Fairford Electronics Product Selector

Step 1 - Select Product.



XFE PFE QFE DFE HFE

Step 2 - Choose the application.

Application	Trip Class
Default	10
Heavy	20
Agitator	10
Air compressor equalised	10B
Air compressor loaded	20
Wood chipper	30

Step 3 - Select motor size

Choose the current or kW of your motor and whether it is to be wired 'in line' or 'in delta', read across to find the trip class rating and down to find the correct Soft Starter.

Step 4 - Select connection type

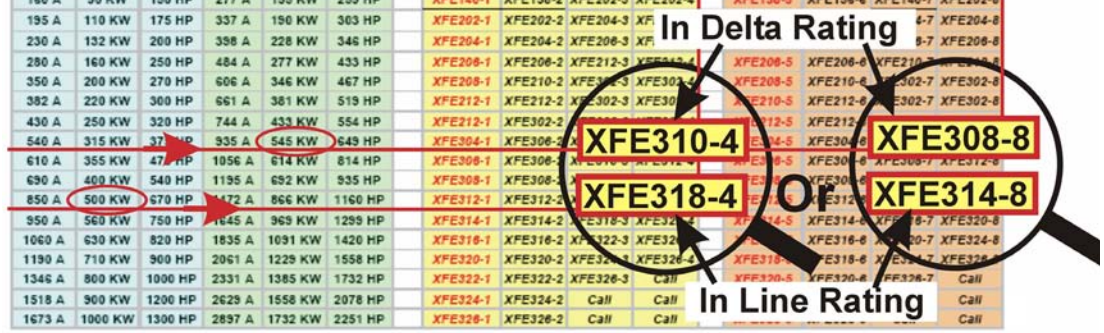
Finally choose whether the Soft Starter is to have a continuous rating or externally bypassed rating.

Example

Step 1 - An XFE has been chosen because of its features and value for money.
Step 2 - The application is selected - in this case 'Wood Chipper' which has a trip class rating of 30.
Step 3 - The motor size of 500kW and the trip class of 30 are selected.
Step 4 - The final choice is whether the starter is used in the continuous rating or whether it is bypassed when the motor is at full speed.

Solution – for a Wood Chipper with a 500kW motor continuous rating, the recommended Soft Starter is the XFE318-4.
If the Soft Starter is wired in the bypass we recommend the XFE314-8.
When wiring the Soft Starter in the delta XFE310-4 or XFE308-8 could be used.
This gives the most economical starter for the application.

