



# DOE 2011 Fluorescent Ballast Rule

QUICKTRONIC® T5, T5HO, T8 and T12 fluorescent ballasts meet requirements

The Department of Energy (DOE) 2011 rule applies to T5, T5HO, T8, and T12 fluorescent ballasts manufactured on or after November 14, 2014 that operate at an input voltage at or between 120 and 277 and operate at 60Hz line frequency. This rule also establishes a new ballast efficiency measurement metric known as Ballast Luminous Efficiency (BLE) as a measurement of lamp arc power divided by input power (this replaces the previous BEF measurement). DOE 2011 requires ballasts to meet minimum performance criteria:

- Must be >0.90 power factor for commercial or >0.50 power factor for residential applications
- Residential ballasts must meet FCC 47 CFR part 18 consumer limits and be designed, labeled, and marketed only for use in residential applications
- Sign ballasts must meet UL Type 2 rating and be designed, labeled and marketed for use in outdoor signs.

## Exceptions to the rule:

- Dimming ballasts that dim to 50% or lower in output power
- Low frequency ballasts (magnetic) operating T8 lamps which are designed and labeled for EMI sensitive areas and are shipped in 10 or less packs
- Programmed rapid start ballasts that operate 4' Bi-Pin T8 lamps operating <140mA

OSRAM will discontinue the following magnetic sign ballasts in response to the DOE new ballast energy guidelines.

Item Number	Description
48204	MSB120412TP 120V
48205	MSB240620TP 120V
48206	MSB241224TP 120V
48207	MSB242040TP 120V
48208	MSB461240TP 120V
48209	MSB462448TP 120V



# OSRAM offers two warranties to cover all QUICKTRONIC® systems

## NEW QUICK 7XL+™ Warranty

QUICKTRONIC® PROStart® Electronic Systems coupled with long life SYLVANIA XL (eXtended Life) fluorescent lamps are covered by the QUICK 7XL+ warranty, the longest in the industry. This warranty covers PROStart T8 and T5HO fixed light output and dimming ballasts for 84 months when paired with OCTRON® 800 XP® XL ECOLOGIC®3 and PENTRON® HO XL ECOLOGIC® fluorescent lamps. As with the original QUICK 60+® warranty, the QUICK 7XL+ warranty offers additional coverage for those lamps.

System	Lamp	Ballast Warranty Period	Lamp Warranty Period
QUICKTRONIC T8 PROStart	OCTRON XP XL SUPERSAVER®	84 months (7 Years)	84 months (7 years)
	OCTRON XP XL	84 months (7 Years)	72 months (6 Years)
QUICKTRONIC 54W T5/HO PROStart	PENTRON HO XL	84 months (7 Years)	72 months (6 Years)

For complete specifications go to: [www.osram-americas.com/specifications](http://www.osram-americas.com/specifications)

## QUICK 60+ Warranty

The QUICK 60+ is one of the industry's most comprehensive system warranties. It starts with the ballast. When you purchase any QUICKTRONIC ballast, it's warranted for a period of up to 60 months. Then, when you add SYLVANIA lamps, you benefit from additional coverage for those lamps—that's the PLUS.

**Both warranties offer additional coverage for SYLVANIA lamps. Each time a customer group re-lamps after installing this system, the lamp portion of the warranty will be extended for an additional term.**

# QUICKTRONIC® High Efficiency T8 Instant Start Systems

Covered by QUICK 60+® Warranty

OSRAM QUICKTRONIC High Efficiency (QHE) T8 Instant Start electronic ballasts offer energy savings of more than 2 watts per ballast while delivering the same light output as standard efficiency T8 ballasts. Offered in a choice of ballast factors ranging from 0.78 to 1.20, with parallel wiring and LSC (Lamp Striation Control) technology, to minimize or eliminate lamp striation that can occur in

energy saving T8 lamps. Versions rated for UL Type CC (Commercial Cabinet) applications are available. QUICKTRONIC QHE T8 ballasts are available in 1 to 4 lamp models which will operate all medium bi-pin OCTRON® T8, OCTRON SUPERSAVER® and OCTRON CURVALUME® lamps and 2-lamp models for 8-foot OCTRON lamps.



