

Aluminium Electrolytic Capacitors

12 Snap In Capacitors

General Purpose Type SI / SI4P

Long Life Type SIH / SI4PH



Features

- long useful life
- all contacts welded
- small dimensions
- **SI4P(H) – improved mechanical stability**
- **SI4P(H) - keyed polarity**
- standard and switched mode power supply
- computer
- telecommunication
- industries electrical and electronic
- inverter

Applications

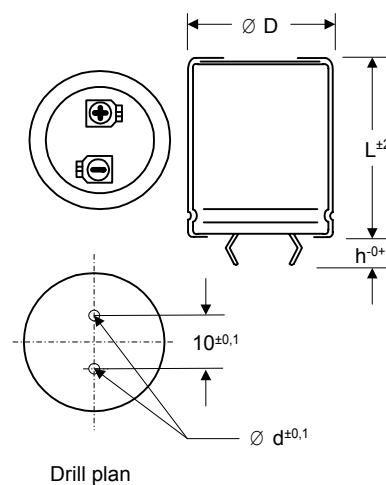
Quick reference

	SI / SI4P	SIH / SI4PH
Temperature range	- 40°C ... + 85°C	- 40°C ... + 105°C
Tolerance	± 20 %	
Max. reverse voltage	2V	
Useful life	see diagram useful life p. 63	see diagram useful life p. 67
Leakage current 5 min @ U_R	$0,007 * C [\mu F] * U [V] + 6\mu A [\mu A]$	
Leakage current 1 h @ U_R	$0,15 * \text{leakage current 5 min @ } U_R$	
Specs.	DIN 41332 IEC 384 - 4	DIN 41332 IEC 384 – 4 LL
Insulation	shrink - on sleeve voltage proof $\geq 2500 \text{ V AC}$	
Terminals	snap in	

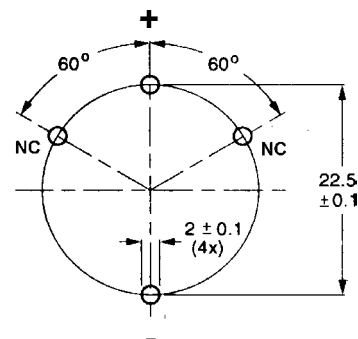
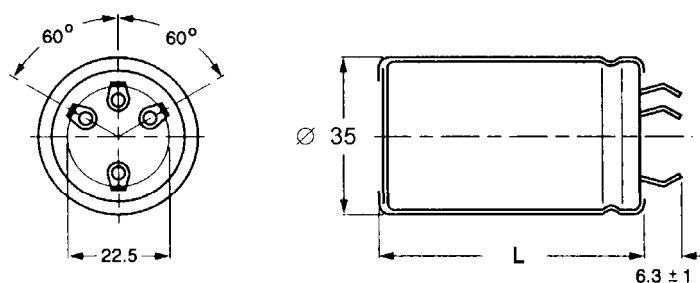


12.1 Mechanical Data Type SI / SIH

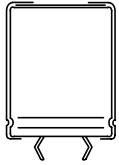
h [mm]	d [mm]
6,3	2



12.2 Mechanical Data Type SI4P / SI4PH

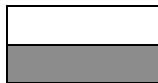


NC terminals are not to be connected to the electrical circuit !



Aluminium Electrolytic Capacitors

12.3 Overview Standard Values SI / SI4P (General Purpose)



Only SI available

Only SI4P available



SI and SI4P available

Capacitance [μF]	Rated voltage [V]										
	16	25	40	63	100	160	250	350	400	450	500
22											22 x 30
22											25 x 25
33											22 x 40
33											25 x 30
47										25 x 25	25 x 40
47											30 x 30
68									22 x 30	22 x 30	30 x 40
68									25 x 25		35 x 30
100						22 x 30		22 x 30	22 x 40	22 x 40	30 x 50
100								25 x 25	25 x 30		35 x 40
150						25 x 25	25 x 25	22 x 40	25 x 40	25 x 40	35 x 50
150								30 x 30	30 x 30	35 x 30	
220						22 x 30	22 x 40	25 x 40	30 x 40	30 x 40	
220						25 x 25		30 x 30	35 x 30		
330						25 x 30	25 x 40	30 x 40	30 x 50	35 x 50	
330							30 x 30		35 x 40		
470					22 x 30	25 x 40	30 x 40	35 x 40	35 x 50	35 x 50	
470						30 x 30	35 x 30				
680					22 x 30	30 x 40	30 x 50				
680					25 x 25	35 x 30	35 x 40				
1000				22 x 30	22 x 40	35 x 40	35 x 50			40 x 75	
1000					25 x 30						
2200			22 x 30	22 x 40	30 x 40						
2200				25 x 30							
3300		22 x 30	25 x 30	25 x 40	35 x 40						
3300				30 x 30							
4700	22 x 30	22 x 30	22 x 40	30 x 40							
4700		25 x 25	30 x 30	35 x 30							
6800	25 x 25	22 x 40	30 x 40	30 x 50							
6800		30 x 30	35 x 30	35 x 40							
10000	22 x 40	25 x 40	30 x 50	35 x 50							
10000	30 x 30	35 x 30	35 x 40								
15000	25 x 40	30 x 40	35 x 50								
22000	30 x 40	35 x 50									
33000	35 x 50										



