
	1200	368UGB	6790.	368URB	9300.	---	---	---	---	---	---	---	---	---
4 POLE, 240 VOLTS AC — 600 VOLTS AC — 250 VOLTS DC ❺ ❼														
										2φ				
										240V	600V			
	30	DH461UGK	428.	---	---	DH461UWK	---	DH461UDK	463.	10	25			
	60	462UGK	544.	---	---	---	---	462UDK	540.	20	50	50	60	
	100	463UGK	801.	---	---	---	---	463UDK	952.	30	50	60	75	2
	200	---	---	---	---	---	---	464UDK	1453.	50	50	125	150	---
	400	465UGK	2094.	---	---	---	---	---	---	---	---	250	350	---
	600	466UGK	3822.	---	---	---	---	---	---	---	---	400	500	---

❶ UL Type 12 standard enclosure 3 ... 200A. ... steel enclosure. ... stainless steel enclosure on 400-800A, add suffix -SS and conn... available.

❷ ...

❸ Use ...

❹ ...

❺ ...

❻ ...

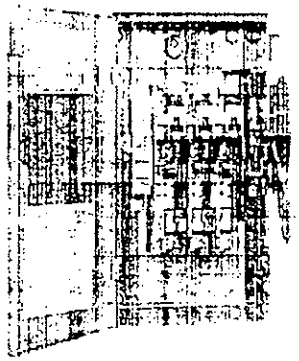
❼ ... Page 53 Consult factory for application data.

❽ Switch ... CSA ... number. Example: DH361UGK-CSA.

WHEN ORDERING SPECIFY

- Catalog Number

- UL listed. File E5239.
- Meets UL 98 for enclosed switches and NEMA Std. KS-1.
- Suitable as service entrance equipment, except 1200A on grounded Wye systems, per NEC-230-95, and 4-pole switches.



K-series 60A, Type 3R

FUSIBLE 277/480 — 600 VOLTS — Provision for Class H fuses through 600A — Class L for [illegible]

