PEM 124 LAMINAR JET

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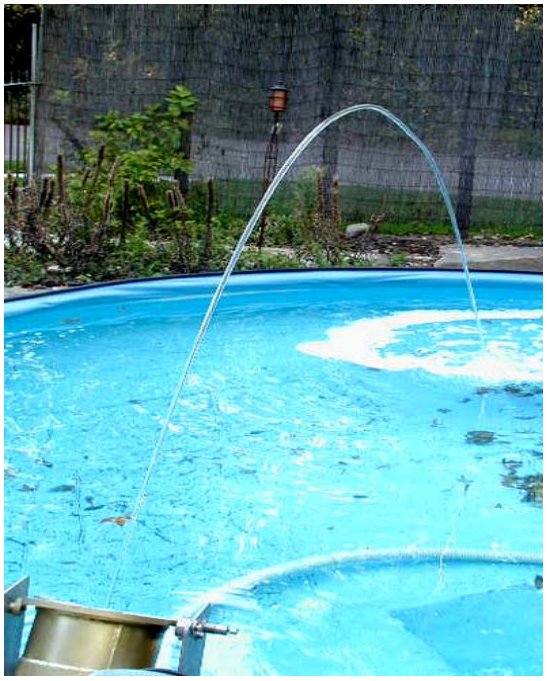
Sprays 2006-10 replacing 2005-2

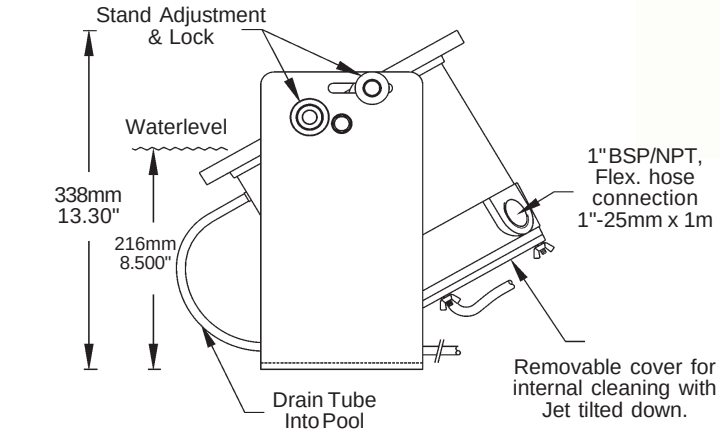


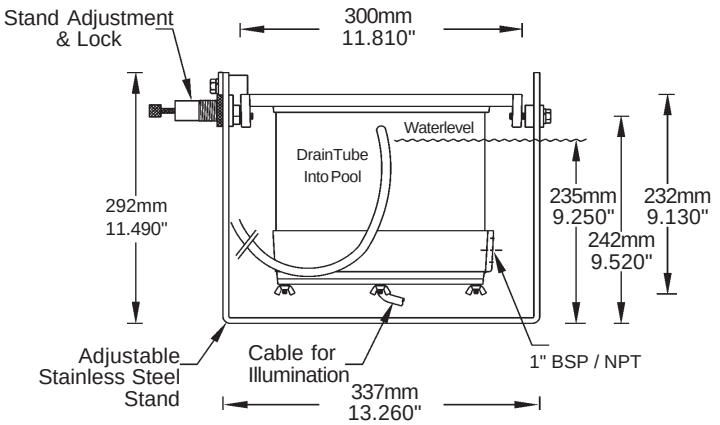
LAMINAR JET with Stand

PEM 124 - 1

506-4201

DIMENSIONS:





506-4201 / 124 -1 LAMINAR JET with Stand, 12VAC, 7.5A Illumination & 10mm laminar nozzle & Drain Tube into pool.

