

ELH Aluminum Electrolytic Capacitors

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

■ Description

- Capacitors with snap lock terminals for P.C.B. mounting.

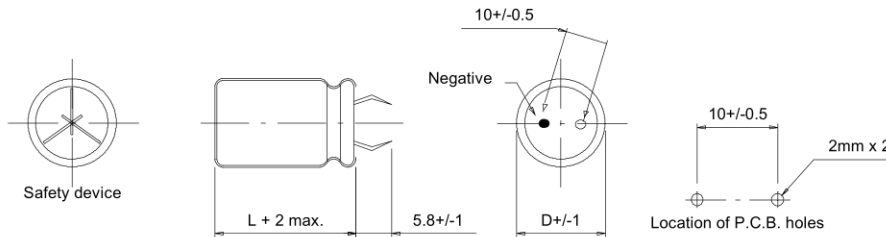
■ Applications

- Bulk and filtering capacitor in switching power supplies, welding machines, motor drives, U.P.S.

■ Features

- Safety-vent at the bottom.
- Low equivalent series resistance (E.S.R.).
- Different case size available for capacitance values.

■ Diagram of dimensions and P.C.B mounting holes (Unit = mm)



■ Marking

- logo □
Series (ELH), Operating temperature (85°C),
Rated capacitance (μF), Rated voltage (Vdc).
Negative polarity: white row

■ Electrical characteristics

Rated voltage	6.3 to 100 Vdc	160 to 450 Vdc
Operating temperature	-40 to +85°C	-25 to +85°C
Capacitance range	820 μF to 120000 μF	47 μF to 2700 μF
Capacitance tolerance	$\pm 20\%$ at 120 Hz / 20°C	
Endurance test	2000 h (see conditions in test method and performance)	
Leakage current	$I = 0.02 \text{ CV}$ or 3 mA whichever is smaller C = rated capacitance (μF); V = rated voltage (Vdc) (after that DC rated voltage at 20°C has been applied for 5 min)	

■ Impedance Z characteristics at 120 Hz

Rated voltage (Vdc)	6.3 to 16	25	35	50 to 63	80 to 100	160 to 400	450
Z (-25°C) / Z (20°C)	3	3	3	2	2	4	8
Z (-40°C) / Z (20°C)	12	10	8	6	5		

■ Compensation factor of ripple current (R.C.) vs. frequency

Rated voltage	50 Hz	60 Hz	120 Hz	1kHz	10 to 100 kHz
from 6.3 to 100Vdc	0.88	0.90	1.00	1.15	1.16
from 160 to 250Vdc	0.75	0.78	1.00	1.16	1.23
from 350 to 450Vdc	0.74	0.76	1.00	1.10	1.15

■ Compensation factor of ripple current (R.C.) vs. temperature

Temperature	40°C	60°C	70°C	85°C
Multiplier factors	1.48	1.42	1.30	1.00

■ Test method and performance

Load life test	
Test conditions	
Voltage:	the sum of D.C. voltage and the peak A.C. voltage must not exceed the rated voltage of the capacitor.
Ripple current:	max permissible ripple current at 120Hz 85°C specified in the table.
Temperature:	85°C
Test duration:	2000 hours
Performance	
The following specifications will be satisfied when the capacitors are restored at 25°C.	
Capacitance Change:	within 20% of initial value
Dissipation Factor:	not exceed 200% of initial requirement
Leakage Current:	not exceed initial requirement

Shelf life test	
Test conditions	
Voltage:	no voltage applied.
Temperature:	85°C
Test duration:	1000 hours
Performance	
The following specifications will be satisfied when the capacitors are restored at 25°C.	
Capacitance Change:	within 20% of initial value
Dissipation Factor:	not exceed 150% of initial requirement
Leakage Current:	not exceed initial requirement

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

■ **Technical data and ordering codes**

6.3 Vdc Rated voltage - 8 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
15000	22 x 25	60	2.44	1.9	ELH159M6R3AQ1AA
18000	22 x 30	60	2.60	2.3	ELH189M6R3AQ2AA
18000	25 x 25	60	2.62	2.3	ELH189M6R3AR1AA
22000	22 x 30	60	3.06	2.8	ELH229M6R3AQ2AA
22000	25 x 25	60	3.07	2.8	ELH229M6R3AR1AA
27000	22 x 35	60	3.49	3	ELH279M6R3AQ3AA
27000	25 x 30	60	3.52	3	ELH279M6R3AR2AA
27000	30 x 25	60	3.57	3	ELH279M6R3AS1AA
33000	22 x 40	60	3.97	3	ELH339M6R3AQ4AA
33000	25 x 35	60	4.02	3	ELH339M6R3AR3AA
33000	30 x 30	60	4.05	3	ELH339M6R3AS2AA
33000	35 x 25	60	4.10	3	ELH339M6R3AT1AA
39000	22 x 45	60	4.56	3	ELH399M6R3AQ5AA
39000	25 x 40	60	4.50	3	ELH399M6R3AR4AA
39000	30 x 30	60	4.46	3	ELH399M6R3AS2AA
39000	35 x 25	60	4.51	3	ELH399M6R3AT1AA
47000	25 x 45	60	5.09	3	ELH479M6R3AR5AA
47000	30 x 35	60	5.06	3	ELH479M6R3AS3AA
47000	35 x 30	60	5.03	3	ELH479M6R3AT2AA
56000	25 x 50	60	5.71	3	ELH569M6R3AR6AA
56000	30 x 40	60	5.70	3	ELH569M6R3AS4AA
56000	35 x 30	60	5.75	3	ELH569M6R3AT2AA
68000	30 x 45	60	6.48	3	ELH689M6R3AS5AA
68000	35 x 35	60	6.42	3	ELH689M6R3AT3AA
82000	30 x 50	60	7.32	3	ELH829M6R3AS6AA
82000	35 x 40	60	7.29	3	ELH829M6R3AT4AA
100000	35 x 45	60	8.31	3	ELH10KM6R3AT5AA
120000	35 x 50	60	8.60	3	ELH12KM6R3AT6AA