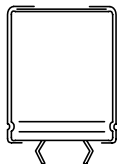
12.4 Standard Values Type SI / SI4P (General Purpose)

U _R	C _R	Case size D x L	ESR _{100 Hz} 20°C typ.	ESR _{100 Hz} 20°C max.	tan δ _{100 Hz} 20°C max.	Z _{10 KHz} 20°C max.	ripple current @100Hz max. @		Order code
[V]	[μF]	[mm]	[mΩ]	[mΩ]	[%]	[mΩ]	40°C	85°C	SI... SI4P... only 35mm Ø
16	4700	22 x 30	75	113	33	98	3,7	1,7	...47201622030
16	6800	25 x 25	60	90	38	78	4,2	1,9	...68201625025
16	10000	22 x 40	30	45	28	39	6,5	2,9	...10301622040
16	10000	30 x 30	30	45	28	39	7,0	3,1	...10301630030
16	15000	25 x 40	20	30	28	26	8,7	3,9	...15301625040
16	15000	35 x 30	20	30	28	26	9,5	4,2	...15301635030
16	22000	30 x 40	12	18	25	16	12,2	5,4	...22301630040
16	33000	35 x 50	11	17	34	14	15,2	6,8	...33301635050
25	3300	22 x 30	60	90	19	78	4,1	1,9	...33202522030
25	4700	22 x 30	55	83	24	72	4,3	1,9	...47202522030
25	4700	25 x 25	55	83	24	72	4,4	2,0	...47202525025
25	6800	22 x 40	50	75	32	65	5,1	2,3	...68202522040
25	6800	30 x 30	50	75	32	65	5,4	2,4	...68202530030
25	10000	25 x 40	35	53	33	46	6,6	2,9	...10302525040
25	10000	35 x 30	35	53	33	46	7,2	3,2	...10302535030
25	15000	30 x 40	30	45	42	39	7,7	3,4	...15302530040
25	22000	35 x 50	30	45	62	39	9,2	4,1	...22302535050
40	2200	22 x 30	60	90	12	78	4,1	1,9	...22204022030
40	3300	25 x 30	45	68	14	59	5,2	2,3	...33204025030
40	4700	22 x 40	40	60	18	52	5,7	2,5	...47204022040
40	4700	30 x 30	40	60	18	52	6,0	2,7	...47204030030
40	6800	30 x 40	35	53	22	46	7,1	3,2	...68204030040
40	6800	35 x 30	35	53	22	46	7,2	3,2	...68204035030
40	10000	30 x 50	30	45	28	39	8,4	3,7	...10304030050
40	10000	35 x 40	30	45	28	39	8,5	3,8	...10304035040
40	15000	35 x 50	25	38	35	33	10,1	4,5	...15304035050
63	1000	22 x 30	85	128	8	111	3,5	1,6	...10206322030
63	1500	22 x 30	65	98	9	85	4,0	1,8	...15206322030
63	1500	25 x 25	65	98	9	85	4,1	1,8	...15206325025
63	2200	22 x 40	55	83	11	72	4,8	2,2	...22206322040
63	2200	25 x 30	55	83	11	72	4,7	2,1	...22206325030
63	3300	25 x 40	35	53	11	46	6,6	2,9	...33206325040
63	3300	30 x 30	35	53	11	46	6,4	2,9	...33206330030
63	4700	30 x 40	32	48	14	42	7,5	3,3	...47206330040
63	4700	35 x 30	32	48	14	42	7,5	3,3	...47206335030
63	6800	30 x 50	30	45	19	39	8,4	3,7	...68206330050
63	6800	35 x 40	30	45	19	39	8,5	3,8	...68206335040
63	10000	35 x 50	25	38	24	33	10,1	4,5	...10306335050

Other case sizes and voltage / capacitance combinations are available on request !

