

# H.I.D. lamps

# Metal Halide HPI/HPI Plus



MASTER HPI Plus BU



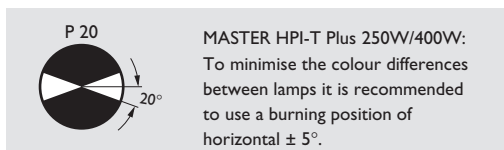
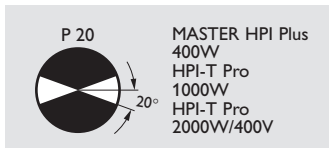
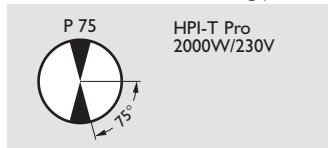
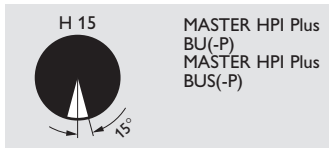
MASTER HPI-T Plus



HPI-T Pro 1000W



HPI-T Pro 2000W



MASTER HPI/HPI Plus lamps are single ended metal halide lamps consisting of a quartz discharge tube, containing high pressure mercury and a mixture of metal halides, which is housed in a hard glass outer envelope, fitted with a standard screw base. They are available in either ovoid coated or clear tubular versions. They offer a unique combination of a natural white colour appearance, and high luminous efficacy both initially and through their long lives, giving many years of reliable operation, and making them an ideal lamp choice for many applications.

Their high luminous efficacy reduces the number of luminaires needed, minimising installation and energy costs, while the excellent lumen maintenance and lamp life ensures high maintained illuminance levels and minimal maintenance costs. The colour point is on the black body locus giving a natural white light colour appearance. This combined with good colour rendering makes it easy to distinguish colours and ensures a pleasant ambience and user comfort.

The excellent colour stability through life ensures good colour uniformity over time even with spot replacements. All lamps require a suitable ballast and ignitor (except -S types), and must be housed in enclosed luminaires (except -P types).

**The MASTER HPI Plus lamps are designed to operate on both HPL and SON gear.**

### MASTER HPI Plus on HPL gear

When operated on HPL gear, the MASTER HPI Plus lamps are light technically and electrically retrofit with existing HPI lamps.

### MASTER HPI Plus on SON gear

When operated on SON gear, the MASTER HPI Plus lamps run at a higher lamp power; increasing the luminous flux and the luminous efficacy, reducing investment and energy costs.

The colour temperature reduces, which is more attractive for retail applications.

SON gear compatibility allows the possibility to replace SON Pro (Comfort) lamps, offering a low cost opportunity to upgrade from yellow to white light, and

also allows the replacement of competitors metal halide lamps which are typically operated on SON gear.

The MASTER HPI Plus 400 W BUS and MASTER HPI Plus 400 W BUS-P lamps are specially designed self (S) starting lamps requiring no external ignitor, saving on costs. This makes them especially suitable for direct replacement of Mercury (HPL) lamps. The MASTER HPI Plus 400 W BU-P and MASTER HPI Plus 400 W BUS-P lamps are specially designed protected (P) versions, suitable for use in open luminaires, i.e. no expensive front glass is needed. The teflon coating ensures that in the rare event of the discharge tube shattering, the glass is contained within the teflon coating and can still be easily removed.

The maximum permitted bulb temperature for the "P" teflon coated types is 260 °C, 90 °C lower than the normal unprotected types, which have a maximum permitted bulb temperature of 350 °C. Inherent to metal halide technology, some visible colour differences may exist between individual lamps. To minimise these differences the burning position of the lamps should be within +/- 5 degrees of the nominal specified.

### Applications

- HPI-T Pro/MASTER HPI-T Plus - sportlighting, floodlighting of buildings and monuments, area lighting e.g. harbour, building sites, canopy lighting e.g. petrol stations, and horticultural lighting.
- MASTER HPI Plus - indoor high bay lighting, e.g. industrial workshops, exhibition halls, hypermarkets, shopping malls, DIY stores, churches and also the entrances of airports and stations.