10 Vdc Rated voltage - 13 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
12000	22 x 25	50	2.40	2.4	ELH129M010AQ1AA
15000	22 x 30	50	2.75	3	ELH159M010AQ2AA
15000	25 x 25	50	2.75	3	ELH159M010AR1AA
18000	22 x 35	50	3.15	3	ELH189M010AQ3AA
18000	25 x 25	50	3.05	3	ELH189M010AR1AA
22000	22 x 40	50	3.55	3	ELH229M010AQ4AA
22000	25 x 30	50	3.50	3	ELH229M010AR2AA
22000	30 x 25	50	3.55	3	ELH229M010AS1AA
27000	22 x 45	50	4.05	3	ELH279M010AQ5AA
27000	25 x 35	50	4.00	3	ELH279M010AR3AA
27000	30 x 30	50	4.05	3	ELH279M010AS2AA
33000	22 x 50	50	4.60	3	ELH339M010AQ6AA
33000	25 x 40	50	4.55	3	ELH339M010AR4AA
33000	30 x 30	50	4.50	3	ELH339M010AS2AA
33000	35 x 25	50	4.50	3	ELH339M010AT1AA
39000	25 x 45	50	5.10	3	ELH399M010AR5AA
39000	30 x 35	50	5.05	3	ELH399M010AS3AA
39000	35 x 30	50	5.05	3	ELH399M010AT2AA
47000	25 x 50	50	5.75	3	ELH479M010AR6AA
47000	30 x 40	50	5.70	3	ELH479M010AS4AA
47000	35 x 30	50	5.65	3	ELH479M010AT2AA
56000	30 x 45	50	6.45	3	ELH569M010AS5AA
56000	35 x 35	50	6.40	3	ELH569M010AT3AA
68000	30 x 50	50	7.05	3	ELH689M010AS6AA
68000	35 x 40	50	7.10	3	ELH689M010AT4AA
82000	35 x 50	50	7.50	3	ELH829M010AT6AA

16 Vdc Rated voltage - 20 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
8200	22 x 25	40	2.60	2.6	ELH828M016AQ1AA
10000	22 x 30	40	2.70	3	ELH109M016AQ2AA
10000	25 x 25	40	2.75	3	ELH109M016AR1AA
12000	22 x 30	40	2.90	3	ELH129M016AQ2AA
12000	25 x 25	40	2.95	3	ELH129M016AR1AA
15000	22 x 35	40	3.30	3	ELH159M016AQ3AA
15000	25 x 30	40	3.45	3	ELH159M016AR2AA
15000	30 x 25	40	3.50	3	ELH159M016AS1AA
18000	22 x 40	40	3.70	3	ELH189M016AQ4AA
18000	25 x 35	40	3.75	3	ELH189M016AR3AA
18000	30 x 30	40	3.80	3	ELH189M016AS2AA
22000	22 x 50	40	4.35	3	ELH229M016AQ6AA
22000	25 x 40	40	4.30	3	ELH229M016AR4AA
22000	30 x 30	40	4.25	3	ELH229M016AS2AA
22000	35 x 25	40	4.20	3	ELH229M016AT1AA
27000	25 x 45	40	4.70	3	ELH279M016AR5AA
27000	30 x 35	40	4.65	3	ELH279M016AS3AA
27000	35 x 30	40	4.65	3	ELH279M016AT2AA
33000	30 x 40	40	5.35	3	ELH339M016AS4AA
33000	35 x 30	40	5.40	3	ELH339M016AT2AA
39000	30 x 45	40	6.00	3	ELH399M016AS5AA
39000	35 x 35	40	5.95	3	ELH399M016AT3AA
47000	30 x 50	40	6.80	3	ELH479M016AS6AA
47000	35 x 40	40	6.75	3	ELH479M016AT4AA
56000	35 x 45	40	7.60	3	ELH569M016AT5AA
68000	35 x 50	40	8.00	3	ELH689M016AT6AA

25 Vdc Rated voltage - 32 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
5600	22 x 25	25	2.20	2.8	ELH568M025AQ1AA
6800	22 x 30	25	2.40	3	ELH688M025AQ2AA
6800	25 x 25	25	2.45	3	ELH688M025AR1AA
8200	22 x 35	25	2.70	3	ELH828M025AQ3AA
8200	25 x 25	25	2.70	3	ELH828M025AR1AA
10000	22 x 40	25	3.10	3	ELH109M025AQ4AA
10000	25 x 30	25	3.15	3	ELH109M025AR2AA
10000	30 x 25	25	3.20	3	ELH109M025AS1AA
12000	22 x 45	25	3.50	3	ELH129M025AQ5AA
12000	25 x 35	25	3.45	3	ELH129M025AR3AA
12000	30 x 30	25	3.50	3	ELH129M025AS2AA
12000	35 x 25	25	3.55	3	ELH129M025AT1AA
15000	22 x 50	25	4.00	3	ELH159M025AQ6AA
15000	25 x 40	25	3.95	3	ELH159M025AR4AA
15000	30 x 35	25	4.00	3	ELH159M025AS3AA
15000	35 x 30	25	4.05	3	ELH159M025AT2AA
18000	25 x 45	25	4.45	3	ELH189M025AR5AA
18000	30 x 35	25	4.45	3	ELH189M025AS3AA
18000	35 x 30	25	4.60	3	ELH189M025AT2AA
22000	30 x 40	25	5.20	3	ELH229M025AS4AA
22000	35 x 35	25	5.15	3	ELH229M025AT3AA
27000	30 x 45	25	5.95	3	ELH279M025AS5AA
27000	35 x 40	25	5.90	3	ELH279M025AT4AA
33000	30 x 50	25	6.70	3	ELH339M025AS6AA
33000	35 x 45	25	6.75	3	ELH339M025AT5AA
39000	35 x 50	25	7.55	3	ELH399M025AT6AA

* For capacitor whose capacitance exceeds 1000 µF (rated voltage from 6.3 to 100Vdc) the value of D.F. (%) is increased by 2% for every addition of 1000 µF.

