HBG SUPPLY

GOING THE EXTRA MILE BECAUSE IT'S NEVER CROWDED!

HBG SPECIALTIES

HBG HOLDINGS | Vertically integrated real-estate investment company.

HBG CONSTRUCTION | General Contractor licensed in Florida and Tennessee.

HBG CAPITAL | Real estate investment focused on single-family and multi-family development.

HBG SUPPLY | Is a versatile supplier of horizontal and vertical construction materials headquartered in the US.

MEET THE FOUNDERS

BRANDON COBB

Brandon is the owner and partner of HBG Capital, a vertically integrated real estate rm providing investors with superior risk adjusted returns and downside principal protection back by real assets in the resi- dential single family construction sector in Middle TN & Commercial Multi-family Acquisitions in the southeast. HBG Capital's construction arm, HBG Construction, exe- cutes ground-up new developments, land development and residential property rehabilitation in middle TN. Brandon is a licensed GC in Tennessee. He was featured on the cover of REI Wealth magazine, Realty 411 Magazine, and has been quoted and published in Forbes Magazine.

ALEX SEIDOV

Vagif "Alex" Seidov has over 14 years of military experience, and co-founder of HBG Family of Com- panies. Alex is a father, brother, businessman, and military-veteran focused on providing under- served value to people and their communities through transparent and honest service. Alex has attributed his professional and personal success to the lessons learned in the Army and rmly believes in the mottos "people rst" and "start by starting." Alex's approach to business is identifying win-win situations for clients and investors in orderto support future collaborations and part- nerships. Through the years, Alex has developed the expertise necessary to navigate any transac- tion.

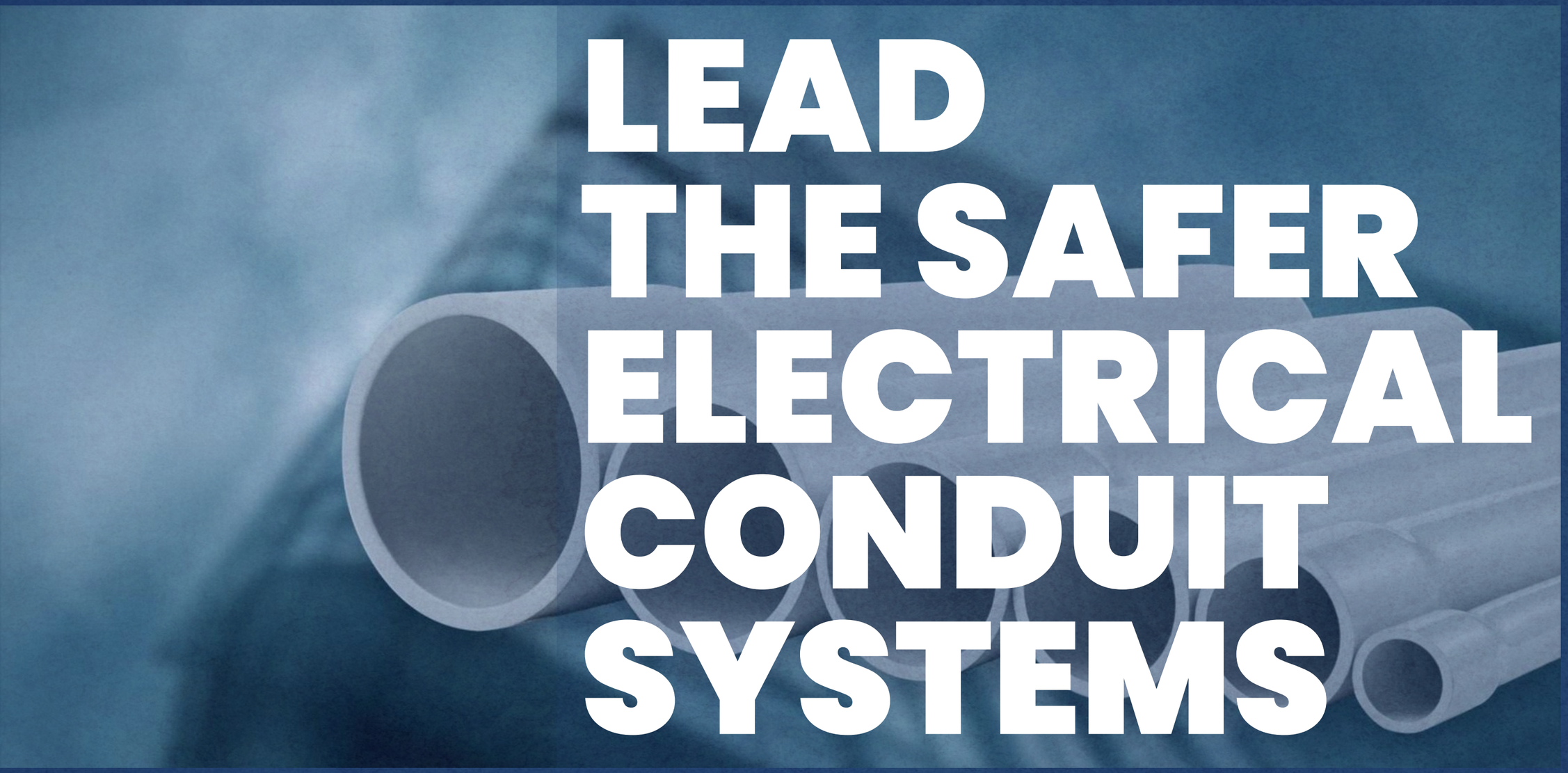
MIKE SEIDOV

Mike is the Chief Financial O cer and Co-Founder of HBG Holdings and is responsible for the strategic development and fundraising of the rm with focuses on expansion into the South Florida market.

Mike is experienced in full life-cycle company development from legal, organizational struc- ture set up phase to business development, con- tracting, project-planning, nancial manage- ment to multi-branch holding operations. He has 9+ years of experience in the Oil and Gas sector in leadership roles and is a US Managing Partner of Organika Vodka where he is leading expansion e orts in the US.

HBG SUPPLY LOCATIONS

Nashville, TN
Biloxi, MS
Mobile, AL
Miami, FL
Orlando, FL (Coming Soon)