InLine			In Delta			Continuous Rating AC53a				Externally Bypassed AC53b			
Ie (A) 400V	Inline KW 400V	Inline HP 460V	Motor Current	KW 400V	HP 460V	Trip Class 10B 3.5-12:XX-X	Trip Class 10 3-23:XX-X	Trip Class 20 4-19:XX-X	Trip Class 30 4-29:XX-X	Trip Class 10B 3.5-12:XX	Trip Class 10 3-23:XX	Trip Class 20 4-19:XX	Trip Class 30 4-29:XX
4.5 A	2.2 KW	3 HP	8 A	3 KW	5 HP	XFE104-1	XFE104-2	XFE104-3	XFE104-4	XFE102-5	XFE104-6	XFE104-7	XFE104-8
6.5 A	3 KW	4 HP	11 A	5 KW	6 HP	XFE106-1	XFE106-2	XFE106-3	XFE106-4	XFE104-5	XFE104-6	XFE104-7	XFE106-8
11.5 A	5.5 KW	7.5 HP	19 A	9 KW	12 HP	XFE108-1	XFE108-2	XFE110-3	XFE110-4	XFE106-5	XFE106-6	XFE108-7	XFE110-8
15.5 A	7.5 KW	10 HP	26 A	12 KW	17 HP	XFE110-1	XFE110-2	XFE110-3	XFE110-4	XFE108-5	XFE108-6	XFE110-7	XFE110-8
22 A	11 KW	15 HP	38 A	19 KW	25 HP	XFE112-1	XFE112-2	XFE112-3	XFE114-4	XFE110-5	XFE110-6	XFE112-7	XFE112-8
29 A	15 KW	20 HP	50 A	25 KW	34 HP	XFE116-1	XFE116-2	XFE116-3	XFE116-4	XFE112-5	XFE112-6	XFE114-7	XFE114-8
35 A	19 KW	25 HP	60 A	32 KW	43 HP	XFE118-1	XFE118-2	XFE120-3	XFE122	XFE114-5	XFE114-6	XFE116-7	XFE116-
41 A	22 KW	30 HP	71 A	38 KW	51 HP	XFE120-1	XFE120-2	XFE122-3	XFE122-4	XFE116-5	XFE116-6	XFE122-7	XFE122-8
55 A	30 KW	42 HP	95 A	51 KW	72 HP	XFE124-1	XFE124-2	XFE124-3	XFE126-4	XFE122-5	XFE122-6	XFE122-7	XFE124-8
66 A	37 KW	54 HP	114 A	64 KW	93 HP	XFE126-1	XFE126-2	XFE128-3	XFE130-4	XFE124-5	XFE122-6	XFE124-7	XFE128-8
80 A	45 KW	60 HP	138 A	77 KW	103 HP	XFE130-1	XFE128-2	XFE132-3	XFE132-4	XFE124-5	XFE124-6	XFE130-7	XFE132-8
97 A	55 KW	75 HP	168 A	95 KW	129 HP	XFE132-1	XFE130-2	XFE134-3	XFE136-4	XFE132-5	XFE130-6	XFE134-7	XFE134-8
132 A	75 KW	106 HP	228 A	129 KW	183 HP	XFE136-1	XFE136-2	XFE140-3	XFE140-4	XFE136-5	XFE134-6	XFE138-7	XFE138-8
160 A	90 KW	150 HP	277 A	155 KW	259 HP	XFE140-1	XFE138-2	XFE202-3	XFE202-4	XFE138-5	XFE136-6	XFE140-7	XFE202-8
195 A	110 KW	175 HP	337 A	190 KW	303 HP	XFE202-1	XFE202-2	XFE204-3	XF				XFE204-8
230 A	132 KW	200 HP	398 A	228 KW	346 HP	XFE204-1	XFE204-2	XFE206-3	XF				XFE206-8
280 A	160 KW	250 HP	484 A	277 KW	433 HP	XFE206-1	XFE206-2	XFE212-3			XFE206-6		
350 A	200 KW	270 HP	606 A	346 KW	467 HP	XFE208-1	XFE210-2			XFE208-5	XFE210-6		XFE302-8
382 A	220 KW	300 HP	661 A	381 KW	519 HP	XFE212-1	XFE212-2	XFE302-3	XFE30		XFE210-6		XFE302-8
430 A	250 KW	320 HP	744 A	433 KW	554 HP	XFE212-1	XFE302-2				XFE212-6		
540 A	315 KW	37	935 A	545 KW	649 HP	XFE304-1	XFE306-2				XFE304-6		
610 A	355 KW	47	1056 A	614 KW	814 HP	XFE306-1	XFE306-2				XFE306-6		
690 A	400 KW	540 HP	1195 A	692 KW	935 HP	XFE308-1	XFE308-2				XFE308-6		
850 A	500 KW	670 HP	1472 A	866 KW	1160 HP	XFE312-1	XFE312-2				XFE312-6		
950 A	560 KW	750 HP	1645 A	969 KW	1299 HP	XFE314-1	XFE314-2	XFE318-3	XFE320		XFE314-6	XFE318-7	XFE320-8
1060 A	630 KW	820 HP	1835 A	1091 KW	1420 HP	XFE316-1	XFE316-2	XFE322-3	XFE32		XFE316-6	XFE320-7	XFE324-8
1190 A	710 KW	900 HP	2061 A	1229 KW	1558 HP	XFE320-1	XFE320-2	XFE326-3	XFE326-4	XFE318	XFE318-6	XFE322-7	XFE326-
1346 A	800 KW	1000 HP	2331 A	1385 KW	1732 HP	XFE322-1	XFE322-2	XFE326-3	Call	XFE320-5	XFE320-6	XFE326-7	Call
1518 A	900 KW	1200 HP	2629 A	1558 KW	2078 HP	XFE324-1	XFE324-2	Call	Call	XFE322-5	XFE322-6	XFE326-7	Call
1673 A	1000 KW	1300 HP	2897 A	1732 KW	2251 HP	XFE326-1	XFE326-2	Call	Call	XFE324-5	XFE324-6	XFE326-7	Call