## QUICKTRONIC High Efficiency T8 Instant Start Systems 32W T8 Instant Start Universal Voltage (120-277V)



Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
<b>LOW BALLAST FACTOR</b>				
49837	QHE 1X32T8/UNV ISL-SC	Banded pack	1	0.78
49861	QHE 1X32T8/UNV ISL-SC	10-pack	1	0.78
49838	QHE 2X32T8/UNV ISL-SC	Banded pack	2	0.78
49863	QHE 2X32T8/UNV ISL-SC	10-pack	2	0.78
49839	QHE 3X32T8/UNV ISL-SC	Banded pack	3	0.78
49865	QHE 3X32T8/UNV ISL-SC	10-pack	3	0.78
49840	QHE 4X32T8/UNV ISL-SC	Banded pack	4	0.78
49867	QHE 4X32T8/UNV ISL-SC	10-pack	4	0.78
49868	QHE 4x32T8/UNV ISL-SC	Pallet pack	4	0.78
<b>NORMAL BALLAST FACTOR</b>				
49968	QHE 1X32T8/UNV ISN-SC	Banded pack	1	0.88
49851	QHE 1X32T8/UNV ISN-SC	10-pack	1	0.88
49969	QHE 2X32T8/UNV ISN-SC	Banded pack	2	0.88
49853	QHE 2X32T8/UNV ISN-SC	10-pack	2	0.88
49970	QHE 3X32T8/UNV ISN-SC	Banded pack	3	0.88
49855	QHE 3X32T8/UNV ISN-SC	10-pack	3	0.88
49971	QHE 4X32T8/UNV ISN-SC	Banded pack	4	0.88
49857	QHE 4X32T8/UNV ISN-SC	10-pack	4	0.88
<b>MEDIUM BALLAST FACTOR</b>				
49248	QHE 2x32T8/UNV ISM-SC	Banded pack	2	1.0
49249	QHE 3x32T8/UNV ISM-SC	Banded pack	3	0.98
49491	QHE 4x32T8/UNV ISM-SC	Banded pack	4	0.98
<b>HIGH BALLAST FACTOR</b>				
51347*	QHE 4X32T8/UNV ISH	10-pack	4	1.16

All QHE 32 T8 low, normal and medium models also operate FO30/SS, FO28/SS, FO25/SS, FB032, FB031, FO25, FB024, FO17, FB016, FB030/SS (30W) and FB029/SS (29W). The QHE4x32T8/UNV ISH high ballast factor model does not operate the 2ft. FO17 and 3ft. FO25 T8 lamps.

\* 51347 replaced 49922/49877

For complete specifications go to: [www.osram-americas.com/specifications](http://www.osram-americas.com/specifications)



### 32W T8 Instant Start Universal Voltage (120-277V), Type CC with Lamp Striation Control



Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
<b>LOW BALLAST FACTOR</b>				
49200	QHE 2x32T8/UNV ISL-SC-1	Banded pack	2	0.77
49367	QHE 3x32T8/UNV ISL-SC-1	Banded pack	3	0.77
49368	QHE 4x32T8/UNV ISL-SC-1	Banded pack	4	0.77
<b>NORMAL BALLAST FACTOR</b>				
49383	QHE 2x32T8/UNV ISN-SC-1	Banded pack	2	0.87
49385	QHE 3x32T8/UNV ISN-SC-1	Banded pack	3	0.87
49387	QHE 4x32T8/UNV ISN-SC-1	Banded pack	4	0.87
<b>HIGH BALLAST FACTOR (High Ambient)</b>				
49783	QHE 2x32T8/UNV ISH-HT-SC-1	Banded pack	2	1.18
49787	QHE 4x32T8/UNV ISH-HT-SC-1	Banded pack	4	1.15

All QHE 32 T8 models also operate FO30/SS, FO28/SS and FO25/SS, FBO32, FBO31, FO25, FBO24, FO17, FBO16, FBO30/SS (30W), FBO29/SS (29W).