LEAD THE SAFER ELECTRICAL CONDUIT SYSTEMS

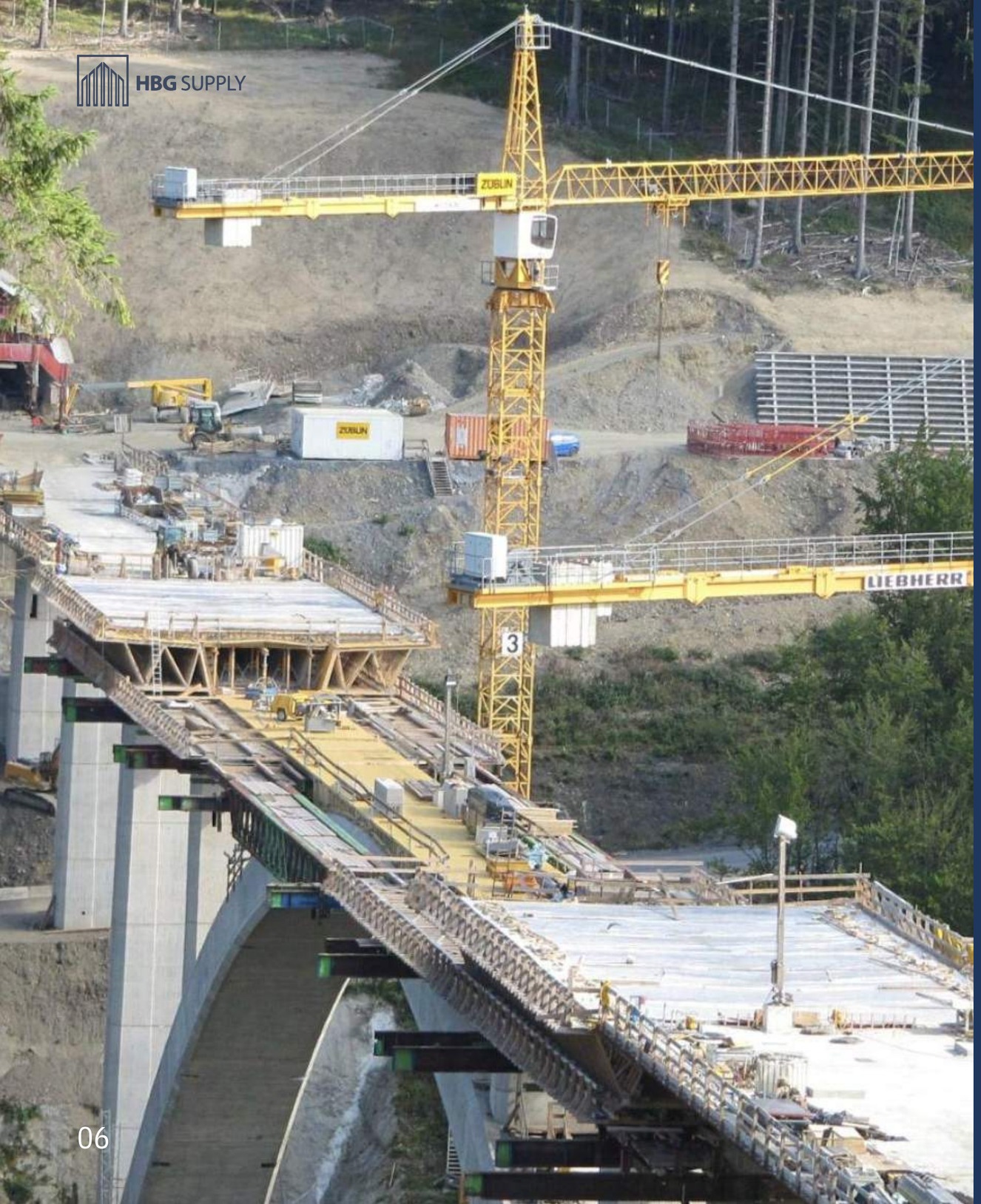
HBG SUPPLY LEDES®

LEDES

LEDES is a leading global manufacturer & designer of electrical conduit pipes and ttings. Ledes(R) o ers a complete line of electrical conduit and ttings, includes:

- UL651 rigid PVC conduit, DB120 PVC conduit, UL1653 ENT, and t-tings.
- CSA rigid pvc conduit, DB2/ES2 PVC conduit, ENT, and ttings.
- AS/NZS 2053 pvc conduit and ttings.
- Extremely UV resistant solar conduit and ttings.
- Low smoke halogen free conduit and ttings.

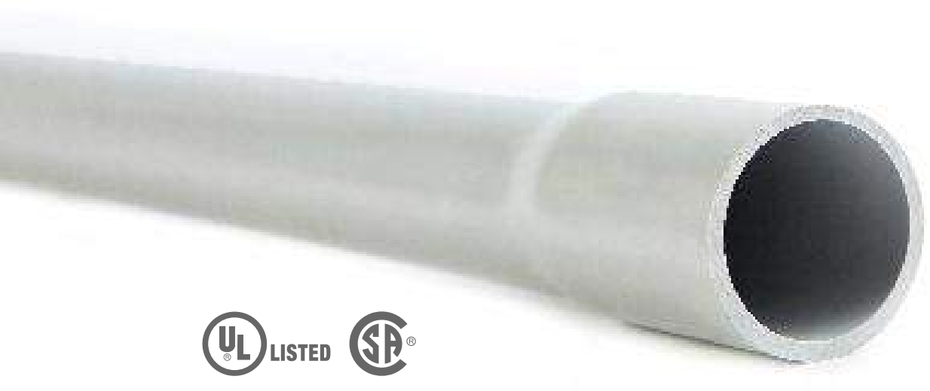
We honor environmentally friendly materials from all over the world, apply the most advanced production equipment and process technolo- gy, and customize manufacturing to meet the most requirement of speci c global customers.



LEDES®

LEAD THE SAFER ELECTRICAL CONDUIT SYSTEMS

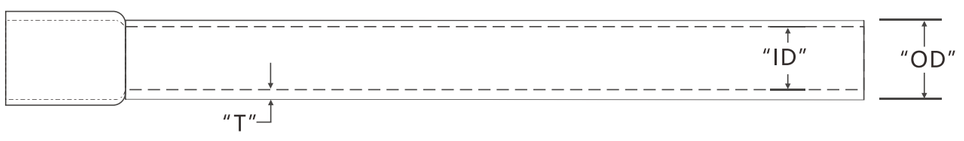
ELECTRICAL PRODUCT CATALOGUE



SCHEDULE 40 RIGID PVC CONDUIT

Item No.	Size	OD		Min Average ID		Min T	
		Average		Schedule 40		Schedule 40	
		Inches	mm	Inches	mm	Inches	mm
HH-SCH40A	1/2	0.840±0.004	21.34±0.10	0.578	14.68	0.109	2.77
HH-SCH40B	3/4	1.050±0.004	26.67±0.10	0.780	19.81	0.113	2.87
HH-SCH40C	1	1.315±0.005	33.40±0.13	1.004	25.50	0.133	3.38
HH-SCH40D	1-1/4	1.660±0.005	42.16±0.13	1.335	33.90	0.140	3.56
HH-SCH40E	1-1/2	1.900±0.006	48.26±0.15	1.564	39.72	0.145	3.68
HH-SCH40F	2	2.375±0.006	60.32±0.15	2.021	51.33	0.154	3.91
HH-SCH40G	2-1/2	2.875±0.007	73.02±0.18	2.414	61.31	0.203	5.16
HH-SCH40H	3	3.500±0.008	88.90±0.20	3.008	76.40	0.216	5.49
HH-SCH40I	3-1/2	4.000±0.008	101.60±0.20	3.486	88.54	0.226	5.74
HH-SCH40J	4	4.500±0.009	114.30±0.23	3.961	100.60	0.237	6.02
HH-SCH40K	5	5.563±0.010	141.30±0.25	4.975	126.36	0.258	6.55
HH-SCH40L	6	6.625±0.011	168.28±0.28	5.986	152.04	0.280	7.11
HH-SCH40M	8	8.625±0.011	219.07±0.28	7.853	199.47	0.322	8.18

Dimensions are nominal



PROPERTIES:

- PVC material test: ASTM D1784-20
- UL651 Standard.
- CSA C22.2 No.211. 2 Standard.
- Comply with NEMA TC-2.
- PVC material with great corrosion resistant.
- Impact resistant.
- Sunlight resistant.
- Self extinguishing, re retardant.
- Smooth interior and outside.
- Suitable for underground or above ground applications.
- Standard lengths 10/2Oft with a belled end or not. Other lengths can be customized for speci c applications.

HBG SUPPLY

LEDES®

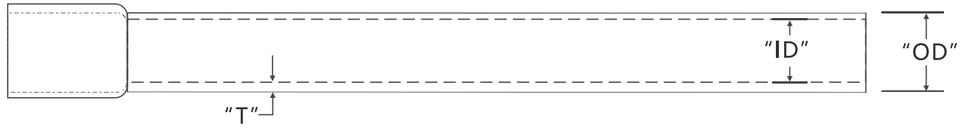
SCHEDULE 80 RIGID PVC CONDUIT

PROPERTIES:

- PVC material test: ASTM D1784-20
- UL651 Standard.
- Comply with NEMA TC-2.
- PVC material with great corrosion resistant.
- Impact resistant.
- Self extinguishing, re retardant.
- Smooth interior and outside.
- Suitable for underground or above ground applications.
- Standard lengths 10/20ft with a belled end or not. Other lengths can be customized for speci c applications.