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XFE Range

- 3 Phase, energy saving, auto set up, auto features and LCD display

FAIRFORD ELECTRONICS

Application	Trip Class
Default	10
Heavy	20
Agitator	10
Air compressor - equalised	10B
Air compressor - loaded	20
Ball mill	20
Centrifuge - extended start needed for sizing.	
Chillers	10B
Conveyor - unloaded	10B
Conveyor - loaded	20
Crusher	30
Escalator	10B
Fan low inertia <85A	10
Fan high inertia >85A	30
Feeder - screw	10
Grinder	20
Hammer mill	20
Lathe machines	10B
Mills - flour Etc	20
Mixer - Unloaded	10B
Mixer - Loaded	20
Pelletisers	20
Plastic and textile machines	10B
Press, flywheel	20
Pump - centrifugal	10B
Pump - positive displacement unloaded	10
Rolling mill	20
Saw - band	10
Saw - circular	20
Screen - vibrating	20
Transformers, voltage regulators	10B
Tumblers	10
Wood chipper	30

In Line			In Delta			Continuous Rating AC53a				Externally Bypassed AC53b			
LE (A) 400V	kW 400V	HP 460V	Motor Current	kW 400v	HP 460V	Trip Class 10B 3.5-12:XX-X	Trip Class 10 3-23:XX-X	Trip Class 20 4-19:XX-X	Trip Class 30 4-29:XX-X	Trip Class 10B 3.5-12:XX	Trip Class 10 3-23:XX	Trip Class 20 4-19:XX	Trip Class 30 4-29:XX
4.9 A	2.2kW	3 HP	8 A	3 kW	5 HP	XFE104-1	XFE104-2	XFE104-3	XFE104-4	XFE102-5	XFE104-6	XFE104-7	XFE104-8
6.5 A	3 kW	4 HP	11 A	5 kW	6 HP	XFE106-1	XFE106-2	XFE106-3	XFE106-4	XFE104-5	XFE104-6	XFE104-7	XFE106-8
11.5 A	5.5 kW	7.5 HP	19 A	9 kW	12 HP	XFE108-1	XFE108-2	XFE110-3	XFE110-4	XFE106-5	XFE106-6	XFE108-7	XFE110-8
15.5 A	7.5 kW	10 HP	26 A	12 kW	17 HP	XFE110-1	XFE110-2	XFE110-3	XFE110-4	XFE108-5	XFE108-6	XFE110-7	XFE110-8
22 A	11 kW	15 HP	38 A	19 kW	25 HP	XFE112-1	XFE112-2	XFE112-3	XFE114-4	XFE110-5	XFE110-6	XFE112-7	XFE112-8
29 A	15 kW	20 HP	50 A	25 kW	34 HP	XFE116-1	XFE116-2	XFE116-3	XFE116-4	XFE112-5	XFE112-6	XFE114-7	XFE114-8
35 A	19 kW	25 HP	60 A	32 kW	43 HP	XFE118-1	XFE118-2	XFE120-3	XFE122-4	XFE114-5	XFE114-6	XFE116-7	XFE116-8
41 A	22 kW	30 HP	71 A	38 kW	51 HP	XFE120-1	XFE120-2	XFE122-3	XFE122-4	XFE116-5	XFE116-6	XFE122-7	XFE122-8
55 A	30 kW	42 HP	95 A	51 kW	72 HP	XFE124-1	XFE124-2	XFE124-3	XFE126-4	XFE122-5	XFE122-6	XFE122-7	XFE124-8
66 A	37 kW	54 HP	114 A	64 kW	93 HP	XFE126-1	XFE126-2	XFE128-3	XFE130-4	XFE124-5	XFE122-6	XFE124-7	XFE128-8