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

35 Vdc Rated voltage - 44 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
3900	22 x 25	25	2.20	2.7	ELH388M035AQ1AA
4700	22 x 30	25	2.40	3	ELH478M035AQ2AA
4700	25 x 25	25	2.40	3	ELH478M035AR1AA
5600	22 x 35	25	2.75	3	ELH568M035AQ3AA
5600	25 x 25	25	2.75	3	ELH568M035AR1AA
6800	22 x 40	25	2.85	3	ELH688M035AQ4AA
6800	25 x 30	25	2.85	3	ELH688M035AR2AA
6800	30 x 25	25	2.90	3	ELH688M035AS1AA
8200	22 x 45	25	3.15	3	ELH828M035AQ5AA
8200	25 x 35	25	3.10	3	ELH828M035AR3AA
8200	30 x 30	25	3.15	3	ELH828M035AS2AA
10000	22 x 50	25	3.55	3	ELH109M035AQ6AA
10000	25 x 40	25	3.50	3	ELH109M035AR4AA
10000	30 x 30	25	3.45	3	ELH109M035AS2AA
10000	35 x 25	25	3.40	3	ELH109M035AT1AA
12000	25 x 45	25	3.95	3	ELH129M035AR5AA
12000	30 x 35	25	4.00	3	ELH129M035AS3AA
12000	35 x 30	25	4.05	3	ELH129M035AT2AA
15000	25 x 50	25	4.95	3	ELH159M035AR6AA
15000	30 x 40	25	4.95	3	ELH159M035AS4AA
15000	35 x 35	25	5.00	3	ELH159M035AT3AA
18000	30 x 45	25	5.50	3	ELH189M035AS5AA
18000	35 x 40	25	5.55	3	ELH189M035AT4AA
22000	30 x 50	25	6.00	3	ELH229M035AS6AA
22000	35 x 45	25	6.05	3	ELH229M035AT5AA
27000	35 x 50	25	6.90	3	ELH279M035AT6AA

50 Vdc Rated voltage - 63 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
2200	22 x 25	20	1.90	2.2	ELH228M050AQ1AA
2700	22 x 30	20	2.10	2.7	ELH278M050AQ2AA
2700	25 x 25	20	2.20	2.7	ELH278M050AR1AA
3300	22 x 30	20	2.35	3	ELH338M050AQ2AA
3300	25 x 25	20	2.35	3	ELH338M050AR1AA
3900	22 x 35	20	2.65	3	ELH398M050AQ3AA
3900	25 x 30	20	2.65	3	ELH398M050AR2AA
3900	30 x 25	20	2.65	3	ELH398M050AS1AA
4700	22 x 40	20	3.00	3	ELH478M050AQ4AA
4700	25 x 35	20	3.00	3	ELH478M050AR3AA
4700	30 x 25	20	2.95	3	ELH478M050AS1AA
5600	22 x 45	20	3.35	3	ELH568M050AQ5AA
5600	25 x 40	20	3.35	3	ELH568M050AR4AA
5600	30 x 30	20	3.35	3	ELH568M050AS2AA
5600	35 x 25	20	3.40	3	ELH568M050AT1AA
6800	22 x 50	20	3.80	3	ELH688M050AQ6AA
6800	25 x 40	20	3.80	3	ELH688M050AR4AA
6800	30 x 30	20	3.80	3	ELH688M050AS2AA
6800	30 x 35	20	3.85	3	ELH688M050AS3AA
6800	35 x 30	20	3.85	3	ELH688M050AT2AA
8200	25 x 50	20	4.35	3	ELH828M050AR6AA
8200	30 x 40	20	4.35	3	ELH828M050AS4AA
8200	35 x 30	20	4.40	3	ELH828M050AT2AA
10000	30 x 45	20	5.00	3	ELH109M050AS5AA
10000	35 x 35	20	4.95	3	ELH109M050AT3AA
12000	30 x 50	20	5.60	3	ELH129M050AS6AA
12000	35 x 40	20	5.55	3	ELH129M050AT4AA
15000	35 x 45	20	6.45	3	ELH159M050AT5AA
18000	35 x 50	20	6.70	3	ELH189M050AT6AA

63 Vdc Rated voltage - 79 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
1800	22 x 25	20	1.85	2.3	ELH188M063AQ1AA
2200	22 x 30	20	2.30	2.8	ELH228M063AQ2AA
2200	25 x 25	20	2.30	2.8	ELH228M063AR1AA
2700	22 x 35	20	2.45	3	ELH278M063AQ3AA
2700	25 x 30	20	2.45	3	ELH278M063AR2AA
2700	30 x 25	20	2.50	3	ELH278M063AS1AA
3300	22 x 40	20	2.60	3	ELH338M063AQ4AA
3300	25 x 30	20	2.65	3	ELH338M063AR2AA
3300	30 x 25	20	2.70	3	ELH338M063AS1AA
3900	22 x 45	20	2.95	3	ELH398M063AQ5AA
3900	25 x 35	20	2.95	3	ELH398M063AR3AA
3900	30 x 30	20	3.00	3	ELH398M063AS2AA
4700	22 x 50	20	3.40	3	ELH478M063AQ6AA
4700	25 x 40	20	3.35	3	ELH478M063AR4AA
4700	30 x 30	20	3.35	3	ELH478M063AS2AA
4700	35 x 25	20	3.40	3	ELH478M063AT1AA
5600	25 x 40	20	3.70	3	ELH568M063AR4AA
5600	25 x 45	20	3.70	3	ELH568M063AR5AA
5600	30 x 35	20	3.75	3	ELH568M063AS3AA
5600	35 x 30	20	3.75	3	ELH568M063AT2AA
6800	30 x 40	20	4.25	3	ELH688M063AS4AA
6800	35 x 30	20	4.20	3	ELH688M063AT2AA
8200	30 x 45	20	4.80	3	ELH828M063AS5AA
8200	35 x 35	20	4.80	3	ELH828M063AT3AA
10000	30 x 50	20	5.50	3	ELH109M063AS6AA
10000	35 x 40	20	5.45	3	ELH109M063AT4AA
12000	35 x 45	20	6.20	3	ELH129M063AT5AA