Also in small lots !

Please call us! It is a pleasure for us to make you an offer.



Aluminium Electrolytic Capacitors

Standard Values Type SI / SI4P

U _R	C _R	Case size	ESR _{100 Hz}	ESR _{100Hz}	tan δ _{100Hz}	Z _{10KHz}	ripple current @100Hz max. @ 40°C		Order code
[V]	[μF]	D x L [mm]	20°C typ. [mΩ]	20°C max. [mΩ]	20°C max. [%]	20°C max. [mΩ]	85°C [A]	85°C [A]	SI... SI4P... only 35mm Ø
100	470	22 x 30	170	255	8	221	2,5	1,1	...47110022030
100	680	22 x 30	130	195	8	169	2,8	1,3	...68110022030
100	680	25 x 25	130	195	8	169	2,9	1,3	...68110025025
100	1000	22 x 40	80	120	8	104	4,0	1,8	...10210022040
100	1000	25 x 30	80	120	8	104	3,9	1,7	...10210025030
100	1500	25 x 40	75	113	11	98	4,5	2,0	...15210025040
100	1500	30 x 30	75	113	11	98	4,4	2,0	...15210030030
100	2200	30 x 40	60	90	12	78	5,4	2,4	...22210030040
100	3300	35 x 40	50	75	16	65	6,6	2,9	...33210035040
160	100	22 x 30	1300	1950	12	1690	0,9	0,4	...10116022030
160	150	25 x 25	800	1200	11	1040	1,2	0,5	...15116025025
160	220	22 x 30	750	1125	16	975	1,2	0,5	...22116022030
160	220	25 x 25	750	1125	16	975	1,2	0,5	...22116025025
160	330	25 x 30	550	825	17	715	1,5	0,7	...33116025030
160	470	25 x 40	380	570	17	494	2,0	0,9	...47116025040
160	470	30 x 30	380	570	17	494	2,0	0,9	...47116030030
160	680	30 x 40	260	390	17	338	2,6	1,2	...68116030040
160	680	35 x 30	260	390	17	338	2,6	1,2	...68116035030
160	1000	35 x 40	210	315	20	273	3,2	1,4	...10216035040
160	1500	35 x 50	165	248	23	215	3,9	1,8	...15216035050
250	150	25 x 25	900	1350	13	1170	1,1	0,5	...15125025025
250	220	22 x 40	860	1290	18	1118	1,2	0,5	...22125022040
250	330	25 x 40	500	750	16	650	1,7	0,8	...33125025040
250	330	30 x 30	500	750	16	650	1,7	0,8	...33125030030
250	470	30 x 40	320	480	14	416	2,4	1,1	...47125030040
250	470	35 x 30	320	480	14	416	2,4	1,1	...47125035030
250	680	30 x 50	230	345	15	299	3,0	1,4	...68125030050
250	680	35 x 40	230	345	15	299	3,1	1,4	...68125035040
250	1000	35 x 50	180	270	17	234	3,8	1,7	...10225035050
350	100	22 x 30	790	1185	7	1027	1,1	0,5	...10135022030
350	100	25 x 25	790	1185	7	1027	1,2	0,5	...10135025025
350	150	22 x 40	550	825	8	715	1,5	0,7	...15135022040
350	150	30 x 30	550	825	8	715	1,6	0,7	...15135030030
350	220	25 x 40	360	540	7	468	2,0	0,9	...22135025040
350	220	30 x 30	360	540	7	468	2,0	0,9	...22135030030
350	330	30 x 40	250	375	8	325	2,7	1,2	...33135030040
350	470	35 x 40	180	270	8	234	3,5	1,6	...47135035040

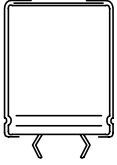
**Other case sizes and voltage / capacitance combinations are available on request !
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Standard Values Type SI / SI4P