System	Amperes	Enclosure Type 1 Indoor		Enclosure Type 3R Rainproof		Type 4 & 4X ❶ Watertight		Enclosure Type 12 12/3R for 30-200A Industrial		Maximum HP Ratings With Type [illegible]					
		Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	10 [illegible]		[illegible]			
										480V	600V	480V	600V	250V	600V
2 POLE, 480 VOLTS AC — 600 VOLTS AC OR DC ❷															
	30	DH261FGK	$ 273.	❸	---	DH261FWK	$ 1267.	DH261FDK	$ 402.	7-1/2	10	---	---	---	15
	60	262FGK	330.	❸	---	❸	---	262FDK	459.	20	25	---	---	---	25
	100	263FGK	644.	❸	---	❸	---	263FDK	679.	30	40	---	---	---	2[illegible]
	200	264FGK	892.	❸	---	264FWK	3912	264FDK	1033.	50	50	---	---	---	[illegible]
	400	265FGK	2247.	❸	---	❸	---	265FDK	2450.	---	---	---	---	50	
	600	266FGK	3541.	❸	---	❸	---	266FDK	3921.	---	---	---	---	---	
	800	267FGK	5810	❸	---	❸	---	267FDK	6541.	---	---	---	---	---	---
	1200	❹	---	❹	---	---	---	---	---	---	---	---	---	---	
3 POLE, 480 VOLTS AC — 600 VOLTS AC															
	30	DH361FGK	264.	DH361FRK	$ 446.	DH361FWK	1181.	DH361FDK	446.	7-1/2	10	15	20	---	---
	60	362FGK	316.	362FRK	520.	362FWK	1337.	362FDK	467.	20	25	30	50	---	---
	100	363FGK	588.	363FRK	814.	363FWK	2693.	363FDK	725.	30	40	60	75	---	---
	200	364FGK	848.	364FRK	1125.	364FWK	3761	364FDK	1235.	50	50	125	150	---	---
	400	365FGK	2229.	365FRK	2631.	365FWK	7363.	365FDK	2900.	---	---	250	350	---	---
	600	366FGK	4251.	366FRK	5700.	366FWK	11188.	366FDK	4750.	---	---	400	500	---	---
	800	367FGK	7900.	367FRK	9258.	367FWK	13197.	367FDK	8590.	---	---	500	500	---	---
	1200	368FGB	9639.	368FRB	10920	---	---	---	---	---	---	---	---	---	---
4 WIRE S.N. 3 BLADES, 3 FUSES) 277/480 VOLTS AC — [illegible] VOLTS AC															
	30	DH361NGK	305.	DH361NRK	517.	DH361NWK	1326	DH361NDK	558.	7-1/2	10	15	20	---	---
	60	362NGK	355.	362NRK	560.	362NWK	1451	362NDK	550.	20	25	30	50	---	---
	100	363NGK	632.	363NRK	863.	363NWK	3012.	363NDK	840.	30	40	60	75	---	---
	200	364NGK	928.	364NRK	1255.	364NWK	4189.	364NDK	1396	50	50	125	150	---	---
	400	365NGK	2542.	365NRK	2989.	365NWK	7564.	365NDK	3061.	---	---	250	350	---	---
	600	366NGK	4144.	366NRK	5688.	366NWK	10998.	366NDK	4800.	---	---	400	500	---	---
	800	367NGK	7107	367NRK	8754.	---	---	---	---	---	---	500	500	---	---
	1200	368NGB	9013.	368NRB	11188.	---	---	---	---	---	---	---	---	---	---
4 POLE, 480 VOLTS AC — 600 VOLTS AC ❹															
	30	DH461FGK	442.	---	---	---	---	---	---	---	2@ 500V 25	15	20	---	---
	60	462FGK	520.	---	---	---	---	---	---	---	50	30	50	---	---
	100	463FGK	867.	---	---	---	---	DH463FDK	997.	---	50	60	75	---	---
	200	---	---	---	---	---	---	464FDK	1702.	---	50	125	150	---	---
	400	465FGK	3952.	---	---	---	---	---	---	---	---	250	350	---	---
	600	466FGK	6441.	---	---	---	---	---	---	---	---	400	500	---	---

❶ UL Type 4X stainless steel enclosures through 200A. Type 4 painted steel for 400-800A. For [illegible] for availability.

❷ Dc rating for 400-600A switches is 250V.

❸ Use outside pole of [illegible] switch for dc rating.

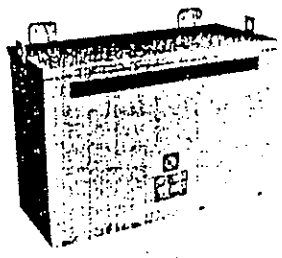
❹ For four pole applications see three pole switch [illegible] pole. Cat. No. DS16CP, listed on Page 53. Consult factory for application data.

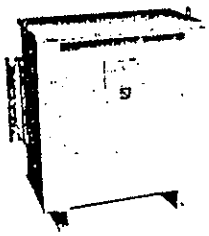
DISCOUNT SCHEDULE 22CD

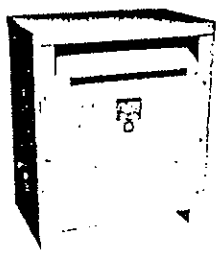
Printed in U.S.A.
CH1017

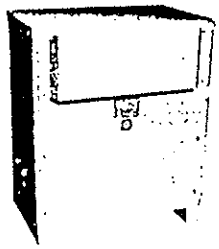
TRANSFORMERS
Dry-Type Distribution, General Purpose
3 Phase, 60 Hz – Types EPT and DT-3