Item No.	Size	OD		Min Average ID		Min T	
		Average		Schedule 80		Schedule 80	
		Inches	mm	Inches	mm	Inches	mm
HH-SCH80A	1/2	0.840±0.004	21.34±0.10	0.502	12.75	0.147	3.73
HH-SCH80B	3/4	1.050±0.004	26.67±0.10	0.698	17.72	0.154	3.91
HH-SCH80C	1	1.315±0.005	33.40±0.13	0.910	23.11	0.179	4.55
HH-SCH80D	1-1/4	1.660±0.005	42.16±0.13	1.227	31.16	0.191	4.85
HH-SCH80E	1-1/2	1.900±0.006	48.26±0.15	1.446	36.72	0.200	5.08
HH-SCH80F	2	2.375±0.006	60.32±0.15	1.881	47.77	0.218	5.54
HH-SCH80G	2-1/2	2.875±0.007	73.02±0.18	2.250	57.15	0.276	7.01
HH-SCH80H	3	3.500±0.008	88.90±0.20	2.820	71.62	0.300	7.62
HH-SCH80I	3-1/2	4.000±0.008	101.60±0.20	3.280	83.31	0.318	8.08
HH-SCH80J	4	4.500±0.009	114.30±0.23	3.737	94.91	0.337	8.56
HH-SCH80K	5	5.563±0.010	141.30±0.25	4.713	119.71	0.375	9.53
HH-SCH80L	6	6.625±0.011	168.28±0.28	5.646	143.41	0.432	10.97
HH-SCH80M	8	8.625±0.011	219.07±0.28	7.513	190.83	0.500	12.70

Dimensions are nominal



TYPE A
RIGID PVC CONDUIT

Item No.	Size	OD		Wall Thickness			
		Average		Max.		Min.	
		Inches	mm	Inches	mm	Inches	mm
HH-TYPEAA	1/2	0.840 ±0.004	21.34 ±0.10	0.080	2.030	0.060	1.520
HH-TYPEAB	3/4	1.050 ±0.004	26.67 ±0.10	0.080	2.030	0.060	1.520
HH-TYPEAC	1	1.315 ±0.005	33.40±0.13	0.080	2.030	0.060	1.520
HH-TYPEAD	1-1/4	1.660 ±0.005	42.16 ±0.13	0.090	2.290	0.070	1.780
HH-TYPEAE	1-1/2	1.900 ±0.006	48.26 ±0.15	0.100	2.540	0.080	2.030
HH-TYPEAF	2	2.375 ±0.006	60.32 ±0.15	0.120	3.050	0.100	2.540
HH-TYPEAG	2-1/2	2.875 ±0.007	73.02 ±0.18	0.130	3.300	0.110	2.800
HH-TYPEAH	3	3.500 ±0.008	88.90 ±0.20	0.145	3.680	0.125	3.180
HH-TYPEAI	3-1/2	4.000±0.008	101.60 ±0.20	0.165	4.200	0.145	3.680
HH-TYPEAJ	4	4.500±0.009	114.30 ±0.23	0.170	4.320	0.150	3.800
HH-TYPEAK	5	5.563±0.010	141.30 ±0.25	0.190	4.826	0.170	4.318
HH-TYPEAL	6	6.625±0.011	168.28 ±0.28	0.210	5.334	0.190	4.826

Dimensions are nominal

PROPERTIES:

- PVC material test: ASTM D1784-20.
- Comply with UL651 Standard.
- PVC material with great corrosion resistant.
- Impact resistant.
- Self extinguishing, re retardant.
- Smooth interior and outside.
- Suitable for underground or above ground applications.
- Standard lengths 10/ 20ft with a belled end or not. Other lengths can be customized for speci c applications.

HBG SUPPLY

LEDES®

TYPE EB
RIGID PVC CONDUIT

PROPERTIES:

- PVC material test: ASTM D1784-20
- Comply with UL651 Standard.
- PVC material with great corrosion resistant.
- Impact resistant.
- Self extinguishing, re retardant.
- Smooth interior and outside.
- Standard lengths 10/20ft with a belled end or not. Other lengths can be customized for speci c applications.

Item No.	Size	OD		Wall Thickness			
		Average		Max.		Min.	
		Inches	mm	Inches	mm	Inches	mm
HH-TYPEEBA	2	2.375±0.006	60.32±0.15	0.094	2.39	0.060	1.52
HH-TYPEEBB	3	3.500±0.008	88.90±0.20	0.109	2.77	0.061	1.55
HH-TYPEEBC	3-1/2	4.000±0.008	101.60±0.20	0.124	3.15	0.072	1.83
HH-TYPEEBD	4	4.500±0.009	114.30±0.23	0.129	3.28	0.082	2.08
HH-TYPEEBE	5	5.563±0.010	141.30±0.25	0.144	3.66	0.103	2.62
HH-TYPEEBF	6	6.625±0.011	168.28±0.28	0.164	4.17	0.125	3.18

Dimensions are nominal

Item No.	Size	Average OD (inch)	Thickness 01 (inch)	Thickness 02 (inch)	Length
DB120RCA	1	1.315±0.005	0.060	0.060	10ft/20ft
DB120RCB	1-1/2	1.900±0.006	0.060	0.065	10ft/20ft
DB120RCC	2	2.375±0.006	0.077	0.083	10ft/20ft
DB120RCD	3	3.500±0.008	0.118	0.127	10ft/20ft
DB120RCE	3-1/2	4.000±0.008	0.136	0.147	10ft/20ft
DB120RCF	4	4.500±0.009	0.154	0.166	10ft/20ft
DB120RCG	5	5.563±0.010	0.191	0.205	10ft/20ft
DB120RCH	6	6.625±0.011	0.227	0.244	10ft/20ft

Dimensions are nominal

DB120 PVC UTILITIES DUCT

PROPERTIES:

- PVC material test: ASTM D1784.
- Comply with NEMA TC 6&8, ASTM F-512 Standard.
- PVC material with great corrosion resistant.
- Impact resistant.
- Self extinguishing, re resistant.
- Smooth interior and outside.
- Produced in standard 10/20ft with a belled end.
- Suitable for direct burial without encasement in concrete.

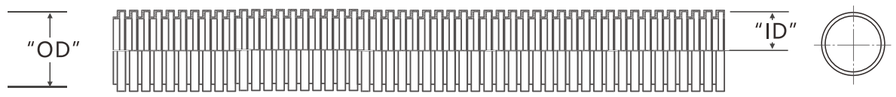
ELECTRICAL NONMETALLIC TUBING

PROPERTIES:

- UL1653, CSA C22.2 No.227.1.
- PVC material which is corrosion resistant.
- hand-bendable.
- Impact resistant.
- Sunlight resistant.
- Self extinguishing, re resistant.
- Suitable for underground or above ground applications.
- Colors in Blue, Red and Yellow are available, or customized.
- Packaging: Coils or Reels.