DESCRIPTION:

PEM 124-1 Assembly:
For wet or dry installation into pool indoors or outdoors.
Made of Brass, Bronze, & PVC. Stainless Steel fitted.
Stand: Made of Stainless Steel
Stream Illumination:
12VAC, 7.5A. with MR 16 (65W) NSP internal lightfixture, with heat tempered, Plano Lens.
Electrical Cable: H0R7N or STW/SOW, 2.7m standard longer length of cable optional & extra
Vent Drain Tubing, 6 mm / 0.25" x 4.5m / 15 feet supplied with clamp to attach to drain spigot at jet body. to drain into pool.Tubing elevation must NOT rise above height of connecting spigot at jet. Required to stabilize laminar stream.
Standard Nozzle : 10mm
Optional Nozzle: (optional & extra) (# 506-450401) 13mm
Suction Strainer:
PEM 7280 or 7290, Type 'C' See PEM catalog for selection.
Best operated with large volume cartridge type pool filters.
Service requirements:
Internal assembly of Flow Sieves is attached to rear mounted access cover that can be pulled out together with lightfixture from rear for cleansing. To access, simply tilt rear of jet up & lock into position

PERFORMANCES at a Spray angle of 55 degree off horizontal. With non-disintegrating stream over distance

Standard 10mm (0.394") Nozzle orifice & Stream diameter
Suggested Flow & Nozzle Pressure for horizontal distance of stream:

Distance:	2.5m	3.0m	3.5m	4.0m	4.5m
L/min:	17.5	18.9	21	23	25
Pressure:	1.7m	2.0m	2.4m	2.6m	2.8m

Distance:	10 Feet	15 Feet
USGPM:	5.0	6.5
Pressure:	6.4 Feet	9.2 Feet

Best Spray Distance: Appr. 3.0m (10') to 4.0m (13')

For trajectory calculations see Page 538 of PEM catalog/website

Optional 13mm (0.511") Nozzle orifice & Stream diameter
Suggested Flow & Nozzle Pressure for horizontal distance of stream:

Distance:	2.5m	3.0m	3.5m	4.0m
L/min:	24	27	29	32
Pressure:	1.2m	1.6m	1.9m	2.2m

Distance:	10 Feet	15 Feet
USGPM:	7.2	9.3
Pressure:	6.3 Feet	9.6 Feet

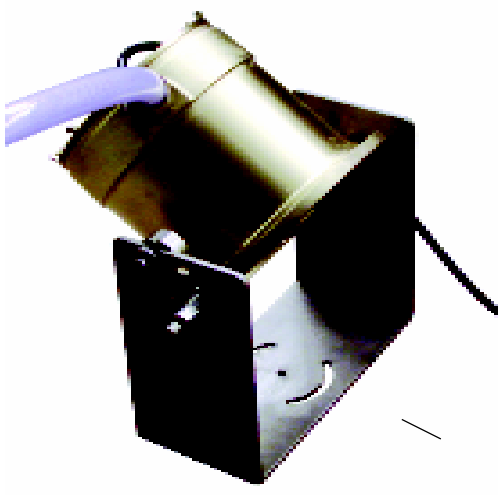
Best Spray Distance: Appr. 3.0m (10') to 3.5m (12')

* Subject to wind or air movement conditions

PEM 124-1 LAMINAR JET
SERVICING & RE-LAMPING

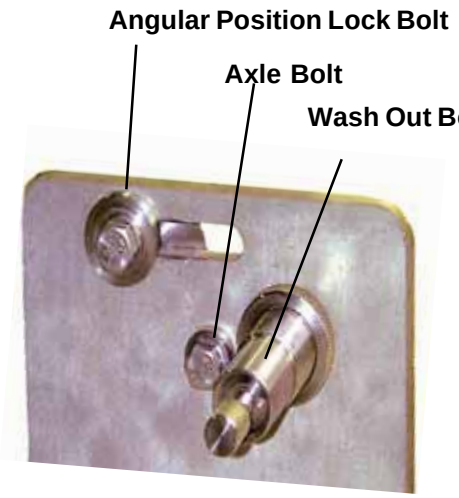
Vent Drain ,
6mm / 0.25"
4.5m / 15'
tubing w. clamp
back into pool

Normal Operating Position



3 Anchor Bolts

Cleansing Position



Angular Positioning Controls of Stand

VERTICAL POSITION ADJUSTMENT:
The stand is to be held in position by 3 anchor bolts(9mm). For horizontal adjustment, loosen all three bolts, turn jet with stand into position desired.
Lock center bolt and 2 outside bolts.