### QUICKTRONIC High Efficiency 8-foot T8 Instant Start Systems 59W T8 (8-foot) Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
<b>LOW BALLAST FACTOR</b>				
49869	QHE 2x59T8/UNV ISL-SC	10-pack	2	0.77
<b>NORMAL BALLAST FACTOR</b>				
50237	QHE 2x59T8/UNV ISN-SC	Banded pack	2	0.88
49859	QHE 2x59T8/UNV ISN-SC	10-pack	2	0.88
<b>HIGH BALLAST FACTOR</b>				
49879	QHE 2x59T8/UNV-ISH	10-pack	2	1.15

For complete specifications go to: [www.osram-americas.com/specifications](http://www.osram-americas.com/specifications)





# QUICKTRONIC® Professional T8 Instant Start Systems

Covered by QUICK 60+® Warranty

OSRAM QUICKTRONIC Professional (QTP) T8 Instant Start electronic ballasts offer good efficiency in a variety of ballast factors. Low ballast factor (0.78) with lamp striation control available in 2 to 4 lamp models, normal ballast factor (0.88) with lamp striation control in 1 to 4

lamp models, and high ballast factor (1.18-1.2) in 2 and 3 lamp models. QUICKTRONIC QTP T8 ballasts operate all medium bi-pin OCTRON® T8, OCTRON SUPERSAVER® and OCTRON CURVALUME® lamps.



## QUICKTRONIC Professional Series T8 Instant Start Systems 32W T8 Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
<b>LOW BALLAST FACTOR</b>				
49834	QTP 2x32T8/UNV ISL-SC	Banded pack	2	0.78
49743	QTP 2x32T8/UNV ISL-SC	10-pack	2	0.78
49745	QTP 3x32T8/UNV ISL-SC	10-pack	3	0.78
49941	QTP 4x32T8/UNV ISL-SC	Banded pack	4	0.78
49747	QTP 4x32T8/UNV ISL-SC	10-pack	4	0.78
<b>NORMAL BALLAST FACTOR</b>				
49905	QTP 1x32T8/UNV ISN-SC	Banded pack	1	0.88
49941	QTP 1x32T8/UNV ISN-SC	10-pack	1	0.88
50987	QTP 1x32T8/UNV ISN-SC	Pallet pack (420 pieces)	1	0.88
49906	QTP 2x32T8/UNV ISN-SC	Banded pack	2	0.88
49943	QTP 2x32T8/UNV ISN-SC	10-pack	2	0.88
50986	QTP 2x32T8/UNV ISN-SC	Pallet pack (420 pieces)	2	0.88
49907	QTP 3x32T8/UNV ISN-SC	Banded pack	3	0.88
49945	QTP 3x32T8/UNV ISN-SC	10-pack	3	0.88
50988	QTP 3x32T8/UNV ISN-SC	Pallet pack (420 pieces)	3	0.88
49908	QTP 4x32T8/UNV ISN-SC	Banded pack	4	0.88
49947	QTP 4x32T8/UNV ISN-SC	10-pack	4	0.88
50989	QTP 4x32T8/UNV ISN-SC	Pallet pack (420 pieces)	4	0.88
<b>HIGH BALLAST FACTOR</b>				
49843	QTP 2x32T8/UNV ISH-SC	10-pack	2	1.20
49845	QTP 3x32T8/UNV ISH-SC	10-pack	3	1.18

Instant Start QTP ISL and ISN also operate these lamps: FBO32, FBO31, FO25, FBO24, FO17, FBO16, FBO30/SS (30W), FBO29/SS (29W)

For complete specifications go to: [www.osram-america.com/specifications](http://www.osram-america.com/specifications)