80 Vdc Rated voltage - 100 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (µF)	Case size D x L (mm)	D.F. 120Hz 25°C (tgδ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
1200	22 x 25	20	1.65	1.9	ELH128M080AQ1AA
1500	22 x 30	20	1.90	2.4	ELH158M080AQ2AA
1500	25 x 25	20	1.90	2.4	ELH158M080AR1AA
1800	22 x 35	20	2.20	2.9	ELH188M080AQ3AA
1800	25 x 30	20	2.20	2.9	ELH188M080AR2AA
1800	30 x 25	20	2.20	2.9	ELH188M080AS1AA
2200	22 x 40	20	2.45	3	ELH228M080AQ4AA
2200	25 x 30	20	2.45	3	ELH228M080AR2AA
2200	30 x 25	20	2.50	3	ELH228M080AS1AA
2700	22 x 45	20	2.80	3	ELH278M080AQ5AA
2700	25 x 35	20	2.80	3	ELH278M080AR3AA
2700	30 x 30	20	2.85	3	ELH278M080AS2AA
2700	35 x 25	20	2.85	3	ELH278M080AT1AA
3300	22 x 50	20	3.15	3	ELH338M080AQ6AA
3300	25 x 40	20	3.20	3	ELH338M080AR4AA
3300	30 x 30	20	3.20	3	ELH338M080AS2AA
3300	35 x 25	20	3.20	3	ELH338M080AT1AA
3900	25 x 45	20	3.60	3	ELH398M080AR5AA
3900	30 x 35	20	3.60	3	ELH398M080AS3AA
3900	35 x 30	20	3.60	3	ELH398M080AT2AA
4700	25 x 50	20	4.05	3	ELH478M080AR6AA
4700	30 x 40	20	4.05	3	ELH478M080AS4AA
4700	35 x 35	20	4.10	3	ELH478M080AT3AA
5600	30 x 45	20	4.55	3	ELH568M080AS5AA
5600	35 x 35	20	4.50	3	ELH568M080AT3AA
6800	30 x 50	20	5.15	3	ELH688M080AS6AA
6800	35 x 40	20	5.15	3	ELH688M080AT4AA
8200	35 x 45	20	5.85	3	ELH828M080AT5AA
10000	35 x 50	20	6.60	3	ELH109M080AT6AA

* For capacitor whose capacitance exceeds 1000 µF (rated voltage from 6.3 to 100Vdc) the value of D.F. (%) is increased by 2% for every addition of 1000 µF.

ELH Aluminum Electrolytic Capacitors

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

100 Vdc Rated voltage - 125 Vdc Surge voltage					
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. 120Hz 25°C (tg δ %)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
820	22 x 25	15	1.85	1.6	ELH827M100AQ1AA
1000	22 x 30	15	2.10	2	ELH108M100AQ2AA
1000	25 x 25	15	2.10	2	ELH108M100AR1AA
1200	22 x 35	15	2.40	2.4	ELH128M100AQ3AA
1200	25 x 30	15	2.45	2.4	ELH128M100AR2AA
1500	22 x 40	15	2.70	3	ELH158M100AQ4AA
1500	25 x 30	15	2.75	3	ELH158M100AR2AA
1500	30 x 25	15	2.75	3	ELH158M100AS1AA
1800	22 x 45	15	3.10	3	ELH188M100AQ5AA
1800	25 x 35	15	3.15	3	ELH188M100AR3AA
1800	30 x 30	15	3.15	3	ELH188M100AS2AA
1800	35 x 25	15	3.15	3	ELH188M100AT1AA
2200	22 x 50	15	3.50	3	ELH228M100AQ6AA
2200	25 x 40	15	3.55	3	ELH228M100AR4AA
2200	30 x 30	15	3.55	3	ELH228M100AS2AA
2200	35 x 25	15	3.60	3	ELH228M100AT1AA
2700	25 x 45	15	4.10	3	ELH278M100AR5AA
2700	30 x 35	15	4.05	3	ELH278M100AS3AA
2700	35 x 30	15	4.05	3	ELH278M100AT2AA
3300	25 x 50	15	4.50	3	ELH338M100AR6AA
3300	30 x 40	15	4.55	3	ELH338M100AS4AA
3300	35 x 30	15	4.50	3	ELH338M100AT2AA
3900	30 x 45	15	5.15	3	ELH398M100AS5AA
3900	35 x 35	15	5.10	3	ELH398M100AT3AA
4700	35 x 40	15	5.75	3	ELH478M100AT4AA
5600	35 x 50	15	6.20	3	ELH568M100AT6AA

* For capacitor whose capacitance exceeds 1000 μ F (rated voltage from 6.3 to 100Vdc) the value of D.F. (%) is increased by 2% for every addition of 1000 μ F.