DESCRIPTION


Type EPT 3-15 kVA


Type EPT 30 kVA


Type DT-3 30-1500 kVA


Type DT-3
With Optional Weathershields

Type EPT Resin Encapsulated

Features • Specifications

- U.L. listed for indoor/outdoor mounting (600 volt class)
- Can be mounted in any position indoors. Outdoors mounts upright only
- All units 100% tested prior to being shipped.
- Constructed in accordance with NEMA, ANSI, ASA, and IEEE standards
- Totally enclosed-non-ventilated design permits installation in areas that contain dust, moisture or corrosive fumes
- As much as 40% smaller in cubic volume than equal Kva ratings in other dry-type designs
- Low sound levels permit installation in hospitals, hotels, schools and libraries.
- Large terminal compartment permits easier cable connections
- Immersion of core and coil in sand and resin provides rigid construction which attenuates sound and will withstand short circuit stresses up to 25 times normal load current for two seconds.
- 15 Kva and below has terminal compartment on the bottom.
- 30 Kva has terminal compartment at top. No knockouts.
- Lifting holes are provided.
- Flexible leads built into the unit for ease of making connections.

Type DT-3 Ventilated

Features • Specifications

- UL listed (600 volt class) 30 Kva thru 1000 Kva
- 150°C rise – 220°C total insulation system
- Drip proof enclosure
- Core is constructed from stacked laminations that are braced and dipped in resin to assure quiet operation
- All ratings are constructed in accordance with NEMA, ANSI, ASA and IEEE standards
- 100% tested to meet ANSI and NEMA sound levels
- The ventilated designs are furnished with terminal straps only.
- Front and rear panels are provided for easy installation and maintenance.