80 A	45 kW	60 HP	138 A	77 kW	103 HP	XFE130-1	XFE128-2	XFE132-2	XFE132-4	XFE124-5	XFE124-6	XFE130-7	XFE132-8
97 A	55 kW	75 HP	168 A	95 kW	129 HP	XFE 132-1	XFE130-2	XFE134-3	XFE136-4	XFE132-5	XFE130-6	XFE134-7	XFE134-8
132 A	75 kW	106 HP	228 A	129 kW	183 HP	XFE 136-1	XFE136-2	XFE140-3	XFE140-4	XFE136-5	XFE134-6	XFE138-7	XFE138-8
160 A	90 kW	150 HP	277 A	155 kW	259 HP	XFE140-1	XFE138-2	XFE202-3	XFE202-4	XFE138-5	XFE136-6	XFE140-7	XFE202-8
195 A	110 kW	175 HP	337 A	190 kW	303 HP	XFE202-1	XFE202-2	XFE204-3	XFE206-4	XFE140-5	XFE140-6	XFE204-7	XFE204-8
230 A	132 kW	200 HP	398 A	228 kW	346 HP	XFE204-1	XFE204-2	XFE206-3	XFE208-4	XFE204-5	XFE202-6	XFE206-7	XFE206-8
280 A	160 kW	250 HP	484 A	277 kW	433 HP	XFE206-1	XFE206-1	XFE212-3	XFE212-4	XFE206-5	XFE206-6	XFE210-7	XFE212-8
350 A	200 kW	300 HP	606 A	346 kW	467 HP	XFE208-1	XFE210-2	XFE 302-3	XFE302-4	XFE208-5	XFE210-6	XFE302-7	XFE302-8
382 A	220 kW	300 HP	661 A	381 kW	519 HP	XFE212-1	XFE212-2	XFE302-3	XFE302-4	XFE210-5	XFE212-6	XFE302-7	XFE302-8
430 A	250 kW	360 HP	744 A	433 kW	554 HP	XFE212-1	XFE302-2	XFE302-3	XFE306-4	XFE212-5	XFE212-6	XFE302-7	XFE302-8
540 A	315 kW	400 HP	935 A	545 kW	649 HP	XFE304-1	XFE306-2	XFE308-3	XFE310-4	XFE304-5	XFE304-6	XFE308-7	XFE308-8
610 A	355 kW	550 HP	1056 A	614 kW	814 HP	XFE306-1	XFE306-2	XFE310-3	XFE312-4	XFE306-5	XFE306-6	XFE308-7	XFE312-8
690 A	400 kW	600 HP	1195 A	692 kW	935 HP	XFE308-1	XFE308-2	XFE312-3	XFE314-4	XFE308-5	XFE308-6	XFE308-7	XFE312-8
850 A	500 kW	750 HP	1472 A	866 kW	1160 HP	XFE 312-1	XFE312-2	XFE316-3	XFE318-4	XFE312-5	XFE312-6	XFE314-7	XFE314-8
950 A	560 kW	820 HP	1645 A	969 kW	1299 HP	XFE314-1	XFE314-2	XFE318-3	XFE322-4	XFE314-5	XFE314-6	XFE316-7	XFE320-8
1060 A	630 kW	915 HP	1835 A	1091 kW	1420 HP	XFE316-1	XFE316-2	XFE322-3	XFE326-4	XFE316-5	XFE316-6	XFE320-7	XFE324-8
1190 A	711 kW	1000 HP	2061 A	1229 kW	1558 HP	XFE320-1	XFE320-2	XFE324-3	XFE326-4	XFE318-5	XFE318-6	XFE324-7	XFE326-8
1346 A	800 kW	1165 HP	2331 A	1385 kW	1732 HP	XFE322-1	XFE322-2	XFE326-3	Call	XFE320-5	XFE320-6	XFE326-7	Call
1518 A	900 kW	1200 HP	2629 A	1558 kW	2078 HP	XFE324-1	XFE324-2	Call	Call	XFE324-5	XFE324-6	XFE326-7	Call
1673 A	1000 kW	1300 HP	2879 A	1732 kW	2251 HP	XFE326-1	XFE326-2	Call	Call	XFE326-5	XFE326-6	Call	Call