# QUICKTRONIC® High Efficiency T8 PROStart® Systems

Covered by QUICK 7XL+™ Warranty

QUICKTRONIC High Efficiency (QHE) T8 PROStart electronic ballasts offer energy savings of more than 2 watts per ballast while delivering the same light output as standard efficiency ballasts. The ballasts feature PROStart programmed rapid start technology; a proprietary starting circuit that extends lamp life in OCTRON T8 lamps and is ideally suited for occupancy sensor applications. Many

types feature parallel wiring, LSC (Lamp Striation Control) technology, which minimizes or eliminates lamp striation that can occur in energy saving T8 lamps. QUICKTRONIC QHE T8 PROStart ballasts are available in 1 to 4 lamp models which will operate all medium bi-pin OCTRON T8, OCTRON SUPERSAVER® and OCTRON CURVALUME® lamps and 2-lamp models for 8-foot OCTRON lamps.



## QUICKTRONIC High Efficiency T8 PROStart Systems 32W T8 Programmed Rapid Start Universal Voltage (120-277V)



Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
<b>LOW BALLAST FACTOR</b>				
51423	QHE 1x32T8/UNV PSX-MC	Banded 10-pack	1	0.72
51428	QHE 2x32T8/UNV PSX-MC	Banded 10-pack	2	0.72
51433	QHE 3x32T8/UNV PSX-SC	Banded 10-pack	3	0.71
51438	QHE 4x32T8/UNV PSX-SC	Banded 10-pack	4	0.71
<b>NORMAL BALLAST FACTOR</b>				
51397	QHE 1x32T8/UNV PSN-MC	Banded 10-pack	1	0.88
51398	QHE 1x32T8/UNV PSN-MC	Pallet pack (840 pieces)	1	0.88
51408	QHE 2x32T8/UNV PSN-MC	Banded 10-pack	2	0.88
51409	QHE 2x32T8/UNV PSN-MC	Pallet pack (840 pieces)	2	0.88
51413	QHE 3x32T8/UNV PSN-SC	Banded 10-pack	3	0.88
51414	QHE 3x32T8/UNV PSN-SC	Pallet pack (840 pieces)	3	0.88
51418	QHE 4x32T8/UNV PSN-SC	Banded 10-pack	4	0.88
51419	QHE 4x32T8/UNV PSN-SC	Pallet pack (840 pieces)	4	0.88
<b>HIGH BALLAST FACTOR (High Ambient)</b>				
49450	QHE 2x32T8/UNV PSH-HT	Banded pack	2	1.15
49520	QHE 3x32T8/UNV PSH-HT-SC	Banded pack	3	1.15
49455	QHE 4x32T8/UNV PSH-HT	Banded pack	4	1.15

All QHE 32 T8 models also operate FO30/SS, FO28/SS and FO25/SS, FBO32, FBO31, FO25, FBO24, FO17, FBO16, FBO30/SS (30W), FBO29/SS (29W).

## QUICKTRONIC High Efficiency T8HO PROStart Systems T8HO PROStart Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
<b>NORMAL BALLAST FACTOR</b>				
50304	QHE 2x86T8HO/UNV PSN-HT	Banded pack	1 or 2	0.96/0.95

For complete specifications go to: [www.osram-america.com/specifications](http://www.osram-america.com/specifications)



# QUICKTRONIC® High Efficiency PROStart® T5 & T5HO Systems

## T5HO Systems covered by QUICK 7XL+™ Warranty

These ballasts offer energy savings of more than 2 watts per ballast and feature PROStart programmed rapid start technology for optimized starting that extends lamp life in PENTRON® T5 and T5HO lamps, delivering over 100,000 switching cycles for use with occupancy sensors and building control systems. They also contain QUICKSENSE®

technology, patented circuitry designed to shut the system down reliably and safely when lamps reach end-of life and meet UL Type CC. QUICKTRONIC QHE PROStart T5 and T5HO ballasts are available in 2-lamp universal input voltage (120-277V) models that can be wired for one-lamp operation.



