

## Overview

Sunstream Scientific's Pneumatic Servo Actuator (PSA) is a comprehensive pneumatic servo system, consisting of three core components: a patent pending ultra-high bandwidth pneumatic servo valve, integrated digital motional controller with Windows based GUI programmability, and a patented pneumatic actuator.

Multiple communication options allow the PSA to be easily integrated into multiple axis industrial machinery; or choose the "PLC" option to operate the PSA as an independent system with eight 24V compatible logic inputs, and four 24V compatible outputs capable of driving 100mA industrial relays.

Motion control professionals will find the PSA's features easy to implement via the Windows based GUI software or the optional handheld or panel mount HMI.

## Features

- Advanced Digital Feedback Controller with integral position trajectory generator.
- Adjustable gains, acceleration, and velocity settings.
- Soft or Stiff mode operation.
- Program up to 128 position points.
- 12 bit parallel I/O, RS-232 or CAN2.0B communications.
- Smooth transition between Position, Force, or Flow control operation modes.
- Soft Touch – intelligent Position to Force "bumpless transfer" – capability.
- Additional PLC option with 8 inputs and 4 outputs for "stand alone" operation.
- Write and store up to three (3) motion programs through the custom GUI.



## Industries/Applications

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|--|---|
| <ul style="list-style-type: none"> <li>• Material Handling <ul style="list-style-type: none"> <li>- Conveyor lane divider/elevator</li> <li>- Pick and place</li> </ul> </li> <li>• Packaging <ul style="list-style-type: none"> <li>- Volumetric filling</li> <li>- Vertical/horizontal form, fill, &amp; seal</li> <li>- Labeling</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Joining <ul style="list-style-type: none"> <li>- Press applications</li> <li>- Ultrasonic and Resistance welding</li> </ul> </li> <li>• Test &amp; Measurement</li> <li>• Medical Devices</li> <li>• General Automation</li> <li>• Animatronics/Motion Simulation</li> </ul> |
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## DATA SHEET

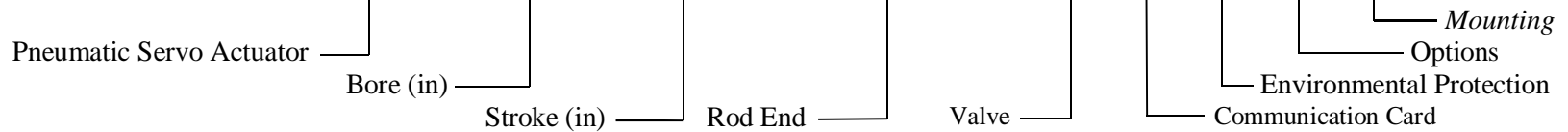
	PSA125	PSA200	PSA325
<b>Physical Characteristics</b>			
Weight (lb.)	6.53 + 0.24 x stroke	9.11 + 0.45 x stroke	12.14 + 0.84 x stroke
Valve Function	5 Port Bi-directional Spool Valve, Normally Closed Center		
Valve Type	Lapped Spool and Sleeve		
Valve Actuator	Force Motor		
Ports	(3) 3/8" NPT (one pressure and two exhaust)		
<b>Electrical Characteristics</b>			
Supply Voltage	22-30 VDC		
Max. Current Draw	2 A		
Electrical Connector (Power)	M16 circular connector: 4-pin male		
Electrical Connector (Comm.)	M16 circular connector: 6-pin or 14-pin male (see below)		
<b>Performance Characteristics</b>			
Max. Velocity	80 in/s		
Max. Acceleration (near zero load)	9 g's		
Max Force (ext./ret.) @ 80 psi	98/74 lb.	251/227 lb.	663/601 lb.
Max Force (ext./ret.) @ 100 psi	122/92 lb.	314/283 lb.	829/751 lb.
Positional Repeatability	Up to 0.0005"		
Air Quality Requirements	Clean, dry, non-lubricated air, 5 micron filter		
Max. Air Pressure	100 psi standard - for higher pressures, contact factory		
Lubrication Requirements	Not recommended and will void warranty		
<b>Environmental Characteristics</b>			
Protection Class	IP67		
Temperature	32 - 140 degrees F (0 - 60 C)		
<b>Humidity</b>	5% - 90% RH		