Item No.	Size	Average OD		Average ID		length	
		Inches	mm	Inches	mm	unit	ft
HH-ENTA	1/2	0.840	21.34	0.602	15.29	roll	Customized
HH-ENTB	3/4	1.050	26.67	0.804	20.42	roll	Customized
HH-ENTC	1	1.315	33.40	1.029	26.14	roll	Customized
HH-ENTD	1-1/4	1.660	42.17	1.360	34.55	roll	Customized
HH-ENTE	1-1/2	1.900	48.26	1.590	40.39	roll	Customized
HH-ENTF	2	2.375	60.36	2.047	51.99	roll	Customized
HH-ENTG	2-1/2	2.866	72.80	2.469	62.70	roll	Customized

Dimensions are nominal



UL LISTED

Item No.	Size	OD		Min Average ID		Min T	
		Average		Schedule 40		Schedule 40	
		Inches	mm	Inches	mm	Inches	mm
HH-SCH40ALSZH	1/2	0.840±0.004	21.34±0.10	0.578	14.68	0.109	2.77
HH-SCH40BLSZH	3/4	1.050±0.004	26.67±0.10	0.780	19.81	0.113	2.87
HH-SCH40CLSZH	1	1.315±0.005	33.40±0.13	1.004	25.50	0.133	3.38
HH-SCH40DLSZH	1-1/4	1.660±0.005	42.16±0.13	1.335	33.90	0.140	3.56
HH-SCH40ELSZH	1-1/2	1.900±0.006	48.26±0.15	1.564	39.72	0.145	3.68
HH-SCH40FLSZH	2	2.375±0.006	60.32±0.15	2.021	51.33	0.154	3.91
HH-SCH40GLSZH	2-1/2	2.875±0.007	73.02±0.18	2.414	61.31	0.203	5.16
HH-SCH40HLSZH	3	3.500±0.008	88.90±0.20	3.008	76.40	0.216	5.49
HH-SCH40ILSZH	3-1/2	4.000±0.008	101.60±0.20	3.486	88.54	0.226	5.74
HH-SCH40JLSZH	4	4.500±0.009	114.30±0.23	3.961	100.60	0.237	6.02
HH-SCH40KLSZH	5	5.563±0.010	141.30±0.25	4.975	126.36	0.258	6.55
HH-SCH40LLSZH	6	6.625±0.011	168.28±0.28	5.986	152.04	0.280	7.11
HH-SCH40MLSZH	8	8.625±0.011	219.07±0.28	7.853	199.47	0.322	8.18

Dimensions are nominal

SCHEDULE 40 RIGID LSZH CONDUIT

PROPERTIES:

- Veri ed by IEC60754-1, NFPA-130, comply with UL1685-4.
- No Halogens, safer to use in con ned spaces and public buildings.
- Very low smoke and low toxicity generation.
- VO re resistant, self extinguishing, no burning drips.
- Excellent temperature range, from -45°C to +150 °C.
- Sunlight resistant.
- Impact resistant, very durable for use.
- Smooth interior and outside.
- Standard lengths 10 feet and 20 feet with a belled end or not. Other lengths can be customized for speci c applications.

SCHEDULE 80 RIGID LSZH CONDUIT

PROPERTIES:

- Veri ed by IEC60754-1, NFPA-130, comply with UL1685-4.
- No Halogens, safer to use in con ned spaces and public buildings.
- Very low smoke and low toxicity generation.
- VO re resistant, self extinguishing, no burning drips.
- Excellent temperature range, from - 45°C to +150 °C.
- Impact resistant, very durable for use.
- Smooth interior and outside.
- Standard lengths 10 feet and 20 feet with a belled end or not. Other lengths can be customized for speci c applications.

Item No.	Size	OD Average		Min Average ID Schedule 80		Min T Schedule 80	
		Inches	mm	Inches	mm	Inches	mm
HH-SCH80ALSZH	1/2	0.840±0.004	21.34±0.10	0.502	12.75	0.147	3.73
HH-SCH80BLSZH	3/4	1.050±0.004	26.67±0.10	0.698	17.72	0.154	3.91
HH-SCH80CLSZH	1	1.315 ±0.005	33.40±0.13	0.910	23.11	0.179	4.55
HH-SCH80DLSZH	1-1/4	1.660±0.005	42.16±0.13	1.227	31.16	0.191	4.85
HH-SCH80ELSZH	1-1/2	1.900±0.006	48.26±0.15	1.446	36.72	0.200	5.08
HH-SCH80FLSZH	2	2.375±0.006	60.32±0.15	1.881	47.77	0.218	5.54
HH-SCH80GLSZH	2-1/2	2.875±0.007	73.02±0.18	2.250	57.15	0.276	7.01
HH-SCH80HLSZH	3	3.500±0.008	88.90±0.20	2.820	71.62	0.300	7.62
HH-SCH80ILSZH	3-1/2	4.000±0.008	101.60±0.20	3.280	83.31	0.318	8.08
HH-SCH80JLSZH	4	4.500±0.009	114.30±0.23	3.737	94.91	0.337	8.56
HH-SCH80KLSZH	5	5.563±0.010	141.30±0.25	4.713	119.71	0.375	9.53
HH-SCH80LLSZH	6	6.625±0.011	168.28±0.28	5.646	143.41	0.432	10.97
HH-SCH80MLSZH	8	8.625±0.011	219.07±0.28	7.513	190.83	0.500	12.70

Dimensions are nominal

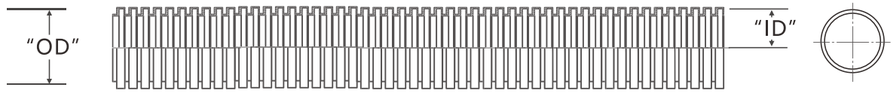
LSZH ELECTRICAL NONMETALLIC TUBING

PROPERTIES:

- No Halogens, safer to use in con ned spaces and public buildings.
- Very low smoke and low toxicity generation.
- VO re resistant, self extinguishing, no burning drips.
- Excellent temperature range, from - 45°C to +150 °C.
- Sunlight resistant.
- Hand-bendable, save time and cost.
- Colors in Blue, Red and Yellow are available, or customized.
- Packing Coils or Reels.

Item No.	Size	Average OD		Average ID		length	
		Inches	mm	Inches	mm	unit	ft
HH-HFENTA	1/2	0.840	21.34	0.602	15.29	roll	Customized
HH-HFENTB	3/4	1.050	26.67	0.804	20.42	roll	Customized
HH-HFENTC	1	1.315	33.40	1.029	26.14	roll	Customized
HH-HFENTD	1-1/4	1.660	42.17	1.360	34.55	roll	Customized
HH-HFENTE	1-1/2	1.900	48.26	1.590	40.39	roll	Customized
HH-HFENTF	2	2.375	60.36	2.047	51.99	roll	Customized
HH-HFENTG	2-1/2	2.866	72.80	2.469	62.70	roll	Customized

* Colors in Blue, Red and Yellow are available, or customized.



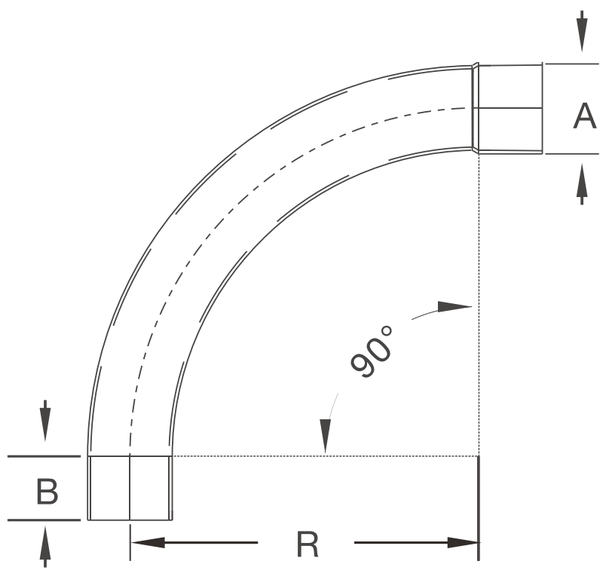
CSA DB2
RIGID PVC CONDUIT

PROPERTIES:

- CSA Certi ed, CSA C22.2 No. 21 1.1 Standard.
- Color can be made in gray, orange, black, white.
- PVC material with great corrosion resistant.
- Fire resistant.
- Chemical resistant.
- Nonconduc ting.
- Concrete tight.
- Provided with norminal length in 10ft or 20ft.
- Intended for use in concrete encased or
- Masonry and direct burial applications.