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QFE Range

- 3 Phase, energy saving, UL listed, many applications - inductive, heating and static

Application	Trip Class
Default	10
Heavy	20
Agitator	10
Air compressor - equalised	10B
Air compressor - loaded	20
Ball mill	20
Centrifuge - extended start needed for sizing.	
Chillers	10B
Conveyor - unloaded	10B
Conveyor - loaded	20
Crusher	30
Escalator	10B
Fan low inertia <85A	10
Fan high inertia >85A	30
Feeder - screw	10
Grinder	20
Hammer mill	20
Lathe machines	10B
Mills - flour Etc	20
Mixer - Unloaded	10B
Mixer - Loaded	20
Pelletisers	20
Plastic and textile machines	10B
Press, flywheel	20
Pump - centrifugal	10B
Pump - positive displacement unloaded	10
Rolling mill	20
Saw - band	10
Saw - circular	20
Screen - vibrating	20
Transformers, voltage regulators	10B
Tumblers	10
Wood chipper	30

In Line			In Delta						
Le (A) 400V	kW 400V	HP 460V	Motor Current	KW 400V	HP 460V		Trip Class 10B	Trip Class 10	Trip Class 20	Trip Class 30
9 A	4 kW	5.5 HP	15 A	6 kW	9 HP		QFE 9	QFE 9	QFE 16	QFE 23
16 A	7.5 kW	10 HP	27 A	12 kW	17 HP		QFE16	QFE 16	QFE 23	QFE 30
23 A	11 kW	15 HP	39 A	19 kW	25 HP		QFE 23	QFE 23	QFE 30	QFE 44
30 A	15 kW	20 HP	51 A	25 kW	34 HP		QFE 30	QFE 30	QFE 44	QFE 59
44 A	22 kW	30 HP	76 A	38 kW	51 HP		QFE 44	QFE 44	QFE 59	QFE 72
59 A	30 kW	42 HP	102 A	51 kW	72 HP		QFE 59	QFE 59	QFE 72	QFE 85
72 A	37 kW	54 HP	124 A	64 kW	93 HP		QFE 72	QFE 72	QFE 85	QFE 105
85 A	45 kW	60 HP	147 A	77 kW	103 HP		QFE 85	QFE 85	QFE 105	QFE 146
105 A	55 kW	75 HP	181 A	95 kW	129 HP		QFE 105	QFE 105	QFE 146	QFE 174
146 A	75 kW	106 HP	252 A	129 kW	183 HP		QFE 146	QFE 146	QFE 174	QFE 202
174 A	90 kW	150 HP	301 A	155 kW	259 HP		QFE 174	QFE 174	QFE 202	QFE 242
202 A	110 kW	175 HP	349 A	190 kW	303 HP		QFE 202	QFE 202	QFE 242	QFE 300
242 A	132 kW	200 HP	419 A	228 kW	346 HP		QFE 242	QFE 242	QFE 300	QFE 370
300 A	160 kW	250 HP	519 A	277 kW	363 HP		QFE 300	QFE 300	QFE 370	QFE-O 400
370 A	200 kW	300 HP	640 A	346 kW	381 HP		QFE 370	QFE 370	QFE-O 400	QFE-O 500
400 A	220 kW	300 HP	692 A	381 kW	433 HP		QFE-O 400	QFE-O 400	QFE-O 500	QFE-O 600
500 A	250 kW	360 HP	866 A	433 kW	519 HP		QFE-O 500	QFE-O 500	QFE-O 600	QFE-O 750
600 A	320 kW	400 HP	1039 A	554 kW	649 HP		QFE-O 600	QFE-O 600	QFE-O 750	QFE-O 900
750 A	400 kW	600 HP	1299 A	692 kW	935 HP		QFE-O 750	QFE-O 750	QFE-O 900	QFE-O 1100
900 A	500 kW	750 HP	1558 A	866 kW	1160 HP		QFE-O 900	QFE-O 900	QFE-O 1100	QFE-O 1200
1100 A	630 kW	915 HP	1905 A	1091 kW	1299 HP		QFE-O 1100	QFE-O 1100	QFE-O 1200	QFE-O 1400
1200 A	710 kW	1000 HP	2087 A	1229 kW	1558 HP		QFE-O 1200	QFE-O 1200	QFE-O 1400	QFE-O 1600
1400 A	850 kW	1165 HP	2424 A	1472 kW	1905 HP		QFE-O 1400	QFE-O 1400	QFE-O 1600	QFE-O 1800
1600 A	950 kW	1250 HP	2771 A	1645 kW	2165 HP		QFE-O 1600	QFE-O 1600	QFE-O 1800	Call
1800 A	1050 kW	1400 HP	3117 A	1818 kW	2424 HP		QFE-O 1800	QFE-O 1800	Call	Call