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

160 Vdc Rated voltage - 200 Vdc Surge voltage							
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. max 120Hz 25°C (tg δ %)	E.S.R. typ. 120Hz 25°C (Ω)	E.S.R. max 20kHz 25°C (Ω)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
270	22 x 25	10	0.280	0.338	1.15	0.9	ELH277M160AQ1AA
330	22 x 25	10	0.245	0.276	1.40	1	ELH337M160AQ1AA
330	25 X 20	15	0.245	0.276	1.35	1	ELH337M160AR7AA
390	22 x 25	10	0.215	0.234	1.55	1.2	ELH397M160AQ1AA
390	22 x 30	10	0.215	0.234	1.55	1.2	ELH397M160AQ2AA
390	25 x 25	10	0.215	0.234	1.55	1.2	ELH397M160AR1AA
390	30 x 25	10	0.215	0.234	1.50	1.2	ELH397M160AS1AA
470	22 x 30	10	0.183	0.210	1.75	1.5	ELH477M160AQ2AA
470	25 x 25	10	0.183	0.212	1.75	1.5	ELH477M160AR1AA
470	30 x 25	10	0.183	0.218	1.70	1.5	ELH477M160AS1AA
560	22 x 30	10	0.158	0.178	1.95	1.8	ELH567M160AQ2AA
560	25 x 30	10	0.158	0.178	1.95	1.8	ELH567M160AR2AA
560	30 x 25	10	0.158	0.178	1.90	1.8	ELH567M160AS1AA
680	22 x 40	10	0.131	0.146	2.20	2.2	ELH687M160AQ4AA
680	25 x 30	10	0.131	0.146	2.20	2.2	ELH687M160AR2AA
680	30 x 25	10	0.131	0.146	2.15	2.2	ELH687M160AS1AA
820	22 x 45	10	0.110	0.121	2.50	2.6	ELH827M160AQ5AA
820	25 x 35	10	0.110	0.121	2.55	2.6	ELH827M160AR3AA
820	30 x 30	10	0.110	0.121	2.50	2.6	ELH827M160AS2AA
820	35 x 25	15	0.110	0.121	2.50	2.6	ELH827M160AT1AA
1000	22 x 50	10	0.095	0.110	2.85	3	ELH108M160AQ6AA
1000	25 x 40	10	0.095	0.110	2.80	3	ELH108M160AR4AA
1000	30 x 30	10	0.095	0.118	2.80	3	ELH108M160AS2AA
1000	30 x 35	10	0.095	0.118	2.80	3	ELH108M160AS3AA
1000	35 x 25	15	0.095	0.118	2.80	3	ELH108M160AT1AA
1200	25 x 45	10	0.086	0.100	3.15	3	ELH128M160AR5AA
1200	30 x 35	10	0.086	0.110	3.15	3	ELH128M160AS3AA
1200	35 x 30	15	0.086	0.115	3.20	3	ELH128M160AT2AA
1500	30 x 40	10	0.069	0.092	3.75	3	ELH158M160AS4AA
1500	30 x 45	10	0.069	0.092	3.75	3	ELH158M160AS5AA
1500	35 x 30	15	0.069	0.092	3.70	3	ELH158M160AT2AA
1500	35 x 35	15	0.069	0.092	3.70	3	ELH158M160AT3AA
1800	30 x 45	10	0.066	0.085	4.20	3	ELH188M160AS5AA
1800	30 x 50	10	0.066	0.085	4.20	3	ELH188M160AS6AA
1800	35 x 35	15	0.066	0.085	4.20	3	ELH188M160AT3AA
1800	35 x 40	15	0.066	0.085	4.20	3	ELH188M160AT4AA
2200	35 x 40	15	0.060	0.075	4.60	3	ELH228M160AT4AA
2200	35 x 45	15	0.060	0.075	4.80	3	ELH228M160AT5AA
2700	35 x 50	15	0.055	0.060	5.45	3	ELH278M160AT6AA

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

180 Vdc Rated voltage - 225 Vdc Surge voltage							
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. max 120Hz 25°C (tg δ %)	E.S.R. typ. 120Hz 25°C (Ω)	E.S.R. max 20kHz 25°C (Ω)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P1
180	22 x 20	15	0.410	0.380	1.00	0.6	ELH187M180AQ7AA
220	22 x 25	10	0.340	0.350	1.10	0.8	ELH227M180AQ1AA
270	22 x 25	10	0.280	0.270	1.25	1	ELH277M180AQ1AA
270	25 x 20	15	0.280	0.270	1.25	1	ELH277M180AR7AA
330	22 X 25	10	0.240	0.240	1.40	1.2	ELH337M180AQ1AA
330	22 x 30	10	0.240	0.240	1.40	1.2	ELH337M180AQ2AA
330	25 x 25	10	0.240	0.240	1.40	1.2	ELH337M180AR1AA
390	22 x 30	10	0.210	0.195	1.60	1.4	ELH397M180AQ2AA
390	25 x 25	10	0.210	0.195	1.60	1.4	ELH397M180AR1AA
470	22 x 35	10	0.175	0.175	1.80	1.7	ELH477M180AQ3AA
470	25 x 30	10	0.175	0.175	1.80	1.7	ELH477M180AR2AA
470	30 x 25	10	0.175	0.175	1.80	1.7	ELH477M180AS1AA
560	22 x 35	10	0.160	0.140	2.00	2	ELH567M180AQ3AA
560	22 x 40	10	0.160	0.140	2.00	2	ELH567M180AQ4AA
560	25 x 30	10	0.160	0.140	1.95	2	ELH567M180AR2AA
560	30 x 25	10	0.160	0.140	2.00	2	ELH567M180AS1AA
680	22 x 45	10	0.129	0.135	2.25	2.4	ELH687M180AQ5AA
680	25 x 35	10	0.129	0.135	2.20	2.4	ELH687M180AR3AA
680	30 x 30	10	0.129	0.135	2.20	2.4	ELH687M180AS2AA
680	35 x 25	15	0.129	0.135	2.20	2.4	ELH687M180AT1AA
820	22 x 50	10	0.110	0.110	2.55	2.9	ELH827M180AQ6AA
820	25 x 40	10	0.110	0.110	2.55	2.9	ELH827M180AR4AA
820	30 x 30	10	0.110	0.110	2.60	2.9	ELH827M180AS2AA
820	30 x 35	10	0.110	0.110	2.60	2.9	ELH827M180AS3AA
820	35 x 25	15	0.110	0.110	2.60	2.9	ELH827M180AT1AA
1000	25 x 45	10	0.095	0.095	2.85	3	ELH108M180AR5AA
1000	30 x 35	10	0.095	0.095	2.85	3	ELH108M180AS3AA
1000	35 x 30	15	0.095	0.095	2.90	3	ELH108M180AT2AA
1200	30 x 40	10	0.083	0.083	3.25	3	ELH128M180AS4AA
1200	35 x 30	15	0.083	0.083	3.30	3	ELH128M180AT2AA
1200	35 x 35	15	0.083	0.083	3.30	3	ELH128M180AT3AA
1500	30 x 45	10	0.070	0.072	3.85	3	ELH158M180AS5AA
1500	35 x 35	15	0.070	0.072	3.80	3	ELH158M180AT3AA
1500	35 x 40	15	0.070	0.072	3.80	3	ELH158M180AT4AA
1800	35 x 40	15	0.066	0.066	4.30	3	ELH188M180AT4AA
1800	35 x 45	15	0.066	0.066	4.30	3	ELH188M180AT5AA
2200	35 x 45	15	0.060	0.054	4.90	3	ELH228M180AT5AA
2200	35 x 50	15	0.060	0.054	4.90	3	ELH228M180AT6AA