Item No.	Trade Size	Metric Size	Average OD		Average ID	Min T
			min	max	mm	mm
HH-DB2RCA	2	53	57.00	57.30	50.80	2.02
HH-DB2RCB	3	78	82.35	82.75	76.20	2.40
HH-DB2RCC	3-1/2	91	94.50	95.00	88.40	2.60
HH-DB2RCD	4	103	106.85	107.30	100.10	3.06
HH-DB2RCE	4-1/2	116	121.20	121.70	114.30	3.20
HH-DB2RCF	5	129	134.35	134.85	126.35	4.00
HH-DB2RCG	6	155	159.10	159.65	149.75	4.20

Dimensions are nominal

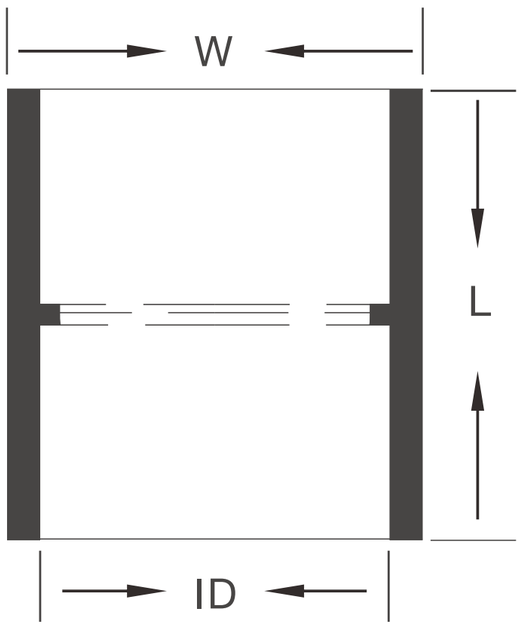


Item No.	Trade Size	A (in)	B (in)	R (in)
HH-SWB90A	1/2	0.84	1.5	4
HH-SWB90B	3/4	1.05	1.5	4.5
HH-SWB90C	1	1.315	1.875	5.75
HH-SWB90D	1 1/4	1.66	2	7.25
HH-SWB90E	1 1/2	1.9	2	8.25
HH-SWB90F	2	2.375	2	9.5
HH-SWB90G	2 1/2	2.875	3	10.5
HH-SWB90H	3	3.5	3.125	13
HH-SWB90I	3 1/2	4	3.25	15
HH-SWB90J	4	4.5	3.375	16
HH-SWB90K	5	5.563	3.625	24
HH-SWB90L	6	6.625	3.75	30
HH-SWB90M	8	8.625	6.5	35.5

900 STANDARD ELBOWS BELL END

PROPERTIES:

- Bell end standard radius elbow is used to change the direction of a conduit run by 90 degrees.
- PVC material with great corrosion resistant.
- Sunlight resistant.
- Comply with UL651 standard.



Item No.	Trade Size	W (in)	L (in)	ID (in)
HH-SCA	1/2	1.065	1.500	0.852
HH-SCB	3/4	1.307	1.563	1.064
HH-SCC	1	1.602	2.000	1.329
HH-SCD	1-1/4	2.019	2.165	1.677
HH-SCE	1-1/2	2.252	2.357	1.918
HH-SCF	2	2.744	2.600	2.393
HH-SCG	2-1/2	3.350	3.500	2.890
HH-SCH	3	4.035	3.875	3.515
HH-SCI	3-1/2	4.539	4.000	4.015
HH-SCJ	4	5.039	4.188	4.515
HH-SCK	5	6.168	5.375	5.593
HH-SCL	6	7.430	6.375	6.658
HH-SCM	8	9.315	8.346	8.669

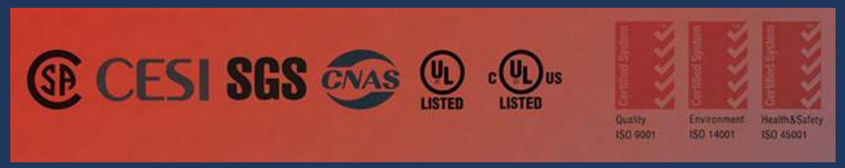
COUPLING

PROPERTIES:

- Center stop coupling used to join lengths of conduit pipe together with two solvent weld socket ends.
- PVC material with great corrosion resistant.
- Sunlight resistant.
- Comply with UL651 standard.

ABOUT DAELIM BELEFIC

DAELIM BELEFIC Tech Co. Ltd. has been engaged in the design, engineering and production of high-quality electrical equipment for more than 15 years. Based on “DAELIM EDGE + ADVANTAGE” con- cept, they established DAELIM BELEFIC. Moreover, thanks to this concept, we can provide our clients multiple standards, cutting edge service and speed with our professional customization skills.