ANGULAR POSITION ADJUSTMENT
Loosen Positioning Hex Bolt, turn off center disc as required to make contact. Tilt jet against tilt lock bolt, its normal suggested angular position. If this is satisfactory, lock Position Hex Bolt into this position.

VENT DRAIN TUBE
Connects to spigot in jet body and drains back into pool, tubing elevation must not exceed height of connecting spigot. As drain is under pressure the tube clamp must be used to secure turbing to jet.

IF A DIFFERENT ANGULAR ADJUSTMENT IS REQUIRED:
1. Pull out tilt lock bolt
2. Adjust stream trajectory.
3. Position off-center wheel against Jet body.
4.Lock Positioning Hex Bolt
5. Tighten axle bolts just enough to permit smooth tilting of jet.

Do not attempt vertical jet adjustment, a special drop catcher is required (check with factory).

CLEAN OUT & RE-LAMPING POSITION:
Clean Out Position to remove flow sieves and or replace lamp (12VAC-75W, MR 16), requires flexible 1" hose connection of sufficient length to permit movement of jet.

TO CLEAN SIEVES OR REPLACE LAMP
1. Pull out tilt lock bolt and tilt jet down with clean out cover exposed on top. Release lock bolt to lock jet into position.
2. Remove wing nuts, tighten lift out bolts until cover is loose, grip cordseal, lift out and loosen lamp lid to remove the flow sieves for cleaning.
3. Unscrew Lamp Lid. Lift out spacers. With piece of masking tape lift out lens and lamp. Replace lamp & spacers (follow pictoral description of PEM 124 & 125 M2 service guide), tighten the lamp lid securely
4. To close the jet: Screw back the lift out bolts, replace the flow sieves with the rim toward the cover plate, tighten the lamp lid securely and insert assembly into jet and tighten wing nuts.
5. Tilt Jet back into operating position.

RELAMPING WITH SELF COLOR CHANGING LED LAMPS WITH INFRA RED CONTROLLER:
Install lamp as above, but do not turn on water.
Remove the nozzle.
Turn on power to light, select operating style on remote control, point same closely on light, activate.
Observe if color change is as desired, put nozzle back properly and turn on water.

PEM TYPE 'B'

ANGULAR SPRAY DESIGN SUGGESTIONS

PEM Type 'B' spray design calculations are to be used solely for PEM M2 Series Jumping Jets, except for PEM 133M2 and PEM 124 Series Laminar Jets If not certain about a particular design request assistance from factory.

SUGGESTION: Before jumping over people, consult with and obtain release from liability insurer of project.

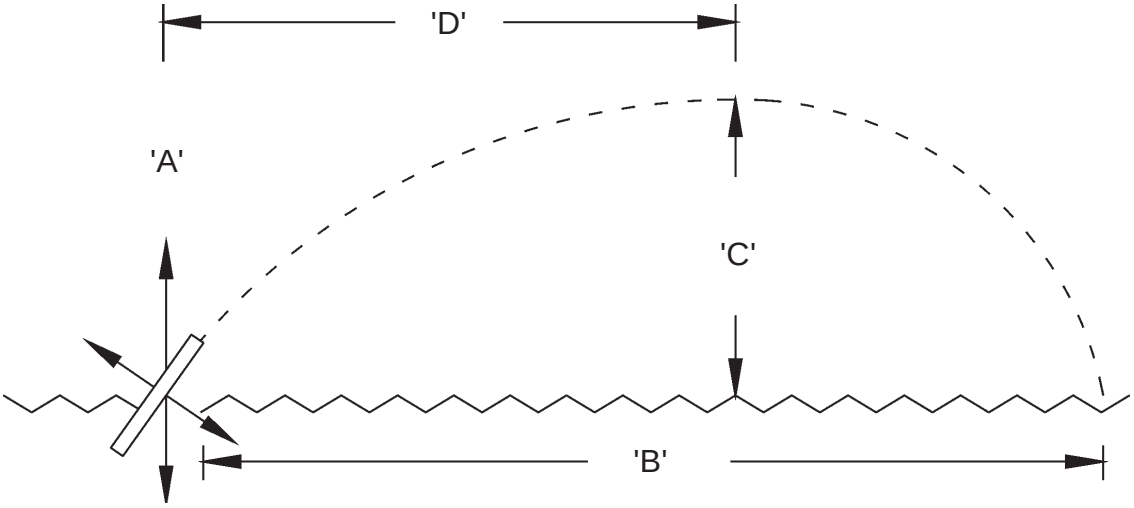
For spray design calculations for other nozzles or jets see regular : 'PEM ANGULAR SPRAY DESIGN CALCULATIONS'

DESIGN FACTORS

In General:

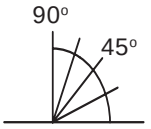
Multiplication Factors are used to find angular spray performances when sprayheight is known.