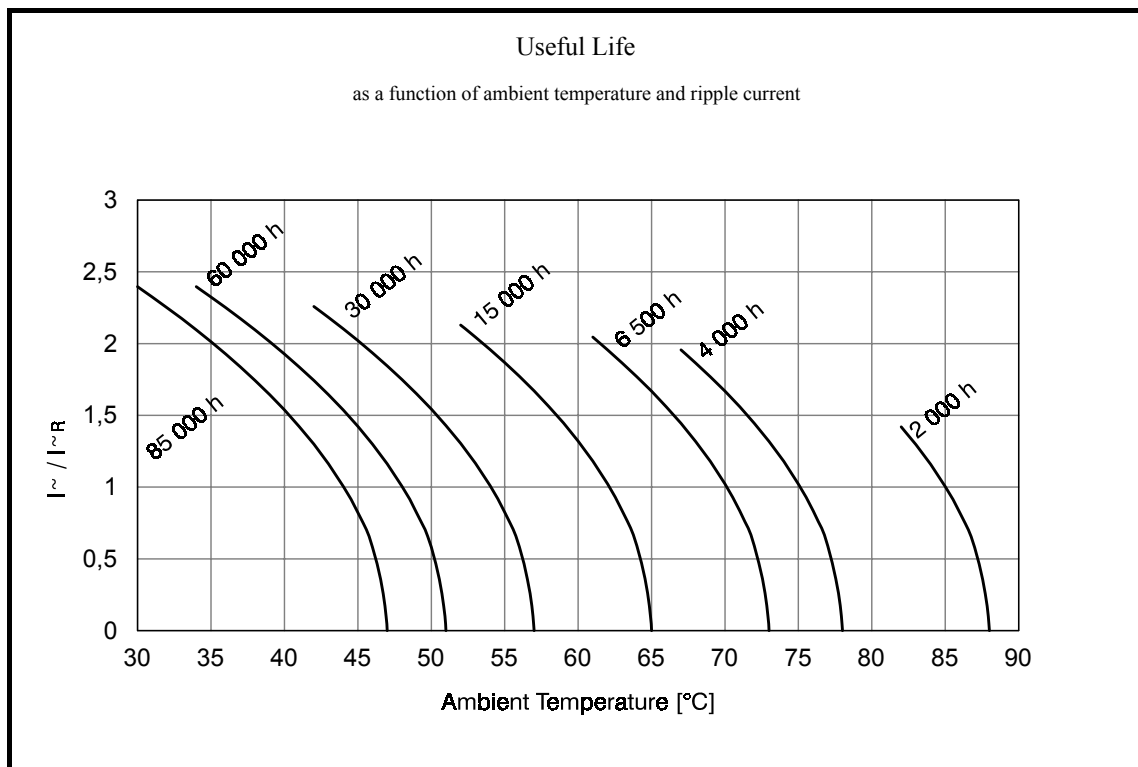
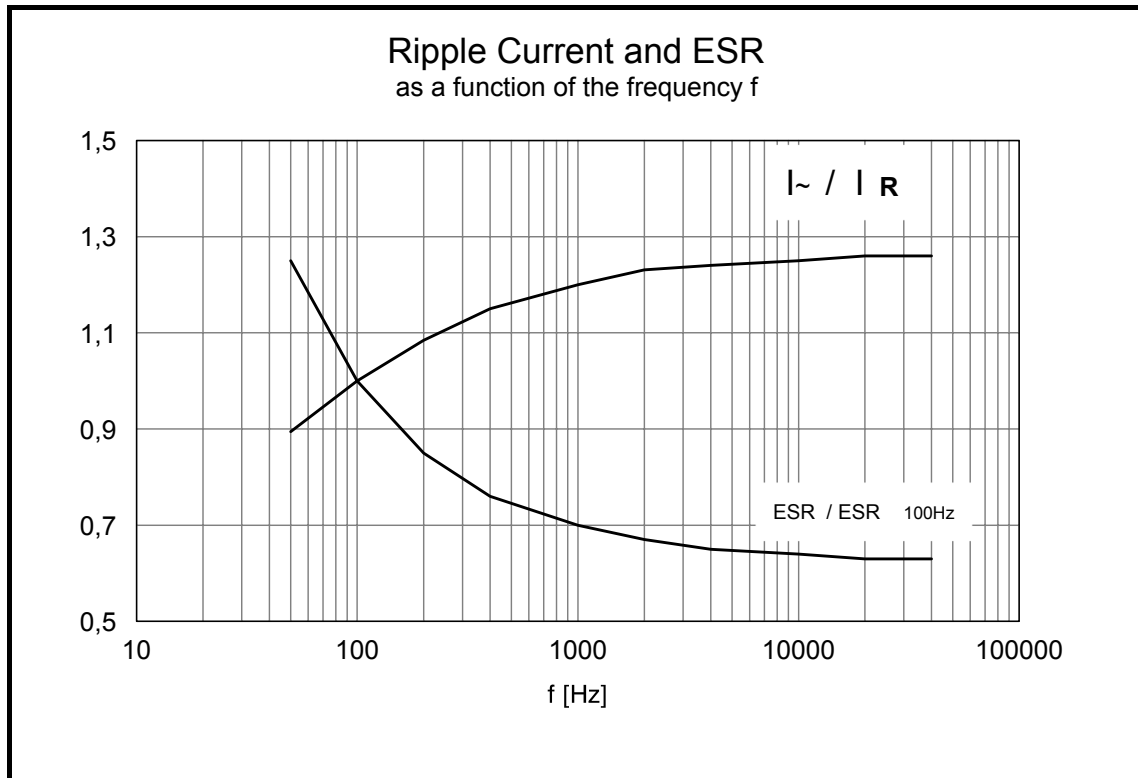
U _R [V]	C _R [μF]	Case size D x L [mm]	ESR _{100 Hz} 20°C typ. [mΩ]	ESR _{100 Hz} 20°C max. [mΩ]	tan δ _{100 Hz} 20°C max. [%]	Z _{10 KHz} 20°C max. [mΩ]	ripple current @100Hz max. @ rated		Order code SI... SI4P... only 35mm Ø 40mm Ø only SI4P
							40°C [A]	85°C [A]	
400	68	22 x 30	1250	1875	8	1625	0,9	0,4	...68040022030
400	68	25 x 25	1250	1875	8	1625	0,9	0,4	...68040025025
400	100	22 x 40	800	1200	8	1040	1,3	0,6	...10140022040
400	100	25 x 30	800	1200	8	1040	1,2	0,6	...10140025030
400	150	25 x 40	480	720	7	624	1,8	0,8	...15140025040
400	150	30 x 30	480	720	7	624	1,7	0,8	...15140030030
400	220	30 x 40	400	600	8	520	2,1	0,9	...22140030040
400	220	35 x 30	400	600	8	520	2,1	0,9	...22140035030
400	330	30 x 50	320	480	10	416	2,6	1,1	...33140030050
400	330	35 x 40	320	480	10	416	2,6	1,2	...33140035040
400	470	35 x 50	260	390	12	338	3,1	1,4	...47140035050
450	47	25 x 25	1450	2175	6	1885	0,9	0,4	...47045025025