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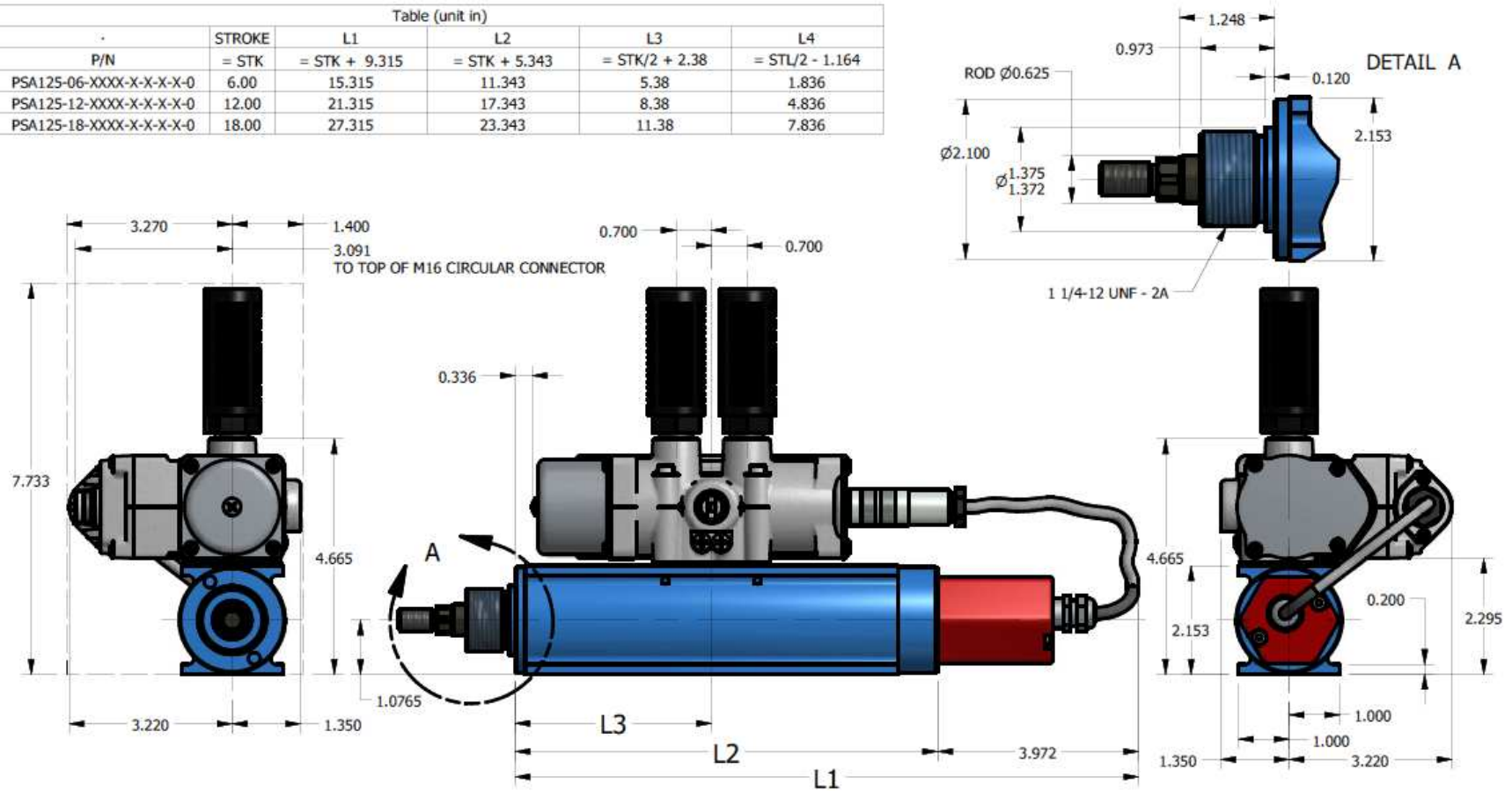
Model Number: **PSA XXX-XX-XXXXXX-X-X-X-X-X**