Dividing Factors are used to find the sprayheight when angular peformances are known



'A'	'E'	'C'	'D'
5°	0.90	6%	36%
15°	1.33	11%	46%
25°	1.83	17%	49%
35°	1.94	22%	51%
45°	2.10	27%	52%
55°	1.80	36%	53%
65°	1.50	50%	56%
75°	0.90	99%	59%
85°	0.40	245%	64%

'A' Angle of nozzle elevation



'B' Horizontal distance of throw from nozzle.

'C' Height of trajectory in percentage of ' B '.

'D' Highest point of trajectory in horizontal distance from nozzle, measured in percentage of ' B '

'E' Multiplying or dividing factor for spray design calculations

'V' Vertical sprayheight (1967-'X')

	TO FIND:	HOW:
1.	Horizontal distance of throw for a desired angle of spray, when only the vertical sprayheight is known.	Establish vertical sprayheight (factor 'V') and multiply the same by factor 'E' to achieve horizontal spray distance. ('X') x ('E') : Horizontal Distance
2.	Performance requirement of a spray pattern with known angle of nozzle discharge or the equivalent vertical sprayheight performance requirements	Establish horizontal distance of throw from nozzle and divide by factor 'E' on same line as shown discharge angle of nozzle . This will give vertical sprayheight which is then used to find performance requirements. (A) - ('B') : ('E') : Vertical Sprayheight
3.	Trajectory of a spray of water	Establish horizontal distance of throw (factor 'B') then calculate factors 'D' and 'C' thereof and combine the results with 'B' to lay out the trajectory.
4.	The jet elevation angle (factor 'A')for the specifi cation of particular trajectories or spray effects.	Establish horizontal distance of throw (factor 'B'),calculate highest point of trajectory (factor 'C') thereof and read on the factors table the angle of elevation (factor'A') on the same line as the result of the calculated height of trajectory (factor 'C')
5.	The manometric nozzle pressure for a sprayheight	Multiply vertical sprayheight (factor 'V') x 1.22 + 10% .

Data given on this page are stricly infomative only, to be used in the layout of normal size water displays, for special applications provide full scale prototype testing as to be installed before providing artistic impressions of the project.

PEM 124-1 LAMINAR JET

SERIAL	PEM	LAMINAR STREAM JET 124-1	Wt.
505-42000*	Cat.	* Changed from 506-42000 - to 505 - 42000	Kg
		CUSTOM MADE TO ORDER	
		Illuminated Laminar Stream Jet, 10mm / 13mm Stream (Specify Size!)	
505-4201	124-0	10mm or 13mm Stream, 12VAC, MR16-65W	9.3
505-4202	124-1	10mm or 13mm Stream, St. St.Stand, 12VAC, MR16-65W	14
505-42001	124-001	NO Illumination, Deduct From Price	
505-4203	124A-0	10mm or 13mm Stream, for Fibre Optic Illumination, Spec. Cable Size	9.1
505-4204	124A-1	10mm or 13mm Stream,Stand, for Fibre Optic Illumination, Spec. Cable Size	13.3
505-4221	124-X13	Extra, Optional, 10mm Nozzle	0.3
505-4222	124-X13	Extra, Optional, 13mm Nozzle	0.3
		REPLACEMENT PARTS	
506-4769	124-69	124-1 Extra Set of Internal Flow Sieves	7
506-4833	124-33	124-1 & 125, 141, 142 & 143M2 Light Lenses w. Seal Ring	0.5
506-4851	124-51	124-1 Fibre Optic Termination Lens w. Seal Ring	0.1
506- 4870	124-70	124-1 Cover 'O' Ring Seal	0.2