LIST PRICES AND STYLE NUMBERS

KVA	Style Number	List Price	Full Capacity Taps	Type	Deg. C. Temp. Rise	Dimensions, (In.)① Height	Width	Depth	Wt. (Lbs.)	Frame	Wiring② Diagram	Weathershield Kit Style No.
240Δ Volts to 208Y/120 Volts												
9	Y24G28T09M	$ 806	−2-5%	EPT	115	15⅛	16	9⅛	160	103	70C	Not Required③
15	Y24G28T15M	1352	−2-5%	EPT	115	17⅜	20	8⅛	210	95	70C	
30	Y24M28T30M	2026	+2-2.5%, −4-2.5%	EPT	115	26⅛	25⅛	12¾	422	243	84C	
45	V24M28T45M	2080	+2-2.5%, −4-2.5%	DT-3	150	29¼	24	15¾	500	851	280C	783C426G01
75	V24M28T75M	3094	+2-2.5%, −4-2.5%	DT-3	150	38⅜	28	19¼	850	853	280C	783C426G02
112.5	V24M28T12M	4134	+2-2.5%, −4-2.5%	DT-3	150	38⅜	28	19¼	850	854	76C	783C426G02
150	V24M28T49M	5080	+2-2.5%, −4-2.5%	DT-3	150	45	31⅜	22⅛	950	855	76C	783C426G03
480Δ Volts to 208Y/120 Volts												
3④	Y48N28T03M	489	None	EPT	115	13⅜	15⅝	8⅛	70	201	71A	Not Required③
3④	Y48G28T03M	499	−2-2.5%	EPT	115	13¾	15⅝	8⅛	70	201	70A	
6④	Y48N28T06M	561	None	EPT	115	15⅛	16¾	7½	115	200	71A	
6④	Y48G28T06M	572	−2-5%	EPT	115	15⅛	16¾	7½	115	200	70A	
6④	Y48D28T06M	583	+2-2.5%, −2-2.5%	EPT	115	15⅛	16¾	7½	115	200	72B	
9④	Y48N28T09M	749	None	EPT	115	15⅞	16	9⅛	160	103	71A	
9④	Y48G28T09M	764	−2-5%	EPT	115	15⅛	16	9⅛	160	103	70A	
9④	Y48J28T09M	779	−4-2.5%	EPT	115	15⅛	16	9⅛	160	103	72A	
9④	Y48D28T09M	779	+2-2.5%, −2-2.5%	EPT	115	15⅛	16	9⅛	160	103	72B	
15④	Y48N28T15M	1126	None	EPT	115	17⅜	20	8⅛	210	95	71A	
15④	Y48G28T15M	1149	−2-5%	EPT	115	17⅜	20	8⅛	210	95	70A	
15④	Y48J28T15M	1149	−4-2.5%	EPT	115	17⅜	20	8⅛	210	95	72A	
15④	Y48D28T15M	1149	+2-2.5%, −2-2.5%	EPT	115	17⅜	20	8⅛	210	95	72B	
30④	Y48M28T30M	1995	+2-2.5%, −4-2.5%	EPT	115	26⅛	25⅛	12¾	422	243	84A	
30④	V48M28T30J	1534	+2-2.5%, −4-2.5%	DT-3	150	32	20⅛	14⅛	230	910	280B	7073C04G01
37.5④	V48M28T37J	1720	+2-2.5%, −4-2.5%	DT-3	150	32	20⅛	14⅛	310	911	280B	7073C04G01
45④	V48M28T45J	1846	+2-2.5%, −4-2.5%	DT-3	150	32	20⅛	14⅛	310	912	280B	7073C04G01
50④	V48M28T50H	2015	+2-2.5%, −4-2.5%	DT-3	150	37⅛	26⅛	19⅛	480	913	280B	7073C04G02
75④	V48M28T75H	2782	+2-2.5%, −4-2.5%	DT-3	150	37⅛	26⅛	19⅛	480	914	280B	7073C04G02
112.5④	V48M28T12G	3702	+2-2.5%, −4-2.5%	DT-3	150	37⅛	26⅛	19⅛	600	915	280B	7073C04G02
150④	V48M28T49J	4836	+2-2.5%, −4-2.5%	DT-3	150	46½	26	20¾	950	916	280B	7073C04G03
225④	V48M28T22K	6448	+2-2.5%, −4-2.5%	DT-3	150	56	29	24¼	1200	917	280B	7073C04G04
300④	V48M28T33J	8268	+2-2.5%, −4-2.5%	DT-3	150	56	29	24¼	1400	918	280B	7073C04G04
500④	V48M28T55F	13104	+2-2.5%, −4-2.5%	DT-3	150	75	44	36	2700	④	④	3720C94G05
750④	V48M28T77F	21294	+2-2.5%, −4-2.5%	DT-3	150	75	50	36	3300	④	④	3720C94G06
1000④	V48M28T11F	25688	+2-2.5%, −4-2.5%	DT-3	150	90	53	36	4900	④	④	3720C94G07

③ Normally stock.
① Not for construction. Refer to TCS47-720 by frame number for certification.
② For wiring diagram, refer to TCS47-730 by diagram number.
② NEMA 3R outdoor enclosure is standard for Westinghouse Type EPT.
④ Refer to SPTD.
Note: Refer to SPTD for availability of special designs.

TRANSFORMERS
Dry-Type Distribution, General Purpose
3 Phase, 60 Hz – Types EPT and DT-3