## MASTER HPI/HPI Plus/HPI-T Pro on HPL gear

Type	W		Lamp wattage	Lamp voltage	Cap/base	Correlated colour temperature	Colour rendering index	Lumen output
	W	BU	W	V		K	R <sub>a</sub>	
<b>MASTER HPI Plus</b>								
MASTER HPI Plus	250W	BU	256	128	E40	4300	69	19 000
MASTER HPI Plus	250W	BU-P (new)	256	128	E40	4300	69	19 000
MASTER HPI Plus	400W		390	125	E40	4300	69	30 000
MASTER HPI Plus	400W	BU	400	125	E40	4300	69	35 000
MASTER HPI Plus	400W	BU-P	400	125	E40	4300	69	35 000
MASTER HPI Plus	400W	BUS	400	125	E40	4300	69	35 000
MASTER HPI Plus	400W	BUS-P	400	125	E40	4300	69	35 000
<b>MASTER HPI-T Plus/HPI-T Pro (tubular)</b>								
MASTER HPI-T Plus	250W		250	128	E40	4500	65	19 000
MASTER HPI-T Plus	400W		390	125	E40	4300	65	35 000
HPI-T Pro	1000W		985	130	E40	4300	65	85 000
HPI-T Pro	2000W	230V	1960	130	E40	4600	65	189 000
HPI-T Pro	2000W	400V	1930	240	E40	4600	65	183 000

Type	W		Lamp current	Maximum permissible base/pinch temperature	Maximum permissible bulb temperature	Nett weight	Ilcos code	Ordering number	EOC
	W	BU	A	degr.C	degr.C				
<b>MASTER HPI Plus</b>									
MASTER HPI Plus	250W	BU	2.20	250	350	190	ME-250-H-E40-/V	9280 767 09800	181145
MASTER HPI Plus	250W	BU-P	2.20	250	350	190	ME/T-250-H-E40-/V	9280 769 09800	202062
MASTER HPI Plus	400W		3.40	250	350	245	ME-400-H-E40-/H	9280 731 09800	181084
MASTER HPI Plus	400W	BU	3.40	250	350	250	ME-400-H-E40-/V	9280 743 09800	182524
MASTER HPI Plus	400W	BU-P	3.40	250	260	240	ME/T-400-H-E40-/V	9280 820 09900	194824
MASTER HPI Plus	400W	BUS	3.40	250	350	250	ME-400-H/I-E40-/V	9280 747 09800	181114
MASTER HPI Plus	400W	BUS-P	3.40	250	260	240	ME/T-400-H/I-E40-/V	9280 802 09900	193179
<b>MASTER HPI-T Plus/HPI-T Pro (tubular)</b>									
MASTER HPI-T Plus	250W		2.15	250	550	180	MT-250-H-E40-/H	9280 761 09200	179890
MASTER HPI-T Plus	400W		3.40	250	600	185	MT-400-H-E40-/H	9280 737 09200	179906
HPI-T Pro	1000W		8.25	300	600	410	MT-1000-H-E40-/H	9280 740 09200	183736
HPI-T Pro	2000W	230V	16.50	300	600	580	MT-2000-H-E40-/H	9280 820 09200	183767
HPI-T Pro	2000W	400V	8.60	300	600	600	MT-2000-H-E40-/H	9280 718 09200	183798

BU=Vertical base up operation (H15)

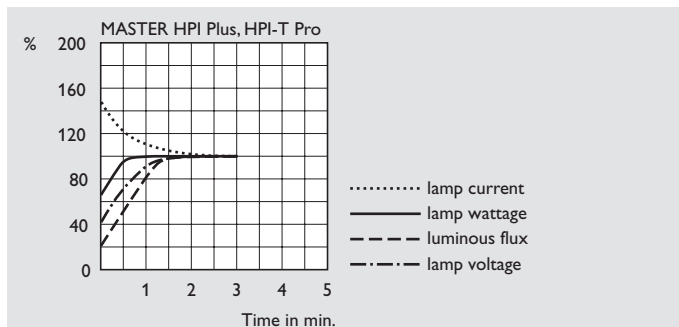
S=Self starting i.e. no external ignitor required, minimising control gear costs.

P=Protected with teflon coating i.e. suitable for open luminaires, eliminating the need for an expensive front glass.

The **MASTER** designation indicates a premium top of the range product with extensive market leading benefits in terms of energy saving, quality of light, lamp life, reliability, and minimizing environmental impact. The benefits of these products will be maximized over a period of time and should be seen as an excellent long term investment. Customers who buy a Master product know that they have purchased the best option that the professional market can offer today.

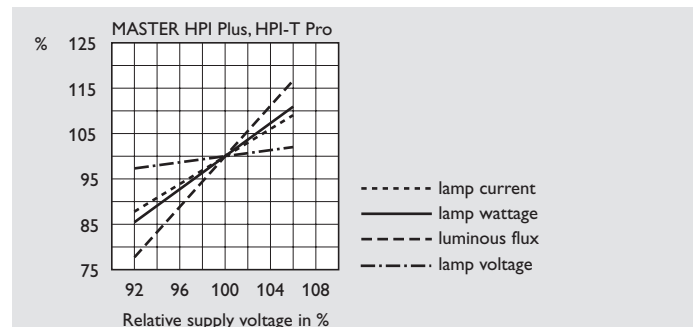
**Pro** indicates products which offer very significant immediate benefits in terms of quality of light.