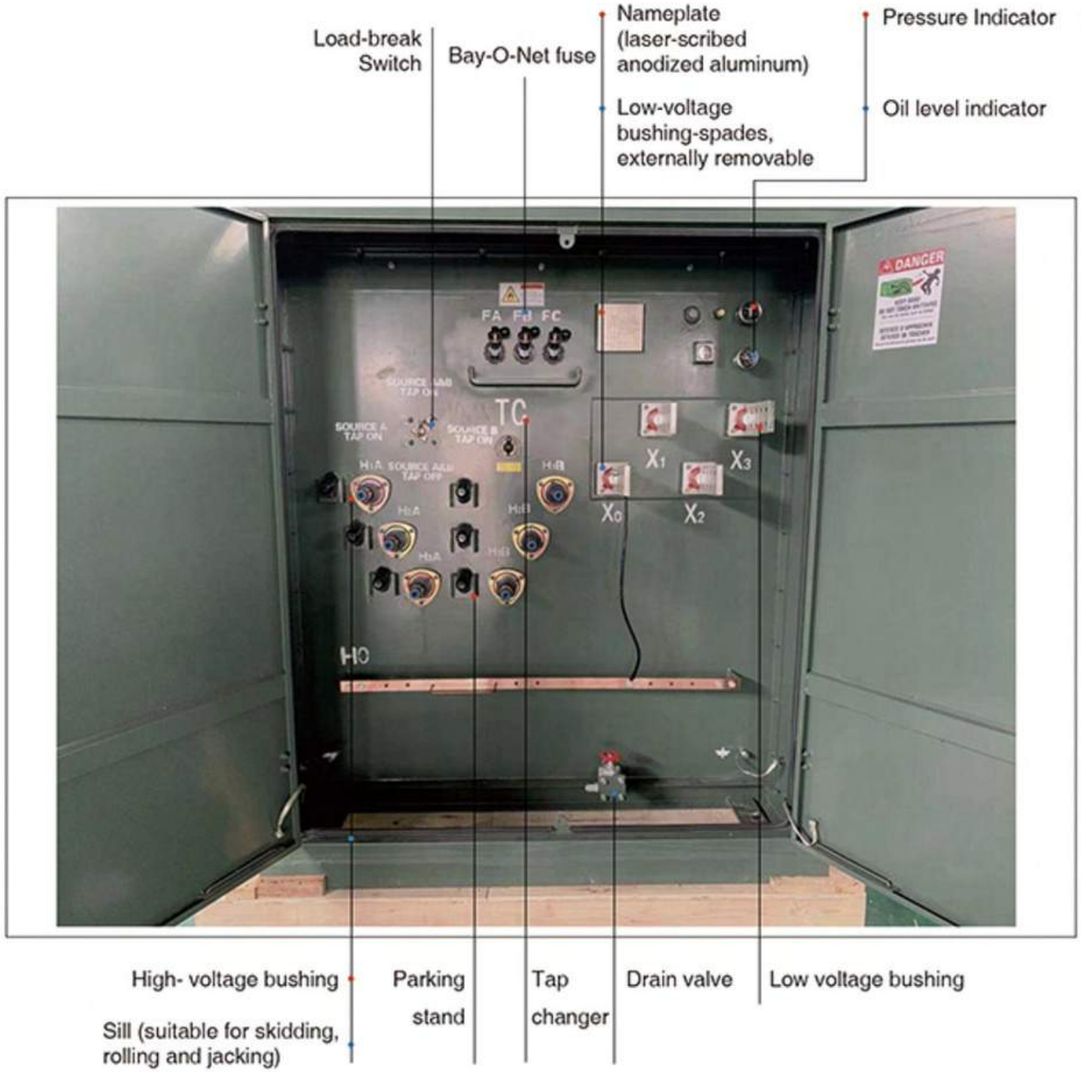


THREE PHASE PAD MOUNTED TRANSFORMER

ANSI, DOE, IEEE, CSA AND IEC

HBG SUPPLY

DAELIM BELEFIC



GENERAL

Daelim Bele c three phase pad mounted transformer is designed to use in underground distribution systems. Their sealed high-voltage and lowvoltage safety compartments ensure their safe operation and reduce the risk of acci- dents, making them ideally suited for use ni residential applications, tourist sites, hotels and other buildings. Pad mounted transformers are placed inside a cabinet with doorsand locks, usually located outdoors.

These transformers come in two basic con gurations: radial and loop feed, which are selected based on the type of circuit on which the transformers will be installed. The transformer uses aluminum or copper winding and is opti- mized to maximize e ciency and footprint.

The latest applicable standards (ANSI, DOE, IEEE, CSA and IC) have been applied to all of Daelim Bele c transformers. Daelim Bele c transformers are developed and produced especially to satisfy exacting customer's exact speci- cation. We are continuously committed to providing high-quality products: high voltage, no drifting of neutral point, low loss, small volume, cost-e ec- tive, safety and environment protection,with attractive appearance, etc.

01 DESIGN CAPABILITY

- Mild steel, optional stainless steel tank
- Capacity: 10mva
- Primary Voltage: 2400-44000V
- Secondary Voltage: From 120Y/208V
- Loop or Radial Feed Con guration
- Insulation Fluids: Mineral Oil, Silicon Oil and FR3(Vegetable Oil)
- ANSI, DOE, IEEE, CSA and IEC

02 APPLICATION

- High E ciency Design
- Special Ambient Design
- Low Sound Level Design
- 50 Hz and 60 Hz Design
- K-Factor Rating

03 STANDARD FEATURE

- – Three-point latching door for security
- – Removable sill for easy installation
- – Stainless steel cabinet hinges and mounting studs
- – Bolted-on cabinet with removable sill having the following depths :
  - / 19" deep for 300kVA through 750 kVA
  - / 22" deep for 1000kVA through 1500kVA
  - / 24" deep for 2000 kVA through 3750kVA
  - / 30" deep for 5000 Kva through 7500kVA
- – For live front construction, externally clamped high voltage porcelain bushings with a single eyebolt, clamp-type connector (accommodates #6 AWG solid to 250 MCM stranded conductors).
- – For dead front construction, externally clamped high voltage bushing wells for loadbreak or non-loadbreak inserts.
- – HV and LV compartment doors-hinged and lift-off type with 120˚ holding bars
- – Steel HV/LV compartment barrier
- – Padlocking facikity with one penta-head bolt on the LV compartment door and two penta-head bolts on the HV compartment door-including 3 point latching mechanism
- – HV connection:
  - / Live front-external clamoed and removable HV bushings with eyebolt, clamp type connector
- – LV connection:
  - / Externally clamped polymer & porcelain LV bushing with 4-12 Hole spades
- – Oil drain plug for 500 kVA and below
- – 1" drain valve with sampler for 750 kVA and above
- – Oil fill plug
- – Five-legged core/coil assembly.
- – Removable LV neutral ground strap; as required
- – Nameplate per ANSI requirement
- – Self-actuating pressure relief valve
- – Lifting lugs (4)

DAELIM BELEFIC

Standard Primary	
Voltage Ratings	Minimum BIL(kV)
Delta or Wye	
2400	45
4160	60
4800	60
7200	75
7620	75
12000	95
12470	95
13200	95
13800	95
16340	95
Ground Wye	
4160GrdY/2400	65
12470GrdY/7200	95
13200GrdY/7620	95
13800GrdY/7970	95
22860GrdY/13200	125
23900GrdY/13800	125
24940GrdY/14400	125
34500GrdY/19920	150

Standard kVA Ratings
45
75
112.5
150
225
300
500
750
1000
1500
2000
2500

For kVA not listed, please contact Daelim for customization.

04 OPTIONAL ACCESSORIES

Bay-O-Net Fuse

Load Break Switch

Oil Level Indicator

Pressure Relief valve

Parking Stand

Drain Valve

Pressure Indicator

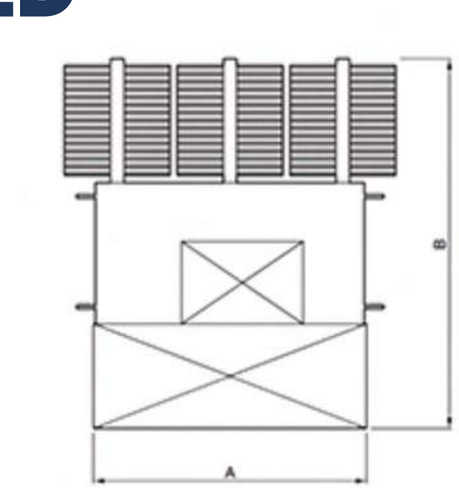
Tap Changer

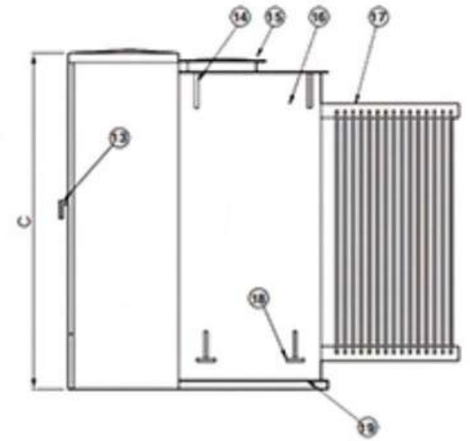
- – Oil level gauge
- – Liquid temperature gauge
- – Pressure vacuum gauge
- – Welded cover with handhole
- – Oil drain valve with or without sampler
- – Mechanical pressure relief device mounted on tank cover
- – Primary termination:
  / Externally clamped bushing wells with loadbreak inserts
  / Integral loadbreak or non-loadbreak bushings
- – Secondary termination:
  / Externally clamped bushings with NEMA 4-hole, 6-hole, 8-hole, 10-hole or 12-hole spades
  / Spade supports are available. They are provided for 8-hole spades and larger
- – Primary Switching:
  / LBOR oil switch: one for radial feed.
  / Externally operated de-energized tap changer
  / Externally operated dual voltage switch
  / Externally operated Δ-Y switch
  / 2-position loadbreak oil switches
  / 4-position T or V blade sectionalizing loop switches
- –Overvoltage Protection:
  / Distribution class, metal oxide arresters, 3-36 kV.
  / Distribution class, valve-type lightning arresters, 3-27 kV.
- – Over-current protection:
  / Bayonet-type expulsion fuses with plastic drip cup mounted on each bayonet fuse
  / Weak link cartridge fuses
  / Bayonet type in series with internal partial-range current limiting fuses
  / Secondary under oil circuit breaker
- – Additional construction options:
  / Stainless steel tank and cabinet design
  / Partial stainless steel design (cabinet sill and tank bottom)
  / 30" or 34" or 40" deep cabinet
  / CT's or PT's, including mounting support
  / LV externally mounted molded case breaker
  / Externally mounted kWh meter
  / Flip-top cabinet for low profile design
  / Additional externally mounted nameplate
  / Different paint color per requirement
- – Weathercover:
  / Transformers may feature an optional weathercover over the cabinet which is hinged to allow clearance for replacement of the bayonet-type fuses.
  / The weathercover can be lifted easily into place and secured with a single supporting arm.
  / The weathercover requires no additional holddown hardware.