LIST PRICES AND STYLE NUMBERS, *Continued*

KVA	Style No.	List Price	UIC Item 78-6680-	Full Capacity Taps		Type	Deg. C Temp Rise	Dimensions (in.) Height	Width	Depth	Net Weight (lbs.)		
480Δ Volts to 208Y/120 Volts													
15	V48M28T15B③	$ 1377	33300	+2 2.5%	-4 2.5%	DT-3	150	28	20⅛	14⅛	170	909	280B
30	V48M28T30K③	2032	32420	+2 2.5%	-4 2.5%	DT-3	150	37⅞	20⅛	14⅛	340	910	280B
37.5	V48M28T37K③	2279	32429	+2 2.5%	-4 2.5%	DT-3	150	37⅞	20⅛	14⅛	370	912	280B
45	V48M28T45K③	2446	32427	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	550	914	280B
50	V48M28T50J③	2675	32430	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	575	915	280B
75	V48M28T75J③	3686	33433	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	620	915	280B
112.5	V48M28T12H③	4905	32434	+2 2.5%	-4 2.5%	DT-3	150	46½	26	20 3/16	760	916	280B
150	V48M28T49K③	6407	32432	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1209	917	280B
225	V48M28T22L③	8543	32435	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1443	918	280B
300	V48M28T33K③	10954	32422	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2400	919	275B
500	V48M28T55G③	17361	32423	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2900	920	275B
750	V48M28T77F③	28213	32424	+2 2.5%	-4 2.5%	DT-3	150	75	44½	40	4000	921	275B
480Δ Volts to 208Y/120 Volts, Copper Windings													
15	V48M28T15CU③	1914	33366	+2 2.5%	-4 2.5%	DT-3	150	28	20⅛	14⅛	172	909	280B
30	V48M28T30CU③	2625	32369	+2 2.5%	-4 2.5%	DT-3	150	37⅞	20⅛	14⅛	340	910	280B
45	V48M28T45CU③	3390	32370	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	550	914	280B
75	V48M28T75CU③	5127	32371	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	575	915	280B
112.5	V48M28T12HCU③	6830	32372	+2 2.5%	-4 2.5%	DT-3	150	46½	26	20 3/16	760	916	280B
150	V48M28T49KCU③	8305	32373	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1200	917	280B
225	V48M28T22CU	11873	32378	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1750	918	280B
300	V48M28T33CU	15224	32380	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	3100	919	275B
500	V48M28T55CU	24127	38018	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	3600	920	275B
750	V48M28T77CU	39208	38019	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	3600	920	275B
480Δ Volts to 240Δ Volts													
15	V48M28T15BA③	1377	33300	+2 2.5%	-4 2.5%	DT-3	150	28	20⅛	14⅛	116	201	244A
30	V48M28T30KA③	2032	32420	+2 2.5%	-4 2.5%	DT-3	150	37⅞	20⅛	14⅛	145	203	244A
37.5	V48M28T37KA③	2279	32429	+2 2.5%	-4 2.5%	DT-3	150	37⅞	20⅛	14⅛	166	103	244A
45	V48M28T45KA③	2446	32427	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	215	90	244A
50	V48M28T50JA③	2675	32430	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	230	912	244A
75	V48M28T75JA③	3686	33433	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	400	914	244A
112.5	V48M28T12HA③	4905	32434	+2 2.5%	-4 2.5%	DT-3	150	46½	26	20 3/16	500	915	244A
150	V48M28T49KA③	6407	32432	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1100	917	244A
225	V48M28T22LA③	8543	32435	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1200	918	244A
300	V48M28T33KA③	10954	32422	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2400	919	274A
500	V48M28T55GA③	17361	32423	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2900	920	274A
750	V48M28T77FA③	28213	32818	+2 2.5%	-4 2.5%	DT-3	150	75	46½	36	4000	921	274A
480Δ Volts to 240Δ Volts with 120 Volts Lighting Tap on "B" Phase													
15	V48M22T15BA④	5340	32466	+2 2.5%	-4 2.5%	DT-3	150	46½	26	20 3/16	760	916	280B
30	V48M22T30KA④	6697	32470	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1100	917	280B
37.5	V48M22T37KA④	6869	32472	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1300	918	280B
45	V48M22T45KA④	7252	32468	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2400	919	275B
50	V48M22T50JA④	7618	32469	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2900	920	275B
75	V48M22T75JA④	9648	32471	+2 2.5%	-4 2.5%	DT-3	150	75	44½	40	4000	921	275B
112.5	V48M22T12HA④	12114	32474	+2 2.5%	-4 2.5%	DT-3	150	75	46½	40	4000	921	275B
480Δ Volts to 480/277 Volts													
15	V48M47T15B	2038	33477	+2 2.5%	-4 2.5%	DT-3	150	28	20⅛	14⅛	166	103	280D
30	V48M47T30K	2859	32478	+2 2.5%	-4 2.5%	DT-3	150	37⅞	20⅛	14⅛	340	910	280D
37.5	V48M47T37K	3442	32479	+2 2.5%	-4 2.5%	DT-3	150	37⅞	20⅛	14⅛	370	912	280D
45	V48M47T45K	3699	32481	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	480	914	280D
75	V48M47T75J	5572	32482	+2 2.5%	-4 2.5%	DT-3	150	37⅞	26⅛	19⅛	600	915	280D
112.5	V48M47T12H	7419	32484	+2 2.5%	-4 2.5%	DT-3	150	46½	26	20 3/16	760	916	280D
150	V48M47T49K	9291	32486	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1100	917	280D
225	V48M47T22L	12056	32487	+2 2.5%	-4 2.5%	DT-3	150	56	31¼	24¼	1300	918	280D
300	V48M47T33K	15149	32488	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2400	919	275D
500	V48M47T55G	23114	32489	+2 2.5%	-4 2.5%	DT-3	150	75	44½	36	2900	920	275D
750	V48M47T77A	31116	32486	+2 2.5%	-4 2.5%	DT-3	150	75	46½	40	4000	921	275D