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

200 Vdc Rated voltage - 250 Vdc Surge voltage							
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. max 120Hz 25°C (tg δ %)	E.S.R. typ. 120Hz 25°C (Ω)	E.S.R. max 20kHz 25°C (Ω)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
180	22 x 25	10	0.398	0.350	0.95	0.7	ELH187M200AQ1AA
220	22 x 25	10	0.326	0.320	1.10	0.9	ELH227M200AQ1AA
270	22 x 25	10	0.265	0.255	1.25	1.1	ELH277M200AQ1AA
270	22 x 30	10	0.265	0.255	1.25	1.1	ELH277M200AQ2AA
270	25 X 25	10	0.265	0.255	1.25	1.1	ELH277M200AR1AA
330	22 x 25	10	0.231	0.220	1.45	1.3	ELH337M200AQ1AA
330	22 x 30	10	0.231	0.220	1.45	1.3	ELH337M200AQ2AA
330	25 x 25	10	0.231	0.220	1.45	1.3	ELH337M200AR1AA
390	22 x 30	10	0.211	0.180	1.60	1.6	ELH397M200AQ2AA
390	25 x 25	10	0.211	0.180	1.55	1.6	ELH397M200AR1AA
470	22 x 35	10	0.165	0.150	1.80	1.9	ELH477M200AQ3AA
470	25 x 30	10	0.165	0.160	1.80	1.9	ELH477M200AR2AA
470	30 x 25	10	0.165	0.160	1.80	1.9	ELH477M200AS1AA
560	22 x 40	10	0.152	0.127	2.00	2.2	ELH567M200AQ4AA
560	25 x 35	10	0.152	0.117	2.00	2.2	ELH567M200AR3AA
560	30 x 25	10	0.152	0.120	2.00	2.2	ELH567M200AS1AA
680	22 x 45	10	0.127	0.121	2.35	2.7	ELH687M200AQ5AA
680	25 x 35	10	0.127	0.121	2.30	2.7	ELH687M200AR3AA
680	30 x 30	10	0.127	0.121	2.30	2.7	ELH687M200AS2AA
680	35 x 25	15	0.127	0.125	2.30	2.7	ELH687M200AT1AA
820	25 x 40	10	0.107	0.100	2.60	3	ELH827M200AR4AA
820	25 x 45	10	0.107	0.100	2.60	3	ELH827M200AR5AA
820	30 x 30	10	0.107	0.100	2.60	3	ELH827M200AS2AA
820	30 x 35	10	0.107	0.100	2.60	3	ELH827M200AS3AA
820	35 x 30	15	0.107	0.100	2.60	3	ELH827M200AT2AA
1000	25 x 45	10	0.093	0.090	3.00	3	ELH108M200AR5AA
1000	25 x 50	10	0.093	0.090	3.00	3	ELH108M200AR6AA
1000	30 x 35	10	0.093	0.090	3.05	3	ELH108M200AS3AA
1000	30 x 40	10	0.093	0.090	3.05	3	ELH108M200AS4AA
1000	35 x 30	15	0.093	0.090	3.00	3	ELH108M200AT2AA
1200	25 x 50	10	0.080	0.080	3.30	3	ELH128M200AR6AA
1200	30 x 40	10	0.080	0.080	3.30	3	ELH128M200AS4AA
1200	30 x 45	10	0.080	0.080	3.30	3	ELH128M200AS5AA
1200	35 x 30	15	0.080	0.080	3.30	3	ELH128M200AT2AA
1200	35 x 35	15	0.080	0.080	3.30	3	ELH128M200AT3AA
1500	30 x 45	10	0.071	0.072	3.80	3	ELH158M200AS5AA
1500	30 x 50	10	0.071	0.072	3.80	3	ELH158M200AS6AA
1500	35 x 35	15	0.071	0.072	3.80	3	ELH158M200AT3AA
1500	35 x 40	15	0.071	0.072	3.80	3	ELH158M200AT4AA
1800	35 x 40	15	0.068	0.060	4.35	3	ELH188M200AT4AA
1800	35 x 45	15	0.068	0.060	4.35	3	ELH188M200AT5AA
2200	35 x 45	15	0.060	0.054	4.95	3	ELH228M200AT5AA
2200	35 x 50	15	0.060	0.054	4.95	3	ELH228M200AT6AA