BORE (in)	<b>125</b>	<b>200</b>	<b>325</b>
STROKE (in)	4.0 = 04 6.0 = 06 8.0 = 08	10.0 = 10 12.0 = 12 18.0 = 18	3.0 = 06 4.0 = 04 6.0 = 06 8.0 = 08 10.0 = 10 12.0 = 12 18.0 = 18
ROD END	7/16-20 X 0.75 Male w/ Hex= 07MH M12X1.25 X 25.4 mm Male w/ Hex = M12MH 7/16-20 X 1.00 Male w/ Hex= 07MLH 1/2-20 X 0.75 Male w/ Hex= 08MH 1/2-20 X 1.00 Male w/ Hex = 08MLH	7/16-20 X 0.75 Male = 07MH 1/2-20 X 0.6 Female = 08F 1/2-20 X 0.75 Male = 08M 1/2-20 X 1.00 Male = 08ML 1/2-20 X 0.75 Male W/ Hex = 08MH M12x1.25-6g X 1.00 Male = M12MH	5/8-18 X 1.00 Male = 10M 5/8-18 X 1.25 Male= 10ML 5/8-18 X 0.75 Female = 10F 3/4-16 X 1.125 Male w/ Hex = 12MH M16X1.5-6g X 1.250" Male w/ Hex = M16MH
VALVE	Standard Flow/3-Position = 0 Std Flow/3-Pos/High Pressure (contact factory) = 1 Low Flow/3-Position = 2	Standard Flow/3-Position = 0 Std Flow/3-Pos/High Pressure (contact factory) = 1 Low Flow/3-Position = 2	Standard Flow/3-Position = 0 Std Flow/3-Pos/High Pressure (contact factory) = 1 Low Flow/3-Position = 2
COMMUNICATION CARD	CAN2.0B = C I/O INDEXER = I PLC = L I/O POSITIONER = P RS232 = R DeviceNet = D Profibus = B Ethernet = E Sercos = S	CAN2.0B = C I/O INDEXER = I PLC = L I/O POSITIONER = P RS232 = R DeviceNet = D Profibus = B Ethernet = E Sercos = S	CAN2.0B = C I/O INDEXER = I PLC = L I/O POSITIONER = P RS232 = R DeviceNet = D Profibus = B Ethernet = E Sercos = S
ENVIROMENTAL PROTECTION	IP67 = 1	IP67 = 1	IP67 = 1
OPTIONS	None = 0 Bronze Rod Bushing (no rod seal or rod wiper) = Z High Pressure (contact factory) = H	None = 0 Bronze Rod Bushing (no rod seal /rod wiper) = Z High Pressure (contact factory) = H	None = 0 Bronze Rod Bushing (no rod seal/ rod wiper) = Z High Pressure (contact factory) = H
MOUNTING	Base cylinder (no mount) = 0 Fixed Foot Mount = FFM Front Trunnion (horizontal wrt valve) = FT Rear Trunnion (horizontal wrt valve) = RT Front Trunnion Vertical (wrt valve) CONSULT FACTORY = FTV Rear Trunnion Vertical (wrt valve) CONSULT FACTORY = RTV Detachable Head Clevis = DHC Detachable Head Eye = DHE Consult Factory For Other Mounting Options	Base cylinder (no mount) = 0 Left (side) Mount = LM (inch) or LMM (metric) Bottom Mount = BM (inch) or BMM (metric) Right (side) Mount = RM (inch) or RMM (metric) Front Trunnion (horizontal wrt valve) = FT Rear Trunnion (horizontal wrt valve) = RT Rear Trunnion Vertical (wrt valve) CONSULT FACTORY = RTV Front Trunnion Vertical (wrt valve) CONSULT FACTORY = FTV Consult Factory For Other Mounting Options	Base cylinder (no mount) = 0 Left (side) Mount = LM (inch) or LMM (metric) Bottom Mount = BM (inch) or BMM (metric) Right (side) Mount = RM (inch) or RMM (metric) Front Trunnion (horizontal wrt valve) = FT Rear Trunnion (horizontal wrt valve) = RT Rear Trunnion Vertical (wrt valve) CONSULT FACTORY = RTV Front Trunnion Vertical (wrt valve) CONSULT FACTORY = FTV Consult Factory For Other Mounting Options