① Not for construction. Refer to TCS47-720 by frame number for certification.

② For wiring diagram, refer to TCS47-730 by diagram number.

③ NEMA 3R outdoor enclosure is standard for Westinghouse Type EPT.

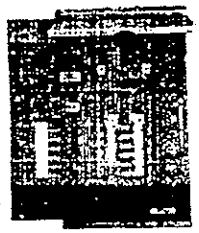
④ Lighting tap capacity limited to 5% of rated kVA. Note: Refer to Westinghouse for availability of special designs.

Note: Contact Westinghouse for availability of special designs for hazardous locations – Type EPT only.

Note: Stainless steel [illegible] are available for Westinghouse Type [illegible].

⑤ Normally stock. Any style not stocked is on a QWIK ENTRY [illegible]

MAIN LUG LOAD CENTERS
1 Phase, 3 Wire, 120/240 Volts AC
22,000 Amp Interrupting Rating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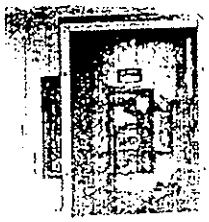
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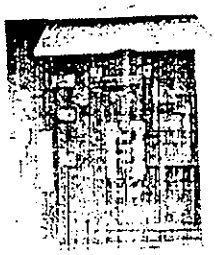
L121224CGT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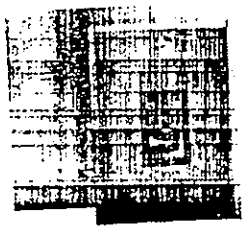
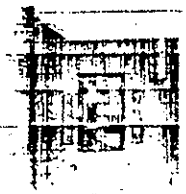