### QUICKTRONIC High Efficiency T5 PROStart Systems 28W T5, Type CC, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
51473	QHE 2x28T5/UNV PSN	20-pack (connectors/no leads)	1 or 2	1.00
51472	QHE 2x28T5/UNV PSN	10-pack (with leads)	1 or 2	1.00
51495	QHE 2x28T5/UNV PS90SC	10-pack	2	0.90

Ballasts operate a FP14T5 FP21T5, FT28T5 and FP35T5 Lamps.

### QUICKTRONIC High Efficiency T5HO PROStart Systems T5HO, Type CC, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
51471	QHE 2x54T5HO/UNV PSN	20-pack (connectors/no leads)	1 or 2	1.00
51470	QHE 2x54T5HO/UNV PSN	10-pack (with leads)	1 or 2	1.00
51479	QHE 2x39/24T5HO/UNV PSN	20-pack (connectors/no leads)	1 or 2	1.00
51478	QHE 2x39/24T5HO/UNV PSN	10-pack (with leads)	1 or 2	1.00

### 54W T5HO, Type CC, High Ambient Temperature Universal Voltage (120-277V) (90°C maximum case temperature)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
51476*	QHE 2x54T5HO/UNV PSN-HT	20-pack (connectors/no leads)	1 or 2	1.05/1.00
51475*	QHE 2x54T5HO/UNV PSN-HT	10-pack (with leads)	1 or 2	1.05/1.00

\*These items not covered by QUICK 7XL+ warranty.

For complete specifications go to: [www.osram-america.com/specifications](http://www.osram-america.com/specifications)

# QUICKTRONIC® Professional PROStart® T5 & T5HO Systems

## T5HO Systems covered by QUICK 7XL+™ Warranty

QUICKTRONIC Professional PROStart T5 and T5HO electronic ballasts feature PROStart programmed rapid start technology for optimized starting that extends lamp life in PENTRON® T5 and T5HO lamps, delivering over 100,000 switching cycles for use with occupancy sensors and buildingcontrol systems. They also contain QUICKSENSE® technology, patented circuitry designed to shut the system down reliably and safely when

lamps reach end-of life and meet UL Type CC. QUICKTRONIC Professional PROStart T5 and T5HO ballasts are available in types to satisfy a variety of applications with universal input voltage (120-277V), as well as high ambient temperature (HT) models which are ideally suited for industrial spaces. The ballasts offering includes models that will operate up to four lamps with multi-level switching capability.



### QUICKTRONIC Professional Series T5 PROStart Systems 28W T5, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
49171	QTP 1x28T5/UNV PSN	20-pack(connectors/no leads)	1	1.00
49170	QTP 1x28T5/UNV PSN	10-pack (with leads)	1	1.00
49181	QTP 2x28T5/UNV PSN	20-pack	1 or 2	1.00
49180	QTP 2x28T5/UNV PSN	10-pack (with leads)	1 or 2	1.00

PROStart QTP 28WT5 PSN models above also operate these lamps: FP14T5, FP21T5 & FP35T5

### QUICKTRONIC Professional Series T5HO PROStart Systems T5HO, Type CC, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
49121	QTP 1x54T5HO/UNV PSN	20-pack (connectors/no leads)	1	1.00
49120	QTP 1x54T5HO/UNV PSN	10-pack (with leads)	1	1.00
49131	QTP 2x54T5HO/UNV PSN	20-pack (connectors/no leads)	1 or 2	1.00
49130	QTP 2x54T5HO/UNV PSN	10-pack (with leads)	1 or 2	1.00
49142	QTP 2x54T5HO/UNV PSN 0.87"	20-pack (connectors/no leads)	2	1.00

### 54W T5HO, High Ambient Temperature Universal Voltage (120-277V) (HT-90°C maximum case temperature)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
49136*	QTP 2x54T5HO/UNV PSN-HT Fixed Output	20-pack (connectors/no leads)	2	1.00
49135*	QTP 2x54T5HO/UNV PSN-HT Fixed Output	10-pack (with leads)	1	1.02
49161*	QTP 4x54T5HO/UNV PSN-HTW Switchable	20-pack (connectors/no leads)	1-4	1.00

PROStart QTP 54 T5HO PSN models above also operate these lamps: FT55DL, FPC55, L58

\*These items not covered by QUICK 7XL+ warranty.