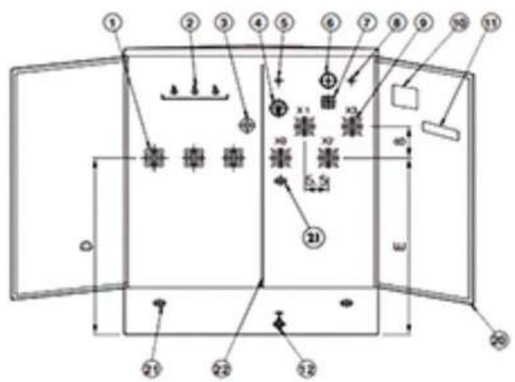
NO.	NAME	NO.	NAME
1	HV BUSHING	12	DRAIN VALVE WITH SAMPLER
2	BAY-O-NET FUSE	13	DOOR HANDLE
3	TAP CHANGER	14	LIFTING LUG
4	DIAL TYPE THERMOMETER	15	HAND HOLE&SECURITY COVER
5	FILLING PLUG	16	TANK
6	PRESSURE VACUUM GAUGE	17	RADIATORS
7	OIL LEVEL GAUGE	18	JACKING PAD
8	PRESSURE RELIEF VALVE	19	JACKING PROVISIONS
9	LV BUSHING	20	DOOR
10	NAMEPLATE	21	GROUNDING PAD
11	WARNING LABEL	22	HV-LV BARRIER

RATING (KVA)	No Load Loss (W)	On Load Loss (W)	W (mm)	D (mm)	H (mm)	Oil Weight (L)	Total Weight (KG)
45	160	1000	1730	990	1270	416	950
75	180	1250	1730	990	1270	435	1020
112.5	200	1500	1730	1245	1270	454	1070
150	280	2200	1730	1245	1270	473	1225
225	400	3050	1830	1295	1270	530	1430
300	480	3650	1830	1295	1270	605	1655
500	680	5100	2260	1345	1270	720	2110
750	980	7500	2260	1448	1625	1022	2950
1000	1150	10300	2260	1500	1625	1325	3720
1500	1640	14500	2260	2190	1854	1552	4672
2000	2160	20645	1830	2210	1854	1855	5670
2500	2680	27786	1830	2515	1854	2006	6580

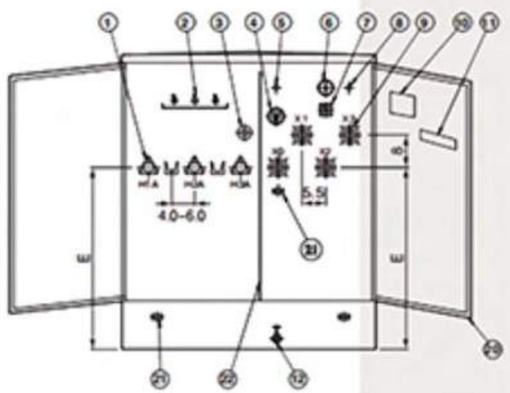
RADIAL FEED







Dead Front
Radial Feed



Live Front
Radial Feed

NO.	NAME	NO.	NAME
1	HV BUSHING	12	DRAIN VALVE WITH SAMPLER
2	BAY-O-NET FUSE	13	DOOR HANDLE
3	TAP CHANGER	14	LIFTING LUG
4	DIAL TYPE THERMOMETER	15	HAND HOLE&SECURITY COVER
5	FILLING PLUG	16	TANK
6	PRESSURE VACUUM GAUGE	17	RADIATORS
7	OIL LEVEL GAUGE	18	JACKING PAD
8	PRESSURE RELIEF VALVE	19	JACKING PROVISIONS
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150	280	2200	1730	1245	1270	473	1225
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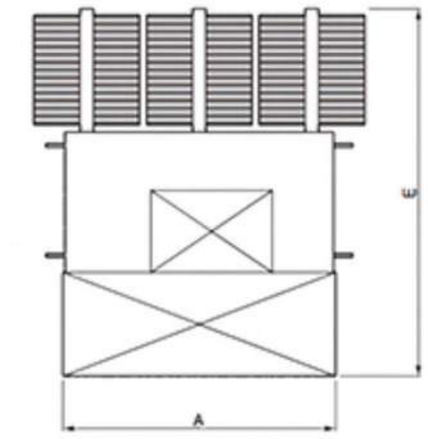
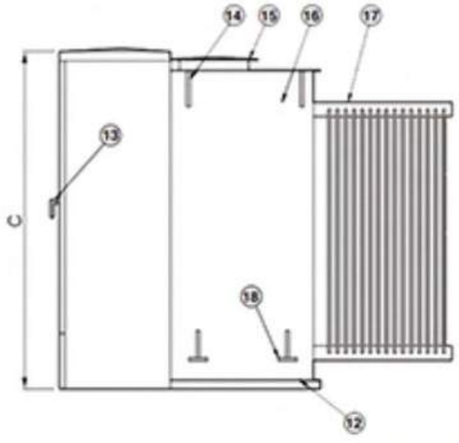
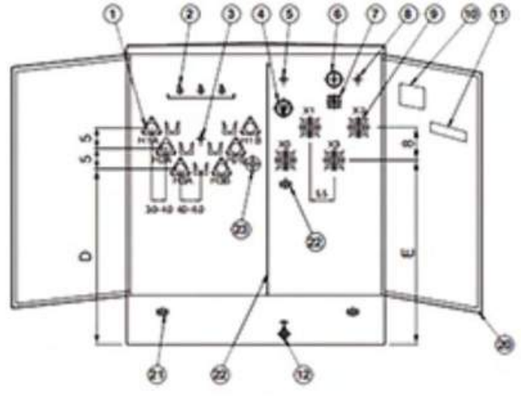
1500	1640	14500	2260	2190	1854	1552	4672
2000	2160	20645	1830	2210	1854	1855	5670
2500	2680	27786	1830	2515	1854	2006	6580

LOOP FEED







05 CONSTRUCTION

1. CORE

The three-legged, step-lap mitered core construction is manufactured using a high-quality cutting machine. For maximum e ciency, cores are precisely stacked, virtually eliminating gaps ni the corner joints.

Five-legged wound core or shell-type triplex designs are used for wye-wye connected transformers, and other spe- cial transformer designs.

Cores are manufactured with precision cut, burr-free, grain-oriented silicon steel. Many grades of core steel are available for optimizing core loss e ciency.

2. COIL

Pad-mounted transformers feature a rectangular coil con- guration with wire-wound, high-voltage primaries and sheet-wound secondaries. The design minimizes axial stress developed by short circuits and provides for magnet- ic balancing of tap connections.

Coils are wound using the highest quality winding ma- chines providing exacting tension control and conductor placement for superior short-circuit strength and maxi- mum e ciency.

Extra mechanical strength is provided by diamond pattern, epoxy coated paper insulation, used throughout the coil, with additional epoxy at heavy stress points. The diamond pattern distribution of the epoxy and carefully arranged ducts, provide a network of passages through which cool- ing uid can freely circulate.