S816CD


S816R

LIST PRICES AND CATALOG NUMBERS

Main Rating	No. of Spaces	Max. No. Single Pole	Indoor NEMA 1 Cat. No. Flush Surface	List Price	Ground Bus Kit⊖	Carton Weight lbs. Qty.	Box⊖ Style No.	Rainproof NEMA 3R Box⊖⊖ Style No.	Cat No.⊖	List Price	Carton Weight lbs. Qty.
Residential Load Centers											
125A 6-2/0 Cu. A.	[illegible]	[illegible]	S48F,S	[illegible]	GB6C		4C	4R	S46R	$ 72.90	54 5
	[illegible]	[illegible]	S48FG,SG	[illegible]	GB6C		[illegible]				
125A 6-2/0 Cu. A.	6	12	S612C⊖	51.70	GB6C	11	4C	4R	S612R	78.00	12
	[illegible]	[illegible]	S612CG	57.40	GB6C	[illegible]	[illegible]				
	[illegible]	12	S612CD⊖	57.90	GB6C	[illegible]	4C				
	[illegible]	[illegible]	S612CDG	63.60	GB6C	[illegible]	[illegible]				
	8	16	S816C⊖	66.8	GB6C	[illegible]	[illegible]	4R	S816R	117.00	14
	[illegible]	[illegible]	S816CG	74.5	GB6C	[illegible]	[illegible]				
	[illegible]	16	S816CD⊖	77.0	GB6C	[illegible]	[illegible]				
	[illegible]	[illegible]	S816CDG	84.7	GB6C	[illegible]	[illegible]				
	12	24	L121224CT	109.00	GB10C,GB8C	[illegible]	[illegible]	[illegible]	[illegible]1224RT	187.00	[illegible]
	16	24	L121630CT	114.00	GB10C,GB8C	[illegible]	[illegible]	[illegible]	[illegible]1630RT	201.00	[illegible]
	16	30	L121640CT	142.00	GB10C,GB8C	[illegible]	[illegible]	[illegible]	[illegible]1640RT	235.00	[illegible]
	20	24	L122024CT	160.00	GB10C,GB8C	[illegible]	[illegible]				
	24	24	L122424CT	175.00	GB10C,GB8C	[illegible]	[illegible]				
150A 3-2/0 Cu/Al	12	24	L151224CT	161.00	GB12C,GB10C	[illegible]	8C				
	16	30	L151630CT	170.00	GB12C,GB10C	[illegible]	8C				
	20	30	L152030CT	195.00	GB12C,GB10C	[illegible]	8C				
200A 1-250 MCM Cu/Al	8	12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2R	L20816RT	209.00	26
	12	24	L201224CT	172.00	GB14C,	[illegible]	9C	4R	L201224RT	229.00	26
	20	40	L202040CT	224.00	[illegible]GB10C,GB12C	[illegible]	8C	6R	L202040RT	310.00	39
	24	40	L202440CT	247.00	(2)GB10C,GB12C	34	10C				
	30	40	L203040CT	266.00	(2)GB10C,GB12C	34	10C	9R	L203040RT	338.00	45
	40	40	L204040CT	364.00	(2)GB10C,GB12C	36	11C	10R	L204040RT	582.00	52
225A 2-300 MCM Cu/Al	42	42	L224242CT	398.00	(2)GB12C	23	11C				
Commercial Load Centers			Flush	Surface	List Price						
225A 2-300 MCM Cu Al	42	42	4242CFN⊖	4242CSN⊖	$618.00	28	14	37	4242CR1N	816.00	78
400A (1) 4/0-750 MCM Cu Al or (2) 3/0-400 MCM Al or (2) 3/0-300 MCM Cu	12	24	1224DFN	1224DSN	624.00	17	18	42	1224DR1N	716.00	71
	24	42	2442DFN	2442DSN	720.00	22	20	44	2442DR1N	999.00	80
	42	42	4242DFN	4242DSN	813.00	27	22	46	4242DR1N	1027.00	96
600A (2) 2-500 MCM Cu Al	42	42	4242EFN	4242ESN	1050.00	28	22	46	4242ER1N	1307.00	99

● 22,000 AIC Ratings are maintained when BRH branch breakers are used. 22,000 AIC Rating maintained when BR, BD, BQC are used as branch breakers only in conjunction with a main BRH or WFPH Main Breaker.

⊖ Ground bus kits priced separately. See page 18.

⊖ Refer to page 19 for Box Style Number and Dimensions.

⊖ Raintight panels are provided with hub closer plates.

⊖ May be field converted to main breaker unit. Interior adjustability is standard.

⊖ To be discontinued.