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DFE Range

- **3 Phase, internally bypassed, replacement for Star/Delta**

FAIRFORD ELECTRONICS

Application	Trip Class
Default	10
Heavy	20
Agitator	10
Air compressor - equalised	10B
Air compressor - loaded	20
Ball mill	20
Centrifuge - extended start needed for sizing.	
Chillers	10B
Conveyor - unloaded	10B
Conveyor - loaded	20
Crusher	30
Escalator	10B
Fan low inertia <85A	10
Fan high inertia >85A	30
Feeder - screw	10
Grinder	20
Hammer mill	20
Lathe machines	10B
Mills - flour Etc	20
Mixer - Unloaded	10B
Mixer - Loaded	20
Pelletisers	20
Plastic and textile machines	10B
Press, flywheel	20
Pump - centrifugal	10B
Pump - positive displacement unloaded	10
Rolling mill	20
Saw - band	10
Saw - circular	20
Screen - vibrating	20
Transformers, voltage regulators	10B
Tumblers	10
Wood chipper	30

Bypass Rating Duty:
Up to DFE26: 5/Hr - Above DFE30: 3/Hr

Le (A) 400V	kW 400V	HP 460V	Trip Class 5 3-5: 355	Trip Class 10B 3.5-12: 708	Trip Class 10 3-23: 697	Trip Class 20 4-19: 701	Trip Class 30 4-29: 691
4.9 A	2.2 kW	3 HP	DFE - 02	DFE - 02	DFE - 02	DFE - 02	DFE - 02
6.5 A	3 kW	4 HP	DFE - 02	DFE - 02	DFE - 02	DFE - 02	DFE - 02
11.5 A	5.5 kW	7.5 HP	DFE - 02	DFE - 02	DFE - 02	DFE - 02	DFE - 04
15.5 A	7.5 kW	10 HP	DFE - 02	DFE - 02	DFE - 02	DFE - 04	DFE - 04
22 A	11 kW	15 HP	DFE - 02	DFE - 04	DFE - 04	DFE - 04	DFE - 06
29 A	15 kW	20 HP	DFE - 04	DFE - 06	DFE - 06	DFE - 06	DFE - 08
35 A	19 kW	25 HP	DFE - 06	DFE - 06	DFE - 06	DFE - 08	DFE - 12
41 A	22 kW	30 HP	DFE - 06	DFE - 08	DFE - 08	DFE - 12	DFE - 16
55 A	30 kW	42 HP	DFE - 08	DFE - 12	DFE - 12	DFE - 16	DFE - 22
66 A	37 kW	54 HP	DFE - 12	DFE - 14	DFE - 14	DFE - 22	DFE - 22
80 A	45 kW	60 HP	DFE - 14	DFE - 22	DFE - 22	DFE - 22	DFE - 24
97 A	55 kW	75 HP	DFE - 16	DFE - 22	DFE - 22	DFE - 24	DFE - 26
132 A	75 kW	110 HP	DFE - 22	DFE - 26	DFE - 26	DFE - 30	DFE - 32
160 A	90 kW	130 HP	DFE - 24	DFE - 30	DFE - 30	DFE - 32	DFE - 34
195 A	110 kW	160 HP	DFE - 26	DFE - 30	DFE - 32	DFE - 34	DFE - 36
230 A	132 kW	190 HP	DFE - 30	DFE - 32	DFE - 34	DFE - 36	DFE - 38
280 A	160 kW	230 HP	DFE - 32	DFE - 34	DFE - 36	DFE - 38	Call