Coil assemblies are heat-cured under calculated hydraulic pressure to ensure performance against short- circuit forces.

3. CORE AND COIL ASSEMBLIE

Pad-mounted transformer core and coil assemblies are braced with heavy steel ends to prevent the rectangular coil from distort- ing under short-circuit conditions. Plates are clamped in place using presses, and welded or bolted to form a solid core and coil assembly. Core and coil assemblies e x c e e dANSI® and IEEE® requirements for short-circuit performance. Due to the rigidity of the design, impedance shift after short-circuit is comparable to that of circular wound assemblies.

4. TANK

Transformer tanks are designed for high strength and ease of handling, installation, and maintenance. Tanks are welded using precision-cut, hot rolled, pickled and oiled steel. They are sealed to protect the insulating uid and other internal components.

Transformer tanks are pressure-tested to withstand 7 psig without permanent distortion and 15 psig without rupture.

5. TANK FINISH

An advanced multi- stage nishing process exceeds IEEE Std C57.12.28 TM - 2005 standards. The eight-stage pre-treatment pro- cess assures coating adhesion and retards corrosion. It converts tank surfaces toa nonmetallic, water insoluble iron phosphate coating. The paint method consists of twodistinct layers of paint. The rst is an epoxy primer (E-coat) layer which provides a barrier against moisture, salt and corrosives. The two-component ure- thane nal coat seals and adds ultraviolet protection.

6. VACUUM PROCESSING

Transformers are driedand lled with ltered insulating uid under vacuum, while secondary windings are energized. Coils are heated to drive out moisture, ensuring maximum penetration of uid into the coil insulation system.

7. INSULATING FLUID

Transformers from Daelim Bele c are available with electri- cal-grade mineral insulating oil or Envirotemp TM FR3TM uid. The highly re ned uids are tested and degassed to assure a chemically inert product with minimal acid ions. Special additives minimize oxygen absorption and inhibit oxidation. To ensure high dielectric strength, the uid is re-tested for dryness and dielectric strength, re ltered, heated, dried, and stored under vacuum before being added to the completedtransformer.

Daelim Bele c transformers lledwith EnvirotempTM FR3 uidenjoy unique resafety, environmental, electrical, and chemical advantages, including insulation life extending properties.

Abio-based, sustainable, naturalester dielectric coolant, Enviro- tempTMM FR3TM uid quickly and thoroughly biodegrades in the environment and is non-toxic per acute aquaticand oral toxic- ity tests.

8. TEST

DaelimBele c performs routing testing on each transformer manufactured including thefollowing tests:

- Ratio, Polarity, and Phase Relation: Assures correct winding ratios and tap voltag-es; checks insulation of HV and LV circuits. Checks entire insulation system to verify all live-to-ground clearances.
- Resistance: This test veri es the integrity of internal high-voltage and low-voltage connections: provides data for loss upgrade calculations.
- Applied Potential: Applied to both high-voltage a n d low-vollage windings, this test stresses the entire insulation system to verify all live-to-ground clearances.
- Induced Potential: 3.46 times normal plus 1000 volts for reduced neutral designs.
- Loss Test: These design veri cation tests are conducted to assure that guaranteed loss values are met and that test values are within design tolerances. Tests include no-load loss and excitation current along with impedance voltage and load loss.
- Leak Test: Pressurizing the tank to 7 psig assures a complete seal, with no weld or gasket leaks, to eliminate the possibilityof moisture in ltration or uid oxidation.
- Operation tests of fall devices: Al electrical and electro-mechanical devicesshall beoperated both in auto and manual mode for proper sequencing/staging and func tion.

DESIGN PERFORMANCE TEST

- The design performance tests include the following:
- Temperature Rise: Our automated heat run facility ensures that any design changes
meet ANSI@ and IEEE® temperature rise criteria.
- Audible Sound Level: Ensures compliance with NEMA® requirements.
- Lightning Impulse: To assure superior dielectric performance, this test consists of one reduced wave, two chopped waves and one full wave in sequence, precisely simulating the harshest conditions.
- Other performance tests such as short-circuit capability test, lifting and moving devices test can be executed while speci ed by the customer.

HBG SUPPLY

DAELIM BELEFIC

AMERIC AN STANDARD

THHN-THWN | 600W

Annealed Copper Wires / PVC Insulation / Nylon Jacket, UL 83, 105 °C Insulation grade

(i)	Catalogue Code	Size Awg	Conductor Construction No. of Wires X Nominal Wire Diameter mm	Awg Equivalent mm²	Maximum Conductor Resistance ohm/km at 20°C	Insulation Thickness mm	Nylon Thickness mm	Nominal Outer Diameter mm	Current Carrying Capacity (Amp)	
									THHN 90°C	THWN 75°C
1	11100010	16	19x0.298	1.31	13.1	0.38	0.1	2.48	24	10
2	11101010	16	19x0.298	1.31	13.1	0.38	0.1	2.48	24	10
1	11100020	14	13x0.4+6x0.3	2.08	8.62	0.38	0.1	2.8	35	30
2	11101020	14	13x0.4+6x0.3	2.08	8.62	0.38	0.1	2.8	35	30
1	11100030	12	13x0.50+6x0.40	3.31	5.43	0.38	0.1	3.29	40	35
2	11101030	12	13x0.50+6x0.40	3.31	5.43	0.38	0.1	3.29	40	35
1	11100040	10	13x0.64+6x0.47	5.26	3.409	0.51	0.1	4.13	55	50
2	11101040	10	13x0.64+6x0.47	5.26	3.409	0.51	0.1	4.13	55	50
1	11100050	8	13x0.8+6x0.60	8.37	2.144	0.76	0.13	5.45	80	70
2	11101050	8	13x0.8+6x0.60	8.37	2.144	0.76	0.13	5.45	80	70
1	11100060	6	13x1.01+6x0.74	13.3	1.35	0.76	0.13	6.3	105	95
2	11101060	6	13x1.01+6x0.74	13.3	1.35	0.76	0.13	6.3	105	95

** NOTE : 1 refer to packaging 500 Feet/Coil*
2 refer to packaging 500Feet/Spool

** Allowable maximum current carrying in Free Air, based on ambient temperature 30°C ref(Table 310.17, NEC NFPA-70)*

*** For 10-14 AWG Sizes, Refer to National Electrical Code ® Section 240.4 (D)for conductor overcurrent protection limitations.*

SPECIFICATION:
Building wires types THHN/ THWN according to American standards UL 83 & UL 1581

CONDUCTOR:
19 wire combination of round unilay stranded conductor provides more flexibility and optimal shape with less diameter

INSULATION:
Thermoplastic PVC insulation suitable for 105 °C dry and 75 °C wet location according to UL 83 & UL 1581
Wires are complying to Vertical Flame test requirements VW-1

JACKETING:
Polyamide Nylon PA6 over the PVC insulation provides an excellent protection against scratch, abrasion and resistance to oil and gasoline.

IDENTIFICATION ON THE WIRE:
BAHRA CABLES CO. KSA THHN / THWN 12 AWG 600 VOLTS VW-1 GASOLINE & OIL RESISTANT II 105 DEG C

PACKING:
Very modern packing with standard length 500 feet coils

or with standard length 500 Feet Spool

(or according to the requirement) with strong wrapping plastic easy to open and easy to use up to the last meter, Light weight environment friendly.

COLOR:
Available colors for wires
Red, yellow, blue, black, brown, green, green/ yellow, white & grey.
Other colors are available upon request

The fourth digit of the product catalogue code number is for wire color identification.

Color Codes:

0	1	2
3	4	5
6	7	8
9		

BAHRA CABLES بحرة كابلات

HBG SUPPLY

GOING THE EXTRA MILE BECAUSE IT'S NEVER CROWDED!

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