ELH Aluminum Electrolytic Capacitors

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

250 Vdc Rated voltage - 300 Vdc Surge voltage							
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. max 120Hz 25°C (tg δ %)	E.S.R. typ. 120Hz 25°C (Ω)	E.S.R. max 20kHz 25°C (Ω)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
120	22 x 20	15	0.575	0.660	0.78	0.6	ELH127M250AQ7AA
150	22 x 25	10	0.460	0.485	0.90	0.7	ELH157M250AQ1AA
180	22 x 25	10	0.383	0.365	1.05	0.9	ELH187M250AQ1AA
180	25 x 20	15	0.383	0.365	1.00	0.9	ELH187M250AR7AA
220	22 x 30	10	0.314	0.298	1.15	1.1	ELH227M250AQ2AA
220	22 x 35	10	0.314	0.298	1.15	1.1	ELH227M250AQ3AA
220	25 x 25	10	0.314	0.298	1.15	1.1	ELH227M250AR1AA
270	22 x 30	10	0.256	0.245	1.30	1.3	ELH277M250AQ2AA
270	25 x 25	10	0.256	0.245	1.30	1.3	ELH277M250AR1AA
330	22 x 30	10	0.218	0.219	1.50	1.6	ELH337M250AQ2AA
330	22 x 35	10	0.218	0.219	1.50	1.6	ELH337M250AQ3AA
330	25 x 25	10	0.218	0.219	1.50	1.6	ELH337M250AR1AA
330	25 x 30	10	0.218	0.219	1.50	1.6	ELH337M250AR2AA
330	30 x 25	10	0.218	0.219	1.50	1.6	ELH337M250AS1AA
390	22 x 35	10	0.188	0.186	1.65	1.9	ELH397M250AQ3AA
390	22 x 40	10	0.188	0.186	1.65	1.9	ELH397M250AQ4AA
390	25 x 35	10	0.188	0.186	1.65	1.9	ELH397M250AR3AA
390	30 x 25	10	0.188	0.186	1.65	1.9	ELH397M250AS1AA
470	22 x 40	10	0.156	0.155	1.85	2.3	ELH477M250AQ4AA
470	22 x 45	10	0.156	0.155	1.85	2.3	ELH477M250AQ5AA
470	25 x 35	10	0.156	0.155	1.85	2.3	ELH477M250AR3AA
470	30 x 30	10	0.156	0.155	1.90	2.3	ELH477M250AS2AA
470	35 x 25	15	0.156	0.155	1.90	2.3	ELH477M250AT1AA
560	22 x 45	10	0.131	0.131	2.10	2.8	ELH567M250AQ5AA
560	22 x 50	10	0.131	0.131	2.10	2.8	ELH567M250AQ6AA
560	25 x 40	10	0.131	0.131	2.10	2.8	ELH567M250AR4AA
560	30 x 30	10	0.131	0.131	2.10	2.8	ELH567M250AS2AA
560	30 x 35	10	0.131	0.131	2.10	2.8	ELH567M250AS3AA
560	35 x 25	15	0.131	0.131	2.10	2.8	ELH567M250AT1AA
680	25 x 45	10	0.120	0.110	2.45	3	ELH687M250AR5AA
680	25 x 50	10	0.120	0.110	2.45	3	ELH687M250AR6AA
680	30 x 35	10	0.120	0.110	2.45	3	ELH687M250AS3AA
680	30 x 40	10	0.120	0.110	2.45	3	ELH687M250AS4AA
680	35 x 25	15	0.120	0.110	2.45	3	ELH687M250AT1AA
680	35 x 30	15	0.120	0.110	2.45	3	ELH687M250AT2AA
820	30 x 35	10	0.108	0.108	2.75	3	ELH827M250AS3AA
820	30 x 45	10	0.108	0.108	2.75	3	ELH827M250AS5AA
820	35 x 30	15	0.108	0.108	2.75	3	ELH827M250AT2AA
820	35 x 35	15	0.108	0.108	2.75	3	ELH827M250AT3AA
1000	30 x 45	10	0.093	0.093	3.30	3	ELH108M250AS5AA
1000	30 x 50	10	0.093	0.093	3.30	3	ELH108M250AS6AA
1000	35 x 35	15	0.093	0.093	3.30	3	ELH108M250AT3AA
1000	35 x 40	15	0.093	0.093	3.30	3	ELH108M250AT4AA
1200	35 x 40	15	0.078	0.075	3.55	3	ELH128M250AT4AA
1200	35 x 45	15	0.078	0.075	3.55	3	ELH128M250AT5AA
1500	35 x 45	15	0.072	0.072	4.05	3	ELH158M250AT5AA
1500	35 x 50	15	0.072	0.072	4.05	3	ELH158M250AT6AA

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

350 Vdc Rated voltage - 400 Vdc Surge voltage							
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. max 120Hz 25°C (tg δ %)	E.S.R. typ. 120Hz 25°C (Ω)	E.S.R. max 20kHz 25°C (Ω)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
68	22 x 20	15	1.120	0.890	0.55	0.5	ELH686M350AQ7AA
82	22 x 25	15	0.920	0.720	0.65	0.6	ELH826M350AQ1AA
82	25 x 20	15	0.920	0.720	0.65	0.6	ELH826M350AR7AA
100	22 x 30	15	0.750	0.595	0.90	0.7	ELH107M350AQ2AA
100	25 x 20	15	0.750	0.595	0.90	0.7	ELH107M350AR7AA
120	22 x 30	15	0.620	0.510	1.00	0.8	ELH127M350AQ2AA
120	25 x 25	15	0.620	0.510	1.00	0.8	ELH127M350AR1AA
150	22 x 35	15	0.520	0.412	1.15	1	ELH157M350AQ3AA
150	25 x 30	15	0.520	0.412	1.15	1	ELH157M350AR2AA
150	30 x 25	15	0.520	0.412	1.15	1	ELH157M350AS1AA
180	22 x 40	15	0.450	0.343	1.30	1.3	ELH187M350AQ4AA
180	25 x 30	15	0.450	0.343	1.25	1.3	ELH187M350AR2AA
180	30 x 30	15	0.450	0.343	1.25	1.3	ELH187M350AS2AA
220	22 x 45	15	0.370	0.285	1.45	1.5	ELH227M350AQ5AA
220	25 x 35	15	0.370	0.285	1.45	1.5	ELH227M350AR3AA
220	30 x 30	15	0.370	0.285	1.45	1.5	ELH227M350AS2AA
220	35 x 25	15	0.370	0.285	1.45	1.5	ELH227M350AT1AA
270	25 x 40	15	0.310	0.245	1.65	1.9	ELH277M350AR4AA
270	30 x 35	15	0.310	0.245	1.65	1.9	ELH277M350AS3AA
270	35 x 25	15	0.310	0.245	1.65	1.9	ELH277M350AT1AA
330	25 x 50	15	0.255	0.210	1.80	2.3	ELH337M350AR6AA
330	30 x 40	15	0.255	0.210	1.80	2.3	ELH337M350AS4AA
330	35 x 30	15	0.255	0.210	1.80	2.3	ELH337M350AT2AA
390	30 x 40	15	0.218	0.175	2.00	2.7	ELH397M350AS4AA
390	35 x 30	15	0.218	0.175	2.00	2.7	ELH397M350AT2AA
470	30 x 45	15	0.195	0.145	2.25	3	ELH477M350AS5AA
470	35 x 35	15	0.195	0.145	2.25	3	ELH477M350AT3AA
560	35 x 40	15	0.165	0.108	2.50	3	ELH567M350AT4AA
680	35 x 45	15	0.138	0.105	2.90	3	ELH687M350AT5AA

