



## Automatic Power Factor Correction System Data Sheet

### PFC-5

Watford Control units are designed and built in compliance with the Low Voltage and Electromagnetic Compatibility European Directives regarding CE marking requirements. The products are built with suitable quality components and the manufacturing process is constantly verified in accordance with the Quality Control Plans which the Company applies in compliance with the ISO 9001:2008 Standards. In order to obtain better performance, the products described in the present document can be altered by the Company at any date and without prior notice. *Technical data and descriptions do hold therefore any contractual value.*

### Main characteristics

Power factor correction systems indicated for plants where the current harmonic distortion (without capacitors installed) is lower than 27%. Use of high energy density metallised polypropylene capacitors ensures enhanced performance, high resistance to strong voltage overload, low losses and contained dimensions.

- Zinc-passivated metallic enclosure (RAL 7035 colour painted).
- 230Vac auxiliary transformer to separate power and auxiliary circuits.
- Load-break switch with door interlock.
- Contactors with damping resistors to limit capacitors inrush current.
- Self-extinguishing cables according to IEC 50267-2-1 standards.
- Microprocessor-based Power Factor Correction controller.
- **$U_N=525V$  three phase self-healing high energy density metallised polypropylene capacitors.**

### Technical characteristics

Rated operational voltage $U_e$	415	[V]
Capacitor rated voltage $U_N$	525	[V]
Capacitors max. admitted voltage $U_{MAX}^*$	577	[V]
Frequency	50	[Hz]
Total current harmonic distortion of the plant $THDI_R\%$	$\leq 27$	[%]
Admitted total current harmonic distortion in the capacitors $THDI_C\%^{**}$	$\leq 85$	[%]
Max current overload (PFC unit)	$1.3 \times I_N$	-
Max current overload (capacitor)	$1.3 \times I_N$	-
Max voltage overload (PFC unit)	$1.1 \times U_e$	-
Max voltage overload $V_n$ (capacitors)	$3 \times U_N$ (1 min)	-
Insulating voltage	690V	[V]
Temperature range (PFC unit)	-5/+40	[°C]
Discharge device	on each bank	
Installation	indoor	
Service	continuous	
Capacitors connection	delta	
Operational devices	capacitor contactors (AC6b)	
Applicable standards	IEC 61439-1/2 IEC 61921	
Capacitors standards	IEC 60831-1/2	

\*: according to IEC 60831-1 art. 20.1

\*\* : Warning: in this load situation, network harmonic amplification is possible

### Standard range

POWER $U_e=415V$ [kvar]	STEPS COMBINATION No.	STEPS SIZE $U_e=415V$ [kvar]	BANKS $U_e=415V$ [kvar]	L.B. SWITCH [A]	$I_{CC}$ [kA]	PFC CONTROLLER	FANS No.	SIZE IP3X
100	8	2x12.5-25-50	100	250	17	RPC 8BGA	1	31
150	12	2x12.5-25-2x50	50-100	400	25		1	31
200	16	2x12.5-25-3x50	2x100	630	25		1	31
250	20	2x12.5-25-2x50-100	50-2x100	630	25		1	32
300	24	2x12.5-25-50-75-125	3x100	800	35		1	32
350	28	12.5-25-37.5-50-100-125	50-2x150	800	35		2	33
400	32	12.5-25-37.5-75-100-150	100-2x150	1000	35		2	33
450	36	12.5-25-37.5-75-100-200	3x150	1000	35		2	33
500	20	2x25-50-2x100-200	2x50-4x100	2x630	25		1+1	2x32
600	24	2x25-50-100-150-250	6x100	2x800	35		1+1	2x32
700	28	25-50-75-100-200-250	2x50-4x150	2x800	35		2+2	2x33
800	32	25-50-75-150-200-300	2x100- 4x150	2x1000	35		2+2	2x33
900	36	25-50-75-150-200-400	6x150	2x1000	35		2+2	2x33
1000	28	37.5-75-112.5-150-300- 375	3x50-6x150	3x800	35		2+2+2	3x33

**Dimensions**

<p>Enclosure 31 (WxDxH: 600x600x1600mm)</p>	<p>Enclosure 32 (WxDxH: 600x600x2000mm)</p>	<p>Floor fixing (532x532mm)</p>	<p>Bottom cable entry (450x270mm)</p>
<p>Enclosure 33 (WxDxH: 800x600x2000mm)</p>	<p>Floor fixing (732x532mm)</p>	<p>Bottom cable entry (650x270mm)</p>	