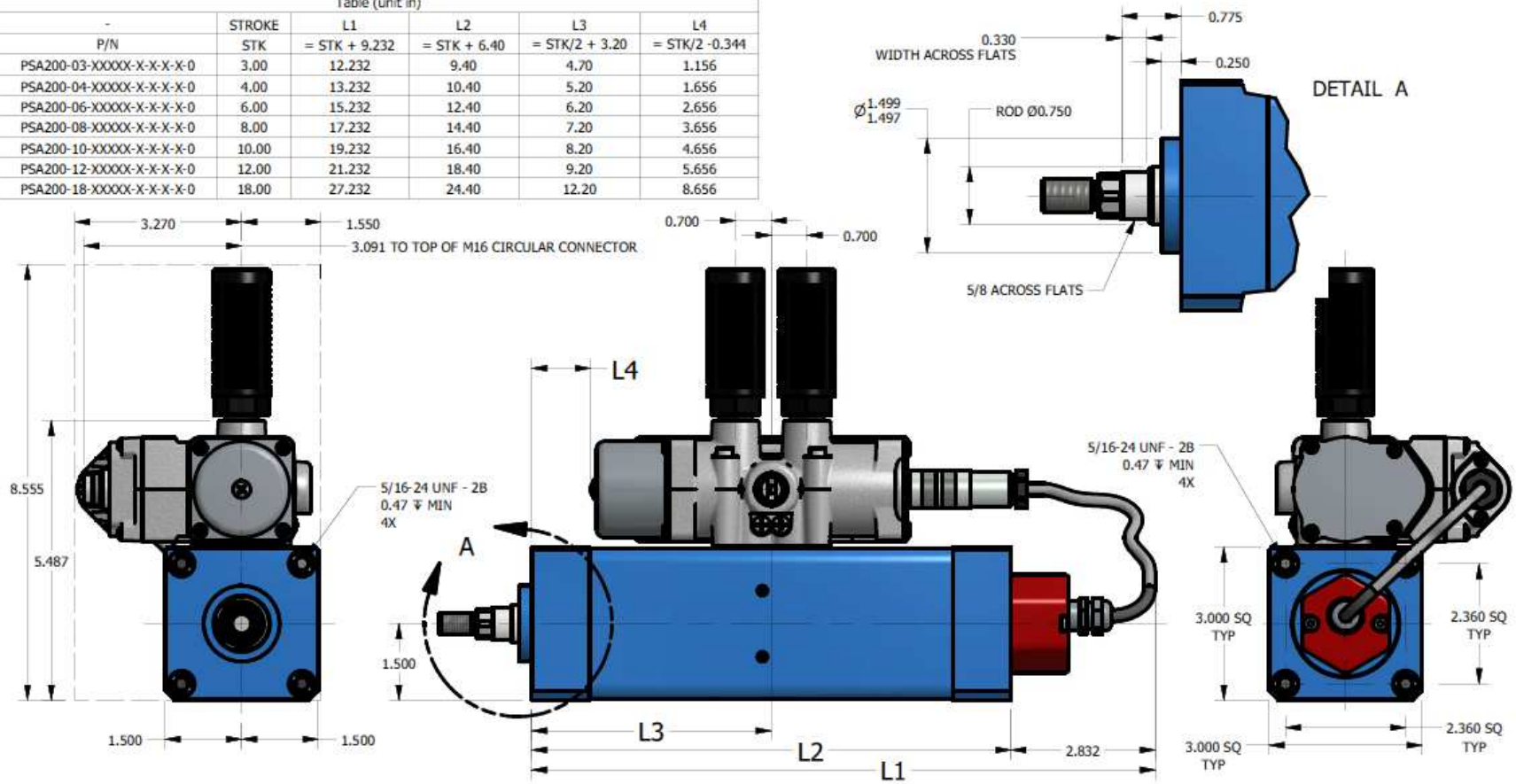
# PSA125

Table (unit in)					
	STROKE	L1	L2	L3	L4
P/N	= STK	= STK + 9.315	= STK + 5.343	= STK/2 + 2.38	= STL/2 - 1.164
PSA125-06-XXXX-X-X-X-X-0	6.00	15.315	11.343	5.38	1.836
PSA125-12-XXXX-X-X-X-X-0	12.00	21.315	17.343	8.38	4.836
PSA125-18-XXXX-X-X-X-X-0	18.00	27.315	23.343	11.38	7.836