350 A	200 kW	290 HP	DFE - 34	DFE - 38	DFE - 38	Call	Call
382 A	220 kW	300 HP	DFE - 34	DFE - 38	DFE - 38	Call	Call
460 A	250 kW	350 HP	DFE - 36	Call	Call	Call	Call
500 A	280 kW	400 HP	DFE - 38	Call	Call	Call	Call

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Application	Trip Class
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Air compressor - loaded	20
Ball mill	20
Centrifuge - extended start needed for sizing.	
Chillers	10B
Conveyor - unloaded	10B
Conveyor - loaded	20
Crusher	30
Escalator	10B
Fan low inertia <85A	10
Fan high inertia >85A	30
Feeder - screw	10
Grinder	20
Hammer mill	20
Lathe machines	10B
Mills - flour Etc	20
Mixer - Unloaded	10B
Mixer - Loaded	20
Pelletisers	20
Plastic and textile machines	10B
Press, flywheel	20
Pump - centrifugal	10B
Pump - positive displacement unloaded	10
Rolling mill	20
Saw - band	10
Saw - circular	20
Screen - vibrating	20
Transformers, voltage regulators	10B
Tumblers	10
Wood chipper	30



PFE Range

- 3 Phase
- 45mm width, DIN rail mounting
- Internally bypassed, over current protection

Standard Class 5: 10/Hr - Class 10B to Class 30 : 5/Hr
Fan Fitted Class 5: 60/Hr - Class 10B to Class 30 : 30/Hr

Le (A) 400V	kW 400V	HP 460V	Trip Class 5 3-5: 355	Trip Class 10B 3.5-12: 708	Trip Class 10 3-23: 697	Trip Class 20 4-19: 701	Trip Class 30 4-29: 691
4.9 A	2.2 kW	3 HP	PFE - 2	PFE - 4	PFE - 6	PFE - 8	PFE - 10
6.5 A	3 kW	4 HP	PFE - 4	PFE - 6	PFE - 8	PFE - 10	PFE - 12
11.5 A	5.5 kW	7.5 HP	PFE - 8	PFE - 12	PFE - 14	PFE - 16	PFE - 18
15.5 A	7.5 kW	10 HP	PFE - 10	PFE - 12	PFE - 14	PFE - 18	PFE - 18+FAN
22 A	11 kW	15 HP	PFE - 12	PFE - 14	PFE - 18	PFE - 18+FAN	Call
29 A	15 kW	20 HP	PFE - 14	PFE - 18	PFE - 18+FAN	Call	Call
35 A	18.5 kW	25 HP	PFE - 16	PFE - 18+FAN	Call	Call	Call
40 A	22 kW	30 HP	PFE - 18	Call	Call	Call	Call



HFE Range

- Single phase
- Energy saving
- Easy installation, fit and forget

Le (A) 220V	kW 220V	HP 220V	
10 A	1.1 kW	1.5 HP	HFE Size 1
30 A	4 kW	5.5 HP	HFE Size 2

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Glossary

Ie

The rated operational current, Ie, is the full load current of the Soft Starter for this rating index (FLC).