**Pro** products represent excellent value in the short term.



Lamp performance during run-up

2



Effects of mains voltage variations



## MASTER HPI Plus on SON gear

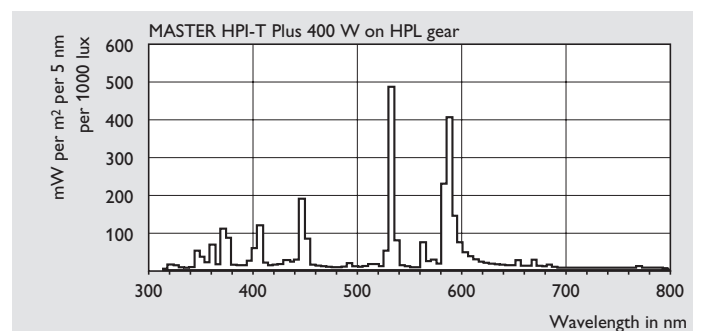
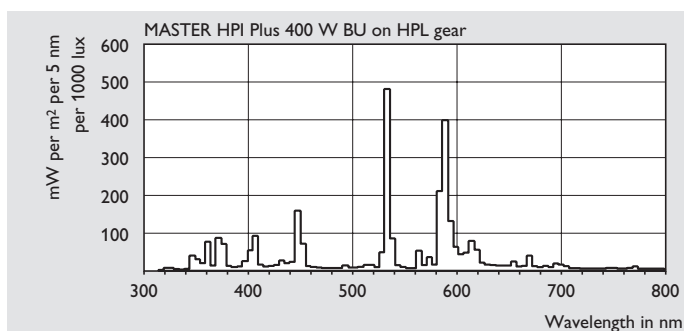
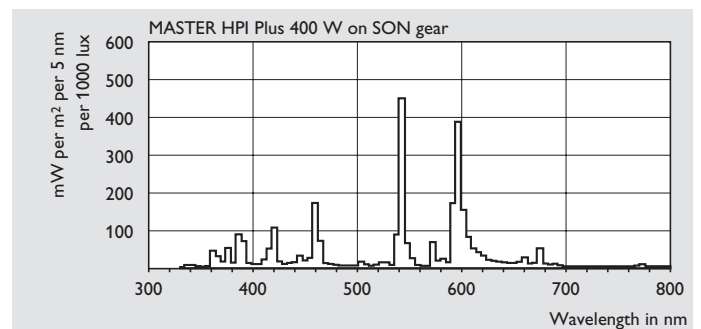
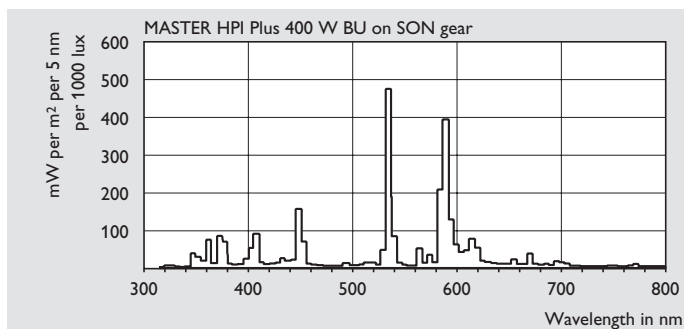
Type	W	Lamp wattage	Lamp voltage	Cap/base	Correlated colour temperature	Colour rendering index	Lumen output
		W	V		K	R <sub>a</sub>	lm
<b>MASTER HPI Plus</b>							
MASTER HPI Plus	250W BU	302	128	E40	3800	69	25 500
MASTER HPI Plus	250W BU-P (new)	302	128	E40	3800	69	25 500
MASTER HPI Plus	400W BU	454	125	E40	3800	69	35 000
MASTER HPI Plus	400W BU-P	454	125	E40	3800	69	42 500
MASTER HPI Plus	400W BUS	454	125	E40	3800	69	42 500
MASTER HPI Plus	400W BUS-P	454	125	E40	3800	69	42 500
<b>MASTER HPI-T Plus (tubular)</b>							
MASTER HPI-T Plus	250W	295	128	E40	4000	65	23 000
MASTER HPI-T Plus	400W	445	125	E40	4000	65	38 000