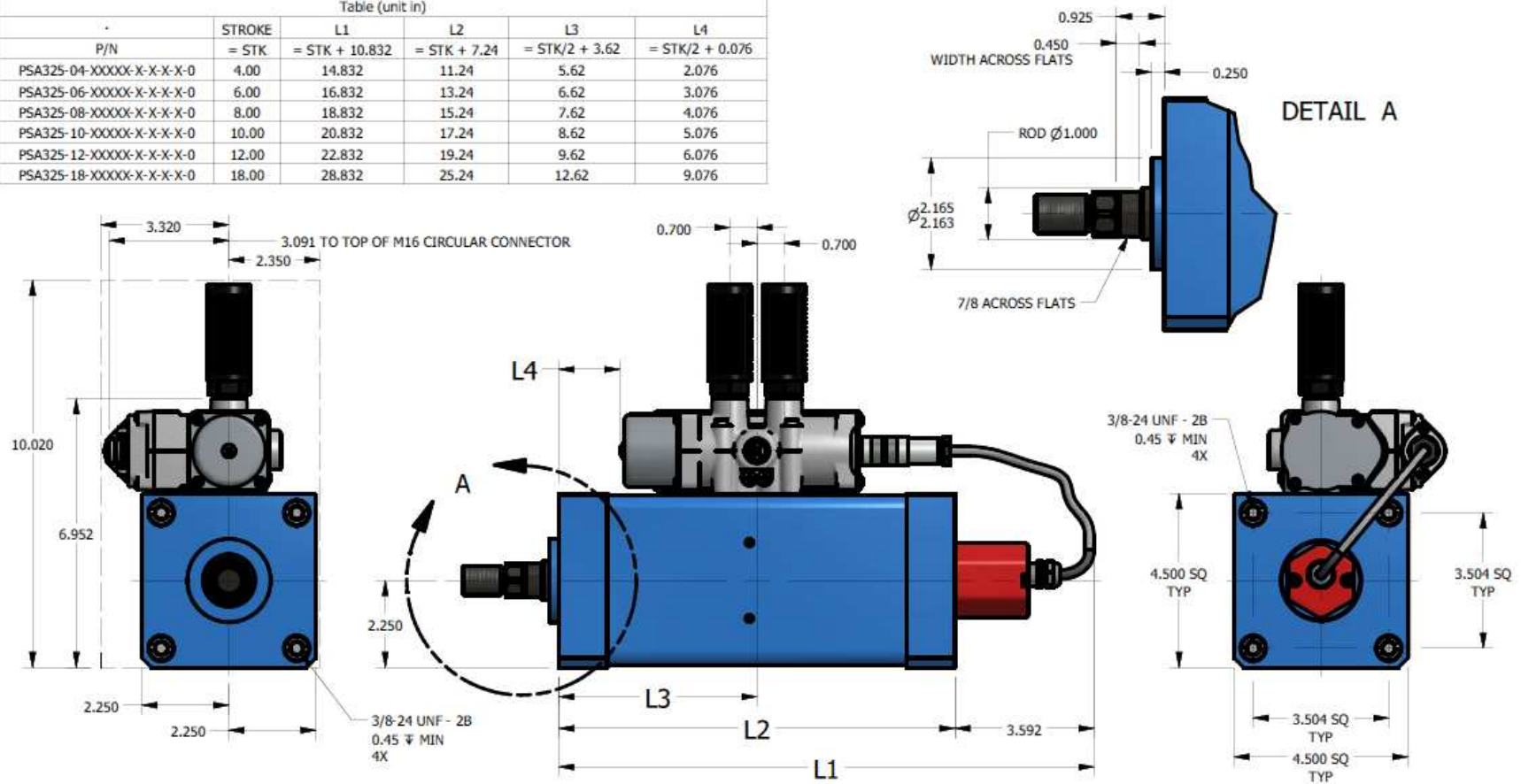
# PSA200

Table (unit in)					
P/N	STROKE	L1	L2	L3	L4
-	STK	= STK + 9.232	= STK + 6.40	= STK/2 + 3.20	= STK/2 - 0.344
PSA200-03-XXXXX-X-X-X-X-0	3.00	12.232	9.40	4.70	1.156
PSA200-04-XXXXX-X-X-X-X-0	4.00	13.232	10.40	5.20	1.656
PSA200-06-XXXXX-X-X-X-X-0	6.00	15.232	12.40	6.20	2.656
PSA200-08-XXXXX-X-X-X-X-0	8.00	17.232	14.40	7.20	3.656
PSA200-10-XXXXX-X-X-X-X-0	10.00	19.232	16.40	8.20	4.656
PSA200-12-XXXXX-X-X-X-X-0	12.00	21.232	18.40	9.20	5.656
PSA200-18-XXXXX-X-X-X-X-0	18.00	27.232	24.40	12.20	8.656



# PSA325

Table (unit in)					
P/N	STROKE = STK	L1 = STK + 10.832	L2 = STK + 7.24	L3 = STK/2 + 3.62	L4 = STK/2 + 0.076
PSA325-04-XXXXX-X-X-X-X-0	4.00	14.832	11.24	5.62	2.076
PSA325-06-XXXXX-X-X-X-X-0	6.00	16.832	13.24	6.62	3.076
PSA325-08-XXXXX-X-X-X-X-0	8.00	18.832	15.24	7.62	4.076
PSA325-10-XXXXX-X-X-X-X-0	10.00	20.832	17.24	8.62	5.076
PSA325-12-XXXXX-X-X-X-X-0	12.00	22.832	19.24	9.62	6.076
PSA325-18-XXXXX-X-X-X-X-0	18.00	28.832	25.24	12.62	9.076





DATA SHEET

PSAXXX