AC-5Xx

The utilization category is an alphanumeric set of characters that defines the utilization of the Soft Start drive. All semiconductor motor controllers or starter utilization categories begin with AC-5 and the remaining second digit and suffix designate a typical application.
The EN 60947-4-2 utilization categories for Soft Starters are :
AC53a - Control of squirrel cage motors
AC53b - Control of squirrel cage motors with the controller bypassed during running.

X-Tx

The overload current profile is expressed by two values, X and Tx.
X denotes the overload current as a multiple of Ie and represents the maximum value of operating current due to starting, operating, or manoeuvring under overload conditions.
Tx denotes the duration of the controlled overload currents during, starting, operating or manoeuvring.
For example 5-4 means that the maximum overload start current allowed is 5 times FLC for a maximum of 4 seconds.

F-S

The duty cycle is expressed by two symbols, F and S which describe the duty and also set the time that must be allowed for cooling.
F is the ratio of the on load period to the total period expressed as a percentage.
S is the number of starts or operating cycles per hour.
For example 99-10 means the starter is ON 99% of the time and 10 is the maximum starts per hour.
For bypass during running (i.e. utilization category AC53b), F-S is replaced by an OFFtime.
This is the minimum off time permitted following a controlled overload of X times Ie for Tx seconds before any subsequent start may be initiated.

Example

29a : AC53a : 4-19 : 75-5
The soft starters rating means that the FLC is 29A, it controls a squirrel cage motor without bypass, it can handle 4xFLC for 19 seconds, it is On for 75% of the time and can handle a maximum of 5 starts per hour.

29a : AC53b : 4-19 : 708
This soft starters rating means that the FLC is 29A, it controls a squirrel cage motor with the controller bypassed during running, it can handle 4xFLC for 19 seconds and has an off time of 708 seconds.

FLC
Full Load Current - The current drawn from the line for each phase when the motor is operating at full load torque and full load speed at a rated voltage.

Motor Current
The motor current is the current that is stamped on the plate of the motor.
2 pole motors generally need a Soft Starter one size larger.
Pump loads are assumed to be ~80% of motor Kw rating.

Trip Class
The trip class denotes the amount of time the starter can withstand over current before tripping. Starters with higher trip classes can withstand higher over current for longer periods of time.

In Line
To connect a Soft Starter in line only three wires from the motor are needed in this set up the Soft Starter carries the full line current.

In Delta
To connect a Soft Starter in the delta all six wires from the motors are needed. The Soft Starter will only sense the Phase Current which is about 58% of the line current, this means that the same size Soft Starter can control a larger kW motor. It is critical in this set up that the circuit diagram in the QFE and XFE basic guide is followed exactly.

Internally Bypassed
A Soft Starter is internally bypassed when a bypass relay is fitted and controlled within the starter. When the Starter has completed the start ramp the bypass relay closes shorting out the thyristors. This reduces the heat output from the Soft Starter thus increasing the life and performance of the starter.

Externally Bypassed
A Soft Starter is externally bypassed when the bypass contactor is not part of the starter and it is fitted externally and supplied by the customer. When the Starter has completed the start ramp the bypass relay closes shorting out the thyristors. This reduces the heat output from the Soft Starter thus increasing the life and performance of the starter.

IP Rating
IP00 = no protection from solid objects or liquids.
IP20 = Protected against solid objects over 12mm (e.g. fingers), no protection from liquid.
IP43 = Protected against solid objects over 1mm (e.g. tools and wires), protected against direct sprays from liquid up to 60° from the vertical.
IP55 = Protected against dust - limited ingress (no harmful deposit), protected against low pressure jets of water from all directions - limited ingress permitted.

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