450	68	22 x 30	1400	2100	9	1820	0,9	0,4	...68045022030
450	100	22 x 40	1250	1875	12	1625	1,0	0,5	...10145022040
450	150	25 x 40	650	975	9	845	1,5	0,7	...15145025040
450	150	35 x 30	650	975	9	845	1,7	0,7	...15145035030
450	220	30 x 40	500	750	10	650	1,9	0,8	...22145030040
450	330	35 x 50	380	570	12	494	2,6	1,2	...33145035050
450	470	35 x 50	240	360	11	312	3,3	1,5	...47145035050
450	1000	40 x 75	80	120	11	200	5,7	2,6	SI4P10245040075
500	22	22 x 30	3900	5850	8	5070	0,5	0,2	...22050022030
500	22	25 x 25	3900	5850	8	5070	0,5	0,2	...22050025025
500	33	22 x 40	2100	3150	7	2730	0,8	0,3	...33050022040
500	33	25 x 30	2100	3150	7	2730	0,8	0,3	...33050025030
500	47	25 x 40	1550	2325	7	2015	1,0	0,4	...47050025040
500	47	30 x 30	1550	2325	7	2015	1,0	0,4	...47050030030
500	68	30 x 40	950	1425	6	1235	1,4	0,6	...68050030040
500	68	35 x 30	950	1425	6	1235	1,4	0,6	...68050035030
500	100	30 x 50	680	1020	6	884	1,8	0,8	...10150030050
500	100	35 x 40	580	870	5	754	1,9	0,9	...10150035040
500	150	35 x 50	400	600	6	520	2,5	1,1	...15150035050