Type	W	Lamp current	Maximum permissible base/pinch temperature	Maximum permissible bulb temperature	Nett weight	Ilcos code	Ordering number	EOC
		A	degr.C	degr.C	g			
<b>MASTER HPI Plus</b>								
MASTER HPI Plus	250W BU	2.55	250	350	190	ME-250-H-E40-V	9280 767 09800	181145
MASTER HPI Plus	250W BU-P	2.55	250	350	190	ME/T-250-H-E40-V	9280 769 09800	202062
MASTER HPI Plus	400W BU	3.85	250	350	245	ME-400-H-E40-H	9280 731 09800	181084
MASTER HPI Plus	400W BU-P	3.85	250	350	250	ME-400-H-E40-V	9280 743 09800	182524
MASTER HPI Plus	400W BUS	3.85	250	350	250	ME-400-H/I-E40-V	9280 747 09800	181114
MASTER HPI Plus	400W BUS-P	3.85	250	260	240	ME/T-400-H/I-E40-V	9280 802 09900	193179
<b>MASTER HPI-T Plus (tubular)</b>								
MASTER HPI-T Plus	250W	2.20	250	550	180	MT-250-H-E40-H	9280 761 09200	179890
MASTER HPI-T Plus	400W	3.80	250	600	185	MT-400-H-E40-H	9280 737 09200	179906

BU=Vertical base up operation (H15)

S=Self starting i.e. no external ignitor required, minimising control gear costs.

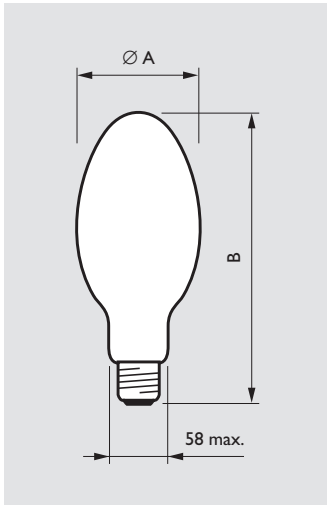
P=Protected with teflon coating i.e. suitable for open luminaires, eliminating the need for an expensive front glass.



Spectral power distributions

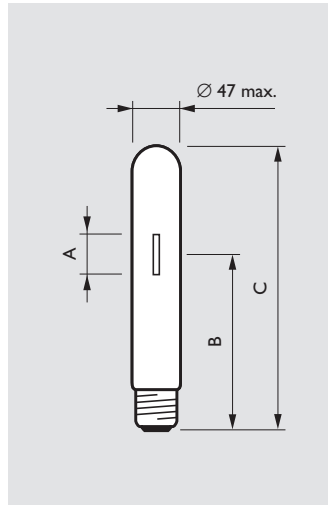
# H.I.D. lamps

# Metal Halide HPI/HPI Plus

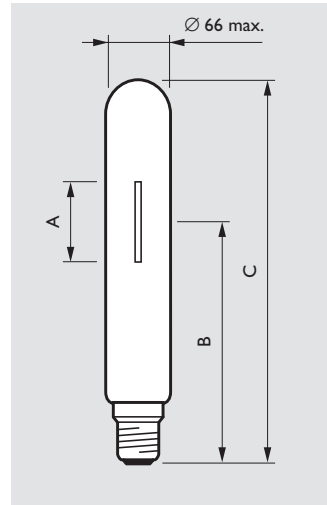


Dimensions in mm

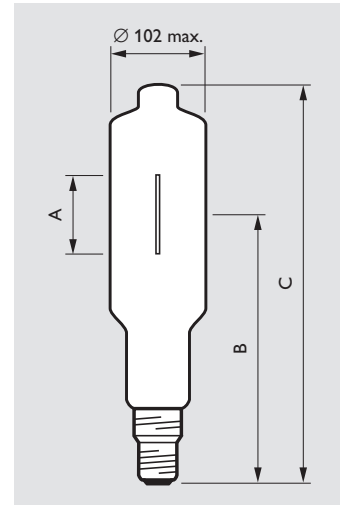
Type	A max.	B max.
Cap/base E40		
MASTER HPI Plus 250W	91	226
MASTER HPI Plus 400W	122	284



Type	A max.	B max.	C max.
Cap/base E40			
MASTER HPI-T Plus 250W	29	158	257
MASTER HPI-T Plus 400W	40	172	286



Type	A max.	B max.	C max.
Cap/base E40			
HPI-T Pro 1000W	80	240	382



Type	A max.	B max.	C max.
Cap/base E40			
HPI-T Pro 2000W/220V	89	290	430
HPI-T Pro 2000W/380V	135	260	430