For complete specifications go to: [www.osram-america.com/specifications](http://www.osram-america.com/specifications)





# QUICKTRONIC® Professional T12 Systems

OSRAM QUICKTRONIC Professional (QTP) T12HO Rapid Start, 96T12 Instant Start and 40T12 Rapid Start electronic ballasts are available to replace old magnetic T12 systems that have been discontinued per the DOE fluorescent ballast legislation. These electronic T12 models are

typically used as “spot replacements” in older buildings/ applications that used old T12 magnetic systems. We recommend retrofitting to new higher efficiency T8 systems that are available in a variety of choices to fit your application.



## QUICKTRONIC® Professional Series T12HO Rapid Start Systems 96W T12 Rapid Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
NORMAL BALLAST FACTOR				
50319	QTP 2x96T12HO/UNV RS	Banded 6-pack	2 or 1	0.83/0.91
50324	QTP 2x96T12HO/UNV RS LL	Banded 6-pack	2 or 1	0.83/0.91



## QUICKTRONIC® Professional Series T12 Systems 40T12RS & 96T12IS Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Packaging	No. of Lamps	Ballast Factor (BF)
NORMAL BALLAST FACTOR				
50314	QTP 2x40T12/UNV/RS/SC	Banded 4-pack	2	0.83
50308	QTP 2x96T12/UNV IS	Banded 3-pack	2 or 1	0.90/0.95

For complete specifications go to: [www.osram-america.com/specifications](http://www.osram-america.com/specifications)



## California Pacific Medical Center

### Goal:

**Reduce energy and maintenance costs and improve aesthetics**

### Background:

SYLVANIA Lighting Services (SLS) performed a lighting retrofit to California Pacific Medical Center. The original lighting system consisted of older T12 Magnetic Systems and 1<sup>st</sup> generation T8 lamp systems. Both lighting systems were replaced with our new 3<sup>rd</sup> generation energy efficient OCTRON® T8 lamps and QHE and PSX low power ballasts and occupancy control devices, where applicable. In addition, California Pacific was able to take advantage of the SYLVANIA QUICK 60+® system warranty—the most comprehensive warranty in the lighting industry. SYLVANIA Lighting Services turn-key program was completed from beginning to end without issue.

### Savings & Benefits:

Total project cost = \$2,059,369  
 Annual energy savings = 39%  
 Reduction of energy costs = \$918,172 annually  
 Estimated San Francisco Energy Watch Rebate Program = \$259,299  
 Simple payback = 1.75 Years  
 R.O.I. = 57.18%

**To learn more about our lighting retrofit case studies, visit our application area on [www.osram-america.com](http://www.osram-america.com)**

## Cocke County Schools

### Goal:

**Update lighting technology to reduce energy costs**

### Background:

Nationwide, public schools are updating their lighting technologies to not only reduce the impact to the environment, but to reduce energy costs. When it came time for schools in Cocke County, Tennessee to upgrade, they looked to the lighting leaders at OSRAM SYLVANIA to help replace their old fluorescent lighting system consisting of T12 lamps with more modern, energy efficient T8 lamps. Together, the Cocke County School System and OSRAM SYLVANIA were able to effectively and affordably update the lighting technology in three schools, substantially reducing energy consumption and maintenance costs. In addition, the retrofit is helping the schools reduce carbon emissions, and is providing students and staff with improved light quality throughout the buildings.

### Savings & Benefits:

Two elementary schools and one high school were retrofitted with OCTRON® 800 ECOLOGIC® T8 lamps and QUICKTRONIC® QHE T8 Instant Start Universal Voltage ballasts:  
 Annual energy cost savings = \$15,151/year  
 Annual energy savings = 189,389 kWh  
 Annual maintenance cost savings = \$15,000/year  
 Equivalent CO<sub>2</sub> emissions averted per year = 238,454 lbs.



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