Aluminium Electrolytic Capacitors

12.5 Technical Data Type SI

12.5.1 Useful Life Type SI / SI4P





12.6 Overview Standard Values Type SIH / SI4PH (Long Life)

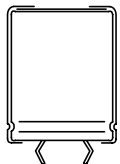
	Only SIH available		SIH and SI4PH available
	Only SI4PH available		

Capacitance [μF]	Rated voltage [V]			
	200	250	400	450
82				22 x 30
100			22 x 30	25 x 30
120				22 x 40
150			22 x 40	22 x 50
180				25 x 45
220			22 x 50	35 x 30
270		22 x 30	35 x 30	30 x 45
330			30 x 40	30 x 50
390	22 x 30	25 x 30	30 x 45	35 x 45
470	25 x 30	25 x 35	30 x 50	35 x 50
560	22 x 40	22 x 50	35 x 45	35 x 50
680	25 x 40	30 x 35	35 x 50	35 x 66
820	35 x 25		35 x 66	40 x 75
1000	35 x 30	30 x 45	40 x 75	
1200	35 x 35	30 x 50		
1500	30 x 50	35 x 50		
1800	35 x 45			
2200	35 x 50			

Other case sizes and voltage - / capacitance combinations are available on request !

Also in small lots !

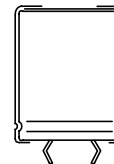
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Aluminium Electrolytic Capacitors

12.7 Standard Values Type SIH / SI4PH (Long Life)

U_R [V]	C_R [μF]	Case size D x L [mm]	ESR _{100 Hz} 20°C typ. [mΩ]	$\tan \delta$ 100 Hz 20°C max. [%]	Rated ripple current 100Hz / 105°C [A]	Order code 4 pins (SI4PH)	Order code 2 pins (SIH)
200	390	22 x 30	245	13	1,09		SIH39120022030
200	470	25 x 30	203	13	1,30		SIH47120025030
200	560	22 x 40	171	13	1,45		SIH56120022040
200	680	25 x 40	140	13	1,73		SIH68120025040
200	820	35 x 25	116	13	1,96	SI4PH82120035025	SIH82120035025
200	1000	35 x 30	95	13	2,29	SI4PH10220035030	SIH10220035030
200	1200	35 x 35	80	13	2,64	SI4PH12220035035	SIH12220035035
200	1500	30 x 50	64	13	3,04		SIH15220030050
200	1800	35 x 45	53	13	3,53	SI4PH18220035045	SIH18220035045
200	2200	35 x 50	43	13	4,06	SI4PH22220035050	SIH22220035050
250	270	22 x 30	354	13	0,90		SIH27125022030
250	390	25 x 30	245	13	1,18		SIH39125025030
250	470	25 x 35	203	13	1,37		SIH47125025035
250	560	22 x 50	171	13	1,59		SIH56125022050
250	680	30 x 35	140	13	1,79		SIH68125030035
250	1000	30 x 45	95	13	2,39		SIH10225030045
250	1200	30 x 50	80	13	2,72		SIH12225030050
250	1500	35 x 50	64	13	3,35	SI4PH15225035050	SIH15225035050
400	100	22 x 30	875	13	0,57		SIH10140022030
400	150	22 x 40	584	13	0,78		SIH15140022040
400	220	22 x 50	398	13	1,04		SIH22140022050
400	270	35 x 30	324	13	1,24	SI4PH27140035030	SIH27140035030
400	330	30 x 40	265	13	1,37		SIH33140030040
400	390	30 x 45	224	13	1,56		SIH39140030045
400	470	30 x 50	186	13	1,78		SIH47140030050
400	560	35 x 45	156	13	2,05	SI4PH56140035045	SIH56140035045
400	680	35 x 50	129	13	2,36	SI4PH68140035050	SIH68140035050
400	820	35 x 66	107	13	2,87	SI4PH82140035066	SIH82140035066
400	1000	40 x 75	88	13	3,5	SI4PH10240040075	
450	82	22 x 30	1068	13	0,52		SIH82045022030
450	100	25 x 30	875	13	0,62		SIH10145025030
450	120	22 x 40	729	13	0,70		SIH12145022040
450	150	22 x 50	584	13	0,86		SIH15145022050
450	180	25 x 45	486	13	0,97		SIH18145025045
450	220	35 x 30	398	13	1,12	SI4PH22145035030	SIH22145035030
450	270	30 x 45	324	13	1,30		SIH27145030045
450	330	30 x 50	265	13	1,49		SIH33145030050
450	390	35 x 45	224	13	1,71	SI4PH39145035045	SIH39145035045
450	470	35 x 50	186	13	1,96	SI4PH47145035050	SIH47145035050
450	560	35 x 50	156	13	2,14	SI4PH56145035050	SIH56145035050
450	680	35 x 66	129	13	2,62	SI4PH68145035066	SIH68145035066
450	820	40 x 75	107	13	3,2	SI4PH82145040075	



12.7.1 Useful Life Type SIH / SI4PH