ELH Aluminum Electrolytic Capacitors

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

400 Vdc Rated voltage - 450 Vdc Surge voltage							
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. max 120Hz 25°C (tg δ %)	E.S.R. typ. 120Hz 25°C (Ω)	E.S.R. max 20kHz 25°C (Ω)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
56	22 x 20	15	1.280	1.210	0.55	0.4	ELH556M400AQ7AA
68	22 x 25	15	1.080	0.852	0.60	0.5	ELH686M400AQ1AA
68	25 x 20	15	1.080	0.852	0.60	0.5	ELH686M400AR7AA
82	22 x 25	15	0.890	0.706	0.80	0.6	ELH826M400AQ1AA
82	25 x 20	15	0.890	0.706	0.80	0.6	ELH826M400AR7AA
100	22 x 30	15	0.730	0.582	0.90	0.8	ELH107M400AQ2AA
100	25 x 25	15	0.730	0.582	0.90	0.8	ELH107M400AR1AA
120	22 x 35	15	0.608	0.485	1.05	1	ELH127M400AQ3AA
120	25 x 25	15	0.608	0.485	1.05	1	ELH127M400AR1AA
150	22 x 35	15	0.486	0.388	1.15	1.2	ELH157M400AQ3AA
150	22 x 40	15	0.486	0.388	1.15	1.2	ELH157M400AQ4AA
150	25 x 30	15	0.486	0.388	1.15	1.2	ELH157M400AR2AA
150	30 x 25	15	0.486	0.388	1.15	1.2	ELH157M400AS1AA
180	22 x 45	15	0.405	0.323	1.30	1.4	ELH187M400AQ5AA
180	25 x 35	15	0.405	0.323	1.30	1.4	ELH187M400AR3AA
180	30 x 30	15	0.405	0.323	1.35	1.4	ELH187M400AS2AA
220	22 x 50	15	0.331	0.265	1.50	1.8	ELH227M400AQ6AA
220	25 x 40	15	0.331	0.265	1.50	1.8	ELH227M400AR4AA
220	30 x 30	15	0.331	0.265	1.50	1.8	ELH227M400AS2AA
220	35 x 25	15	0.331	0.265	1.50	1.8	ELH227M400AT1AA
270	25 x 40	15	0.270	0.242	1.65	2.2	ELH277M400AR4AA
270	25 x 45	15	0.270	0.242	1.65	2.2	ELH277M400AR5AA
270	30 x 35	15	0.270	0.242	1.65	2.2	ELH277M400AS3AA
270	35 x 30	15	0.270	0.242	1.65	2.2	ELH277M400AT2AA
330	25 x 50	15	0.221	0.195	1.90	2.6	ELH337M400AR6AA
330	30 x 40	15	0.221	0.195	1.90	2.6	ELH337M400AS4AA
330	35 x 30	15	0.221	0.195	1.85	2.6	ELH337M400AT2AA
390	30 x 45	15	0.187	0.165	2.15	3	ELH397M400AS5AA
390	35 x 35	15	0.187	0.165	2.10	3	ELH397M400AT3AA
470	30 x 50	15	0.150	0.130	2.40	3	ELH477M400AS6AA
470	35 x 40	15	0.150	0.130	2.40	3	ELH477M400AT4AA
560	35 x 45	15	0.135	0.115	2.70	3	ELH567M400AT5AA
680	35 x 50	15	0.118	0.095	2.90	3	ELH687M400AT6AA

SNAP-IN TERMINALS - General purpose 85°C / 2000 h

450 Vdc Rated voltage - 500 Vdc Surge voltage							
Rated Cap. 120Hz 20°C (μ F)	Case size D x L (mm)	D.F. max 120Hz 25°C (tg δ %)	E.S.R. typ. 120Hz 25°C (Ω)	E.S.R. max 20kHz 25°C (Ω)	R.C. 120Hz 85°C (A _{rms})	L.C. 20°C 5 min (mA)	P/N
47	22 x 25	15	1.580	1.460	0.50	0.4	ELH476M450AQ1AA
56	22 x 25	15	1.340	1.230	0.65	0.5	ELH566M450AQ1AA
68	22 x 30	15	1.130	0.937	0.70	0.6	ELH686M450AQ2AA
68	25 x 25	15	1.130	0.937	0.70	0.6	ELH686M450AR1AA
82	22 x 30	15	0.934	0.768	0.80	0.7	ELH826M450AQ2AA
82	25 x 25	15	0.934	0.768	0.80	0.7	ELH826M450AR1AA
100	22 x 35	15	0.766	0.628	0.95	0.9	ELH107M450AQ3AA
100	25 x 30	15	0.766	0.628	0.95	0.9	ELH107M450AR2AA
100	30 x 25	15	0.766	0.628	0.95	0.9	ELH107M450AS1AA
120	22 x 40	15	0.638	0.532	1.05	1.1	ELH127M450AQ4AA
120	25 x 30	15	0.638	0.532	1.05	1.1	ELH127M450AR2AA
120	30 x 25	15	0.638	0.532	1.05	1.1	ELH127M450AS1AA
150	22 x 45	15	0.510	0.425	1.20	1.3	ELH157M450AQ5AA
150	25 x 35	15	0.510	0.425	1.20	1.3	ELH157M450AR3AA
150	30 x 30	15	0.510	0.425	1.20	1.3	ELH157M450AS2AA
180	25 x 40	15	0.425	0.354	1.35	1.6	ELH187M450AR4AA
180	30 x 35	15	0.425	0.354	1.35	1.6	ELH187M450AS3AA
180	35 x 25	15	0.425	0.354	1.35	1.6	ELH187M450AT1AA
220	25 x 50	15	0.347	0.287	1.55	2	ELH227M450AR6AA
220	30 x 40	15	0.347	0.287	1.55	2	ELH227M450AS4AA
220	35 x 30	15	0.347	0.287	1.55	2	ELH227M450AT2AA
270	30 x 45	15	0.283	0.266	1.75	2.4	ELH277M450AS5AA
270	35 x 35	15	0.283	0.266	1.70	2.4	ELH277M450AT3AA
330	30 x 50	15	0.232	0.214	2.00	3	ELH337M450AS6AA
330	35 x 40	15	0.232	0.214	2.00	3	ELH337M450AT4AA
390	35 x 45	15	0.196	0.180	2.25	3	ELH397M450AT5AA
470	35 x 50	15	0.172	0.145	2.50	3	ELH477M450AT6AA
680	35 x 60	15	0.119	0.110	2.90	3	ELH687M450AT8AA